

Feeds, Feelings, and Focus: A Systematic Review and Meta-Analysis Examining the Cognitive and Mental Health Correlates of Short-Form Video Use

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The resurgence of short-form videos (SFVs), popularized by TikTok and Douyin, has transformed social media platforms, with features like Instagram Reels and YouTube Shorts fostering their widespread adoption. Although initially geared toward entertainment, SFVs are increasingly used in education, political campaigns, advertising, and consumerism, yet their design, characterized by endless scrolling interfaces, has raised concerns about addiction and negative health implications. Given the recent surge of studies on SFV apps, a comprehensive synthesis is needed to clarify how SFV use relates to different health indicators. This systematic review and meta-analytic investigation comprised data from 98,299 participants across 71 studies. Increased SFV use was associated with poorer cognition (moderate mean effect size, $r = -.34$), with attention ($r = -.38$) and inhibitory control ($r = -.41$) yielding the strongest associations. Similarly, increased SFV use was associated with poorer mental health (weak mean effect size, $r = -.21$), with stress ($r = -.34$) and anxiety ($r = -.33$) showing the strongest associations. These findings were consistent across youth and adult samples and across different SFV platforms. Relatively few studies examined cognitive domains beyond attention and inhibitory control (e.g., memory, reasoning), highlighting critical directions for future research. Interestingly, SFV use was not associated with body image or self-esteem, which may reflect the diverse content and creators featured on these platforms. Further research is therefore needed to clarify how different types of content exposure may shape these associations. Overall, these findings highlight the importance of understanding the broader health implications of SFV use, given its pervasive role in daily life and potential to impact health, behavior, and well-being. By synthesizing current evidence, this study provides a critical foundation for future research to explore understudied health domains (e.g., cognitive health, physical health) and offers insights to guide public discourse and the development of research-informed approaches for promoting more balanced engagement with SFVs.

Public Significance Statement

Short-form video platforms such as TikTok, Instagram Reels, and YouTube Shorts are now a major part of daily life for many people. Our synthesis of 71 studies revealed that greater engagement with these platforms is associated with poorer cognitive and mental health in both youths and adults. For some health domains (such as body image and self-esteem), these associations may depend on the type of content encountered, highlighting the need for further research to inform public health strategies and platform design.

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continued

The rise of social media–based short-form videos (SFVs) has revolutionized digital entertainment and communication, making SFVs dominant sources of information and engagement. SFVs are defined as video content lasting a few seconds to a few minutes (Y. Wu et al., 2021; Y. Yang et al., 2024). The appeal of SFV platforms is grounded in their user-friendly design, infinite-scrolling interface, and algorithm-driven recommendations that deliver diverse and immersive content tailored to individual preferences and engagement patterns (Montag et al., 2021; Y. Yang et al., 2024). The accessibility and viral success of SFVs—first popularized by Vine in 2012 (Vandersmissen et al., 2014) and revitalized by TikTok/Douyin (its Chinese counterpart) in 2016—have driven widespread adoption of SFV content across major social media platforms, including Facebook and Instagram (Reels) and YouTube (Shorts). Initially a medium for entertainment, showcasing trends, challenges, and creative content, SFVs have since expanded into consumerism (Guarda et al., 2021), tourism (Roostika & Putri Yumna, 2023), education (Fiallos et al., 2021), and political campaigning (Battista, 2023; Grantham, 2024). The branching of SFVs into various domains has created new opportunities for engagement and communication, but their widespread use has also raised concerns about potential health impacts.

Excessive SFV consumption has generally been associated with poorer cognitive and mental health (e.g., Galanis, Katsiroumpa, Katsiroumpa, et al., 2024), yet evidence is mixed, with some studies reporting null (e.g., Dong & Xie, 2024; López-Gil et al., 2024; Masciantonio et al., 2021; X. Zhang et al., 2019) or even positive associations (Nasidi et al., 2024; Pop et al., 2022). These inconsistencies, along with the increasing prevalence of SFVs in daily life for both youths and adults (Montag et al., 2021), highlight the need to explore how SFV use may be differentially associated with various health dimensions across different users. The current systematic review and meta-analysis therefore sought to provide a comprehensive synthesis of the current literature on SFV use and both cognitive and mental health correlates to identify patterns and inconsistencies and test potential moderating factors that may explain the variability in findings in this growing field of research. Such findings may contribute to a more nuanced understanding of the associations between SFV use and health across the lifespan and help guide future research in this area.

SFVs and Cognition

Several studies have highlighted the negative association between heavy SFV use and cognition, particularly attention. Research indicates that higher SFV consumption is linked to poorer attention across both young and older populations (Chao et al., 2023; Q. Huang et al., 2021). This association has also been observed at a neural level, with heavy SFV users exhibiting reduced electro-physiological (P300) activity during attention tasks compared to regular SFV users (Walla & Zheng, 2024).

SFV consumption and its potential influence on attentional processing can be understood through the lens of Groves and Thompson's (1970) *dual theory of habituation and sensitization*. According to this framework, repeated exposure to highly stimulating, fast-paced content may contribute to habituation, in which users become desensitized to slower, more effortful cognitive tasks such as reading, problem solving, or deep learning. This process may gradually reduce cognitive endurance and weaken the brain's ability to sustain attention on a single task. Simultaneously, SFV platforms may promote sensitization by providing immediate, algorithmically curated rewards, potentially reinforcing impulsive engagement patterns and encouraging habitual seeking of instant gratification (Soror et al., 2022). The ability to swipe to new content could support a pattern of rapid disengagement from stimuli that do not provide immediate novelty or excitement. In line with this theoretical framework, frequent SFV use may diminish attentional control and reduce the capacity for sustained cognitive engagement, as cognitive processing becomes increasingly oriented toward brief, high-reward interactions rather than extended, goal-directed tasks.

This habituation and sensitization effect has been hypothesized to extend to other cognitive functions and tasks requiring attention processing, including inhibitory control (Y. Chen et al., 2023; Fu et al., 2024), memory (Sha & Dong, 2021; Xia et al., 2023), and reasoning (Q. Jiang & Ma, 2024), but some studies have reported mixed findings pertaining to SFV use and cognitive performance (e.g., Lin et al., 2024; Xu et al., 2023). For instance, Lin et al. (2024) found that although higher SFV consumption correlated with poorer sustained attention in a cross-sectional study, their long-term experiment showed no significant change following SFV use, contributing to mixed findings on its cognitive correlates. Furthermore, it is also unclear whether SFV use is consistently related to other cognitive processes (e.g., fluid intelligence, processing speed, visuospatial ability). Thus, a comprehensive synthesis is warranted to gain a clearer understanding of which cognitive processes SFV use may be associated with and to identify areas requiring further research.

SFVs and Mental Health

SFV use has also been associated with negative mental health indicators, particularly increased symptoms of depression, anxiety, stress, and loneliness (e.g., Galanis, Katsiroumpa, Katsiroumpa, et al., 2024). The highly engaging, algorithm-driven nature of SFV platforms is thought to encourage excessive use by stimulating the brain's dopaminergic reward system, which may reinforce habitual engagement through instant gratification and unpredictable content rewards (Y. Chen et al., 2023; Goldon, 2024). The continuous cycle of swiping and receiving new, emotionally stimulating content has been proposed to trigger dopamine release, creating a reinforcement loop that contributes to patterns of habitual use and greater emotional reliance on digital interactions. This habitual engagement may be associated with heightened stress and anxiety, as some users

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report difficulties disengaging and regulating their emotions in offline settings (Peng et al., 2022). Additionally, the immersive and infinite-scrolling nature of SFVs has been linked to increased social isolation by replacing real-world interactions with passive digital engagement, exacerbating feelings of loneliness (Goldon, 2024). Such reliance on online interactions has also been correlated with lower life satisfaction (Chung, 2022; Zuo et al., 2024). These associations between SFV use and mental health have been reported across youths, young adults, and middle-aged adults (Gentzler et al., 2023; Q. Huang et al., 2021; D. Zhang, Yang, & Guan, 2024), though some studies have reported no association between SFV use and mental health indices (e.g., X. Zhang et al., 2019). Thus, further quantitative synthesis of the existing research is required to better understand the nature and consistency of these associations.

In addition to mood-related mental health correlates, studies have reported negative associations between SFV use and sleep quality. In particular, the consumption of SFVs in the hours before bedtime has been linked to disrupted sleep quality due to the blue light emitting from electronic devices, which may inhibit the production of melatonin and serotonin—key hormones involved in regulating circadian rhythms (Gomes & Preto, 2015). Disruption of the body's sleep-wake cycle has been associated with poorer sleep quality, which may also be linked to changes in mood (Y. Li et al., 2025; Newton & Poluan, 2022). Some studies, however, have reported no association between SFV use and sleep quality (e.g., Y. Ye et al., 2024). This inconsistency highlights the need for a meta-analysis to synthesize existing research, account for methodological differences, and determine the overall strength of the relationship between SFV use and sleep quality.

Mixed findings have also been reported for self-esteem and body image. Some studies report positive associations between SFV use and self/body esteem (Asad et al., 2022; Hendrikse & Limniou, 2024), whereas others report negative associations (Alshaikhi et al., 2023; Ibn Auf et al., 2023). Frequent exposure to curated, appearance-focused content may reinforce unrealistic beauty standards and social comparison (Ariana et al., 2024; Harriger et al., 2023), but SFV platforms also promote body positivity and diverse representation, which may enhance self-acceptance and empowerment (Dhadly et al., 2023). Additionally, active participation in content creation may either support self-esteem through creative expression and social validation, or it may relate to self-consciousness and reliance on external approval (Haug et al., 2024; Marengo et al., 2021). Thus, although some studies link SFV use to lower self-esteem and body dissatisfaction, others report positive associations with self-perception and identity exploration, highlighting the need for further examination of how SFV use relates to self-esteem.

Given the equivocal evidence on SFV use and mental health, the present review aimed to clarify patterns within the existing evidence base and explore factors that may account for variability in findings. This study synthesizes empirical evidence to test potential moderating factors that may shape the direction and strength of associations between SFV engagement and mental health indicators, providing a clearer understanding of the conditions under which such associations are most likely to emerge.

Previous Syntheses of Literature

With the surge in research exploring the impact of SFV use on health, numerous systematic reviews and meta-analyses have been

conducted. Conte et al.'s (2025) systematic review explored the relationship between TikTok usage and mental health in adolescents. Across the 20 articles included, TikTok use was generally associated with poorer mental health (e.g., depressive symptoms, addiction, anger issues, loneliness, lower self-esteem, and reduced life satisfaction). Yet the absence of a quantitative synthesis limited the review's ability to determine the strength of these associations. Additionally, Gabrielle et al. (2024) conducted a meta-analysis on the association between social media use and mental health in adolescents, reporting a weak, negative association between TikTok use and mental health indices (depressive and anxiety symptoms). Critically, both reviews focused exclusively on adolescents, leaving it unclear whether findings generalize to adults, whose cognitive (Ferguson et al., 2021) and emotional (Vink et al., 2014) development may alter associations between SFV use and health.

Addressing this gap, Galanis, Katsiroumpa, Katsiroumpa, et al. (2024) conducted a systematic review and meta-analysis including both adolescent and adult samples to evaluate the association between TikTok use and mental health. Consistent with previous findings, their review of 16 articles revealed associations between TikTok use and poorer mental health (depression and anxiety). However, despite including broader age ranges, the review did not assess whether age moderated this relationship. Further research examining the moderating role of age is therefore warranted.

Although findings from prior syntheses provide insight into the link between SFV use and mental health, they focus solely on TikTok. Such a focus may misrepresent actual SFV use as social media users often engage with multiple SFV platforms. Moreover, due to government restrictions, some countries cannot access TikTok and instead rely on alternatives (e.g., Douyin, Instagram Reels, YouTube Shorts). Excluding studies on these platforms or on general SFV use limits the generalizability of findings in this field. In addition, prior syntheses have primarily examined SFV use in relation to mental health, neglecting other domains, such as cognition. Correlates of SFV use beyond mental health therefore remain underrepresented. A more holistic synthesis of SFV use and both cognitive and mental health is therefore warranted to provide a broader understanding of its implications, test potential moderators, and clarify inconsistencies in the literature.

The Current Meta-Analytic Investigation

Addressing key limitations in prior syntheses, the current systematic review and meta-analytic investigation provides one of the most comprehensive and extensive syntheses to date on the associations between SFV use and both cognitive and mental health. Drawing on a large and diverse body of research, this investigation examines SFVs beyond TikTok (including general SFV use). This study also explores different indices of SFV engagement (e.g., SFV addiction, frequency, intensity, general usage), allowing for a more nuanced exploration of how different patterns of use may relate to distinct health domains. Another key feature of this review is its inclusion of a variety of cognitive (e.g., attention, executive functioning, memory) and mental health indices (e.g., depression, anxiety, body image), enabling a comprehensive assessment of whether specific health domains are more consistently associated with SFV use than others. Additionally, this review explores several potential moderators, including age group, providing the first meta-analytic evidence of whether the relationship between SFV use and

health differs between youths and adults. By synthesizing findings across these dimensions, this investigation offers a comprehensive overview of current evidence and identifies gaps and inconsistencies in the literature. The findings of this review will inform future research priorities and contribute to the development of targeted, age-appropriate strategies for understanding and supporting healthy engagement with SFV content.

Method

Transparency and Openness

This review was conducted in accordance with the Cochrane Handbook for Systematic Reviews of Interventions (Higgins et al., 2024) and reported following the Preferred Reporting Items for Systematic reviews and Meta-Analyses 2020 Checklist (Page et al., 2021) and Meta-Analytic Reporting Standards. Generative artificial intelligence was not used for study design, data collection/extraction, analysis, or writing of the article. Only standard reference management and proofreading tools were employed.

The protocol for this systematic review and meta-analysis was preregistered in the PROSPERO database (Reference ID: CRD42024587550). There were no major deviations from the preregistration. The only deviations concerned subgroup analyses. All preregistered subgroup analyses were conducted, except for health status (clinical vs. nonclinical), as no included studies involved clinical populations. During data extraction, we also identified considerable variation in how SFV was measured (e.g., addiction, frequency, duration) and therefore added a subgroup analysis to examine whether measurement type moderated associations. Reviewers also recommended a subgroup analysis comparing studies that did versus did not include covariates. Other than these contingencies, no deviations from preregistration were made. The data extracted and analyzed in this review are available on the Open Science Framework repository (<https://osf.io/D283Y/>; Nguyen et al., 2025).

Eligibility Criteria

Study Type and Population

Studies examining the link between social media–based SFV use and health and/or cognitive correlates were considered for inclusion. Only empirical, quantitative studies were included. Any qualitative studies or secondary research studies (e.g., reviews, book chapters not reporting any empirical data) were excluded. There were no limits on the study population (e.g., age, health/clinical status).

Exposure

In this review, SFVs are defined as video content lasting from several seconds to several minutes in length (e.g., Y. Wu et al., 2021; Y. Yang et al., 2024). Studies focusing on the use of SFV-specific platforms (e.g., TikTok, Douyin) or general SFV use were included. Studies focusing on general social networking sites (e.g., Instagram, Facebook) were only included if the focus was on the use of the SFV features on these platforms (e.g., reels). Specifically, eligible studies must have assessed SFV use by frequency, duration, or intensity/addiction. Studies exploring general social media use were excluded.

Comparison

Studies must have investigated the relationship between SFV use and health and/or cognitive correlates, either by comparing groups (e.g., high SFV use vs. no/low SFV use) or by examining correlations (e.g., assessing SFV use on a continuum). Studies were excluded if they lacked an appropriate comparison group (e.g., if all participants engaged in high SFV use) or if no comparisons or associations were made to examine the link between SFV use and relevant health indices.

Outcomes (Correlates)

Studies must have quantitatively assessed a mental health and/or cognitive construct.¹ These constructs could include subjective measures (e.g., self-reported or perceived health/cognition) or objective measures (e.g., standardized tests). Health constructs were categorized into mental health domains based on the World Health Organization's *International Classification of Diseases*, 11th revision (World Health Organization, 2019). For cognitive constructs, tasks were categorized into specific cognitive domains (e.g., attention, memory) based on a Compendium of Neuropsychological Tests (Strauss et al., 2006).

Information Sources

Database searching was completed on October 28, 2024, with no restrictions applied (e.g., publication date, language). The database search was conducted across multiple sources, including APA PsycInfo (Ovid), PubMed (National Center for Biotechnology Information), Scopus (Elsevier), and Web of Science (Clarivate). Gray literature was examined through the ProQuest Conference Papers Index and the ProQuest Dissertations and Theses Database. An online translation tool was used to assess the eligibility of non-English publications. This approach was applied to two articles reported in Mandarin.

To ensure comprehensive coverage of relevant studies, additional searches were carried out between November 1 and November 10 using forward searching (utilizing Google Scholar's *cited by* function) and backward searching (searching reference lists). Key journals, such as *Psychology of Popular Media*, were also manually searched for potentially relevant studies.²

Search Strategy

The initial search string was developed by identifying keywords pertaining to SFVs, mental health constructs, and cognitive constructs from relevant articles. A preliminary search was then conducted on Scopus, where 500 articles were screened (sorted by relevance) to further refine the search string by adding additional key

¹ As part of the Population-Intervention/Exposure-Comparison-Outcome framework, the term “outcomes” is used here in accordance with standard reporting conventions. However, given that the included studies are correlational in nature, directionality cannot be inferred; thus, these variables are more appropriately interpreted as correlates.

² Relevant journals selected to be searched were identified through (a) Scimago (searching for technology- and media-based journals) and (b) the title/abstract screening process (journals that commonly published articles pertaining to social media). The list of journals searched is presented in Supplemental Materials A.

terms. This process was repeated on the refined search string to ensure that no key terms were missed. The final search string was as follows: (“short-form video*” OR “short video*” OR TikTok OR “Instagram reel*” OR “Facebook reel*” OR Snapchat OR Douyin OR Bilibili) AND (cognition OR cognitive OR attention* OR memory OR “executive function*” OR health* OR mood OR stress* OR anxiety OR depression OR sleep* OR well-being OR “quality of life” OR QoL OR “problem solving” OR “decision making” OR “critical thinking” OR “mental health” OR psychosocial).

Selection Process

The research team reviewed and agreed to the eligibility criteria prior to screening to ensure consistency when selecting studies for inclusion/exclusion. *Covidence* (Veritas Health Innovation, n.d.) software was used for article management and to streamline the screening process. All search results were imported into Covidence, where duplicate articles were automatically removed; any duplicates missed were manually removed during screening.

Each article was independently reviewed by two authors at both the title/abstract and full-text screening stages. One author reviewed 100% of articles at each stage, while each of the remaining team members screened approximately 17% of the articles. Interrater reliability was high across each stage: title/abstract screening (Cohen’s $\kappa = .87$) and full-text screening (Cohen’s $\kappa = .94$). Discrepancies between reviewers were resolved at a team meeting through discussion of the eligibility criteria.

Two articles were missing information or relevant data needed for meta-analysis. The corresponding authors for these articles were contacted for clarification and additional data. Both authors responded, but only one provided the additional information requested.

Data Collection

A spreadsheet was created to facilitate data extraction from the included studies. Initially, a pilot extraction of five articles was conducted to ensure that all relevant information was captured. During this pilot, the list of data items to extract was refined to include additional details of interest. Once the extraction spreadsheet was finalized, data were manually extracted from the studies. To ensure accuracy, data from articles were extracted by one author (extracted data for 100% of articles) and validated by the research team (extracted approximately 17% of articles each). Data were checked to ensure consistency and accuracy. No discrepancies were identified throughout this process.

The final list of data items extracted included the following: *study characteristics* (study location, study design, conflicts declared), *sample characteristics* (age group, population description, sample size, age, gender), *assessment of SFV use* (assessment format, measure of SFV, focal SFV platform[s], if any), *assessment of correlates* (category [mental/cognitive/physical health], measure[s]), and *study findings* (results for each measure).

Methodological Quality Assessment

The methodological quality of each study was evaluated using the Mixed Methods Appraisal Tool (Hong et al., 2018), which allows for the assessment of various quantitative designs, including

correlational and cross-sectional group comparisons. Studies were evaluated on five criteria: (a) sampling strategy, (b) representativeness of the sample, (c) appropriateness of measurements, (d) risk of nonresponse bias, and (e) appropriateness of statistical analyses. Each study was scored from 0 to 5, with 1 point awarded per criterion met, where a higher score reflects a more rigorous methodology. Each study was evaluated independently by two authors. Any disagreements were resolved through a discussion with the research team.

Data Synthesis

Data were analyzed using *Comprehensive Meta-Analysis Version 4* (CMA; Borenstein et al., 2022). Because most included studies reported correlation coefficients (r values), the correlation effect size (r) was selected as the common metric. Correlation statistics and sample sizes were entered directly into CMA. For the smaller number of studies reporting group comparisons (e.g., means and standard deviations for high vs. low/no SFV use groups), standardized mean differences were calculated within CMA and then converted to r values using established formulas (Borenstein et al., 2009). This approach ensured that all studies, regardless of original reporting metric, could be synthesized on a common scale, facilitating interpretability and consistency with conventions in the literature.

Accordingly, the correlation coefficient (r) was reported as the mean effect size, with values of .10, .30, and .50 representing weak, moderate, and strong correlations, respectively (Cohen, 2013). A positive correlation indicates that higher SFV engagement is associated with better health indicators, whereas a negative correlation indicates the reverse.

Assessment of Heterogeneity and Bias

Heterogeneity in effect sizes for each analysis was assessed using the Q statistic. The proportion of between-study variance was evaluated using I^2 , with thresholds of <30% (trivial), 30%–50% (moderate), 50%–75% (substantial), and >75% (considerable; Deeks et al., 2024). Moderator analyses were conducted to explore potential sources of heterogeneity when present (Borenstein et al., 2021).

Potential outliers were examined using CMA’s one-study-removed function. A study was considered an outlier if its exclusion altered the interpretation of the results (e.g., changed statistical significance or effect size). Any identified outliers would have been excluded from the analyses, though no outliers were identified.

Publication bias was evaluated visually using funnel plots and statistically using Egger’s regression test (Egger et al., 1997). Duval and Tweedie’s (2000) trim-and-fill method was also applied to estimate the potential influence of missing studies. Both original and adjusted effect sizes were reported. Following guidelines outlined by Borenstein et al. (2021), the impact of publication bias was considered trivial if the adjusted effect size supported the same conclusion and substantial if the adjustment altered the interpretation of findings.

Planned Analyses

Analyses were grouped into two health categories: cognitive correlates and mental health correlates. Where multiple measures were used to assess a single domain within a study (e.g., administering

the Tower of London and Wisconsin Card Sorting Task to measure executive functioning), data for these domains were aggregated into a single effect size for the study. These aggregated effect sizes were then used to calculate the overall effect size for each analysis, following standard meta-analysis protocol (Higgins et al., 2024). All analyses were conducted using a random-effects model to account for differences in study design and measures across studies, with statistical significance evaluated using an α level of .05.

To provide further insight into the relationship between SFV use and health/cognition, subgroup moderator analyses were conducted for (a) *age group* (youths [M_{age} up to 18 years], adults [M_{age} >18 years]), (b) *SFV platform* (e.g., TikTok, Instagram, Facebook), (c) *measure of SFV* (e.g., addiction, duration, frequency, intensity, usage), and (d) *domains* within each health category (e.g., for cognitive domains: attention, memory, executive functioning, planning). *Inclusion of covariates* (the study controlled for confounding variables; the study did not control for any variables) was examined as an exploratory moderator.

Sensitivity Analyses

To assess the robustness of the findings, sensitivity analyses were conducted for model type, methodological quality, study

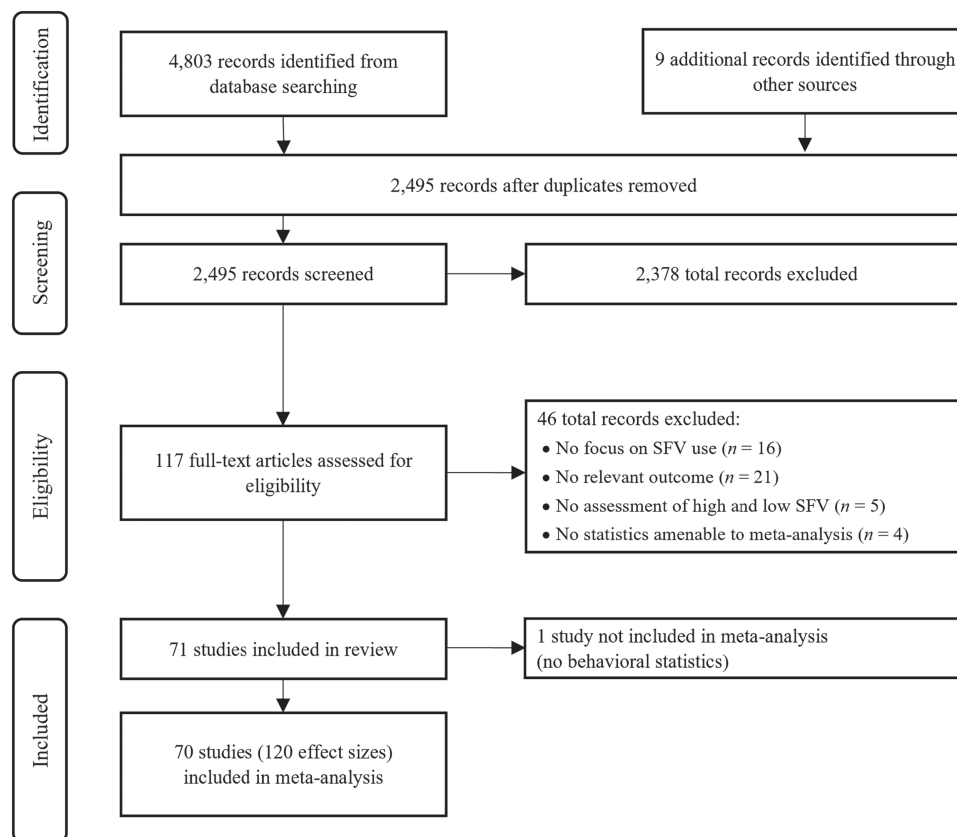
design, and declared conflicts of interest. Findings were considered robust if effect sizes were comparable across different assumptions (see Supplemental Table SB-1 for summary statistics). Comparable results were obtained across random-effects and fixed-effects models for both cognitive and mental health correlates. Findings were also consistent between studies rated as lower (Mixed Methods Appraisal Tool Scores 0–2) versus higher quality (Mixed Methods Appraisal Tool Scores 3–5). Similarly, correlational studies and group comparison studies produced comparable findings. Only two studies declared a conflict of interest, both of which examined mental health correlates; their effect sizes were consistent with those of other studies.

Results

Search Results

Figure 1 presents the Preferred Reporting Items for Systematic reviews and Meta-Analyses flow diagram for the study selection process. Of the 2,495 articles screened, 71 studies were included in the review, and data from 70 studies were included in the meta-analysis.

Figure 1
Preferred Reporting Items for Systematic Reviews and Meta-Analyses Flowchart Depicting Study Selection



Note. SFV = short-form video.

Characteristics of Included Studies

The majority of studies included in this review were conducted in Asia (74%), followed by North America (11%) and Europe (11%), with few being conducted in Africa (3%) and Central America (1%). Most studies were correlational (87%) rather than group comparison studies (13%).

In total, 98,299 participants were represented across all studies in this review. The average sample size across studies was 1,384 participants ($SD = 2,968$, range = 29–20,107). Most studies focused on adults (73%), with fewer studies focusing on youths (27%). Across studies, samples were predominantly female (average 60% female) with an average age of 22.80 years ($SD = 10.25$).

SFV engagement was assessed across a variety of indicators (7% of studies included multiple indicators of SFV engagement). SFV addiction (habitual, uncontrollable use of SFV apps) was the most common indicator, measured across 52% of studies. Duration (time spent on SFV apps, 27%), usage (SFV app user vs. nonuser, 11%), intensity (emotional/psychological attachment to SFV apps, 10%), and frequency (how often SFV apps are accessed, 7%) were also measured, albeit less commonly. Most studies focused on general SFV use (no specific app mentioned; 52%), with TikTok being the only specific SFV platform explored in the studies included in this review (48%). The majority of studies examined mental health correlates of SFV engagement (86%), with fewer studies examining cognitive correlates (21%). Few studies examined multiple health domains (7%).

In studies where declarations of interest were acknowledged (3%), the reported conflicts did not relate to social media or any competing interests that might have influenced the findings. More studies were rated as having high methodological quality (59%) than low (41%). The most common unmet criteria involved sample representativeness (e.g., no clear description or comparison to target population, unequal gender distribution) and risk of non-response bias (e.g., high rates of nonresponse, missing/unclear description or consideration of noncontacts/refusals). More than half the studies (48%) controlled for confounding variables, most commonly age and gender. Approximately 10% of studies controlled for some form of general social media use (e.g., Facebook/Instagram use, number of social media platforms used, time spent on social media).

SFVs and Health

Table 1 presents a summary of mean effect sizes and moderator effect sizes across cognitive and mental health correlates. See Supplemental Materials C for a summary of study characteristics and findings for studies exploring cognitive correlates (Supplemental Table SC-1) and mental health correlates (Supplemental Table SC-2). See Supplemental Materials D for findings pertaining to physical health correlates.

Cognitive Correlates

The association between SFV and cognition was examined within 14 studies. Overall, there was a significant, moderate, negative mean effect size ($r = -.34$, 95% CI $[-.42, -.26]$, $p < .001$), indicating

that increased engagement with SFV is associated with poorer cognition. The funnel plot appeared to be relatively symmetrical, confirmed by Egger's test ($\beta = 1.40$, $SE = 2.88$, $p = .636$), but the trim-and-fill analysis imputed one low-precision study with a negative effect size to balance the funnel plot. With this imputed study, the mean effect size adjusted for bias was slightly more negative than the observed mean effect ($r_{\text{adjusted}} = -.35$, 95% CI $[-.42, -.27]$), though the interpretation of the analysis remained unchanged, indicating trivial impact of potential publication bias.

There was significant, considerable heterogeneity between studies, $Q(13) = 304.11$, $p < .001$, $I^2 = 95.73\%$, which was further explored through moderator analyses (see Table 1 for summary effect sizes across each moderator variable). Cognitive domain emerged as a significant moderator, with SFV engagement sharing moderate negative associations with attention and inhibitory control; weak negative associations with language, memory, and working memory; and no association with reasoning (see Figure 2).

The SFV measure was also a significant moderator. Poorer cognition was strongly associated with SFV intensity, moderately associated with SFV addiction, and weakly associated with duration of SFV use. In contrast, SFV type was not a significant moderator, with similar effect sizes obtained for studies focusing on general SFV use and TikTok use.

Age group was tested as a moderator to examine whether the strength of association between SFV engagement and cognition differed for youths versus adults. This analysis revealed no significant moderating effect of age, indicating that studies involving youths and adults both yielded comparable moderate negative associations between SFV engagement and cognition. The inclusion of covariates was also not a significant moderator.

Mental Health Correlates

Overall, 61 studies explored the link between SFV engagement and mental health, yielding a small but significant negative mean effect size ($r = -.21$, 95% CI $[-.25, -.17]$, $p < .001$). Thus, higher SFV engagement was associated with poorer mental health. The likely impact of publication bias on this finding was minimal, as evidenced by the symmetrical funnel plot and confirmed by both Egger's test ($\beta = -1.90$, $SE = 1.45$, $p = .193$) and the trim-and-fill analysis, which indicated that imputation was not required to balance the funnel plot.

As there was significant, considerable heterogeneity between studies, $Q(60) = 1,681.54$, $p < .001$, $I^2 = 96.43\%$, moderator analyses were conducted. Health domain significantly moderated the association between SFV engagement and mental health. As shown in Figure 3, SFV engagement was moderately associated with anxiety and stress and weakly associated with depression. Figure 4 illustrates weak negative associations between SFV engagement and affect, loneliness, sleep quality, and well-being. In contrast, SFV engagement was not associated with body image or self-esteem (see Figure 5).

The SFV measure was a significant moderator, with SFV addiction yielding a moderate association with mental health and both SFV usage and duration of SFV use yielding weak

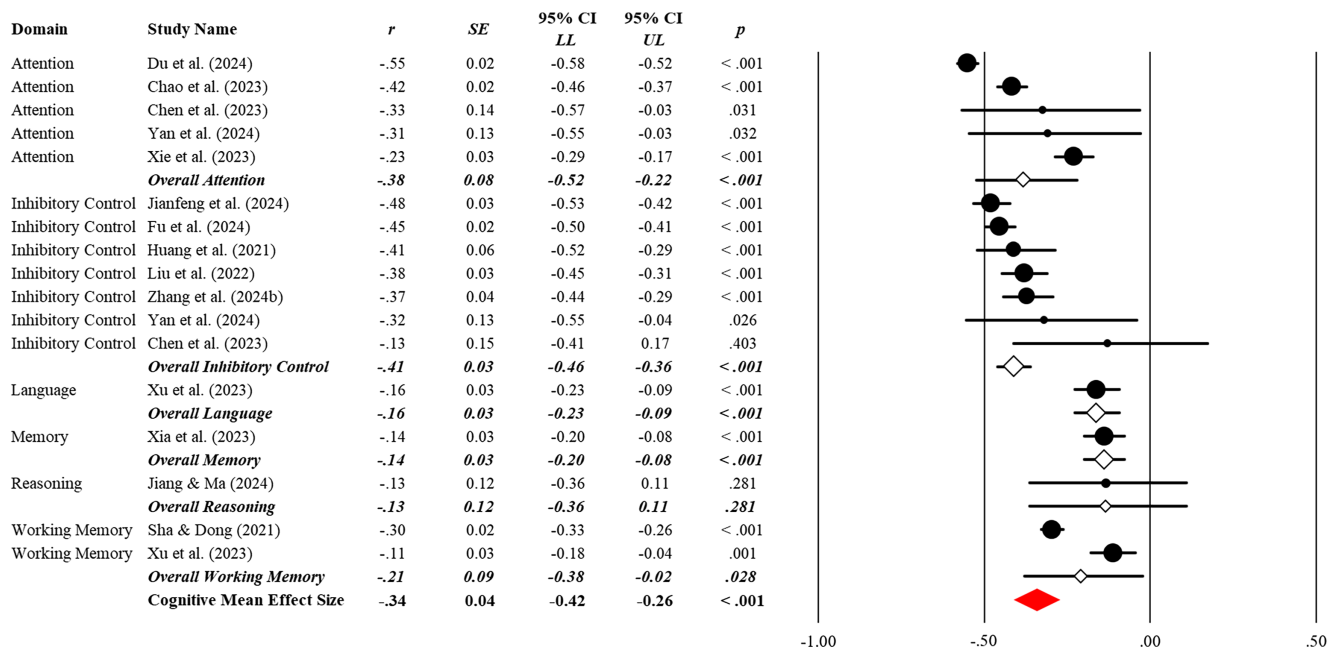
Table 1*Summary of Mean Effect Sizes for Cognitive and Mental Health Correlates of SFV Engagement*

Moderator	<i>k</i>	<i>r</i>	Mean effect size		<i>p</i>	Moderator statistic
			95% CI			
			<i>LL</i>	<i>UL</i>		
Cognitive correlates						
Overall effect size	14	−.34	−.42	−.26	<.001	
Age group						
Adults	9	−.32	−.42	−.21	<.001	<i>Q</i> (1) = 0.22, <i>p</i> = .637
Youths	5	−.36	−.49	−.22	<.001	
SFV measure						
Addiction	9	−.37	−.43	−.30	<.001	<i>Q</i> (2) = 60.63, <i>p</i> < .001
Duration	4	−.20	−.31	−.09	<.001	
Frequency	—					
Intensity	1	−.55	−.58	−.52	<.001	
Usage	—					
SFV type						
General	12	−.35	−.44	−.26	<.001	<i>Q</i> (1) = 1.38, <i>p</i> = .241
TikTok	2	−.26	−.38	−.12	<.001	
Covariates included						
No	4	−.35	−.43	−.27	<.001	<i>Q</i> (1) = 0.04, <i>p</i> = .841
Yes	10	−.34	−.45	−.22	<.001	
Cognitive domains						
Attention	5	−.38	−.52	−.22	<.001	<i>Q</i> (5) = 59.63, <i>p</i> < .001
Inhibitory control	7	−.41	−.46	−.36	<.001	
Language	1	−.16	−.23	−.09	<.001	
Memory	1	−.14	−.20	−.08	<.001	
Reasoning	1	−.13	−.36	.11	.281	
Working memory	2	−.21	−.38	−.02	.028	
Mental health correlates						
Overall effect size	61	−.21	−.25	−.17	<.001	
Age group						
Adults	43	−.21	−.27	−.15	<.001	<i>Q</i> (1) = 0.02, <i>p</i> = .899
Youths	18	−.21	−.27	−.14	<.001	
SFV measure						
Addiction	32	−.32	−.36	−.27	<.001	<i>Q</i> (4) = 44.64, <i>p</i> < .001
Duration	16	−.10	−.16	−.05	<.001	
Frequency	4	−.05	−.14	.03	.229	
Intensity	6	−.14	−.33	.07	.181	
Usage	8	−.13	−.22	−.05	.002	
SFV type						
General	28	−.27	−.33	−.22	<.001	<i>Q</i> (1) = 9.48, <i>p</i> = .002
TikTok	33	−.15	−.21	−.10	<.001	
Covariates included						
No	27	−.20	−.28	−.12	<.001	<i>Q</i> (1) = 0.15, <i>p</i> = .695
Yes	34	−.22	−.27	−.17	<.001	
Mental health domains						
Affect	8	−.13	−.24	−.01	.032	<i>Q</i> (8) = 44.61, <i>p</i> < .001
Anxiety	14	−.33	−.39	−.26	<.001	
Body image	6	−.10	−.21	.02	.090	
Depression	20	−.23	−.26	−.19	<.001	
Loneliness	12	−.23	−.35	−.10	.001	
Self-esteem	10	−.08	−.19	.04	.193	
Sleep	7	−.22	−.34	−.11	<.001	
Stress	7	−.34	−.40	−.29	<.001	
Well-being	13	−.14	−.23	−.04	.005	

Note. Mean effect size represents the average correlation (*r*) between SFV engagement and health indices across studies. A positive mean effect size indicates that higher SFV engagement is associated with better health indicators. A negative mean effect size indicates that higher SFV engagement is associated with poorer health indicators. Subgroup categories marked with “—” indicate that no studies examined this association. SFV = short-form video; *k* = number of effect sizes included in each analysis; CI = confidence interval; *LL* = lower limit; *UL* = upper limit.

associations. Frequency and intensity of SFV use were not associated with mental health. SFV type was also a significant moderator, with general SFV use yielding a slightly stronger mean effect size than TikTok use.

Age group was not a significant moderator, indicating that studies involving youths and adults both yielded comparable weak negative associations between SFV engagement and mental health. The inclusion of covariates was also not a significant moderator.

Figure 2*Forest Plot Depicting Effect Sizes for Cognitive Correlates Stratified by Cognitive Domain*

Note. Circles represent individual effect sizes for each study (lines represent 95% confidence intervals). Effect sizes are reported as correlations (*r*). Negative values indicate that higher short-form video (SFV) engagement is associated with poorer cognitive performance. Positive values indicate that higher SFV engagement is associated with better cognitive performance. Unfilled (white) diamonds represent the mean effect size for each cognitive domain. The filled (red) diamond represents the overall mean effect size across all studies, including a measure of cognition. Bold italic font indicates cognitive domain subgroups. Bold font represents overall mean effect size. *SE* = standard error; *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit. See the online article for the color version of this figure.

Discussion

Despite the rapid growth of SFV apps and integrated SFV features on social media platforms, the associations between SFV use and different health indices remain poorly understood. Although individual studies have examined links between SFV engagement and various health indicators, no prior synthesis has systematically evaluated these associations across multiple health domains, platforms, and age groups. The present systematic review and meta-analytic investigation addresses this gap by analyzing data from 70 studies, representing one of the most comprehensive syntheses in this area to date. Potential moderators (age group, SFV measurement, and SFV type) were also examined to provide a clearer understanding of these associations. Although the findings suggest potential links between SFV engagement and both cognitive and mental health, they should be interpreted cautiously given the predominance of cross-sectional designs across the included studies. Nevertheless, the consistency and pattern of results may offer useful direction for future research and practice. In particular, the findings may help guide the design of future longitudinal and experimental investigations, inform more responsible platform features (e.g., content diversity, usage nudges), and support digital literacy initiatives that encourage more reflective and intentional engagement with SFV content.

Cognitive Correlates of SFV Engagement

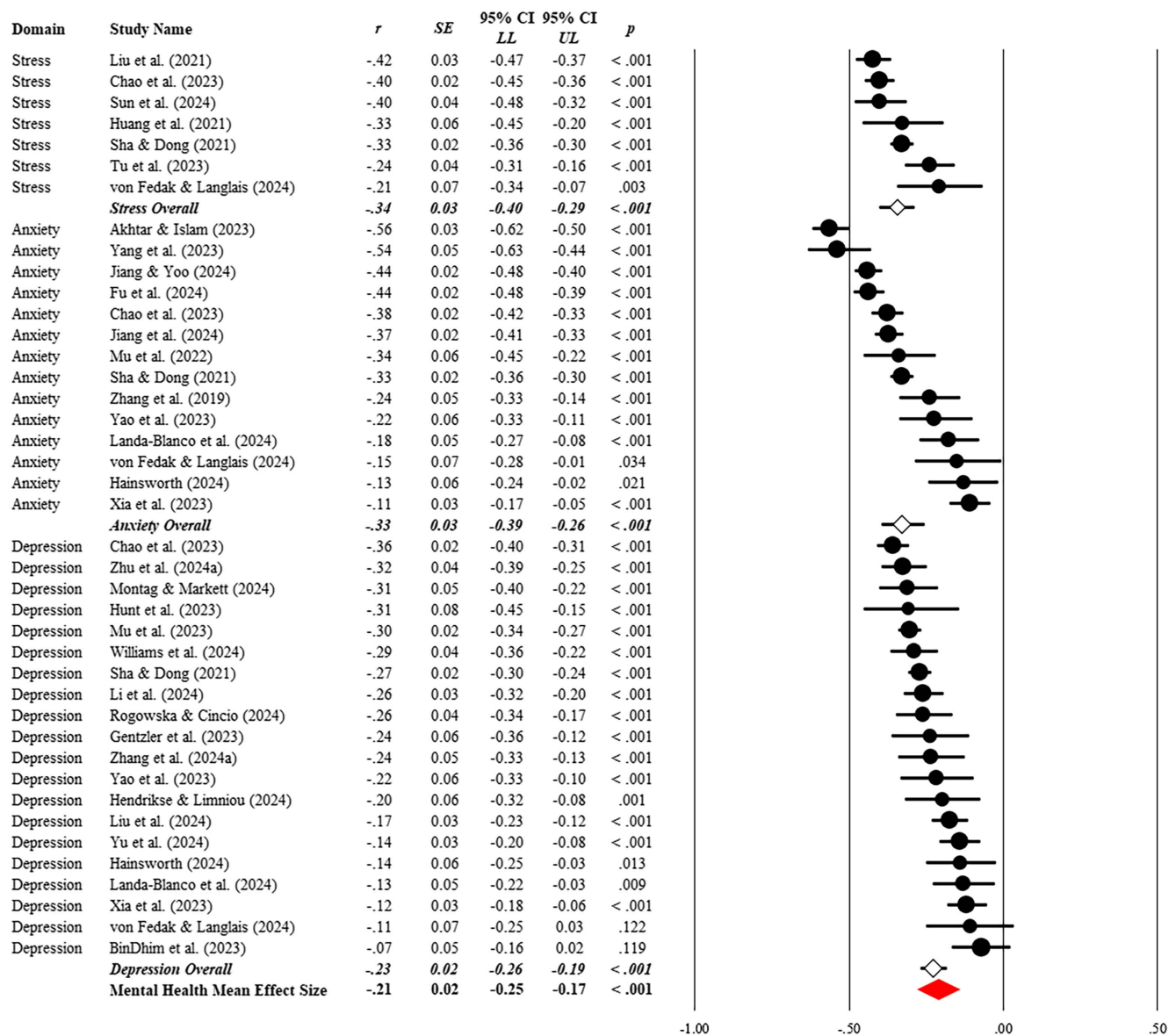
Our meta-analysis revealed a moderate, negative mean effect size based on 14 studies, indicating that higher SFV engagement

was associated with poorer cognition. Specifically, SFV use showed moderate associations with poorer attention and inhibitory control; weak associations with poorer language, memory, and working memory; and no association with reasoning abilities. Notably, attention and inhibitory control were the most frequently studied cognitive domains, which may have contributed to greater statistical power in detecting true effect sizes. The relative paucity of research on other cognitive functions highlights the need for further investigation into how SFV engagement may relate to different cognitive domains beyond attentional and inhibitory control processes.

The cognitive difficulties linked to SFV use may be interpreted through the lens of Groves and Thompson's (1970) dual theory of habituation and sensitization. This theory posits that repeated exposure to highly stimulating, fast-paced content may lead to habituation, wherein users become desensitized to slower, more cognitively demanding tasks such as reading, problem solving, or deep learning. Over time, this pattern of engagement may reduce cognitive endurance and weaken the capacity to sustain attention on a single task. Simultaneously, SFV platforms may promote sensitization by providing algorithmically curated rewards that reinforce impulsive engagement. The ability to instantly swipe to new, highly engaging content may foster rapid disengagement from stimuli lacking immediate novelty or excitement. From this perspective, frequent SFV users may exhibit diminished attentional control and a reduced capacity for sustained cognitive engagement, as neuro-cognitive processes become oriented toward brief, high-reward

Figure 3

Forest Plot Depicting Effect Sizes for Mental Health Correlates Stratified by Domains (Stress, Anxiety, Depression)



Note. Circles represent individual effect sizes for each study (lines represent 95% confidence intervals). Effect sizes are reported as correlations (*r*). Negative values indicate that higher short-form video engagement is associated with poorer mental health indices (positive values indicate the reverse). Unfilled (white) diamonds represent the mean effect size for each mental health domain. The filled (red) diamond represents the overall mean effect size across all studies assessing mental health (all mental health domains). Bold italic font indicates mental health domain subgroups. Bold font represents overall mean effect size. *SE* = standard error; *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit. See the online article for the color version of this figure.

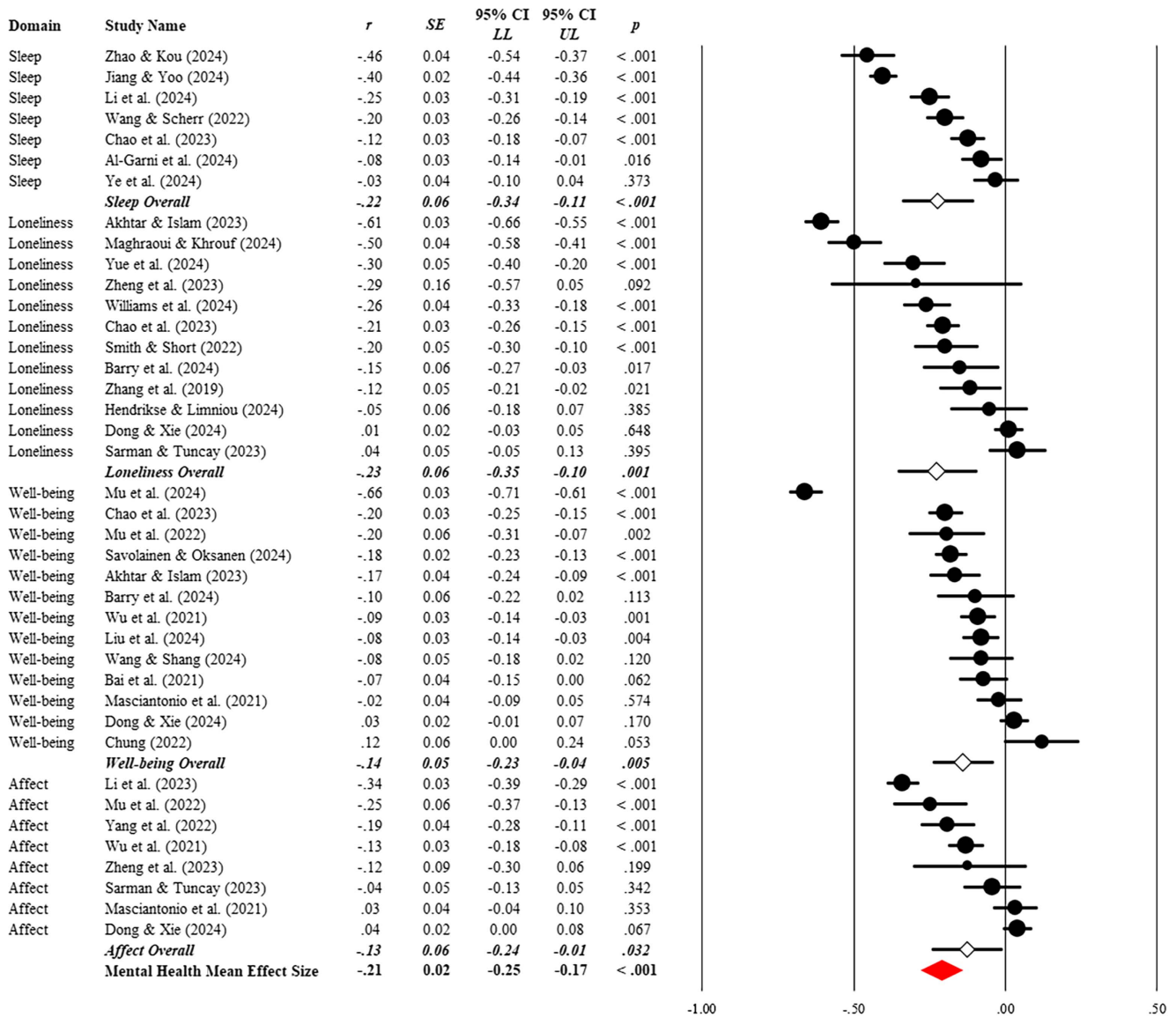
interactions rather than prolonged, goal-directed tasks (Goldon, 2024; Soror et al., 2022).

Neuroimaging studies further support this interpretation by revealing structural and functional differences in brain regions associated with attention and cognitive control among individuals who engage in high-frequency social media use. For example, Walla and Zheng (2024) conducted an electrophysiological study using a visual oddball task. Compared to regular SFV users, heavy users showed decreased neural activation (P300) in response to rare (novel)

and recurring stimuli, indicating impaired attentional processing. Similarly, Achterberg et al. (2022) and Goldon (2024) suggested that heavy social media (and SFV) users show structural differences in key cognitive control regions, including the prefrontal cortex and striatal reward circuits, suggesting a possible link between frequent exposure to highly rewarding stimuli (such as SFVs) and patterns of reduced prefrontal regulatory control and increased impulsive behavior (Goldon, 2024). He et al. (2017) also reported that individuals reporting more problematic social media use (as measured

Figure 4

Forest Plot Depicting Effect Sizes for Mental Health Correlates Stratified by Domains (Sleep, Loneliness, Well-Being, Affect)



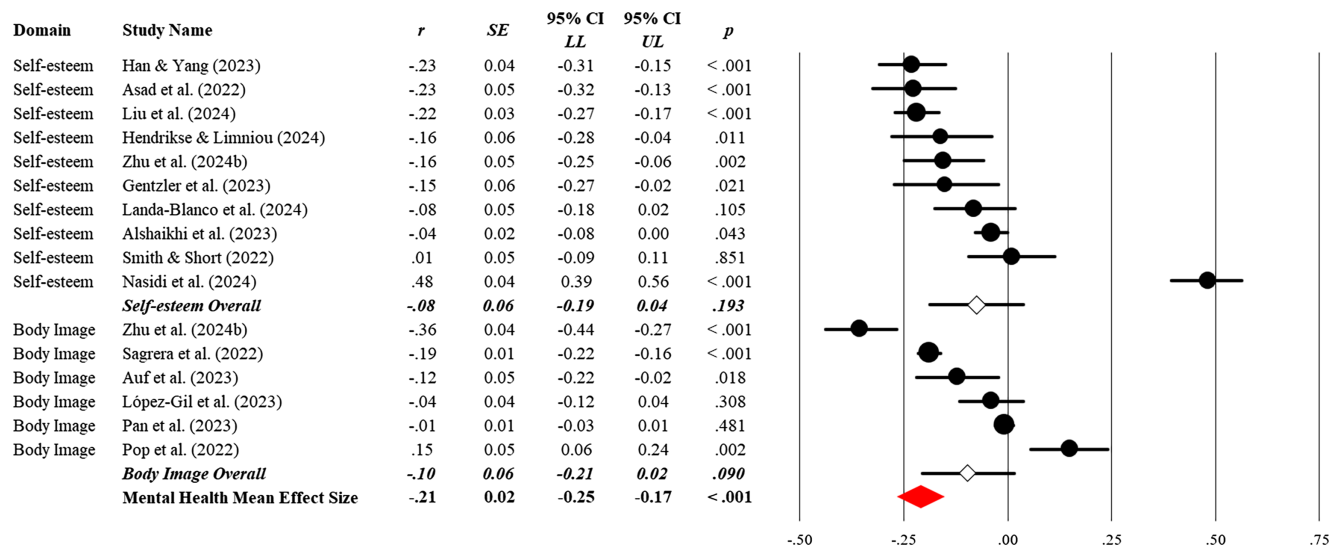
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using a social media addiction scale) exhibited reduced cognitive flexibility and altered dopaminergic reward processing, as reflected by lower activation in the ventral tegmental area and diminished task-related connectivity in executive control networks. These findings suggest a potential link between habitual digital media use and neurofunctional patterns associated with impaired cognitive control and attentional regulation. Although these associations do not confirm causality, they are consistent with behavioral research indicating that the fragmented, fast-paced nature of SFV consumption may be related to weakened executive functioning over time.

Overall, this meta-analysis revealed a consistent pattern linking higher SFV use with poorer cognitive performance, particularly in attentional control and inhibitory processes. These associations may reflect cognitive strain or emerging disruptions in cognitive endurance and attentional regulation among heavier SFV users. Given the central role of attention and executive functioning in academic, occupational, and daily goal-directed tasks (Diamond, 2013), these patterns may indicate broader difficulties in sustaining mental effort over time. Tasks requiring prolonged concentration (e.g., reading comprehension, complex problem

Figure 5

Forest Plot Depicting Effect Sizes for Mental Health Correlates Stratified by Domains (Self-Esteem, Body Image)



Note. Circles represent individual effect sizes for each study (lines represent 95% confidence intervals). Effect sizes are reported as correlations (*r*). Negative values indicate that higher short-form video engagement is associated with poorer mental health indices (positive values indicate the reverse). Unfilled (white) diamonds represent the mean effect size for each mental health domain. The filled (red) diamond represents the overall mean effect size across all studies assessing mental health (all mental health domains). Bold italic font indicates mental health domain subgroups. Bold font represents overall mean effect size. *SE* = standard error; *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit. See the online article for the color version of this figure.

solving) may be more difficult to sustain, especially as SFV platforms reinforce brief, high-reward interactions through rapid feedback and algorithmic content delivery. As most existing studies have focused on attentional and inhibitory control, further research is needed to determine whether SFV use is similarly associated with other cognitive domains. Additionally, few neuroimaging studies have directly examined SFV use, representing a critical gap in understanding how SFV engagement may relate to underlying neurocognitive patterns. Addressing these gaps will be essential for building a more comprehensive picture of how different aspects of cognitive functioning may relate to patterns of SFV consumption.

Although some longitudinal studies have provided insight into the directionality between social media use and cognitive functioning (e.g., Sharifian & Zahodne, 2020), it remains possible that underlying cognitive differences shape how individuals engage with SFVs. Those with lower baseline cognitive functioning may gravitate toward highly stimulating, low-effort content or find it more difficult to disengage from continuous streams of short videos (e.g., Ioannidis et al., 2019). Moreover, underlying factors such as anxiety, depression, or attentional difficulties may shape both the nature of SFV use and cognitive performance, contributing to the associations observed in the current synthesis (Baumgartner, 2022; Dagher et al., 2021; Xiong et al., 2024). These considerations emphasize the need for further longitudinal and experimental research to disentangle the temporal and psychological mechanisms linking SFV engagement with cognitive functioning. Expanding our understanding of potential cognitive changes related to SFV use will be essential for developing evidence-based strategies to support cognitive well-being in an increasingly digital world.

Mental Health Correlates of SFV Engagement

The 61 studies examining the association between SFV engagement and mental health yielded a weak, negative mean effect size. Specifically, SFV use was moderately associated with anxiety and stress and weakly associated with depression, loneliness, lower sleep quality, poorer well-being, and negative affect. Consistent with prior reviews on social media and mental health (e.g., Conte et al., 2025; Gabrielle et al., 2024; Galanis, Katsiroumpa, Katsiroumpa, et al., 2024), the findings indicate that although SFV platforms may provide entertainment and social connectivity, heavier use is associated with poorer mental health indicators. This pattern may reflect the ways in which SFV platforms stimulate neural reward systems. K. Chen et al. (2022) and Su et al. (2021) suggested that excessive SFV engagement may be linked to alterations in dopamine pathways, potentially creating a cycle of heightened stimulation and reduced sensitivity to reward. The highly personalized nature of SFV platforms, where content is algorithmically curated for maximum engagement, may promote frequent and intense dopamine release. With repeated exposure, users may become less responsive to everyday sources of reward, possibly contributing to increased susceptibility to anxiety and depression. Additionally, the high-engagement viewing styles characteristic of SFV consumption, such as endless scrolling and instant content gratification, may reinforce patterns of emotional regulation that rely on digital content rather than restorative activities such as face-to-face social interactions or physical exercise (W. Wu et al., 2024).

Another potential factor linked to the association between SFV use and mental health indicators is social contagion—the spread of emotional states, behaviors, or beliefs through repeated exposure to others, often via peer modeling or algorithmically amplified content

(Corzine & Harrison, 2023). On SFV platforms, users can be frequently exposed to personal accounts of mental illness, symptoms, and diagnoses. Repeated engagement with such content may heighten awareness of psychological symptoms, prompt self-comparisons, or shape interpretations of everyday emotional states (e.g., Olvera et al., 2021). In some cases, such exposure may promote self-diagnosis or identification with specific conditions, particularly when content simplifies or dramatizes complex clinical experiences. Although self-diagnosis may facilitate help-seeking and mental health literacy (e.g., Naslund et al., 2016; Pretorius et al., 2019), concerns have been raised about the influence of unregulated content on symptom expression. For example, increases in ticlike behaviors among adolescents following exposure to TikTok videos depicting Tourette's syndrome have raised questions about modeling effects and functional symptom presentations (Olvera et al., 2021). Such dynamics highlight the importance of investigating how SFV engagement may shape mental health perceptions, not only through emotional resonance but also through behavioral imitation and identification processes in digital environments.

Additionally, SFV use has been associated with sleep disturbances—a well-established risk factor for anxiety, depression, and cognitive impairment (Galanis, Katsiroumpa, Katsiroumpa, et al., 2024). Prior research indicates that the fast-paced nature of SFVs may overstimulate the brain, delaying sleep onset and reducing sleep quality (K. Wang & Scherr, 2022). Additionally, as SFV algorithms prioritize highly engaging content, users may remain awake longer than intended, potentially contributing to sleep deficits that exacerbate emotional dysregulation. SFV engagement may therefore contribute to psychological distress through both cognitive-emotional and physiological pathways.

Unexpectedly, our meta-analysis found no association between SFV engagement and body esteem or self-esteem, which contrasts with prior reviews. In particular, Gabrielle et al. (2024) reported a negative association between social media use and self-esteem in adolescents, and Conte et al. (2025) found that TikTok use was linked to poorer body image perceptions. However, Galanis, Katsiroumpa, Katsiroumpa, et al. (2024) noted that these effect sizes were primarily driven by a single study that measured body image esteem using a binary question ("Do you have body image issues?"), raising concerns about measurement validity. In the present review, some studies reported a negative association between SFV use and self-esteem or body image (e.g., Alshaikhi et al., 2023; Ibn Auf et al., 2023), whereas others reported a positive association (e.g., Asad et al., 2022; Nasidi et al., 2024). The inconsistency across studies suggests that the association between SFV use and body/self-esteem may be highly dependent on individual differences and exposure to different types of SFV content. Further research is warranted to disentangle these factors by examining both SFV content and patterns of use and to identify the content features and individual characteristics associated with greater vulnerability to negative mental health indices.

Going forward, placing a stronger focus on the role of content type in SFV engagement may offer important insights into how different types of content are associated with users' self-perceptions and well-being. This focus may help clarify why SFV use has been associated with some mental health indicators (e.g., depression, anxiety, stress) but not others (e.g., body image, self-esteem), providing a deeper understanding of how different types of SFV content may be linked with distinct facets of mental health (e.g., Seekis & Lawrence, 2023). Such content-specific patterns may be interpreted through the *uses*

and gratifications theory (Katz et al., 1973; Ruggiero, 2000), which suggests that individuals engage with media to satisfy particular needs such as entertainment, social connection, or self-improvement (W. Wu et al., 2024). For instance, users who seek out content aligned with personal goals (e.g., fitness, educational) may experience enhanced self-esteem and well-being. *Social comparison theory* (Festinger, 1954) provides a complementary perspective and helps explain users' tendencies to engage in upward and downward comparisons. Exposure to idealized portrayals of beauty or success may encourage upward social comparisons, which have been linked to feelings of inadequacy and lower self-esteem (Ahmed, 2023), whereas downward comparisons may have more positive effects (W. Wu et al., 2024). Together, these theoretical perspectives highlight the importance of examining not only how much SFV content users consume, but also the psychological motivations and content themes that shape their experiences.

Overall, SFV use was generally associated with poorer mental health indicators, though these findings should be interpreted cautiously given the correlational nature of the evidence. It is plausible that individuals experiencing higher levels of anxiety, depression, or loneliness may be more inclined to engage with SFVs as a form of distraction or emotional regulation, rather than SFV use serving as a primary contributor to psychological distress (Coyne et al., 2020; Keles et al., 2020; Orben et al., 2019). Additionally, underlying factors such as personality traits, emotion regulation difficulties, or limited offline support networks may contribute to both greater SFV engagement and poorer mental health (Woods & Scott, 2016). The absence of clear directionality highlights the need for more longitudinal and experimental studies to clarify the nature and temporal dynamics of these associations.

Despite being correlational, the patterns observed in this review highlight emerging areas for further investigation and the need for ongoing research and public dialogue about digital media engagement. Educators, clinicians, and policymakers are encouraged to monitor these trends and consider low-risk, evidence-informed approaches that promote mindful and balanced SFV use. For instance, enhancing algorithmic transparency and offering users greater control over content exposure have been suggested as strategies to support healthier digital habits, particularly among adolescents, who may be more vulnerable to algorithmically driven content patterns (Costello et al., 2023). Features such as screen-time reminders and content diversification tools may also warrant further study as strategies to support self-regulation and reduce repetitive exposure to emotionally charged material (Jürgens & Stark, 2022; Santos et al., 2023).

Continued research is needed to explore how SFV use is associated with mental health over time (Ding et al., 2024; Yu et al., 2024) and to evaluate whether intervention approaches (e.g., digital detox programs, cognitive-behavioral strategies) should be tailored to SFV-specific media engagement. It will also be important to examine how factors such as personality, existing mental health vulnerabilities, and cultural context shape individual responses to SFV content in order to inform more targeted recommendations for digital media use (Zhou et al., 2021).

Moderators of SFV Engagement and Health

Age

Age group was not a significant moderator for either cognitive or mental health correlates, suggesting that associations between SFV

use and health indicators were largely consistent across youth and adult populations. Although age-related differences in self-regulation and cognitive maturity are often assumed to shape digital media engagement (e.g., Reinecke et al., 2022), these findings suggest that the mechanisms linking SFV use to health may operate similarly across developmental stages. This interpretation aligns with San Martín Iniguez et al. (2024), who found that self-regulatory processes were consistently associated with problematic social media use across adolescent and adult samples in diverse cultural contexts. Rather than diminishing with age, the findings suggest that the role of self-regulation in digital media engagement may remain stable, potentially contributing to the lack of moderation by age observed in the current meta-analysis.

Additionally, the highly stimulating and immersive nature of SFV platforms, which engage dopaminergic reward systems that remain active across the lifespan (Su et al., 2021), may interact with, rather than be constrained by, developmental differences in cognitive control (e.g., Cools, 2016). These platforms are intentionally designed to deliver rapid, personalized content that captures attention and reinforces engagement through immediate feedback and reward cues (Goldon, 2024). Such design features may contribute to reduced variability in attentional capture and reward-oriented engagement across age groups, even in the context of developmental differences in cognitive control and self-regulation. Further developmental research is warranted to examine how neurocognitive and self-regulatory processes are associated with evolving patterns of SFV use and health across the lifespan.

SFV Measurement

SFV measurement emerged as a significant moderator across health correlates, with different operationalizations of SFV engagement yielding varying effect sizes. Measures of SFV addiction (extent of problematic engagement) demonstrated the strongest negative associations with health indices (moderate effect size), whereas SFV duration (time spent using SFVs) showed weaker associations across health correlates (small effect size). Similarly, SFV usage (binary [yes/no] indicator of SFV use) was weakly associated with mental health, though no studies examined associations with cognitive correlates. In contrast, SFV frequency (how often SFVs are used, e.g., per day) and SFV intensity (depth of SFV engagement) were not associated with mental health, though SFV intensity was strongly associated with poorer cognition (based on one study; Du et al., 2024).

It is possible that the differences in associations reflect differences in psychometric soundness across measures; addiction, duration, and general usage assessments are typically more standardized, drawing from validated social media addiction scales or structured self-report measures (e.g., “How many hours do you spend on SFVs per day?”; “Do you use TikTok?”). Conversely, there was substantial variation in the measurement of SFV frequency (e.g., adaptations of Facebook or general social media use scales, as well as custom measures) and intensity (e.g., Social Media Use Intensity Questionnaire, Short Video Usage Behavior Scale, Self-Report Behavioral Automaticity Index adapted for Automatic TikTok Use).

Beyond measurement considerations, these metrics may reflect qualitatively distinct dimensions of SFV use, each of which may have unique implications for cognitive and mental health. SFV addiction scales typically assess problematic engagement, including

symptoms such as loss of control, withdrawal, preoccupation, and interference with daily responsibilities (e.g., Galanis, Katsiroumpa, Moisoglou, et al., 2024). Accordingly, these measures may more directly capture maladaptive patterns of use that are closely linked to psychological distress or executive dysfunction (Satici et al., 2023; K. Zhang et al., 2023). In contrast, duration reflects the total time spent using SFVs, but this measure alone may not capture the context or function of that use. For example, an individual may report high SFV use (e.g., 3 hr per day) while watching content that they find relaxing, educational, or socially enriching, without experiencing significant impairment. Conversely, even brief but habitual use may be psychologically disruptive, depending on the individual’s motives and regulation strategies (C. Huang, 2022; Schivinski et al., 2020; Timpano & Beard, 2020; C. C. Yang et al., 2025).

Frequency (how often SFVs are accessed) and intensity (the depth of emotional investment or habitual use) may also reflect different usage styles. Higher frequency might indicate routine checking without prolonged engagement, which may not exert a strong influence on mood or cognition (Harvey & Aikman, 2025; Timpano & Beard, 2020; Toh et al., 2023). Intensity, often conceptualized as the personal salience or emotional centrality of SFV use (e.g., feeling emotionally attached to or reliant on the platform), may be habit-driven and automatic, but not necessarily distressing or disruptive (J. Ye et al., 2025). Some individuals may engage with SFVs frequently without experiencing notable difficulties, particularly when the content aligns with personal goals or when use is embedded within balanced daily routines. For others, high intensity may signal vulnerability to attentional capture or difficulty disengaging, which could have greater implications for cognitive performance (J. Wang et al., 2025; J. Ye et al., 2025). These distinctions highlight that not all engagement is inherently problematic and that understanding the function and subjective experience of SFV use (rather than use quantity alone) is critical for predicting health correlates. Future research is needed to further differentiate between these dimensions and examine whether certain usage profiles (e.g., high duration but low addiction) are associated with risk or resilience, depending on individual context.

Notably, despite SFV addiction measures yielding the strongest associations with health indicators, they typically assess problematic use on a continuum rather than functioning as clinical diagnostic tools (Galanis, Katsiroumpa, Katsiroumpa, et al., 2024). Thus, individuals scoring high on SFV addiction scales may range from those experiencing mild interference to those exhibiting problematic or maladaptive patterns of use. Given that over half the studies in this review relied on SFV addiction measures, it is possible that the observed associations reflect experiences at the more problematic end of the engagement spectrum. Future research is therefore warranted to differentiate the experiences of individuals exhibiting problematic patterns of SFV use from those of the average or “typical” user in order to contextualize the health correlates of SFV use more effectively across the population. Moreover, given the variation and limited standardization in how SFV frequency and intensity were assessed (often relying on adapted scales from other platforms or unvalidated custom items), it will be important for future work to refine these metrics. Future efforts could involve the development of psychometrically robust tools and a more comprehensive, multifaceted assessment of SFV engagement that considers behavioral patterns, compulsivity, and content exposure in

tandem. Such efforts would help clarify the unique contributions of different SFV use dimensions and enhance the interpretability of emerging findings.

SFV Type

SFV type emerged as a significant moderator of the association between SFV use and mental health, with general SFV use demonstrating stronger negative associations than TikTok-specific use. A potential explanation for this finding is that general SFV use often reflects engagement across multiple platforms, which has been associated with elevated mental health risks. For example, [Primack et al. \(2017\)](#) found that individuals using 7–11 social media platforms had over three times the risk of depression and anxiety compared to those using only 0–2. Accordingly, general SFV use likely reflects more diverse and frequent exposure to short-form content, including across platforms that integrate SFV features (e.g., Instagram Reels, YouTube Shorts). This broader pattern of general SFV use highlights the need to conceptualize SFV engagement beyond TikTok alone, particularly as users commonly migrate between platforms. The recent (temporary) banning of TikTok in the United States, for instance, prompted a surge of “TikTok refugees” shifting to alternatives like RedNote and Lemon8 ([Australian Broadcasting Corporation, 2025](#)). Yet “general SFV use” may also refer to a single platform, raising concerns about measurement precision. It is therefore important for research to clearly specify which platforms participants use and whether engagement spans multiple apps. As SFV features become increasingly integrated across the social media landscape, research and public health efforts should consider cumulative SFV exposure rather than focusing on individual platforms in isolation.

Inclusion of Covariates

The inclusion of covariates did not moderate the strength of associations between SFV use and cognition or mental health, suggesting that effect sizes were consistent across studies regardless of whether variables were controlled for. Notably, only a handful of studies in the current review explicitly accounted for social media–related variables, limiting the extent to which the unique association between SFV use and health indicators could be determined. This limitation is particularly important given that the observed associations may reflect broader patterns identified in general social media research, which has consistently linked social media use with depression, anxiety, loneliness, and sleep disruption ([C. Huang, 2022](#); [Keles et al., 2020](#)). These mental health indicators are often attributed to mechanisms such as upward social comparison, fear of missing out, and displacement of restorative activities. Such mechanisms are also relevant to SFVs. Still, SFV platforms may pose additional risks due to their distinctive structural features, including immersive full-screen single-video playback and swipe-based infinite scroll, both of which are designed to maximize engagement and minimize natural stopping cues. Such features have been associated with attentional capture and emotional overstimulation (e.g., [Montag et al., 2021](#)).

Among the few studies that included social media–related covariates, the associations between SFV use and health indicators remained significant, even after adjusting for time spent on social media and platform type ([Hainsworth, 2024](#)), number of platforms

used ([Williams et al., 2024](#)), daily viewing time ([Dong & Xie, 2024](#); [H. Mu et al., 2022](#)), and concurrent use of other screen-based media and sleep ([Xu et al., 2023](#)). Notably, an experimental study conducted by [Hunt et al. \(2023\)](#) assigned participants to either (a) continue their typical social media use (control), (b) restrict time on all social media platforms to 1 hr per day, or (c) restrict time on social media, avoid use of TikTok, and mute nonclose friends. After 3 weeks, the intervention groups reported significant reductions in depressive symptoms, fear of missing out, and social comparison, with no such changes observed in the control group. These results suggest that general social media use alone likely does not account for the observed negative associations with health correlates. Going forward, research would benefit from incorporating social media–related covariates to clarify the unique contribution of SFV use.

Limitations, Recommendations, and Future Directions

This meta-analytic investigation provided a comprehensive synthesis of the association between SFV engagement and health correlates, though several methodological considerations of the evidence synthesis process warrant attention ([Johnson, 2021](#)). One limitation of the current review concerns language and coverage. Although our systematic search spanned multiple major databases and identified some non-English studies, the review was conducted primarily with English-language sources, raising the possibility that some relevant studies may have been missed. This limitation is particularly important given the rapid growth of region-specific SFV platforms (e.g., Douyin in China, Hipi in India), where research may appear in outlets not indexed in Scopus, PubMed, Web of Science, or APA PsycInfo. Because research not published in English is often less visible in major databases and may bias meta-analytic estimates ([Jüni et al., 2002](#)), the mean effect sizes reported in the current review may not fully reflect the global evidence base. Future reviews would therefore benefit from adopting multilingual search strategies and incorporating regional databases to improve coverage and ensure broader representation.

Another consideration concerns effect size conversions. To integrate studies that reported group comparisons alongside those reporting correlations, standardized mean differences were converted to r values. These transformations rely on assumptions about variability and distributions that can influence effect size estimates, and although they typically do not substantively change meta-analytic findings ([Borenstein et al., 2009](#)), they can introduce additional uncertainty. However, given that only 13% of included studies required conversion in the present review, the impact on results is likely minimal.

Additionally, some individual cognitive (language, memory, reasoning, working memory) and mental health domains (body image, sleep quality, stress) were investigated in only a handful of studies. The limited number of studies assessing these domains may reduce statistical power, potentially underestimating true effect sizes. These domains therefore represent important candidates for further research.

Although the association between SFV use and physical health was not reported here (see [Supplemental Materials D](#)), physical health remains a promising area for future research. Physical health is an important domain to consider in relation to SFV use, particularly given the growing presence of fitness-related content (e.g., #fitnesspiration) across SFV platforms. Associations between SFV use

and physical health may depend substantially on both the nature of content exposure and individual user characteristics. For example, individuals with preexisting interest in physical activity may be more likely to engage with exercise-focused SFVs, which may reinforce healthy behaviors. Conversely, more passive consumption patterns may displace opportunities for movement, particularly among sedentary users. Preliminary evidence highlights the importance of considering individual differences when exploring links between health and social media use more broadly. For instance, Shimoga et al. (2019) found that among adolescents who were already physically active, greater social media use was associated with increased daily exercise, whereas for less active adolescents, higher social media use was linked to lower physical activity levels. The findings of this study suggest that associations between digital media use and health behaviors such as physical activity may vary depending on individual differences. Other individual differences, such as gender, personality traits, and motivational factors, may also moderate associations between SFV engagement and health correlates. Future research that systematically examines how these variables interact with SFV use and content type may help inform the development of more tailored digital health interventions, as well as broader approaches to media literacy and platform design.

Importantly, recent shifts in digital health research emphasize that it is not merely the *amount* of media consumed that matters, but rather the *quality* and *nature* of the content (e.g., Firth et al., 2024). To better capture these dynamics, future research should incorporate content type, user motivations, and emotional responses alongside traditional time-based metrics (e.g., duration/frequency of use). Complementary qualitative research and syntheses may also provide valuable insights into the contexts in which individuals engage with SFVs, the types of content encountered, and how users interpret and respond to such content. Together, these approaches may help clarify the mechanisms underpinning the associations identified in quantitative research.

Moreover, the scope of SFV platforms investigated in the included studies was limited, with most focusing on general SFV use or TikTok specifically. No studies examined other SFV platforms (e.g., Instagram Reels, Facebook Reels, YouTube Shorts, or other dedicated SFV apps). Given the growing integration of SFV features in prominent social media platforms, future research should extend beyond TikTok-focused investigations to assess SFV engagement across different platforms (or all platforms). Additionally, given the more fragmented and fast-paced nature of SFVs, it will be important to examine whether associations with neurocognitive functioning and mental health differ from traditional social media formats such as text-based platforms (Twitter/X, Reddit) or photo-based feeds (Instagram, Facebook).

Furthermore, as most included studies were cross-sectional and correlational, the findings of this review cannot confirm directionality. For instance, individuals experiencing stress or anxiety may turn to SFVs for distraction or relief, but others may find that engagement with emotionally charged or anxiety-provoking content intensifies distress. These processes may operate concurrently, highlighting the importance of considering both user intent and content characteristics. To advance this area of research, future experimental and longitudinal studies should aim to establish the temporal ordering of associations and clarify the potential mechanisms linking SFV engagement to health indicators.

As SFVs become increasingly embedded in daily life across age groups, continued research is essential for understanding their longer term implications for public health. Recent policy developments, such as Australia's proposed *Online Safety Amendment (Social Media Minimum Age) Bill 2024* (Parliament of Australia, 2024), reflect growing efforts to protect younger users, but broader regulatory challenges persist. Concerns surrounding children's privacy, consent, and labor rights, particularly in the context of content creation and "kidfluencers" (Shomai et al., 2024), highlight the need for more robust protections. Questions also remain about whether young users fully comprehend platform terms and conditions, emphasizing important gaps in digital literacy and governance (Kaye et al., 2021). Addressing these issues will require interdisciplinary research across public health, education, law, and media studies.

Importantly, SFVs may also offer unique benefits when designed and used appropriately. For example, they have shown promise as engaging tools in domains like sex education (Fowler et al., 2022). Rather than advocating for blanket restrictions, a more balanced approach is needed. The *Goldilocks Hypothesis* (Brannigan et al., 2023; Przybylski & Weinstein, 2017) suggests that moderate digital media use may enhance well-being, offering opportunities for connection, entertainment, and information access (Whiting & Williams, 2013). Future interventions could incorporate platform-level strategies such as usage reminders, optional time limits, or break notifications to encourage more mindful engagement (Y. Yang et al., 2024). Although the efficacy of such tools remains under investigation, they offer promising avenues to support healthier SFV use and mitigate excessive or problematic engagement.

Conclusions

This systematic review and meta-analytic investigation found that SFV use was associated with poorer cognition (attention, inhibitory control, language, memory, and working memory) and most mental health indices except body image and self-esteem. Moderator analyses revealed that these associations were consistent across youth and adult populations but were strongest when SFV use was measured via addiction scales and when general SFV use (as opposed to TikTok-specific use) was assessed. Although the inclusion of covariates did not impact effect sizes, future studies would benefit from more consistently accounting for general social media use in order to better isolate the unique associations of SFV use with health correlates. Incorporating a stronger focus on SFV content and user motivations will also be critical for understanding the specific conditions under which SFV engagement may relate to health. Additionally, given that most included studies were cross-sectional and correlational, more rigorous longitudinal and experimental designs are essential for clarifying directionality and mechanisms underpinning the associations between SFV use and health. Nonetheless, these findings offer a valuable foundation for future research aiming to disentangle the multifaceted nature of SFV use and its implications for well-being. As SFV platforms continue to evolve and expand across educational, commercial, and social contexts, understanding the health correlates of SFV engagement remains an important focus for digital health research, particularly for guiding balanced approaches to media use and informing future public health recommendations.

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