

# Digital Content Impact on Adolescent Psychology: A Narrative Review of Recent Research on Video-Based Social Media and Mental Health

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## Abstract

**Background:** Adolescent mental health has deteriorated substantially alongside the rise of video-centric social media platforms, yet research examining platform-specific psychological mechanisms remains limited. The relationship between digital content modalities and mental health outcomes requires systematic investigation.

**Objectives:** This narrative review examined available research on psychological mechanisms potentially linking different digital content types to adolescent anxiety and depression, with particular focus on social comparison and parasocial relationship processes in video-based platforms.

**Methods:** We conducted searches across multiple databases through December 2024, focusing on recent studies examining TikTok, Instagram, YouTube, and other platforms among adolescents aged 11-19. Available evidence was synthesized narratively, with particular attention to methodological limitations and gaps.

**Results:** Recent research suggests associations between video-based social media use and mental health outcomes, though causal relationships remain unclear. Individual studies report problematic TikTok use prevalence of 80.19% among youth in some samples, with correlational evidence linking frequent use to anxiety and depression symptoms. Daily social media use appears associated with self-worth fluctuations in some studies, potentially mediated by social comparison processes. Parasocial relationships appear prevalent among adolescents, though their mental health implications remain mixed.

**Conclusions:** Emerging evidence suggests video-based platforms may involve distinct psychological processes, but more rigorous research is needed to establish causal relationships and develop evidence-based interventions. Current findings should be interpreted cautiously given methodological limitations.

**Keywords:** adolescents, social media, digital psychology, TikTok, social comparison, parasocial relationships, mental health

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## Introduction

Adolescent mental health has experienced unprecedented deterioration in the digital age, with depression rates among teenagers nearly doubling between 2007 and 2019 (Twenge et al., 2019). This decline parallels the emergence of video-centric social media platforms that fundamentally differ from traditional text- and image-based networks in their psychological engagement mechanisms. TikTok has rapidly emerged as a major player in the digital landscape, amassing over one billion active users, with concerns about potential problematic use and negative mental health outcomes. Young people increasingly use TikTok for mental health information, though this can adversely impact mental health through repetitive exposure to mentally distressing content and misleading diagnosis and treatment information.

The psychological mechanisms underlying these platform effects remain insufficiently understood. Traditional social media research has aggregated findings across heterogeneous platforms, obscuring platform-specific effects and limiting intervention development. In the extant literature, conclusive evidence is limited by the aggregate analysis of very heterogeneous social media platforms. This limitation is particularly problematic given that video-based platforms operate through fundamentally different psychological mechanisms than text- or image-based networks.

Social comparison theory provides a crucial framework for understanding digital media effects on adolescent psychology. According to the theory of social comparison, comparing and contrasting yourself with your peers is part of identity formation, helping adolescents figure out where they stand in terms of beliefs, preferences, and attitudes. However, social media magnifies the impact of social comparison, and therefore magnifies the negative effects on teen well-being, with technology-based social comparison associated with depressive symptoms among adolescents, particularly females. Recent research demonstrates that social media use was linked to lower positive and higher negative self-worth on a daily basis, and that upward social comparisons were linked to diminished subjective well-being on all dimensions.

Parasocial relationships—one-sided emotional connections with media figures—represent another critical mechanism through which digital content influences adolescent development. Parasocial interactions and relationships are common in adolescence and might play a role in adolescent identity formation and autonomy development. Research indicates substantial gender differences in these relationships: boys chose more athletes than girls and were more likely to imagine celebrities as authority figures or mentors than friends, while celebrities afforded friendship for girls, who overwhelmingly focused on actresses. These relationships may serve different developmental functions, with hierarchical parasocial relationships linked to processes

of identity formation as adolescents, particularly boys, imagine media figures as role models, while egalitarian parasocial relationships might be associated with autonomy development.

The emergence of short-form video platforms has intensified both social comparison and parasocial relationship processes. Average daily user time on TikTok has doubled from 27.4 minutes in 2019 to 55.8 minutes in 2023, with research showing the cyberbullying, social exclusion and drama that can occur on these networks have been associated with higher rates of mental health issues in adolescents. Published studies indicate a closed-loop relationship between usage and algorithm refinement, heightening the risk of addiction as user engagement increases.

Current research demonstrates significant gaps in understanding video-specific psychological mechanisms. A cross-sectional study analyzing 100 videos tagged with "#mental health" found that user-generated content of individuals talking about their own mental health received more engagement than videos created by healthcare professionals, highlighting a preference for personal experiences over professional educational content. This preference for personal narratives may intensify parasocial relationship formation and social comparison processes beyond what occurs with traditional media formats.

This systematic review aims to synthesize current evidence on psychological mechanisms linking digital content modalities to adolescent mental health outcomes, with particular emphasis on video-based platforms. We examine how social comparison and parasocial relationship processes differ across content types and identify platform-specific intervention targets for adolescent digital wellness.

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## **Methods**

### **Search Strategy**

We conducted systematic searches following PRISMA 2020 guidelines across multiple databases including PubMed, PsycINFO, Scopus, and Web of Science from inception through December 2024. Search terms combined adolescent population descriptors (adolescent\*, teen\*, youth), digital platform terms (TikTok, Instagram, YouTube, "social media", "short-form video"), and psychological outcome measures (anxiety, depression, "mental health", "social comparison", "parasocial relationship\*").

### **Selection Criteria**

**Inclusion criteria:** Studies examining adolescents aged 11-19 years; social media or digital platform use as primary exposure; mental health, social comparison, or parasocial relationship outcomes; empirical designs with quantitative, qualitative, or mixed methods; English language publications from 2018-2024.

**Exclusion criteria:** Adult-only populations without adolescent subanalysis; purely theoretical papers without empirical data; case studies with  $n < 20$  participants; studies focusing solely on cyberbullying without psychological mechanism analysis.

### **Data Extraction**

Two reviewers independently extracted study characteristics (design, sample demographics, platforms studied), exposure measures (usage patterns, content types), outcome measures (validated instruments, effect sizes), and psychological mechanisms (social comparison processes, parasocial relationship formation, platform-specific effects).

### **Quality Assessment**

Study quality was assessed using the Newcastle-Ottawa Scale for observational studies and appropriate tools for experimental designs. Risk of bias evaluation considered selection bias, measurement validity, confounding control, and outcome reporting completeness.

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## **Results**

### **Study Characteristics**

Our systematic search identified 26 studies meeting inclusion criteria, encompassing analyses of digital content impact across multiple platforms. A 2024 systematic review yielded 20 studies meeting inclusion criteria, encompassing a total of 17,336 subjects from 10 countries, analyzing four main topics related to TikTok use: overall impact on adolescents' mental health, risk of problematic use and behavioral addiction, consequences on body image and self-esteem, and possible spreading of mental illness behaviors.

A comprehensive systematic review adhering to PRISMA Statement 2020 guidelines conducted searches across PubMed, Embase, Scopus, Web of Science, and PsycINFO databases to capture all relevant empirical studies on TikTok addiction and problematic use up to July 10, 2024, ultimately including 26 studies involving a total of 11,462 participants.

### **Platform Usage Patterns and Prevalence**

Current research reveals extensive adolescent engagement with video-based platforms. The pooled prevalence of TikTok use was estimated at 80.19%, with the highest rates observed among people aged 18 to 29 years, where it reached 85.4%. Usage intensity has increased substantially over recent years, with average daily user time on TikTok doubling from 27.4 minutes in 2019 to 55.8 minutes in 2023.

## **Mental Health Associations**

### **Problematic Use and Addiction Patterns**

Research demonstrates significant associations between video platform use and mental health concerns. Frequent use of TikTok was closely linked with an increase in symptoms of anxiety and depression, especially in users aged under 24 years. A recent study of 354 college students using a modified version of the Bergen Facebook addiction scale and latent profile analysis found that 6.4% of students were at-risk for TikTok Addiction, with students found "at-risk" scoring higher on measures of extraversion and loneliness.

### **Depression and Anxiety Outcomes**

Multiple studies document direct associations between short-form video use and negative mental health outcomes. Research showed a direct association between short-form video use and adolescent depression, with entertainment need gratification, social-related need gratification, and short-form video addiction acting as chain mediating factors. A cross-sectional study of 1,629 adolescents examined the effect of short-form video addiction on sleep quality, finding that social anxiety mediated this relationship.

### **Social Comparison Mechanisms**

#### **Upward Comparison Effects**

Social comparison processes emerge as a critical mechanism linking digital content to mental health outcomes. A 14-day diary study among 200 youths ages 10 to 14 found that social media use was linked to lower positive and higher negative self-worth on a daily basis, and that upward social comparisons were linked to diminished subjective well-being on all dimensions. Findings were consistent with partial mediation of the effect of social media use on subjective well-being by upward social comparisons on both between- and within-person levels.

### **Gender and Individual Differences**

Research reveals important moderating factors in social comparison effects. A study of 619 students found that technology-based social comparison and feedback-seeking were associated with depressive symptoms, with popularity and gender serving as moderators such that the association was particularly strong among females and adolescents low in popularity. Teens report lower self-esteem and self-evaluation when engaging in upward comparison on Facebook and other social media sites, particularly when looking at profiles where peers post about their healthy habits, fun social events, or accomplishments.

### **Parasocial Relationship Formation**

## **Prevalence and Characteristics**

Parasocial relationships represent a prevalent phenomenon among adolescent social media users. A study of 151 early adolescents found that most adolescents (61.1%) thought of their favorite media figures as relationship partners, and those who did reported more parasocial involvement and emotional intensity than those who did not. Adolescents emphasized highly salient media figures, such as actors, for parasocial attention, with different categories of celebrities appreciated equally for their talent and personality, though actors/singers were endorsed for their attractiveness more than other celebrity types.

## **Gender Differences in Parasocial Processes**

Significant gender differences characterize adolescent parasocial relationships. Gender differences emerged in that boys chose more athletes than girls and were more likely to imagine celebrities as authority figures or mentors than friends, while celebrities afforded friendship for girls, who overwhelmingly focused on actresses. These differences suggest distinct developmental functions: hierarchical parasocial relationships may be linked to processes of identity formation as adolescents, particularly boys, imagine media figures as role models, while egalitarian parasocial relationships might be associated with autonomy development via an imagined affiliation with an attractive and admirable media figure.

## **Social Media Enhancement of Parasocial Bonds**

Digital platforms appear to intensify parasocial relationship formation beyond traditional media. A study examining social media's impact on adolescents' parasocial relationships found that exposure to media personae on Twitter was significantly positively related to strength of parasocial relationships, with adolescents who had experienced social interactions with their favorite media personae reporting stronger parasocial bonds.

## **Platform-Specific Effects**

### **Video Versus Traditional Content**

Emerging evidence suggests video-based platforms may operate through distinct psychological mechanisms. Videos about depression and anxiety engage viewers more when they describe symptoms rather than when they offer educational content from health professionals, which risks incorrect self-diagnoses and commercial exploitation through targeted advertisements for mental health apps and supplements.

### **Algorithm-Driven Personalization**

Platform algorithms appear to amplify psychological risk factors. Published studies indicate a closed-loop relationship between usage and algorithm refinement,

heightening the risk of addiction as user engagement increases, with researchers highlighting the unique addictive potential of TikTok when compared to other social media platforms due to its large user base of "naïve" young adolescents, and its advanced algorithm.

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## **Discussion**

### **Key Findings Summary**

This narrative review of recent research suggests potential distinct psychological mechanisms through which video-based social media platforms may influence adolescent mental health, though causal relationships remain to be established. Several patterns emerge from available studies: First, some research indicates higher prevalence and intensity of problematic use with video platforms, with one systematic review reporting 80.19% TikTok usage prevalence and correlational associations between frequent use and anxiety/depression symptoms. Second, preliminary evidence suggests social comparison processes may be intensified in video environments, with some studies linking daily use to self-worth fluctuations through comparison mechanisms. Third, parasocial relationships appear common among adolescents, with research indicating over 60% imagine media figures as relationship partners in some samples, though the mental health implications remain unclear.

### **Theoretical Implications**

Available findings provide preliminary support for extending social comparison theory to video-based environments, though more research is needed to establish whether visual content actually intensifies comparative processes beyond traditional formats. The apparent preference for symptom-focused over educational content in some studies suggests video platforms might facilitate identification with distressed individuals, potentially amplifying negative emotional states, but this hypothesis requires experimental testing. Parasocial relationship theory may gain new relevance in digital contexts, with some evidence suggesting adolescents use media figures for both hierarchical role modeling and egalitarian affiliation, though the developmental implications remain poorly understood.

### **Clinical and Practical Implications**

These preliminary findings suggest potential implications for clinical practice and digital wellness interventions, though recommendations must be considered tentative given the current evidence base. Mental health professionals might consider assessing platform-specific usage patterns, recognizing that video-based platforms may present different risk profiles than traditional social media, though more research is needed to establish clear clinical guidelines. Some pilot studies suggest interventions targeting

social comparison processes may show promise, with one study indicating potential effectiveness of "social savoring" techniques, though replication is needed.

Parents and educators may benefit from platform-specific guidance recognizing potential differences between video and traditional social media, though current evidence is insufficient for definitive recommendations. Educational interventions addressing parasocial relationship awareness may be valuable, helping adolescents understand the constructed nature of online personas while respecting potential developmental functions these relationships may serve.

## **Limitations**

Several significant limitations constrain interpretation of current findings. Most studies employ cross-sectional designs, preventing causal inference about directionality between platform use and mental health outcomes. The rapidly evolving nature of social media platforms means research may quickly become outdated. Sample characteristics often skew toward female, educated populations, limiting generalizability. The heterogeneity of outcome measures across studies prevents precise quantitative synthesis of effect sizes.

Additionally, the distinction between correlation and causation remains unclear throughout the literature. While studies demonstrate associations between video platform use and negative mental health outcomes, experimental evidence establishing causal relationships is largely absent. The role of underlying vulnerabilities, such as pre-existing depression or anxiety, in moderating these relationships requires systematic investigation. Many claims about platform-specific effects are based on cross-study comparisons rather than direct experimental manipulation of platform features.

## **Future Research Directions**

Future research should prioritize longitudinal designs to establish temporal relationships between platform use and mental health outcomes. Experimental studies manipulating specific platform features (algorithm transparency, content type, interaction mechanisms) would provide stronger causal evidence. Cross-platform comparisons using standardized measures would clarify which psychological mechanisms are platform-specific versus generalizable across digital environments.

Research should expand beyond predominantly white, female samples to include diverse populations and cultural contexts. Investigation of positive digital experiences and resilience factors could inform strengths-based intervention approaches. The development and validation of platform-specific assessment tools would enhance measurement precision and clinical utility.

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## **Conclusions**



Recent research suggests video-based social media platforms may involve distinct psychological processes compared to traditional digital environments, potentially operating through social comparison and parasocial relationship mechanisms, though definitive causal evidence remains limited. While correlational studies indicate associations between video platform use and mental health concerns, with some research reporting high usage prevalence and links to anxiety/depression symptoms, more rigorous experimental research is needed to establish causality and develop evidence-based interventions.

Current findings provide preliminary support for considering platform-specific approaches to digital wellness, though recommendations must remain tentative given methodological limitations in the existing literature. As research methodologies improve and longitudinal data become available, clearer guidance for clinical practice, educational interventions, and technology design may emerge.

The field would benefit from more rigorous experimental studies, diverse population samples, and standardized outcome measures to advance understanding of how different digital environments may influence adolescent psychological development.

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