



International Journal of Innovative Technologies in Social Science

e-ISSN: 2544-9435

Operating Publisher
SciFormat Publishing Inc.
ISNI: 0000 0005 1449 8214

2734 17 Avenue SW,
Calgary, Alberta, T3E0A7,
Canada
+15878858911
editorial-office@sciformat.ca

ARTICLE TITLE	SCROLLING INTO SLEEPLESSNESS: SOCIAL MEDIA, SLEEP DISTURBANCE, AND MENTAL HEALTH IN YOUNG ADULTS
----------------------	--

DOI	https://doi.org/10.31435/ijitss.4(52).2026.6659
------------	---

RECEIVED	21 August 2026
-----------------	----------------

ACCEPTED	17 October 2026
-----------------	-----------------

PUBLISHED	27 October 2026
------------------	-----------------

LICENSE	
----------------	--



The article is licensed under a **Creative Commons Attribution 4.0 International License**.

© The author(s) 2026.

This article is published as open access under the Creative Commons Attribution 4.0 International License (CC BY 4.0), allowing the author to retain copyright. The CC BY 4.0 License permits the content to be copied, adapted, displayed, distributed, republished, or reused for any purpose, including adaptation and commercial use, as long as proper attribution is provided.

SCROLLING INTO SLEEPLESSNESS: SOCIAL MEDIA, SLEEP DISTURBANCE, AND MENTAL HEALTH IN YOUNG ADULTS

Julia Płóciennik (Corresponding Author, Email: juploc01@gmail.com)

Medical University of Warsaw, 61 Żwirki i Wigury Street, 02-091 Warsaw, Poland

ORCID ID: 0009-0005-7558-4543

Klara Płóciennik

Maria Skłodowska-Curie Medical Academy in Warsaw, 10 Plac Żelaznej Bramy, 00-136 Warsaw, Poland

ORCID ID: 0009-0001-4039-9701

Aleksandra Skrobisz

Students' Research Club, Maria Skłodowska-Curie Medical Academy in Warsaw, 10 Plac Żelaznej Bramy, 00-136 Warsaw, Poland

ORCID ID: 0000-0001-5689-518X

Lesia Slobozheniuk

Central Clinical Hospital in Warsaw, 1a Banacha Street, 02-097 Warsaw, Poland

ORCID ID: 0009-0006-8432-568X

Magdalena Bieniak

Praski Hospital of the Transfiguration of Our Lord, 67 Aleja Solidarności, 03-401 Warsaw, Poland

ORCID ID: 0009-0000-1472-7532

Iga Maria Owczarek-Danowska

Medical University of Warsaw, 61 Żwirki i Wigury Street, 02-091 Warsaw, Poland

ORCID ID: 0009-0002-9037-7807

Julia Oldak

Military Institute of Medicine—National Research Institute, 128 Szaserów Street, 04-141 Warsaw, Poland

ORCID ID: 0009-0007-1424-0653

Agnieszka Ewa Kierska

Medical University of Warsaw, 61 Żwirki i Wigury Street, 02-091 Warsaw, Poland

ORCID ID: 0009-0007-3387-8505

Oleksandra Korshak

Infant Jesus Clinical Hospital, 4 William Heerlein Lindley Street, 02-005 Warsaw, Poland

ORCID ID: 0009-0002-2167-0110

ABSTRACT

Social media is embedded in young adults' daily routines and frequently extends into the biological night. This narrative review examines how the amount, timing, content, and degree of control over social media use relate to sleep duration, sleep quality, insomnia symptoms, circadian timing, depression, anxiety, loneliness, and suicidality. PubMed/MEDLINE, Scopus, and PsycINFO were searched for English-language literature available through August 2026, with priority given to systematic reviews, meta-analyses, longitudinal studies, experiments, randomized interventions, and authoritative clinical guidance. Problematic, bedtime, nocturnal, and emotionally dysregulated use showed more consistent associations with disturbed sleep and adverse mental-health outcomes than total duration alone. The principal mechanisms were sleep displacement, cognitive and emotional arousal, social comparison, fear of missing out, notification-related interruption, and evening light exposure. Sleep appears to operate as both a mediator and a bidirectional amplifier: distress can promote compensatory scrolling, while delayed or fragmented sleep can impair affect regulation. Nevertheless, causal inference remains limited by cross-sectional designs, self-report bias, heterogeneous exposure definitions, residual confounding, and rapidly changing platforms. Clinically, assessment should focus on timing, control, content, function, and perceived benefits. Individualized reduction strategies may be useful, but they should complement rather than replace evidence-based treatment of insomnia or psychiatric disorders.

KEYWORDS

Social Media, Sleep Disturbance, Insomnia, Depression, Anxiety, Young Adults

CITATION

Plóciennik, J., Plóciennik, K., Skrobisz, A., Slobozheniuk, L., Bieniak, M., Owczarek-Danowska, I. M., Ołdak, J., Kierska, A. E., & Korshak, O. (2026). Scrolling into sleeplessness: Social media, sleep disturbance, and mental health in young adults. *International Journal of Innovative Technologies in Social Science*, 4(52). [https://doi.org/10.31435/ijitss.4\(52\).2026.6659](https://doi.org/10.31435/ijitss.4(52).2026.6659)

COPYRIGHT

© The author(s) 2026. This article is published as open access under the **Creative Commons Attribution 4.0 International License (CC BY 4.0)**, allowing the author to retain copyright. The CC BY 4.0 License permits the content to be copied, adapted, displayed, distributed, republished, or reused for any purpose, including adaptation and commercial use, as long as proper attribution is provided.

1. Introduction

Young adulthood is characterized by increasing autonomy, educational and occupational transitions, changing social networks, and a high burden of emerging mental disorders. Social media platforms provide communication, identity exploration, peer support, entertainment, and access to health information. At the same time, their portable, continuously updated, and socially rewarding design allows use to persist after the intended bedtime and to interrupt sleep. The relevant clinical question is therefore not whether social media is uniformly “good” or “bad,” but which patterns of use, in which individuals, under which circumstances, are associated with impaired sleep and psychological functioning.

Healthy sleep is multidimensional and includes adequate duration, continuity, timing, regularity, subjective satisfaction, and daytime alertness (Buysse, 2014). The American Academy of Sleep Medicine and Sleep Research Society recommend at least 7 hours of sleep per night for adults aged 18–60 years, while recognizing individual variability and the possibility that some young adults require more (Watson et al., 2015). Sleep restriction and irregular timing are relevant to mood, cognitive performance, metabolic health, accidents, and academic or occupational functioning. Accordingly, a digital behavior that consistently delays bedtime or fragments sleep may have effects extending beyond transient tiredness.

The evidence base has expanded rapidly. A 2024 systematic review and meta-analysis included 182 studies with more than 1.1 million participants and found associations among social media exposure, mental-health outcomes, and sleep, while also emphasizing substantial heterogeneity (Ahmed et al., 2024). Other reviews show that problematic social media use is more strongly related to depression, anxiety, and stress than nonspecific frequency or duration (Shannon et al., 2022; Marino et al., 2018). These findings justify clinical attention but do not establish that social media is the sole or primary cause of distress. This review therefore adopts a calibrated interpretation of the evidence, foregrounding temporality, effect size, exposure definition, and alternative explanations.

Young adults are especially relevant to this discussion because they commonly combine high digital engagement with unstable schedules, academic or early-career demands, shared accommodation, evening social activity, and increasing responsibility for self-regulation. This developmental period also coincides with the typical onset or consolidation of many mood, anxiety, and sleep disorders. Consequently, an association observed in this age group may reflect several processes operating simultaneously: direct effects of platform use, displacement of sleep and health behaviors, selection of distressed individuals into particular forms of online activity, and broader social conditions that shape both digital behavior and well-being.

The central research problem is not adequately addressed by asking only how many hours a person spends online. Duration-based measures combine purposeful communication, passive monitoring, educational use, crisis support, compulsive checking, and exposure to harmful content into a single number. They also fail to distinguish afternoon use from use after lights-out. This review therefore treats social media as a multidimensional exposure and asks four questions: which patterns are most consistently associated with sleep disturbance; how sleep and mental-health outcomes may influence one another; which mechanisms and moderators are supported by current evidence; and what proportionate clinical and public-health responses can be justified.

The objective was to provide a clinically oriented synthesis that remains useful to researchers in technology and society. The review emphasizes effect interpretation, causal uncertainty, and the social context of platform use. It avoids assuming that statistical association is equivalent to individual harm and considers potential benefits alongside risks. This balanced position is essential because recommendations that indiscriminately restrict online access may remove meaningful support from some young adults, whereas failure to recognize compulsive bedtime use may allow a modifiable contributor to insomnia and distress to persist.

2. Methodology

A narrative-review design was selected because the research question spans epidemiology, sleep medicine, psychiatry, behavioral science, communication research, and digital intervention studies. The intention was to integrate findings across heterogeneous study designs rather than calculate a new pooled estimate. The review was informed by searches of PubMed/MEDLINE, Scopus, and PsycINFO for English-language literature available through 31 August 2026. Search concepts combined controlled vocabulary and free-text terms relating to social media, social networking sites, smartphones, problematic use, compulsive use, bedtime use, nocturnal checking, sleep duration, sleep quality, insomnia, circadian timing, depression, anxiety, psychological distress, loneliness, self-harm, suicidality, and young adults.

Eligibility was guided by population, exposure, and outcome relevance. The principal population was young adults aged approximately 18–29 years. Studies involving adolescents were retained when they provided particularly informative longitudinal, developmental, or mechanistic evidence that could reasonably illuminate pathways continuing into young adulthood. Studies of mixed adult samples were included when young adults represented a substantial proportion or when the investigated physiological mechanism, such as evening light exposure, was not age-specific. The exposure had to involve social media or a closely related smartphone behavior that could be distinguished from general screen-based work. Outcomes included validated or clinically interpretable measures of sleep, mood, anxiety, distress, loneliness, well-being, self-harm, or suicidality.

Priority was given to systematic reviews and meta-analyses, nationally representative or large cohort studies, prospective designs, experience-sampling studies, controlled laboratory experiments, randomized or quasi-randomized reduction interventions, and clinical or public-health guidance. Seminal older publications were retained when they defined sleep health, established an important exposure measure, or described a plausible mechanism. Reference lists of key reviews were hand-searched. Sources were excluded from the core synthesis when they relied primarily on opinion, did not describe the exposure or outcome sufficiently, or made causal claims unsupported by their design. Where several publications addressed the same question, greater interpretive weight was assigned to designs with temporal ordering, objective measurement, appropriate comparison groups, and transparent adjustment for confounding.

Data were synthesized thematically. Findings were grouped into exposure phenotypes, sleep outcomes, mental-health outcomes, reciprocal and mediating pathways, moderators, interventions, and protective uses. Direction and consistency of associations were compared across study designs, but no numerical meta-analysis was attempted. Causal wording was reserved for randomized or controlled experimental evidence, while cross-sectional and longitudinal observational findings were described as associations or prospective relationships.

Particular attention was paid to differences between general time spent, problematic use, bedtime or nocturnal use, passive consumption, and active relational use.

This methodology has inherent limitations. The search was structured but not conducted as a fully systematic review: duplicate screening, a registered protocol, formal study-level risk-of-bias scoring, and certainty-of-evidence grading were not performed. The review may therefore be affected by selection and interpretation bias. Its conclusions should be understood as an evidence-informed narrative synthesis rather than an exhaustive catalogue or a clinical guideline. This limitation is stated explicitly to prevent the methodological label “narrative review” from being mistaken for systematic evidence production.

3. Results

3.1. Exposure Phenotypes: Time, Timing, Content, and Loss of Control

“Social media use” is not a single exposure. Total duration captures volume but poorly represents context. Bedtime use describes activity immediately before intended sleep; nocturnal use includes checking after lights-out or following awakenings; emotional investment reflects the psychological salience of online interactions; and problematic social media use describes impaired control, preoccupation, withdrawal-like distress, tolerance, conflict, or functional impairment. Active use, such as direct messaging or purposeful participation in a supportive community, may differ from passive consumption, algorithmically driven scrolling, or repeated upward social comparison.

This distinction helps explain apparently contradictory findings. A healthy young adult who intentionally messages a close friend for 20 minutes may receive social support with minimal sleep cost. Another person may spend the same interval monitoring appearance-focused content, become emotionally aroused, and continue scrolling for two hours. Exposure measures based only on daily minutes can classify these experiences as equivalent. Clinically and scientifically, timing, content, motivation, emotional response, and displacement of essential activities may be more informative than screen time alone.

Across the reviewed literature, problematic-use measures generally produced more consistent relationships with depression, anxiety, stress, and poor sleep than simple frequency or duration measures (Ahmed et al., 2024; Marino et al., 2018; Shannon et al., 2022). This pattern does not prove that impaired control causes the outcomes, because several items on problematic-use scales overlap with distress and functional impairment. It nevertheless indicates that the manner in which technology is used carries clinically relevant information. Salience, failed attempts to stop, conflict with responsibilities, and continued use despite recognized harm are more proximal to dysfunction than ownership of an account or routine daily access.

Timing emerged as a second important dimension. Use in the final 30–60 minutes before intended sleep, use while in bed, and checking after nocturnal awakenings have more direct pathways to sleep disruption than daytime exposure. Content and interaction style further modify risk. Passive exposure may invite upward comparison or rumination, while direct messaging may provide reassurance and belonging. Algorithmically selected short-form content can sustain attention through novelty and variable reinforcement, but the effect depends on the user’s goals, emotional response, and ability to disengage. Accordingly, exposure categories should not be treated as interchangeable.

Table 1 summarizes clinically meaningful exposure phenotypes used in interpreting the evidence.

Table 1. Clinically Relevant Social Media Exposure Phenotypes

Exposure	Interpretation
Total duration	Broad dose measure; insensitive to timing, content, multitasking, and impairment.
Bedtime or nocturnal use	Directly relevant to bedtime delay, arousal, alerts, and sleep fragmentation.
Problematic use	Impaired control or persistence despite harm; more consistently related to sleep and distress.
Passive use	Scrolling or monitoring may promote comparison, envy, rumination, or perceived exclusion.
Active relational use	Messaging and support may strengthen connection; effects remain context-dependent.
Content-specific exposure	Appearance, conflict, self-harm, news, or supportive information may independently modify risk.

Note. The categories overlap and should be interpreted in context.

3.2. Sleep Duration, Quality, Insomnia, and Circadian Timing

Cross-sectional studies consistently associate heavier, more frequent, or more emotionally invested social media use with shorter sleep, later sleep timing, poorer subjective quality, daytime sleepiness, and insomnia symptoms (Woods & Scott, 2016; Scott et al., 2019; Hale et al., 2018; Exelmans & Van den Bulck, 2016). In a nationally representative sample of 1,763 US young adults aged 19–32 years, frequent social media use during the 30 minutes before bed was independently associated with greater sleep disturbance after adjustment for total daily use and covariates (adjusted odds ratio 1.62) (Levenson et al., 2017). An earlier analysis in a similar population also found graded associations between social media volume or frequency and sleep disturbance (Levenson et al., 2016). These data suggest that proximity to bedtime has relevance beyond overall daily exposure, although the cross-sectional design prevents determination of directionality.

Results are not uniform. In an experience-sampling study of healthy young adults, bedtime social media use was not associated with worse sleep or next-day affective well-being (Das-Friebel et al., 2020). Such null findings are important: effects may be smaller within persons than between persons, may depend on baseline vulnerability, or may be obscured when use is brief and purposeful. The most defensible synthesis is that risk is probabilistic and concentrated in specific patterns rather than inevitable for every user.

Light-emitting displays can influence circadian physiology when exposure is sufficiently bright, prolonged, close to the eyes, and enriched in short wavelengths. Controlled experiments comparing evening reading on a light-emitting device with a printed book demonstrated reduced melatonin secretion, delayed circadian timing, longer sleep-onset latency, reduced evening sleepiness, and lower next-morning alertness (Chang et al., 2015). Later work indicates that melanopic irradiance and exposure dose are central determinants (Blume et al., 2019). However, social media may impair sleep even when light exposure is modest, because behavioral displacement and emotional arousal can be more consequential than spectral composition. Night-mode settings may reduce melanopic stimulation but do not restore time lost to scrolling or remove stimulating content.

The simplest mechanism is time displacement: minutes spent online after the intended bedtime are minutes unavailable for sleep, particularly when wake time is fixed by work or university. Platform features—endless feeds, variable social rewards, autoplay, and push notifications—reduce natural stopping cues. Emotionally salient content may increase sympathetic activation, worry, anger, excitement, or rumination. A device kept within reach can also fragment sleep through alerts or habitual checking after spontaneous awakenings. The resulting pattern may combine delayed sleep onset, reduced total sleep time, and conditioned arousal in bed.

The sleep findings were strongest when the exposure and outcome were conceptually close. Bedtime checking can immediately postpone attempted sleep, while notification-driven awakenings can directly reduce continuity. By contrast, a measure of average weekly social media use may be only distantly related to a specific night's sleep and is more vulnerable to confounding by lifestyle. This proximity principle helps explain why studies using broad duration measures sometimes report weak or null associations even when studies of bedtime use identify clearer relationships.

Several distinct sleep outcomes should be separated. A later bedtime does not necessarily reduce sleep duration when wake time is flexible, but it may still shift circadian timing and create social jetlag on days with early obligations. Reduced duration, prolonged sleep-onset latency, repeated awakenings, low sleep efficiency, subjective dissatisfaction, and next-day sleepiness are related but not equivalent. Most social-media studies rely on questionnaires, which are clinically relevant but can reflect current mood and retrospective bias. Actigraphy and device logs improve temporal resolution, although they also require careful synchronization and do not determine whether the participant was emotionally engaged with the content.

Evening light is biologically plausible but should not be exaggerated as the sole mechanism. Controlled exposure to light-emitting devices can suppress melatonin and delay circadian timing, particularly when light is bright, close, prolonged, and rich in short wavelengths (Blume et al., 2019; Chang et al., 2015). In real-life social media use, screen brightness is often lower and exposure is interspersed with other activities. The behavioral effect of continuing to scroll, however, remains present even with a warmer display. “Night mode” may reduce melanopic stimulation but cannot restore sleep opportunity, remove notifications, or reduce emotionally activating content.

Sleep disturbance may also become conditioned. When the bed repeatedly functions as a place for monitoring messages, consuming news, and resolving social uncertainty, environmental cues associated with sleep become linked to alertness and reward seeking. A young adult may then reach for the device during ordinary brief awakenings, extending them and strengthening the habit. This sequence is compatible with behavioral models of insomnia, although direct experimental evidence specific to social media remains limited. It supports interventions that separate the sleeping environment from highly engaging online behavior without portraying the device itself as intrinsically harmful.

3.3. Depression, Anxiety, Distress, Loneliness, and Suicide-Related Outcomes

Meta-analytic evidence supports small-to-moderate associations between problematic social media use and depression, anxiety, and stress in adolescents and young adults (Keles et al., 2020; Ahmed et al., 2024; Shannon et al., 2022; Marino et al., 2018). The magnitude and consistency are generally greater for problematic-use scales than for raw time. A nationally representative study of US young adults found that higher social media use was associated with increased odds of depression (Lin et al., 2016). Nevertheless, symptoms may precede or increase online use: a person experiencing low mood, avoidance, or insomnia may seek distraction, reassurance, or social contact online. Shared determinants—including loneliness, neuroticism, stressful life events, socioeconomic adversity, chronic illness, and reduced physical activity—can contribute to both exposure and outcome.

Longitudinal evidence is mixed, as also emphasized in a systematic review of prospective studies (Dibben et al., 2023). Some studies support prospective associations from problematic use to later depressive symptoms or sleep problems, while others suggest reciprocal or predominantly person-specific pathways (Raudsepp & Kais, 2019; Coyne et al., 2020). Average group-level associations should not be assumed to describe each individual. A clinically useful approach is to ask whether the patient notices a repeatable temporal sequence: social media use followed by delayed sleep and worse mood, distress followed by compulsive checking, or both.

Social media can both alleviate and intensify loneliness. Direct, reciprocal interaction may maintain relationships, especially for geographically dispersed, socially anxious, disabled, or marginalized individuals. Conversely, passive exposure to curated representations of other people's lives may increase perceived exclusion and upward comparison. In young US adults, high social media use was associated with approximately twice the odds of greater perceived social isolation compared with low use (Primack et al., 2017). Fear of missing out may drive late-night monitoring, increase cognitive arousal, and make disconnection feel socially costly (Scott & Woods, 2018). Thus, "connection" measured by platform engagement is not equivalent to felt belonging.

Associations between digital-media exposure and self-harm or suicidality require careful interpretation (U.S. Department of Health & Human Services, 2023). Potential harms include cybervictimization, social contagion, normalization or graphic depiction of self-harm, and algorithmic reinforcement of distress-related content. Potential benefits include crisis information, peer support, reduced stigma, and pathways to care. Any disclosure of suicidal ideation, self-harm, online harassment, or exposure to content that increases urges requires direct risk assessment and appropriate safety planning; screen-time advice is not a substitute for psychiatric evaluation.

The pooled literature supports association rather than a single deterministic effect. Ahmed et al. (2024) synthesized 182 studies involving more than 1.1 million participants and reported relationships among social media exposure, mental health, and sleep, while emphasizing substantial heterogeneity. Shannon et al. (2022) found moderate correlations between problematic use and depression, anxiety, and stress. Such effect estimates are meaningful at a population level but cannot determine whether a given patient's symptoms were produced by social media. Symptom severity, platform function, and the temporal sequence of change remain essential for individual interpretation.

Several mechanisms may contribute to depressive and anxious symptoms. Curated portrayals of achievement, appearance, relationships, or travel can promote upward comparison and perceived inadequacy. Public feedback metrics may turn social evaluation into a continuous, quantifiable process. Reassurance seeking can briefly reduce uncertainty while maintaining anxiety and repeated checking. Cybervictimization, discrimination, and unwanted contact may act as direct stressors. Conversely, low mood and social anxiety can increase passive use because online activity requires less effort than in-person engagement. These pathways are compatible with reciprocal causation and may coexist within the same individual.

Loneliness illustrates why exposure volume alone is difficult to interpret. High use has been associated with perceived social isolation in young adults (Primack et al., 2017), yet social media can also maintain geographically dispersed relationships and connect people with uncommon illnesses, minority identities, or restricted mobility. The relevant distinction may be whether online activity supplements reciprocal relationships or substitutes for desired but absent connection. Researchers should therefore measure perceived support, reciprocity, belonging, and social displacement rather than assuming that more interaction automatically represents either connection or isolation.

Suicide-related outcomes require the greatest caution. Observational associations may reflect underlying psychiatric illness, victimization, family adversity, or exposure to harmful content, and broad screen-time

measures cannot establish causality. Nevertheless, reports of self-harm content, online encouragement, harassment, or escalating suicidal ideation are clinically actionable. Direct suicide-risk assessment, safety planning, and urgent referral when indicated take priority over behavioral advice about screen use. Helpful online communities and crisis resources should be preserved when they reduce isolation or facilitate care.

3.4. Sleep as a Mediator and Bidirectional Amplifier

Sleep offers a biologically plausible bridge between online behavior and mental health. Bedtime use can delay or fragment sleep; insufficient sleep impairs prefrontal regulation of emotion, increases negative affective reactivity, and reduces coping capacity. The next day, fatigue and low mood may encourage passive, low-effort scrolling and reduce engagement in exercise or face-to-face activity, reinforcing the cycle. Reviews have identified studies in which sleep quality statistically mediates part of the association between social media use and depression or anxiety (Alonzo et al., 2021). Mediation models remain vulnerable to unmeasured confounding and cannot by themselves prove a causal chain, particularly when exposure, mediator, and outcome are measured simultaneously.

A reciprocal model is therefore more realistic than a one-directional pathway. Trait vulnerability and contextual stress affect both digital behavior and sleep. Poor sleep increases emotional dysregulation and reward seeking; distress increases reassurance seeking and avoidance; and platform engagement can then further delay sleep. Intervention can occur at several points: notification control, a protected pre-sleep period, treatment of insomnia, treatment of depression or anxiety, daytime activity, and strengthening offline support.

From a causal perspective, three models remain possible. In the displacement model, online activity reduces sleep opportunity and subsequent sleep loss contributes to emotional symptoms. In the selection model, pre-existing distress or insomnia increases social media use without a material reverse effect. In the reciprocal model, both processes occur and are reinforced over time. Current evidence most strongly supports the plausibility of the reciprocal model, but the relative contribution of each pathway probably differs between individuals and across periods of stress.

Statistical mediation findings should be interpreted conservatively. Demonstrating that sleep quality accounts for part of an association does not prove that social media first changed sleep and that sleep then changed mood. Stronger evidence would require repeated measurement with appropriate temporal spacing, objective exposure and sleep data, control for baseline symptoms, and analysis capable of separating stable between-person differences from within-person change. Until such studies are common, sleep is best described as a plausible and modifiable pathway rather than a confirmed universal mechanism.

3.5. Moderators and Vulnerable Groups

Associations vary by sex and gender, developmental stage, baseline mental health, chronotype, neurodevelopmental traits, socioeconomic conditions, minority stress, and the nature of online content. Appearance-based comparison and cybervictimization may be particularly relevant to some young women; gaming, video, or forum-based communities may be more salient in other groups. LGBTQ+ young adults and people with uncommon illnesses may derive substantial support online while also encountering harassment. Shift workers and evening chronotypes may be more vulnerable to irregular timing. Students living independently may lack external bedtime structure, whereas employed young adults may experience fixed early wake times and greater sleep loss from delayed bedtime.

The same recommendation may therefore help one person and harm another. Abrupt abstinence can remove meaningful support or health information, while unrestricted access may perpetuate compulsive use. Risk assessment should identify both costs and benefits and should consider whether a platform is serving communication, belonging, avoidance, reassurance, identity, entertainment, or habit.

Chronotype and schedule constraints may determine whether late use translates into sleep loss. An evening-type student with a flexible morning may shift sleep without immediate restriction, whereas an early-shift worker using social media at the same clock time may lose substantial sleep. Neurodevelopmental conditions associated with impulsivity, hyperfocus, or difficulty with transitions may increase problems with disengagement. Economic insecurity, crowded housing, caregiving duties, and unsafe neighborhoods can constrain offline recreation and sleep conditions, making digital behavior one component of a wider social context rather than an isolated choice.

Platform content may also interact with identity and vulnerability. Appearance-focused material may intensify body dissatisfaction in susceptible users, while discriminatory or hostile content can compound minority stress. At the same time, identity-affirming communities may provide information and belonging not available locally. These opposing possibilities mean that blanket restriction can produce unintended harm. The clinically relevant question is whether a specific pattern improves or worsens sleep, mood, safety, and functioning for that person.

3.6. Intervention Evidence and Potentially Protective Uses

Experimental evidence remains smaller and less mature than the observational literature. A randomized trial of a one-week break from social media reported improvements in well-being, depression, and anxiety compared with usual use (Lambert et al., 2022). A later randomized trial found that reducing smartphone screen time to no more than two hours daily for three weeks improved several mental-health and sleep-related outcomes in healthy students, although the intervention addressed total smartphone use rather than social media alone (Pieh et al., 2025). Other abstinence experiments have produced mixed results (de Hessel et al., 2024; Hall et al., 2021).

These studies do not establish a universally effective “digital detox.” Interventions vary in duration, target, adherence verification, comparison condition, and replacement activity. Benefits may arise because participants sleep more, exercise, study, or interact face to face rather than because abstinence has a specific psychological effect. Participants who volunteer for reduction studies may also be unusually motivated. The available evidence supports brief, collaborative experiments in behavior change, but it does not support presenting abstinence as a stand-alone treatment for major depression, an anxiety disorder, or chronic insomnia.

Potential benefits of social media were also present in the reviewed literature. Platforms can deliver psychoeducation, peer support, identity-affirming communities, crisis information, and pathways to professional help (Naslund et al., 2020; Ridout & Campbell, 2018). Active, reciprocal communication may be more supportive than passive consumption, although the distinction is not absolute. Moderation quality, privacy, misinformation, commercial incentives, and the qualifications of content creators remain important. A harm-reduction approach aims to preserve useful connection while limiting patterns that displace sleep or intensify distress.

Table 2 summarizes the overall pattern of findings and the principal limits on interpretation.

Table 2. Summary of Evidence Across Outcome Domains

Domain	Overall finding and interpretive limitation
Sleep timing and duration	Bedtime and nocturnal use are associated with later or shorter sleep; causality and within-person magnitude remain uncertain.
Sleep quality and insomnia	Problematic and emotionally invested use show consistent associations; most outcomes are self-reported.
Depression and anxiety	Associations are stronger for problematic use than raw duration; reverse causation and residual confounding are likely.
Loneliness	Both increased isolation and increased support are reported; reciprocity and purpose of use modify interpretation.
Self-harm and suicidality	Potential harms and protective pathways coexist; direct risk assessment is required when clinically indicated.
Reduction interventions	Some short trials show modest benefit, but findings are mixed and long-term effectiveness is uncertain.

Note. The categories overlap and should be interpreted in context.

4. Discussion

4.1. Interpretation of the Main Findings

The principal finding of this review is that the relationship between social media, sleep, and mental health is neither negligible nor adequately described by a simple dose-response model. Associations are more coherent when exposure is defined by timing, impaired control, emotional investment, or harmful content. The same nominal duration can represent purposeful social contact in one person and compulsive avoidance in another. This distinction is particularly relevant at the intersection of technology and society, because platform design operates within social expectations of availability, visibility, and rapid response rather than outside them.

Sleep provides a useful integrative framework. Bedtime use can reduce sleep opportunity, increase arousal, and create interruptions; sleep loss can then worsen emotion regulation and executive control. These changes may make passive, immediately rewarding activities more attractive the next day. Yet sleep should not be treated as the only pathway. Social comparison, harassment, reassurance seeking, misinformation, and loss of offline activity can affect mental health independently. Similarly, depression, anxiety, and insomnia

may precede and shape digital behavior. The most credible interpretation is therefore person-specific and bidirectional.

Null and mixed findings are not evidence that the topic lacks clinical importance. They indicate that average effects may be small, heterogeneous, and dependent on measurement. Large samples can detect statistically significant associations that have limited importance for an individual, while broad measures can obscure substantial effects in vulnerable subgroups. Clinical decisions should therefore be based on functional impairment and repeatable temporal patterns rather than population averages alone. Public communication should avoid both alarmist claims and blanket reassurance.

4.2. Clinical and Public-Health Implications

Assessment can be incorporated into primary care, student health, psychiatry, and sleep medicine using neutral, non-moralizing questions. Clinicians should ask when use occurs, whether the patient remains online longer than intended, whether notifications or checking interrupt sleep, what emotional response follows use, and whether the behavior interferes with study, work, relationships, exercise, driving, or self-care. A short sleep history should cover bedtime, wake time, latency, awakenings, total sleep opportunity, variability across days, daytime sleepiness, substances, snoring, restless legs symptoms, and shift work. Mood, anxiety, loneliness, self-harm, and suicide risk should be assessed when indicated.

A practical first-line intervention is a time-limited behavioral experiment. The patient can document baseline bedtime, approximate social media use after the intended wind-down period, sleep latency, awakenings, wake time, and next-day mood for one week. One or two changes can then be introduced for approximately two weeks: a 30–60 minute protected pre-sleep interval, “do not disturb” settings, removal of the phone from immediate reach, or moving emotionally activating use earlier. Outcomes should be reviewed collaboratively. This approach produces individualized evidence and reduces the likelihood that advice will be experienced as punitive.

General sleep-supportive measures include a stable wake time, adequate sleep opportunity, morning daylight exposure, regular physical activity, and avoidance of late caffeine. Blue-light filters may be used as an adjunct but should not be presented as sufficient. If chronic insomnia is present, multicomponent cognitive behavioral therapy for insomnia is recommended as evidence-based care; sleep hygiene alone is not an adequate substitute (Edinger et al., 2021). Suspected sleep apnea, restless legs syndrome, circadian rhythm disorder, bipolar-spectrum illness, substance misuse, or severe psychiatric symptoms requires condition-specific assessment.

At the public-health level, the focus should extend beyond individual self-control. Platforms can provide meaningful stopping cues, transparent notification settings, easy nighttime scheduling, and controls that do not depend on sustained willpower. Universities and employers can avoid norms of immediate late-night response. Digital literacy programs can address social comparison, feed curation, misinformation, and help-seeking. Policies should be evaluated for unintended consequences, particularly among people who depend on online communities for support or accessibility.

Shared decision-making is preferable to prescriptive prohibition. A clinician may begin by identifying the patient’s own goal, such as falling asleep earlier, reducing morning fatigue, or avoiding distressing content. The intervention can then target the smallest behavior plausibly linked to that goal. For one person this may be silencing group-chat notifications; for another it may involve moving the charger away from the bed, unfollowing accounts that trigger rumination, or arranging an alternative source of evening support. Specific goals are easier to evaluate than general instructions to “use the phone less,” and they reduce the risk of interpreting difficulty with adherence as a moral failure.

The replacement activity is likely to influence outcomes. Removing social media without protecting sleep or providing another meaningful activity may simply shift attention to streaming, gaming, or other screen use. A reduction plan should therefore specify what will occupy the recovered time, for example preparing for sleep, reading printed material, relaxation, face-to-face conversation, or an earlier bedtime. This consideration also clarifies why intervention studies that measure only minutes of use may be difficult to compare: identical reductions can produce different psychological effects depending on what replaces them.

Health communication should distinguish ordinary high engagement from clinically significant impairment. Frequent use may reflect education, employment, activism, creative work, or maintenance of close relationships. Conversely, relatively modest use may be harmful when it repeatedly occurs after lights-out, exposes the user to harassment, or intensifies suicidal urges. Labels such as “addiction” should be used cautiously and should not substitute for assessment of control, persistence despite harm, withdrawal-like

distress, and functional consequences. Overpathologizing common behavior may increase shame and reduce willingness to disclose it.

Equity considerations are also important. Recommendations that assume access to a private bedroom, a separate alarm clock, flexible work hours, safe outdoor activity, or readily available in-person support may be unrealistic. Young adults in shift work, crowded housing, geographically isolated areas, or marginalized communities may rely more heavily on mobile communication. Interventions should therefore be feasible within the person's environment and should preserve essential accessibility and safety functions. At a systems level, improving sleep opportunity and mental-health access may be as important as changing individual digital habits.

Finally, clinicians and educators should communicate uncertainty honestly. The current literature supports concern about particular patterns of use, especially problematic and bedtime use, but it does not define a universal safe threshold applicable to every young adult. Recommendations should be framed as proportionate, reversible, and open to review. When a behavioral change improves sleep or functioning, it can be maintained; when it removes support without benefit, it should be modified. This iterative approach is compatible with the heterogeneous evidence and respects individual autonomy.

Table 3 presents a concise assessment and management framework.

Table 3. Function-Focused Assessment and Management

Domain	Clinical question and proportionate response
Timing	Is use occurring in bed or after awakenings? Protect a 30–60 minute wind-down period and silence nonessential alerts.
Control	Does use continue longer than intended despite harm? Add friction, scheduled access, and app limits.
Sleep	Assess timing, latency, awakenings, duration, regularity, and daytime effects; use a brief sleep diary.
Mental health	Screen for depression, anxiety, anhedonia, loneliness, self-harm, and suicide risk when indicated.
Content	Identify supportive, distressing, appearance-focused, or activating accounts; curate feeds and block harassment.
Function	Set goals based on study, work, relationships, exercise, and safety rather than an arbitrary universal limit.
Established disorder	Provide or refer for evidence-based treatment; digital-use advice should remain adjunctive.

Note. The categories overlap and should be interpreted in context.

4.3. Limitations of the Evidence and of This Review

First, most studies are cross-sectional and cannot establish temporal order. Second, self-reported screen time correlates imperfectly with objective device logs and is vulnerable to recall and social-desirability bias. Third, exposure definitions vary widely; “use,” “addiction,” “problematic use,” and “emotional investment” are not interchangeable. Fourth, psychiatric and sleep outcomes are frequently measured with symptom scales rather than diagnostic interviews or polysomnography. Fifth, residual confounding is likely, and statistical adjustment cannot fully account for personality, family environment, stress, or pre-existing symptoms.

Sixth, between-person comparisons may not reflect within-person effects, and population-level associations with digital technology may be small (Orben & Przybylski, 2019). People who habitually use social media more may differ systematically from lighter users, while an individual may not feel worse on a day when their own use increases. Seventh, platforms, recommendation systems, and social norms evolve faster than conventional research cycles. Evidence derived from Facebook-dominant samples may not generalize to short-video platforms, private group messaging, or future interfaces. Finally, publication bias and selective outcome reporting can exaggerate apparent consistency. These limitations support neither dismissal nor alarmism; they support appropriately cautious clinical action and stronger study design.

Outcome overlap creates an additional interpretive problem. Problematic-use instruments may include items concerning conflict, sleep loss, or emotional discomfort, while mental-health measures assess related functional consequences. Correlations can therefore be partly inflated by shared wording or general negative affect. Platform-level exposure is also difficult to isolate because smartphones combine social media with

messaging, video, music, study, navigation, and work. Objective logs improve accuracy but still require classification of what the user was doing and why.

The review itself is limited by its narrative design, English-language focus, and absence of formal duplicate screening and study-level quality scoring. It does not provide a new pooled estimate and may underrepresent null findings or literature indexed outside the selected databases. The cut-off date should be considered because platforms and recommendation systems evolve rapidly. These constraints were mitigated by prioritizing reviews, prospective studies, experiments, large samples, and authoritative guidance, and by explicitly separating association from causation.

4.4. Priorities for Research

Future studies should combine privacy-preserving device logs with ecological momentary assessment, sleep diaries, actigraphy, and validated psychiatric outcomes. Exposure data should include clock time, duration, interruptions, platform function, interaction style, and content category. Analyses should distinguish stable differences between people from day-to-day changes within the same person. Preregistered hypotheses, transparent handling of missing data, and reporting of absolute effect sizes would improve interpretability.

Longitudinal designs need measurement intervals short enough to test reciprocal pathways. Annual questionnaires may miss the nightly sequence linking distress, checking, delayed sleep, and next-day mood. Intensive repeated-measures designs can identify whether effects concentrate during examinations, relationship conflict, shift changes, or other stressors. Experimental studies should compare targeted bedtime restriction, notification modification, feed curation, and overall dose reduction, while measuring adherence and replacement activities.

Intervention trials should extend follow-up beyond several weeks and include clinically diverse participants. Outcomes should include not only symptom scores but also sleep timing, functioning, adverse effects, loss of support, and sustained acceptability. Research should include young adults outside universities and populations for whom online spaces may be particularly protective. Finally, collaboration among clinicians, behavioral scientists, platform researchers, and users is needed to ensure that interventions address both individual behavior and the technological environment.

5. Conclusions

Social media use is associated with sleep disturbance and adverse mental-health symptoms in young adults, but the relationship is heterogeneous, bidirectional, and strongly dependent on how exposure is defined. Problematic, emotionally dysregulated, bedtime, and nocturnal use appear more clinically informative than total time alone. Sleep displacement, arousal, social comparison, fear of missing out, cybervictimization, and circadian light exposure provide plausible and interacting mechanisms. Current evidence does not justify treating all social media use as harmful, nor does it establish universal abstinence as therapy.

For clinical practice, the most reasonable approach is to assess timing, control, content, function, and perceived benefits; screen for insomnia, depression, anxiety, and suicide risk when indicated; and agree on small, testable changes that protect sleep without unnecessarily removing support. Established sleep and psychiatric disorders require evidence-based treatment. The central message is not simply “less screen time,” but more intentional use, a protected opportunity for sleep, and attention to the individual cycle linking online behavior, arousal, and emotional health.

Funding: No external funding was received for the preparation of this manuscript.

Conflicts of Interest: No conflicts of interest to declare.

Ethics Approval: Not applicable. This narrative review analyzed previously published literature and involved no new research with human participants or animals.

Data Availability: No new datasets were generated or analyzed for this narrative review.

Author Contributions: Conceptualization, J.P. and K.P.; methodology, J.P. and K.P.; investigation, J.P., K.P., A.S., L.S., M.B. and J.O.; data curation, J.P., K.P., A.S., L.S., M.B. and J.O.; writing—original draft preparation, J.P. and K.P.; writing—review and editing, J.P., K.P., A.S., L.S., M.B., I.M.O.-D., J.O., A.E.K. and O.K.; visualization, J.P.; validation, I.M.O.-D., A.E.K. and O.K.; project administration, J.P. All authors have read and agreed to the final version of the manuscript.

REFERENCES

1. Ahmed, O., Walsh, E. I., Dawel, A., Alateeq, K., Espinoza Oyarce, D. A., & Cherbuin, N. (2024). Social media use, mental health and sleep: A systematic review with meta-analyses. *Journal of Affective Disorders*, 367, 701–712. <https://doi.org/10.1016/j.jad.2024.08.193>
2. Alonzo, R., Hussain, J., Stranges, S., & Anderson, K. K. (2021). Interplay between social media use, sleep quality, and mental health in youth: A systematic review. *Sleep Medicine Reviews*, 56, 101414. <https://doi.org/10.1016/j.smr.2020.101414>
3. Blume, C., Garbazza, C., & Spitschan, M. (2019). Effects of light on human circadian rhythms, sleep and mood. *Somnologie*, 23, 147–156. <https://doi.org/10.1007/s11818-019-00215-x>
4. Buysse, D. J. (2014). Sleep health: Can we define it? Does it matter? *Sleep*, 37(1), 9–17. <https://doi.org/10.5665/sleep.3298>
5. Chang, A. M., Aeschbach, D., Duffy, J. F., & Czeisler, C. A. (2015). Evening use of light-emitting eReaders negatively affects sleep, circadian timing, and next-morning alertness. *Proceedings of the National Academy of Sciences of the United States of America*, 112(4), 1232–1237. <https://doi.org/10.1073/pnas.1418490112>
6. Coyne, S. M., Rogers, A. A., Zurcher, J. D., Stockdale, L., & Booth, M. (2020). Does time spent using social media impact mental health? An eight year longitudinal study. *Computers in Human Behavior*, 104, 106160. <https://doi.org/10.1016/j.chb.2019.106160>
7. Das-Friebel, A., Lenneis, A., Realo, A., Sanborn, A., Tang, N. K. Y., Wolke, D., von Mühlenen, A., & Lemola, S. (2020). Bedtime social media use, sleep, and affective wellbeing in young adults: An experience sampling study. *Journal of Child Psychology and Psychiatry*, 61(10), 1138–1149. <https://doi.org/10.1111/jcpp.13326>
8. de Hesselde, L. C., Rozgonjuk, D., Sindermann, C., Pontes, H. M., & Montag, C. (2024). Effects of a 14-day social media abstinence on mental health and well-being: Results from an experimental study. *BMC Psychology*, 12, 201. <https://doi.org/10.1186/s40359-024-01611-1>
9. Dibben, G. O., Martin, A., Shore, C. B., Johnstone, A., McMellon, C., Palmer, V., Pugmire, J., Riddell, J., Skivington, K., Wells, V., McDaid, L., & Simpson, S. A. (2023). Adolescents' interactive electronic device use, sleep and mental health: A systematic review of prospective studies. *Journal of Sleep Research*, 32(5), e13899. <https://doi.org/10.1111/jsr.13899>
10. Edinger, J. D., Arnedt, J. T., Bertisch, S. M., Carney, C. E., Harrington, J. J., Lichstein, K. L., Sateia, M. J., Troxel, W. M., Zhou, E. S., Kazmi, U., Heald, J. L., & Martin, J. L. (2021). Behavioral and psychological treatments for chronic insomnia disorder in adults: An American Academy of Sleep Medicine clinical practice guideline. *Journal of Clinical Sleep Medicine*, 17(2), 255–262. <https://doi.org/10.5664/jcsm.8986>
11. Exelmans, L., & Van den Bulck, J. (2016). Bedtime mobile phone use and sleep in adults. *Social Science & Medicine*, 148, 93–101. <https://doi.org/10.1016/j.socscimed.2015.11.037>
12. Hale, L., Kirschen, G. W., LeBourgeois, M. K., Gradisar, M., Garrison, M. M., Montgomery-Downs, H., Kirschen, H., McHale, S. M., Chang, A. M., & Buxton, O. M. (2018). Youth screen media habits and sleep: Sleep-friendly screen behavior recommendations for clinicians, educators, and parents. *Child and Adolescent Psychiatric Clinics of North America*, 27(2), 229–245. <https://doi.org/10.1016/j.chc.2017.11.014>
13. Hall, J. A., Xing, C., Ross, E. M., & Johnson, R. M. (2021). Experimentally manipulating social media abstinence: Results of a four-week diary study. *Media Psychology*, 24(2), 259–275. <https://doi.org/10.1080/15213269.2019.1688171>
14. Keles, B., McCrae, N., & Grealish, A. (2020). A systematic review: The influence of social media on depression, anxiety and psychological distress in adolescents. *International Journal of Adolescence and Youth*, 25(1), 79–93. <https://doi.org/10.1080/02673843.2019.1590851>
15. Lambert, J., Barnstable, G., Minter, E., Cooper, J., & McEwan, D. (2022). Taking a one-week break from social media improves well-being, depression, and anxiety: A randomized controlled trial. *Cyberpsychology, Behavior, and Social Networking*, 25(5), 287–293. <https://doi.org/10.1089/cyber.2021.0324>
16. Levenson, J. C., Shensa, A., Sidani, J. E., Colditz, J. B., & Primack, B. A. (2016). The association between social media use and sleep disturbance among young adults. *Preventive Medicine*, 85, 36–41. <https://doi.org/10.1016/j.ypmed.2016.01.001>
17. Levenson, J. C., Shensa, A., Sidani, J. E., Colditz, J. B., & Primack, B. A. (2017). Social media use before bed and sleep disturbance among young adults in the United States: A nationally representative study. *Sleep*, 40(9), zsx113. <https://doi.org/10.1093/sleep/zsx113>
18. Lin, L. Y., Sidani, J. E., Shensa, A., Radovic, A., Miller, E., Colditz, J. B., Hoffman, B. L., Giles, L. M., & Primack, B. A. (2016). Association between social media use and depression among U.S. young adults. *Depression and Anxiety*, 33(4), 323–331. <https://doi.org/10.1002/da.22466>
19. Marino, C., Gini, G., Vieno, A., & Spada, M. M. (2018). The associations between problematic Facebook use, psychological distress and well-being among adolescents and young adults: A systematic review and meta-analysis. *Journal of Affective Disorders*, 226, 274–281. <https://doi.org/10.1016/j.jad.2017.10.007>

20. Naslund, J. A., Bondre, A., Torous, J., & Aschbrenner, K. A. (2020). Social media and mental health: Benefits, risks, and opportunities for research and practice. *Journal of Technology in Behavioral Science*, 5, 245–257. <https://doi.org/10.1007/s41347-020-00134-x>
21. Orben, A., & Przybylski, A. K. (2019). The association between adolescent well-being and digital technology use. *Nature Human Behaviour*, 3, 173–182. <https://doi.org/10.1038/s41562-018-0506-1>
22. Pieh, C., Budimir, S., Probst, T., & Humer, E. (2025). Smartphone screen time reduction improves mental health: A randomized controlled trial. *BMC Medicine*, 23, 107. <https://doi.org/10.1186/s12916-025-03944-z>
23. Primack, B. A., Shensa, A., Sidani, J. E., Whaite, E. O., Lin, L. Y., Rosen, D., Colditz, J. B., Radovic, A., & Miller, E. (2017). Social media use and perceived social isolation among young adults in the U.S.. *American Journal of Preventive Medicine*, 53(1), 1–8. <https://doi.org/10.1016/j.amepre.2017.01.010>
24. Raudsepp, L., & Kais, K. (2019). Longitudinal associations between problematic social media use and depressive symptoms in adolescent girls. *Preventive Medicine Reports*, 15, 100925. <https://doi.org/10.1016/j.pmedr.2019.100925>
25. Ridout, B., & Campbell, A. (2018). The use of social networking sites in mental health interventions for young people: Systematic review. *Journal of Medical Internet Research*, 20(12), e12244. <https://doi.org/10.2196/12244>
26. Scott, H., & Woods, H. C. (2018). Fear of missing out and sleep: Cognitive behavioural factors in adolescents' nighttime social media use. *Journal of Adolescence*, 68, 61–65. <https://doi.org/10.1016/j.adolescence.2018.07.009>
27. Scott, H., Biello, S. M., & Woods, H. C. (2019). Social media use and adolescent sleep patterns: Cross-sectional findings from the UK Millennium Cohort Study. *BMJ Open*, 9, e031161. <https://doi.org/10.1136/bmjopen-2019-031161>
28. Shannon, H., Bush, K., Villeneuve, P. J., Helleman, K. G. C., & Guimond, S. (2022). Problematic social media use in adolescents and young adults: Systematic review and meta-analysis. *JMIR Mental Health*, 9(4), e33450. <https://doi.org/10.2196/33450>
29. U. S. Department of Health and Human Services. (2023). *Social media and youth mental health: The U.S. Surgeon General's advisory*. <https://www.hhs.gov/sites/default/files/sg-youth-mental-health-social-media-advisory.pdf>
30. Watson, N. F., Badr, M. S., Belenky, G., Bliwise, D. L., Buxton, O. M., Buysse, D., Dinges, D. F., Gangwisch, J., Grandner, M. A., Kushida, C., Malhotra, R. K., Martin, J. L., Patel, S. R., Quan, S. F., & Tasali, E. (2015). Recommended amount of sleep for a healthy adult: A joint consensus statement of the American Academy of Sleep Medicine and Sleep Research Society. *Journal of Clinical Sleep Medicine*, 11(6), 591–592. <https://doi.org/10.5664/jcsm.4758>
31. Woods, H. C., & Scott, H. (2016). #Sleepyteens: Social media use in adolescence is associated with poor sleep quality, anxiety, depression and low self-esteem. *Journal of Adolescence*, 51, 41–49. <https://doi.org/10.1016/j.adolescence.2016.05.008>