



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
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ARTICLE TITLE	DIFFERENTIAL EFFECTS OF SPECIFIC SOCIAL MEDIA PLATFORMS (TIKTOK, INSTAGRAM, YOUTUBE) ON MENTAL HEALTH OUTCOMES IN ADOLESCENTS: A SYSTEMATIC REVIEW
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DOI	https://doi.org/10.31435/ijitss.3(51).2026.5871
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RECEIVED	22 May 2026
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ACCEPTED	10 August 2026
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PUBLISHED	21 August 2026
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DIFFERENTIAL EFFECTS OF SPECIFIC SOCIAL MEDIA PLATFORMS (TIKTOK, INSTAGRAM, YOUTUBE) ON MENTAL HEALTH OUTCOMES IN ADOLESCENTS: A SYSTEMATIC REVIEW

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ABSTRACT

Background. Social media use among children and adolescents has expanded rapidly over the past decade, but most empirical work has examined screen time as a single construct, ignoring meaningful differences between platforms.

Objective. This systematic review examined whether use of TikTok, Instagram, and YouTube is associated with distinct mental health outcomes in young people aged 6–18 years.

Methods. PubMed and Google Scholar were searched between January and March 2026 in line with the PRISMA 2020 guidelines. Eligible records reported quantitative or qualitative data on at least one of the three platforms in relation to depression, anxiety, body image, self-esteem, problematic or addictive use, or general wellbeing. Methodological quality was rated with the Newcastle–Ottawa Scale for observational studies and AMSTAR-2 for evidence syntheses. Of 257 identified records, 32 met the inclusion criteria.

Results. TikTok use was the most consistently linked to harm: depressive and anxiety symptoms, problematic use, and body-image disturbance, with a particularly strong contribution from algorithmic content delivery. Instagram findings centred on appearance comparison, body dissatisfaction, and self-criticism, and these effects tracked content type more closely than time on the platform. YouTube produced a more heterogeneous picture, including improvements in mental health literacy alongside concerns about uneven information quality and exposure to body-related content such as mukbang videos.

Conclusion. Total time on social media is a poor proxy for risk. Platform design, content type, and algorithmic curation appear to drive distinct outcomes, and policy and clinical responses should be tailored accordingly.

KEYWORDS

TikTok, Instagram, YouTube, Adolescents, Mental Health, Body Image

CITATION

Aleksandra Siegmund, Marzena Chrapczyńska, Agnieszka Filarecka, Piotr Przybyszewski, Emilia Przybyszewska, Julia Gatniejewska, Martyna Sienicka, Paulina Prudziec, Weronika Winiarska, Wiktoria Bęćkowska-Skowron. (2026) Differential Effects of Specific Social Media Platforms (TikTok, Instagram, YouTube) on Mental Health Outcomes in Adolescents: a Systematic Review. *International Journal of Innovative Technologies in Social Science*. 3(51). doi: 10.31435/ijitss.3(51).2026.5871

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1. Introduction

Social media platforms have moved from a niche use to a near-universal feature of adolescent daily life over the last decade, and the COVID-19 pandemic accelerated this trend. School closures and social distancing pushed young people online both for learning and for peer contact, and many of the resulting habits remained in place after restrictions were lifted (Bozzola et al., 2022). Among the platforms most heavily used in this age group are Instagram, TikTok, and YouTube, all three of which adolescents tend to access independently rather than under parental supervision (Bozzola et al., 2022). Recent population estimates suggest that more than 90% of teenagers report regular social media use; YouTube reaches roughly 85–95% of adolescents, Instagram remains one of the leading platforms in this demographic worldwide, and TikTok has crossed one billion active users with particularly high penetration among users below the age of 24 (Bozzola et al., 2022; Jain et al., 2025).

These usage patterns coincide with a developmental window in which the brain is still maturing. Adolescent neurodevelopment, especially in circuits that govern reward sensitivity, social cognition, and emotion regulation, makes young people more responsive to environmental cues than adults. Sensitivity to peer evaluation and social comparison is also at its peak during this period — two processes that digital platforms tend to amplify, given how much of the visible content is filtered, edited, and idealised. Repeated exposure to such material has been linked to changes in self-esteem and body image, while design features that reward continued scrolling (autoplay, infinite feeds, push notifications) may encourage usage patterns that resemble behavioural addiction (Bozzola et al., 2022; Jain et al., 2025).

Research on screen use and adolescent mental health has produced a fairly consistent main effect: more screen time tends to be associated with more depressive symptoms and lower quality of life (Stiglic & Viner,

2019). Evidence of moderate strength also links higher screen exposure to behaviours that can indirectly affect mental health, such as increased energy intake and reduced physical activity (Stiglic & Viner, 2019). Findings on anxiety, self-esteem, and broader psychosocial outcomes are less stable and depend heavily on study design and population. Taken together, the existing body of work suggests that the relationship between digital media use and mental health is unlikely to reduce to a single duration-based variable.

Within this literature, screen modality has emerged as a meaningful moderator. Passive television viewing, for example, shows weaker associations with internalising symptoms than interactive or socially oriented digital activity (Zink et al., 2020). Sex and physical activity levels appear to shift the strength and direction of these associations as well. The implication is that lumping all forms of screen use into one variable hides differences that matter, particularly when platforms differ markedly in their content delivery, interactivity, and reward structure.

Short-form video applications, and TikTok in particular, illustrate why the platform-level question is worth asking on its own. Since launching in 2017, TikTok has grown to more than a billion users globally, with usage concentrated in the adolescent and young adult range (Jain et al., 2025). Frequent TikTok use has been tied to elevated symptoms of depression and anxiety, and the associations are stronger in younger users and in those with pre-existing psychological vulnerability. Patterns of use that look like behavioural addiction have also been documented, particularly among female users and people with specific psychosocial risk profiles (Jain et al., 2025). The platform's core design — a continuous algorithmic stream of brief, emotionally salient videos with very short reward intervals — may help explain why engagement becomes so prolonged in this age group.

The literature has so far had a recurring blind spot: “social media” is often treated as a single exposure rather than a category of distinct products. Many studies group very different platforms together, ignoring differences in format, interactivity, and the type of content most likely to be served (Bozzola et al., 2022; Zink et al., 2020). As a result, it is difficult to say to what extent specific platforms drive specific outcomes — depression, anxiety, body dissatisfaction, self-esteem, problematic use, and general wellbeing. While the TikTok-specific literature is growing, comparable platform-level synthesis for Instagram (a visually driven platform built around self-presentation) and YouTube (a longer-form and more passive video platform) is still fragmented.

From a technology-and-society perspective, the issue is therefore not whether young people spend time online, but how the architecture of each platform — its algorithms, its content formats, and the social practices it encourages — interacts with adolescent development. The aim of this systematic review is to examine the differential effects of three specific platforms (TikTok, Instagram, and YouTube) on mental health in children and adolescents aged 6–18 years. By separating platforms instead of pooling them, the review aims to give a clearer, more clinically and policy-relevant picture of how digital media use is shaping youth mental health.

Three additional considerations frame the analysis. The first is that the three platforms represent different design philosophies. TikTok organises content around an algorithmically curated short-form video feed in which the default unit is a vertical clip lasting seconds rather than minutes. Instagram is built around image-based self-presentation, with social ties visible through followers and likes. YouTube is dominated by longer-form video, with a recommendation system that supports both targeted searches and passive viewing. These differences are not cosmetic; they shape what kind of content is rewarded, what kind of comparison is invited, and how easily a session expands beyond intended duration.

The second is that the platforms continue to evolve. Features migrate between them — short-form video has spread from TikTok to Instagram (Reels) and YouTube (Shorts), recommendation systems have become more personalised, and direct messaging is now embedded in all three. As a result, older studies risk capturing platforms in versions that no longer exist, and synthesis at the platform level needs to be read with that drift in mind.

The third is the question of measurement. Most of the available evidence relies on self-reported social media use, which is known to be imperfect (Jones et al., 2024). Where studies have been able to use objective platform-side data, results have sometimes diverged from self-report. This review takes both kinds of evidence into account but flags this gap explicitly in the discussion.

2. Methods

2.1. Search strategy

The review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) statement. Two electronic databases were searched: PubMed, for peer-reviewed biomedical and health literature, and Google Scholar, to capture relevant interdisciplinary work in psychology, communication studies, and education. Searches were carried out between January and March 2026. Although no formal date restriction was applied, priority was given to publications from 2015 onwards, in order to reflect the current generation of platforms and current adolescent usage patterns. Only English-language records with free full-text access were retained.

Boolean search strings were tailored to each platform and combined with mental health and adolescent terms. The strings used were:

TikTok: (“TikTok” OR “short-form video”) AND (“mental health” OR depression OR anxiety OR “body image” OR “self-esteem” OR wellbeing OR addiction OR “problematic use”) AND (adolescent OR teenager OR youth OR child).

Instagram: (“Instagram”) AND (“mental health” OR depression OR anxiety OR “body image” OR “self-esteem” OR wellbeing OR addiction OR “problematic use”) AND (adolescent OR teenager OR youth OR child).

YouTube: (“YouTube” OR “video platform”) AND (“mental health” OR depression OR anxiety OR “body image” OR “self-esteem” OR wellbeing OR addiction OR “problematic use”) AND (adolescent OR teenager OR youth OR child).

Reference lists of all included articles, and of recent reviews on related topics, were screened by hand to identify additional eligible studies that the database searches might have missed.

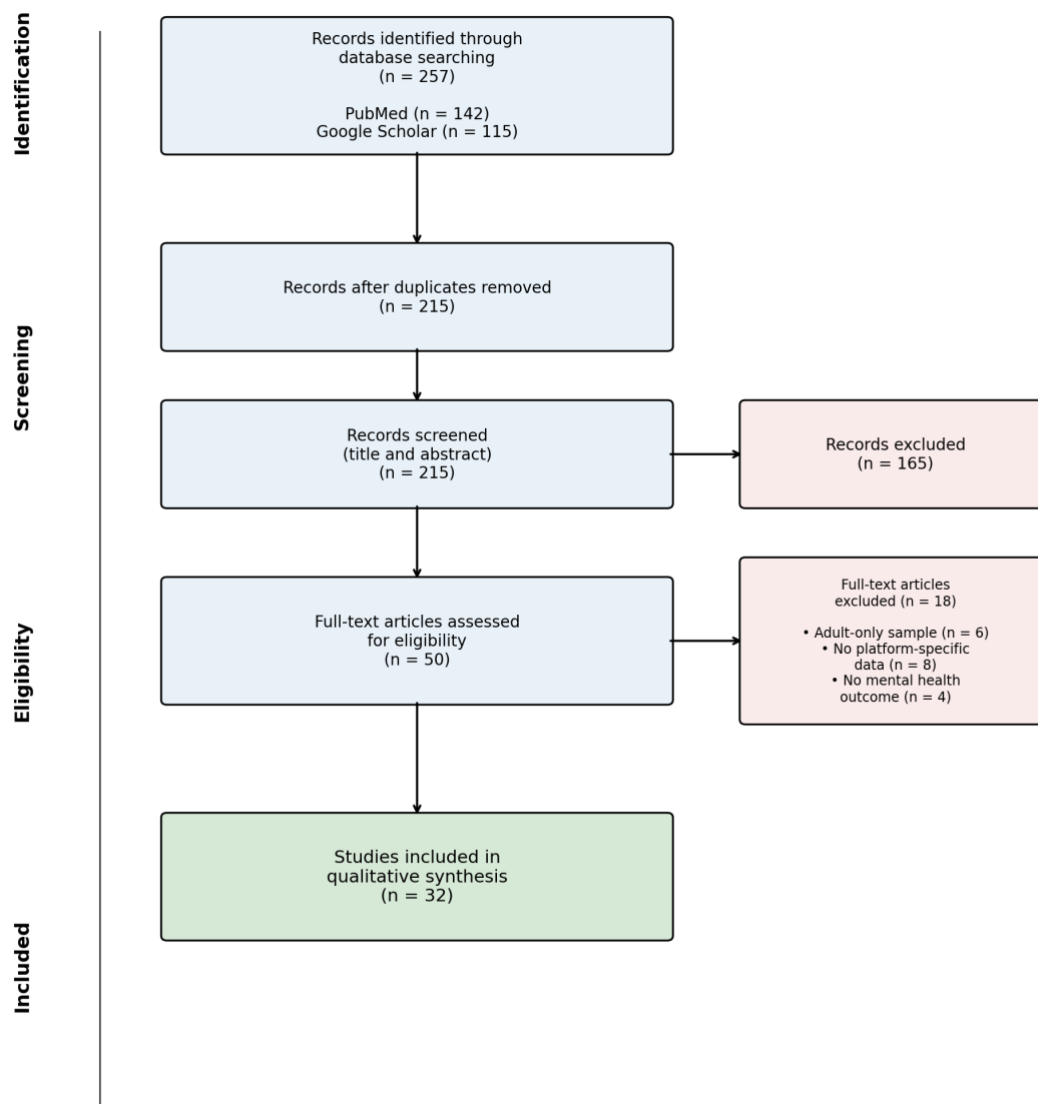
2.2. Inclusion and exclusion criteria

Studies were included if they met all of the following criteria: (1) population of children and adolescents aged 6–18 years; (2) use of at least one of the three target platforms (TikTok, Instagram, or YouTube) as the exposure of interest; (3) at least one mental health outcome reported, including depression, anxiety, body image concerns, self-esteem, problematic or addictive use, or wellbeing; (4) original research using cross-sectional, longitudinal, experimental, or qualitative designs, or evidence syntheses such as systematic reviews, scoping reviews, and meta-analyses; (5) publication in English; and (6) full text available without paywall.

Records were excluded if they (1) included only adults aged over 18 years; (2) reported on social media use in general without breaking findings down by platform; (3) were conference abstracts, editorials, commentaries, or single case reports; (4) did not address a mental health outcome; or (5) were not available as full text.

2.3. Study selection process

The selection process followed the PRISMA flow shown in Figure 1. The initial database search returned 257 records. Removal of duplicates left 215 unique records. Two reviewers screened titles and abstracts independently, applying the criteria above; this step excluded 165 records. The remaining 50 articles were read in full, and 18 were excluded at this stage — most often because the sample was adult-only, because the study did not break results down by specific platform, or because no mental health outcome was reported. The final synthesis is based on 32 studies. Disagreements during screening and full-text assessment were resolved through discussion, and a third reviewer was available where needed; this step was used in three cases. A small number of studies sampled young adults (typically 18–25 years) rather than 6–18 year-olds; these were retained where the questions and findings translated meaningfully to adolescent users (for example, content-quality and algorithm audits whose platform-side findings do not depend on the user’s exact age), and the interpretive limits this introduces are addressed in the Discussion.

Figure 1. PRISMA 2020 flow diagram**Fig. 1. PRISMA 2020 flow diagram of study selection.**

2.4. Data extraction

Data were extracted onto a standardised form developed for this review. The form captured: first author and year, country, study design, sample size, age range, social media platform examined, type of exposure measure (self-reported duration, self-reported behaviour, or objective platform data), mental health outcomes assessed, measurement instruments, and main findings. Extraction was performed by one reviewer and verified by a second; cross-checks against the original full-text articles were carried out for a 25% random subset.

2.5. Quality assessment

Methodological quality was rated separately for observational and synthesis designs. The Newcastle–Ottawa Scale (NOS) was used for cross-sectional, case-control, and cohort studies, with its three domains of selection, comparability, and outcome. The AMSTAR-2 checklist was applied to systematic reviews and meta-analyses. Two reviewers rated each study independently and resolved discrepancies through discussion. Quality ratings were used interpretively, both in the synthesis below and in the discussion of limitations, rather than to exclude studies from the review.

3. Results

The 32 included studies are summarised in Table 1. They covered a mix of cross-sectional surveys, experimental and quasi-experimental designs, content analyses of platform output, qualitative interview studies, and a small number of evidence syntheses. Studies originated from a range of countries across Europe, North America, and East Asia. Sample sizes ranged from small interview-based studies of fewer than 30 participants to large surveys with more than 10,000 respondents, and to one platform-level analysis of more than one million videos. The synthesis is organised by platform and, within each platform, by the main outcome domains. Where included studies sampled young adults rather than adolescents proper — typically content audits, algorithm audits, and decision-making experiments — they are flagged in the text and treated as supporting rather than definitive evidence for the 6–18 year age range.

Table 1. Summary of included studies by platform and outcome domain.

Author (Year)	Design	N / Sample	Age range	Platform	Main findings
Blackburn & Hogg (2024)	Experimental	273	16–25	TikTok	Pro-anorexia content reduced body satisfaction; even neutral content lowered satisfaction.
Bozzola et al. (2022)	Scoping review	68 studies	0–18	Multiple	Frequent social media use associated with risks for sleep, mood, and body image.
Calvert et al. (2025)	RCT (1-week detox)	295	16–24	Multiple	Reduced symptoms of depression, anxiety and insomnia; loneliness unchanged.
Cerit et al. (2025)	Intensive longitudinal	5 (per-person, 1 yr)	Adults (incl. young)	Multiple incl. TikTok/Instagram/YouTube	Person-specific effects; no single average effect of media use on mental health.
Chen et al. (2026)	Cross-sectional	1,108	12–24	TikTok	Passive viewing predicted higher problematic use; active engagement linked to lower risk.
Conte et al. (2025)	Systematic review	26 studies	10–19	TikTok	Higher TikTok use associated with depression, anxiety, and addiction-like patterns.
Copez-Lonzoy et al. (2026)	Systematic review of RCTs	21 studies	13–25	Visual platforms	Microinterventions and body-positive content reduced negative body image.
Coyne et al. (2023)	Cross-sectional	1,231	10–17	Multiple	Gender identity moderated SMU–mental health links; SMU may be protective for TGNB youth.
Du et al. (2024)	Cross-sectional	5,964	10–18	Short-form video	Excessive short-form video viewing linked to school refusal via inattention and anxiety.
Eirich et al. (2022)	Systematic review and meta-analysis	87 studies / 159,425	≤12	Screen-based media	Higher screen time correlated with internalising and externalising problems in children.
Gentzler et al. (2023)	Cross-sectional	237	13–18	Multiple	TikTok and Instagram use associated with depressive symptoms; sex and personality moderate.
Griffiths et al. (2024)	Algorithm audit	>1 million videos	Adolescents/young adults	TikTok	Algorithm exposed eating-disorder users to up to 4343% more harmful content.

Author (Year)	Design	N / Sample	Age range	Platform	Main findings
Haque (2026)	Bibliometric review	10 years of literature	Adolescents/young adults	TikTok	TikTok research clusters: anxiety, addiction, sleep, body dissatisfaction.
Jain et al. (2025)	Systematic review	32 studies	Adolescents/young adults	TikTok	Problematic TikTok use higher in females, lower SES, higher neuroticism.
Jeong et al. (2024)	Cross-sectional survey	55,000+	12–18	YouTube	Mukbang/cookbang viewing associated with body image distortion and BMI changes.
Jones et al. (2024)	Cross-sectional + objective use	240	18+ (incl. late adolescents)	Multiple	Self-report and objective use diverge; objective metrics weaker predictors of distress.
Karasavva et al. (2025)	Content analysis + survey	Top 100 videos / 843 students	Young adults	TikTok	<50% of #ADHD claims aligned with DSM; high viewing linked to inflated ADHD prevalence beliefs.
Lau et al. (2025)	Content analysis	739 videos	Adolescent-targeted	TikTok	Few mental health videos contained evidence-based content; engagement ≠ quality.
Liu et al. (2025)	Content analysis	200+ videos	Adolescent audience	YouTube	Higher overall video quality than other platforms; engagement uncorrelated with quality.
McCashin & Murphy (2023)	Systematic review + content analysis	Multi-database review	Children and young people	TikTok	Limited high-quality content analyses; missed opportunity for institutional mental-health content.
Nygård & Lindfors (2025)	Qualitative content analysis	12 YouTubers	Youth audience	YouTube	Influencers framed mental health as recovery narratives, modelling coping.
Oppenheimer et al. (2024)	Lab experiment (HR, cortisol)	76	18–22	Multiple incl. YouTube	20-minute exposure produced no acute physiological stress response.
Papageorgiou et al. (2022)	Qualitative interviews	24 girls	14–17	Instagram	Automatic appearance comparisons; idealised content drove dissatisfaction.
Pop et al. (2022)	Cross-sectional	423	18–25	Multiple	Self-esteem and body-esteem varied by sex and age; loneliness elevated in younger users.
Schröder et al. (2025)	RCT	541	12–18 + teachers	YouTube	Structured YouTube Health videos improved mental health literacy.
Stiglic & Viner (2019)	Systematic review of reviews	13 reviews	0–18	Multiple/screen	Higher screen time associated with depression and lower quality of life.
Sursely et al. (2026)	Scoping review	65 studies	10–19	Multiple	Non-duration measures (comparison, emotion) more consistent predictors than time.
Turuba et al. (2024)	Qualitative interviews	21	12–24	TikTok	TikTok offered access, connection, and impetus for mental-health action; users wary of misinformation.
Varaona et al. (2024)	Cross-sectional	1,341	16–40 (subgroup adolescents)	Instagram	Beauty/fitness content predicted self-criticism; time alone did not.

Author (Year)	Design	N / Sample	Age range	Platform	Main findings
Wang et al. (2025)	Comparative content analysis	200 videos	Adolescent-relevant	TikTok / BiliBili	Most depression videos created by experts but quality remained inconsistent.
Ye et al. (2025)	Quasi-experimental (Iowa Gambling)	85	College students	Short-form video	Excessive short-form video users showed elevated risk-taking; ambiguity decisions unchanged.
Zink et al. (2020)	Systematic review	60 studies	Children/adolescents	Multiple/screen	Sex and activity moderate associations between screen use and depression/anxiety.

3.1. TikTok: depression, anxiety, and problematic use

Across the included studies, TikTok use was the platform most consistently linked to adverse mental health outcomes in adolescents, with the strongest signals in three areas: depression, anxiety, and problematic or addictive use. Findings were not uniform — study designs and outcome measures varied — but the overall direction was reproducible (Conte et al., 2025).

Higher TikTok use tracked with elevated depressive and anxiety symptoms in several studies. The effect was stronger in younger users, including adolescents and young adults below the age of 24 (Jain et al., 2025). Some studies also reported reduced life satisfaction and what has been described as an amplification or “contagion” of psychiatric symptoms through exposure, suggesting that algorithmically curated content may be doing some of the work usually attributed to peers (Conte et al., 2025).

Patterns resembling behavioural addiction were a second recurring theme. The format of TikTok — short, emotionally salient videos delivered in a continuous feed — lends itself to compulsive use, and several studies reported high prevalence of problematic engagement (Conte et al., 2025). Within those samples, addiction scores were higher among female users, users from lower socioeconomic backgrounds, and users with elevated neuroticism, suggesting that risk is not evenly distributed across the user base (Jain et al., 2025).

Engagement style mattered as well. Adolescents who mainly watched (passive consumers) showed worse outcomes than those who actively created and posted their own content (Chen et al., 2026). Baseline psychological characteristics shaped this further: higher life satisfaction and lower social anxiety predicted more adaptive use, while emotion dysregulation and proneness to boredom predicted problematic patterns (Chen et al., 2026). Excessive short-form video use was also associated with school refusal behaviour, mediated by inattention and school-related anxiety (Du et al., 2024). A separate behavioural experiment added to this picture: excessive short-form video users performed worse on the risk-based portion of the Iowa Gambling Task than non-excessive controls, suggesting that heavy use co-occurs with shifts in decision-making that overlap with patterns seen in addictive behaviours; ambiguity-based decision-making, by contrast, was unaffected (Ye et al., 2025). Taken together, the TikTok evidence reads less as “using TikTok is bad for adolescents” and more as “certain ways of using TikTok, in certain users, predict measurable harm.”

3.2. TikTok: body image, eating, and information quality

TikTok also appeared in the literature as a setting for body-image and eating-related concerns. In an experimental study, exposure to pro-anorexia content produced an immediate drop in body satisfaction and an increase in internalised beauty standards (Blackburn & Hogg, 2024). Even neutral TikTok content reduced body satisfaction, which suggests the effect is not limited to explicitly harmful material. Higher daily use was associated with more disordered eating behaviour, although associations with orthorexic tendencies did not reach statistical significance (Blackburn & Hogg, 2024).

Algorithmic delivery of content emerged as a structural factor in its own right. A large observational analysis of more than one million videos found that TikTok algorithms disproportionately showed users with eating disorders appearance-focused, dieting, exercise-related, and explicitly harmful eating-disorder content; for the most toxic categories, exposure was up to 4343% higher than for matched controls (Griffiths et al., 2024). The algorithmic pattern predicted exposure better than users’ active engagement, meaning that simply scrolling — not actively searching — was enough to escalate the type of content shown. Greater algorithmic bias toward such content tracked with more severe eating-disorder symptoms (Griffiths et al., 2024).

Information quality on TikTok was uneven. A content analysis of mental health videos aimed at adolescents found that 72.63% were created by experts, but scores on standardised tools (JAMA, GQS,

mDISCERN) were inconsistent overall (Wang et al., 2025). High view counts did not translate into high quality. A second analysis of popular mental-health hashtags found that, among the most viewed videos, only one contained evidence-based treatment content, with the rest dominated by personal stories, coping suggestions, and entertainment-style framing (Lau et al., 2025). The platform reaches young people effectively; the clinical accuracy of what reaches them is harder to defend.

A focused study on #ADHD content brought this point into sharper relief. Of the 100 most-viewed TikTok videos tagged with #ADHD, fewer than half of the claims about ADHD symptoms aligned with DSM criteria, and heavier viewing tracked with inflated estimates of ADHD prevalence in the general population and with greater willingness to recommend videos that experts had rated as low quality (Karasavva et al., 2025). The study sampled young adults rather than under-18s, but the mechanism it identifies — popularity uncoupled from accuracy — is the same one observed in adolescent-targeted content. A broader systematic review and content analysis reached a similar conclusion: high-quality public and youth mental-health content on TikTok remains comparatively sparse, with a missed opportunity for institutional and professional creators (McCashin & Murphy, 2023). On the user side, however, qualitative interviews with young people in British Columbia who turned to TikTok for mental health information during the COVID-19 pandemic showed that the platform did serve real functions: easy access to information, a sense of connection that countered isolation, and for some users an impetus to try new coping strategies or seek formal services (Turuba et al., 2024). Participants in that study were also explicit about needing to filter for misinformation, which lines up with the content-quality findings above.

3.3. Instagram: body image, self-esteem, and intervention potential

The Instagram literature centred on body image, with appearance comparison and self-evaluation appearing as the main mechanisms in both quantitative and qualitative studies.

Quantitatively, exposure to appearance-focused content was tied to higher body dissatisfaction and stronger self-critical tendencies (Varaona et al., 2024). Adolescents and young people whose feeds were dominated by beauty and fashion content reported higher self-criticism than those whose feeds were not. Fitness and lifestyle content also tracked with greater body dissatisfaction. Time on Instagram, on its own, was a poor predictor of these outcomes; what an adolescent's feed contained mattered more than how long they spent scrolling (Varaona et al., 2024).

Qualitative work fleshed out the underlying experience. Adolescent girls described almost automatic appearance comparisons when looking at Instagram content, especially images that were idealised or sexualised (Papageorgiou et al., 2022). The comparisons were almost always experienced negatively and translated into dissatisfaction with their own appearance, attempts to alter their bodies, and a search for validation through likes and comments. Participants asked for earlier and more direct education on these dynamics (Papageorgiou et al., 2022).

Self-esteem outcomes were less clean. Broader social media use was linked to self-esteem and body-esteem, but with variation by sex and age (Pop et al., 2022). Younger users and female users tended to score lower on these measures and reported higher loneliness. These findings are not Instagram-specific, but they fit the same picture: social comparison and perceived connectedness do much of the explanatory work. Self-compassion, by contrast, was not associated with Instagram use intensity, although it was inversely related to self-criticism, which leaves it on the table as a candidate protective factor (Varaona et al., 2024).

There is also a more constructive thread. Interventions delivered through highly visual platforms, including Instagram — short videos, chatbot-based tools, and exposure to body-positive or non-appearance-focused content — produced moderate reductions in negative body image (Copez-Lonzoy et al., 2026). Combining digital and in-person components worked better than either alone, which suggests that platforms can be used as part of, rather than purely as a target of, mental health interventions.

3.4. YouTube: literacy, wellbeing, and uneven information quality

YouTube produced the most mixed picture of the three platforms, with both harms and possible benefits reported.

On the harm side, content type mattered. A large survey of South Korean adolescents found that frequent exposure to mukbang and cookbang videos was associated with poorer eating habits and distorted body-image perceptions, including misjudgement of body shape (Jeong et al., 2024). A platform-level content analysis found that YouTube hosts a substantial volume of body-image material; while overall quality scores were higher than on shorter-format platforms, engagement metrics such as views and likes were not correlated with informational quality (Liu et al., 2025).

On the benefit side, an RCT showed that structured short YouTube Health videos improved both objective knowledge and self-rated understanding of mental health topics in adolescents, with stronger gains in the intervention groups than in controls (Schröder et al., 2025). Teachers rated the videos highly on educational and visual quality and on usability in classrooms. A qualitative study of Finnish YouTubers added a complementary finding: creators routinely framed mental health as a recovery narrative, modelling coping strategies such as seeking social support, practising self-compassion, and engaging in self-care (Nygård & Lindfors, 2025). Such content can extend social support and normalise conversations about mental health, although the quality of any individual creator's framing is variable.

Information quality on YouTube was inconsistent overall. Professionally produced videos scored higher on reliability and quality, but a substantial share of mental-health videos came from non-professionals (Liu et al., 2025). The combination of unfiltered creator content with a recommendation algorithm that does not prioritise quality means that adolescents searching for help may land on accurate information, on misinformation, or on content somewhere in between, with no way to tell from engagement metrics alone.

4. Discussion

The synthesis above points to a fairly clear answer to the question that motivated the review: the three platforms are not interchangeable in terms of their relationship with adolescent mental health. TikTok carries the broadest and most consistent risk profile across the included evidence, with depression, anxiety, problematic use, and body-image disturbance recurring as outcomes. Instagram's harms cluster around appearance comparison, body dissatisfaction, and self-criticism, and they track content type more closely than total time spent on the platform. YouTube is the most mixed: associated with body-image concerns through some content types (notably mukbang videos), but also a vehicle for usable mental health information when content is well produced. Bibliometric work on TikTok converges on a similar set of risk domains — anxiety, digital addiction, sleep disruption, and body dissatisfaction — reinforcing the idea that the platform shapes a particular profile of harm rather than a general one (Haque, 2026).

4.1. Why total time is not enough

One of the clearest takeaways is that screen time, as a duration variable, is a weak summary of risk. Total time on social media did track with depressive symptoms across platforms in some studies (Gentzler et al., 2023), but duration-based measures consistently lost predictive power once content type, comparison processes, emotional reactions, or addiction-like patterns were added to the model (Sursely et al., 2026). For Instagram in particular, the feed's composition mattered more than the time spent on it. The implication for measurement is that future studies should treat “how” and “what,” not just “how long,” as the unit of exposure.

4.2. Algorithmic curation as a structural exposure

TikTok made the role of algorithmic curation unusually visible. The audit by Griffiths and colleagues (2024) showed that what users see is shaped at least as strongly by the recommender system as by their own clicking, and that this matters in clinical terms: feeds skewed towards harmful eating-disorder content tracked with more severe symptoms. The same logic applies, in a less extreme form, to Instagram and YouTube, both of which use recommendation systems to decide what young people see next. Treating the algorithm as part of the exposure — not just as a delivery mechanism — is a more honest way of describing what is happening on these platforms.

4.3. Who is most vulnerable

Vulnerability was unevenly distributed in the included studies. Sex, personality, and prior emotional reactivity to social media all moderated the size and direction of associations. Adolescents who reported strong negative reactions to social media were more likely to develop depressive symptoms in the context of TikTok use, and lower extraversion appeared to increase vulnerability to Instagram-related effects (Gentzler et al., 2023). Younger adolescents seemed especially sensitive to social comparison and to algorithmic content curation, which is consistent with what is known about the developmental sensitivity of this age group. Risk, in other words, sits at the intersection of who the user is and how the platform is built.

Gender identity adds a further layer that aggregate analyses tend to miss. In a US cross-sectional study of more than 1,200 youths aged 10–17, gender identity moderated both the size and the direction of the association between social media use and mental health, with social media functioning more protectively for transgender and gender-nonbinary youths than for cisgender peers (Coyne et al., 2023). The implication is not that platform-related harms disappear, but that blanket policy responses based on screen-time caps may carry uneven costs across subgroups, and could reduce access to support communities that some young people rely on. Evidence from younger children points in the same direction, in the opposite developmental window: a

meta-analysis of 87 studies covering more than 159,000 children aged 12 or younger found small but consistent associations between screen time and both internalising and externalising behaviour problems, with effect sizes sensitive to age, content type, and study design (Eirich et al., 2022). The youngest users in our review's 6–18 range therefore enter a digital environment that is already shaping their behaviour before adolescent platform-specific dynamics take over.

4.4. Subjective distress vs. objective response

An important and somewhat uncomfortable strand in the literature concerns the gap between self-report and objective measurement. Most of the included studies relied on self-reported symptoms and self-reported usage. Studies that used objective platform metrics tended to find weaker associations than self-report studies (Jones et al., 2024). A small lab study using heart rate and salivary cortisol found no acute physiological stress response over a 20-minute session of cell phone use, including YouTube viewing (Oppenheimer et al., 2024). One reading is that some of what self-report captures is genuine lasting harm, while another part reflects transient emotional reaction or recall bias. The mature response is not to dismiss the self-report data, but to design future studies that combine self-report, behavioural, and physiological measures.

An idiographic, year-long study that recorded smartphone screens every five seconds for individual participants pushes this argument further. Cerit and colleagues (2025) showed that the relationship between media use and mental health is highly person-specific: the metrics that best tracked mood, anxiety, or attentional symptoms differed from one participant to the next, sometimes in opposite directions. Their sample was small and adult, but the conceptual implication carries to adolescents — group-level averages probably hide as much as they reveal, and a single “effect of screen time” on youth mental health is unlikely to exist in the strong form often assumed in policy debates.

4.5. Reducing exposure: useful but limited

Limited evidence supports the idea that reducing social media use yields modest mental health benefits. A one-week social media detox was associated with lower depression, anxiety, and insomnia, although effects on loneliness were absent and behavioural changes were limited (Calvert et al., 2025). The intervention was short, so conclusions about durability are not warranted, but the pattern is consistent with the broader argument: cutting exposure to harmful or appearance-focused content can help, even if it is not by itself a treatment.

4.6. Limitations of the available evidence

Several caveats apply. The evidence base is methodologically heterogeneous, and prior reviews have already noted inconsistent findings across studies (Calvert et al., 2025). Self-report dominates the literature, with the well-known risk of recall bias and over-estimation of associations with distress (Jones et al., 2024). Many studies do not capture the context-dependent nature of platform use, treating it as a uniform behaviour even though use during a stressful evening at home is unlikely to function the same way as use during a school break. Within this review, age ranges, outcome measures, and exposure definitions varied widely, which limits how directly results from different studies can be compared. Quality scores were heterogeneous as well, with most observational studies in the medium NOS range and most reviews receiving moderate or low ratings on AMSTAR-2.

4.7. Implications for policy, education, and practice

From a public health perspective, the findings argue against a one-size-fits-all response based on screen-time limits. They argue, instead, for a more differentiated approach. Three threads stand out.

First, regulation needs to move beyond duration. If algorithmic curation is doing measurable work in shaping what young people see — as the eating-disorder algorithm audit clearly shows — then transparency requirements, audit access for independent researchers, and content-class-specific rules (for example, on appearance-focused or weight-loss content shown to minors) are more relevant than blanket time caps. Several jurisdictions have begun moving in this direction, and the evidence in this review is consistent with that shift.

Second, digital and media literacy education needs platform-specific content. Generic “think before you post” advice does not equip adolescents to recognise that an Instagram feed dominated by fitness influencers is a different exposure from an Instagram feed dominated by friends, or that a TikTok For You page can shift toward harmful content within days. Curricula that show how recommendation systems work, and that teach concrete strategies for re-shaping a feed (unfollowing, signalling “not interested,” diversifying followed accounts) are likely to be more useful than generic warnings.

Third, clinical practice with adolescents could benefit from platform-specific screening. Asking about TikTok use can pick up signals related to anxiety, compulsive scrolling, sleep disruption, and eating-disorder content exposure; asking about Instagram use can surface appearance comparison and self-criticism; asking about YouTube can identify both informational use (which might be supported) and exposure to body-related

content (which might be addressed). Standard intake forms that ask about “hours of social media” capture far less than this.

A fourth, slower-moving thread concerns the platforms themselves. Several of the studies reviewed here pointed to design features — autoplay, infinite feeds, push notifications, and algorithmic recommendation — as drivers of extended use and of exposure to harmful content. Voluntary changes have been limited and uneven, but where platforms have introduced default-on screen-time reminders or chronological feed options for minors, the question of whether those features actually change use patterns and outcomes is empirically open. The evidence base in this review is not yet rich enough to evaluate such design changes; building that evidence base should be a near-term priority.

Finally, parents and schools occupy a position that the research base only partially supports. Most of the included studies treated the family and the school as background context rather than as variables of interest, which leaves a gap. Practical guidance — such as keeping phones out of bedrooms overnight, modelling realistic platform habits, and discussing specific feeds rather than generic “time online” — is plausible from a developmental perspective, but the field would benefit from more direct evaluation of these strategies, particularly in younger adolescents.

4.8. Theoretical framing: why platforms diverge

The pattern of findings is easier to interpret when read against two long-standing theoretical frameworks in media research. Social Comparison Theory predicts that exposure to upward comparisons — to peers or to idealised figures who appear better off in some valued domain — will tend to lower self-evaluation in the comparison-relevant domain. Instagram, with a feed dominated by curated, edited, and filter-mediated images, is more or less an engineered upward-comparison environment, especially in the appearance domain. The Instagram results in this review fit that prediction closely: it is the appearance-focused content, not the time on platform, that does the work, and the qualitative material from adolescent girls describes the comparison process directly (Papageorgiou et al., 2022; Varaona et al., 2024).

The Uses and Gratifications tradition, in turn, predicts that the same medium will produce different effects depending on what users are seeking from it and how they engage. The TikTok findings on passive vs. active use illustrate this neatly: adolescents who mainly watched showed worse outcomes than those who created and posted (Chen et al., 2026). YouTube’s split picture — harm through mukbang and body-related content, but benefit through structured literacy videos (Jeong et al., 2024; Schröder et al., 2025) — is a second illustration: the same platform produces different outcomes depending on what the adolescent uses it for. Reading the literature through these frameworks, rather than as an undifferentiated “social media is good or bad” question, helps explain why platform-level analysis is more informative than aggregate analysis.

4.9. Directions for future research

The most useful next steps are methodological. Longitudinal designs that track the same adolescents across changes in platform use and changes in symptoms would help disentangle direction of effect, which most of the available work cannot. Studies that combine objective platform-side data (with appropriate consent) with ecological momentary assessment of mood and behaviour would address the gap between self-report and objective measurement directly. Algorithm audits, of the kind already carried out for TikTok, should be extended to Instagram’s and YouTube’s recommendation systems, with particular attention to what minors are shown. Finally, more work on intervention is needed: short-term reductions look promising, but the effects of structural changes — chronological feeds, default-off recommendations, age-tailored content rules — are still largely untested in young people.

5. Conclusions

The evidence reviewed here does not support a single, undifferentiated story about “social media and adolescent mental health.” The three platforms examined operate differently and relate differently to outcomes. TikTok was the platform most consistently linked to depression, anxiety, problematic use, and body-image disturbance, with algorithmic curation playing a structural role. Instagram’s effects clustered around appearance comparison and self-criticism, and tracked content type more than time on platform. YouTube was the most mixed, contributing to body-image risk through specific content types but also offering measurable benefits for mental health literacy when videos were well produced.

Two practical implications follow. Screen time alone is too crude a metric to describe digital risk in adolescents, because what is on the feed and how it is selected do most of the explanatory work. And policy and clinical responses should be platform-specific: algorithm-aware regulation, platform-targeted literacy education, and screening that asks about specific platforms rather than “social media” as a whole. More longitudinal work is needed to establish causal direction, and more transparency from platforms is needed before the field can move from describing the problem to evaluating structural fixes.

Conflicts of Interest: The authors declare that they have no conflicts of interest related to this work.

Funding: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Data Availability Statement: All data analysed during this review are derived from previously published studies, which are listed in the References section. No new datasets were generated.

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