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Associations between social media use, body image, and self-esteem in adolescents: A systematic review

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Abstract
Social media has become a central context of adolescent development, raising concerns about its effects on body image and self-esteem. This systematic review, conducted in accordance with PRISMA 2020, synthesized empirical studies examining social media use, body image, and self-esteem among adolescents aged 10–19 years. A Scopus search identified 56 records, of which six studies (N = 2,645) met the inclusion criteria. Most studies were cross-sectional and involved girls only. Appearance-focused social media use and online comparisons with peers were generally associated with more negative body image, with social comparison and self-sexualization emerging as the mechanisms tested most directly. Evidence on self-esteem was limited and less direct: self-esteem was treated variously as an outcome, mediator, or control variable, and no study tested whether body image mediates the link between social media use and self-esteem. Longitudinal and experimental research with more diverse samples is needed, and school-based programs that combine media literacy education with activities strengthening self-esteem and self-compassion are recommended.

Keywords: Social media, body image, self-esteem, adolescents, social comparison, systematic review

Introduction

Adolescence is a period of rapid physical, cognitive, and social change during which young people construct a coherent sense of who they are and how they are valued by others (Sawyer *et al*., 2018) [16]. Today, a substantial part of this developmental work takes place on social media. Adolescents use these platforms to maintain friendships, explore identities, and present curated versions of themselves to an audience of peers, and for many of them the boundary between online and offline social life has become blurred. This shift has prompted intense public and scholarly debate about whether, and how, social media use affects adolescents' psychological well-being (Valkenburg *et al*., 2022) [21].

Two aspects of well-being are particularly relevant to this debate: body image and self-esteem. Body image refers to a person's perceptions, thoughts, feelings, and behaviors related to their physical appearance. It includes negative dimensions, such as body dissatisfaction, body shame, and body surveillance, as well as positive dimensions, such as body appreciation. Self-esteem refers to a person's overall evaluation of their own worth (Rosenberg, 1965) [14]. Both constructs are especially sensitive during adolescence. Puberty changes the size and shape of the body at the same time as peer acceptance and physical attractiveness become more important, and self-esteem tends to drop during the transition from childhood to adolescence before rising gradually thereafter (Orth & Robins, 2014) [8]. Because appearance is a central domain of self-evaluation at this age, body image and self-esteem are closely intertwined. These constructs also matter for mental health: body dissatisfaction is a well-established risk factor for disordered eating (Stice, 2002) [19], and low self-esteem prospectively predicts depressive symptoms (Sowislo & Orth, 2013) [18].

Social media differs from traditional mass media in several ways that may make it especially influential for adolescents' body image and self-esteem. First, content is highly visual and frequently edited or filtered, exposing adolescents to appearance ideals that are difficult or impossible to attain. Second, many comparison targets are peers rather than distant celebrities, which may make comparisons feel more relevant. Third, social media is interactive and quantified: adolescents post images of themselves and receive public feedback in the form of likes, comments, and followers, which provides a concrete and often volatile index of social approval (Choukas-Bradley *et al*., 2022; Perloff, 2014) [2, 11].

Several theoretical frameworks explain how these features may affect adolescents. According to social comparison theory (Festinger, 1954) [5], individuals evaluate themselves by comparing themselves with others, and upward appearance comparisons are thought to increase body dissatisfaction and lower self-evaluation. Objectification theory (Fredrickson & Roberts, 1997) [6] proposes that repeated exposure to appearance-focused and sexualizing content leads girls and women to internalize an observer's perspective on their own bodies, a process manifested in habitual body surveillance and body shame. The tripartite influence model (Thompson *et al*., 1999) [20] holds that media, peers, and parents transmit appearance ideals, and that internalizing these ideals and comparing oneself with them lead to body dissatisfaction. Building on these perspectives, Choukas-Bradley *et al*. (2022) [2] described the combination of adolescent girls' developmental sensitivity to peer evaluation and the appearance-focused, quantified features of social media as a "perfect storm" for body image concerns. Taken together, these frameworks suggest that social media use may relate to self-esteem both directly and indirectly, through its effects on how adolescents perceive and evaluate their bodies.

Empirical research generally supports a link between social media use and body image concerns. Earlier reviews concluded that social media use is associated with poorer

body image and suggested that appearance-focused activities, such as viewing and posting photos, may be particularly problematic (Fardouly & Vartanian, 2016; Holland & Tiggemann, 2016) [4, 7]. A meta-analysis confirmed a small but significant association between social media use and body image disturbance (Saiphoo & Vahedi, 2019) [15], and a recent systematic review of 16 studies examined the link between social networks and body dissatisfaction among preadolescents and adolescents (Digennaro & Tescione, 2024) [3]. Evidence regarding self-esteem is less consistent. Early work suggested that the valence of the feedback adolescents receive online determines whether social media use raises or lowers their social self-esteem (Valkenburg *et al*., 2006) [22], and a recent umbrella review concluded that associations between social media use and adolescent mental health tend to be small and inconsistent (Valkenburg *et al*., 2022) [21].

Despite this growing literature, important gaps remain. First, existing reviews have focused mainly on body image or disordered eating and have rarely treated self-esteem as a central variable (Digennaro & Tescione, 2024; Holland & Tiggemann, 2016; Saiphoo & Vahedi, 2019) [3, 7, 15]. As a result, it remains unclear how body image and self-esteem relate to each other in the context of social media use: whether body image links social media use to self-esteem, whether self-esteem shapes adolescents' vulnerability to appearance-related content, or whether both processes operate. Second, many studies in this field have recruited university students or young adult women, and it is unclear to what extent their findings generalize to adolescents, whose self-concept and body image are still developing. Third, the social media environment has changed considerably with the rise of short-form video, beauty filters, and algorithmically curated feeds, so earlier syntheses may not reflect adolescents' current experiences.

To address these gaps, the present systematic review synthesizes empirical studies that have jointly examined social media use, body image, and self-esteem among adolescents aged 10–19 years, in line with the World Health Organization's definition of adolescence (World Health Organization, n.d.). The review addresses four research questions, the first three of which are answered in the Results section and the fourth in the Discussion:

RQ1: What are the characteristics of the studies in this area, including their countries, designs, samples, and measures?

RQ2: What associations have been reported between social media use, body image, and self-esteem, and what roles (predictor, mediator, moderator, outcome, or covariate) have these constructs played in the models tested?

RQ3: What mechanisms and conditions have been identified as underlying these associations?

RQ4: What gaps remain in the literature, and what implications follow for future research and for school-based prevention and media literacy education?

By clarifying how these three constructs are interrelated during adolescence, this review aims to provide an evidence base for interventions that help adolescents engage with social media in ways that protect their body image and self-esteem.

Method

This study is a systematic review of empirical research on the associations between social media use, body image, and self-esteem among adolescents. The search and selection process were reported in accordance with the PRISMA 2020 [9] guidelines (Page *et al*., 2021) [9]. The literature search was conducted in the Scopus database on September 27, 2026 [10], using the search string TITLE-ABS-KEY (("social media" OR Instagram OR TikTok) AND "body image" AND "self-esteem" AND (adolescents OR teenagers OR youth)) applied to titles, abstracts, and keywords. The search was limited to journal articles, with no restriction on publication year or language, and it retrieved 56 records published between 2014 and 2026.

Studies were eligible for inclusion if they met six criteria: (a) the participants were adolescents aged 10–19 years, or the mean age of the sample fell within this range; (b) the study included a specific measure of social media use, such as time spent, frequency of use, appearance-related activities, or experimental exposure to or abstinence from social media; (c) the study measured at least one body image construct, such as body dissatisfaction, body shame, body surveillance, or body perception; (d) the study measured self-esteem and reported at least one association involving it; (e) the study was an empirical study reporting original data; and (f) the article was published in English. Studies were excluded if they were conducted with university students or adults, if they lacked a specific measure of social media use, if they did not measure body image or self-esteem, or if they were reviews, bibliometric analyses, study protocols, or theoretical papers.

The records were exported to Microsoft Excel and screened in two stages. In the first stage, titles and abstracts were screened against the eligibility criteria. In the second stage, the full texts of the reports that passed title and abstract screening were retrieved and assessed against the same criteria, and the reason for excluding each report was recorded. Screening and data extraction were conducted by the author, and uncertain cases were re-examined against the eligibility criteria before a final decision was made. The selection process is reported using the PRISMA 2020 [9] flow diagram (Page *et al*., 2021) [9].

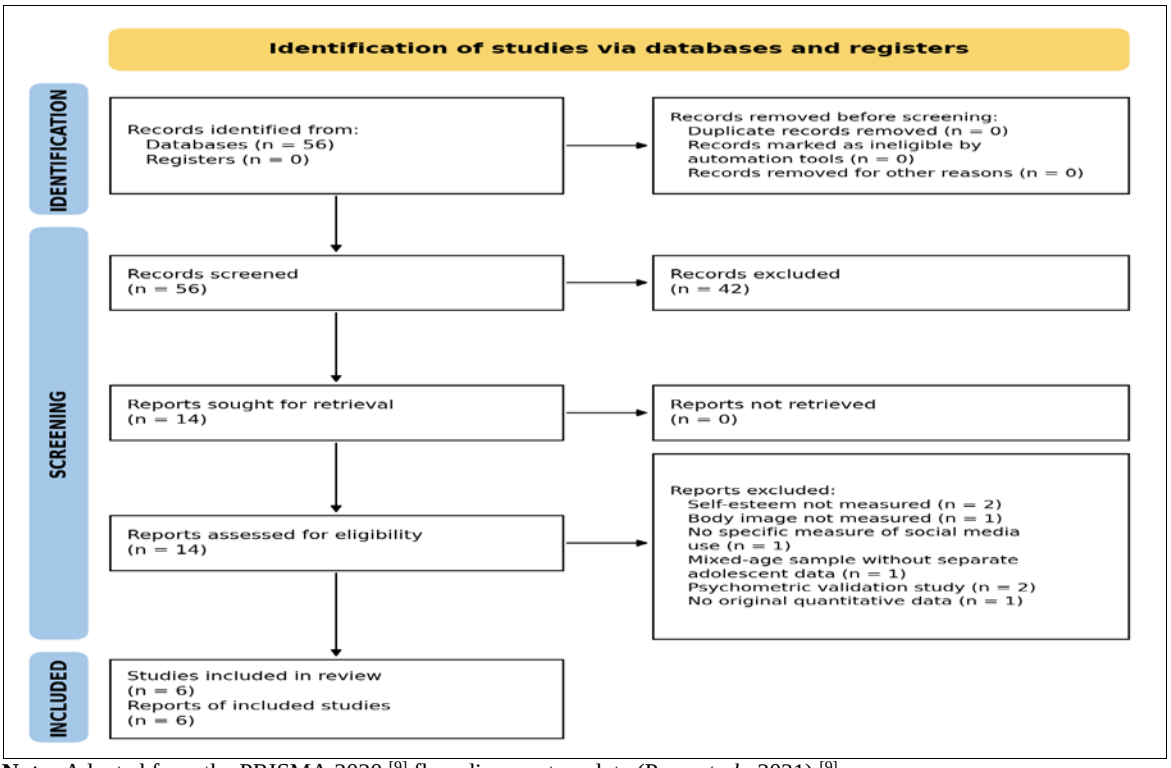
Data from each included study were extracted into a standardized table recording the authors and year of publication, country, study design, sample size, the age and gender of participants, the measures of social media use, body image, and self-esteem, the mediators and moderators examined, the analytic approach, the role assigned to self-esteem, and the main findings (Tables 1 and 2). Given the small number of included studies, a formal risk of bias assessment was not conducted; instead, design-related limitations were taken into account when interpreting the findings. Because the studies differed in design, measures, and analytic approach, a meta-analysis was not feasible, and the findings were synthesized narratively around three themes: the associations among social media use, body image, and self-esteem; the mechanisms and conditions underlying these associations; and evidence from intervention studies.

Results

1. Study selection

Figure 1 presents the study selection process. The Scopus search identified 56 records; no duplicates were found, and

no records were removed before screening. All 56 records were screened on the basis of their titles and abstracts, and 42 (75.0%) were excluded. Most exclusions at this stage (27 of 42; 64.3%) concerned studies of university students or adults, including one article published in Russian; a further 9 records involved adolescents but did not measure all three core constructs or addressed a different topic, and 6 were reviews, bibliometric analyses, or study protocols. The full texts of the remaining 14 reports were sought, and all were retrieved and assessed for eligibility. Of these, 8 were excluded: 2 did not measure self-esteem, 1 did not measure body image, 1 lacked a specific measure of social media use, 1 used a mixed-age sample (13–25 years) without separate data for adolescents, 2 were psychometric validation studies that did not examine the associations of interest, and 1 did not report original quantitative data. Half of the full-text exclusions (4 of 8) were therefore due to the absence of one of the three core constructs. Six studies, each reported in a single article, were included in the review, representing 10.7% of the records identified.



Note: Adapted from the PRISMA 2020 [9] flow diagram template (Page *et al*., 2021) [9].

Fig 1: PRISMA 2020 flow diagram of the study selection process

2. Characteristics of the included studies

The six included studies were published between 2018 and 2026 [10, 16] and together involved 2,645 adolescents (Table 1). Sample sizes ranged from 65 to 884. Where reported, participants were aged between 10 and 19 years, with mean ages ranging from 12.76 to 15.16 years. Five studies examined girls only, and one included both girls and boys (Rodgers *et al*., 2020) [13]. The studies were conducted in the United States (Ward *et al*., 2023) [23], Croatia (Brajdić Vuković *et al*., 2018), Ireland (Scully *et al*., 2023), Australia (Rodgers *et al*., 2020) [1, 13, 17], and South Korea (Park *et al*., 2026) [10] , the country of data collection was not stated in one study (Roberts *et al*., 2022) [2, 12]. Five studies used cross-sectional data, and one used a single-group pre–post design (Roberts *et al*., 2022) [2, 12]. The analytic methods included path analysis, structural equation modeling, serial mediation analysis, moderation analysis, and latent profile analysis.

The studies operationalized the three core constructs in different ways. Social media use was measured as general use of social networking sites, as use of and engagement with multiple platforms, or as appearance-related activity online; in one study, it was manipulated through a period of abstinence. Body image was assessed as body dissatisfaction, body surveillance, body shame, or body perception. Self-esteem played different roles across studies: it was an outcome in two studies (Park *et al*., 2026; Ward *et al*., 2023) [10, 23], a mediator in one (Roberts *et al*., 2022) [2, 12], one of several psychological factors in an integrated model in one (Rodgers *et al*., 2020) [13], and a correlate or control variable in two (Brajdić Vuković *et al*., 2018; Scully *et al*., 2023) [1, 17].

Table 1: Characteristics of the included studies

Study	Country	Sample	Design / analysis	Social media measure	Body image measure	Mediators / moderators	Role of self-esteem
Brajdić Vuković *et al*. (2018) [1]	Croatia	211 girls	Cross-sectional; moderation	SNS use	Body surveillance	Peer network size (moderator)	Correlate / control
Rodgers *et al*. (2020)	Australia	681 adolescents (49% girls); M =	Cross-sectional; path analysis	Social media use	Body dissatisfaction	Social media and muscular ideal internalization,	Psychological factor in the

[13]		12.76 years				appearance comparison; gender	model
Roberts *et al*. (2022) [2, 12]	Not stated	65 girls (dancers); 10–19 years	Single-group pre–post; mediation	Three-day social media abstinence	Body surveillance; body shame	Self-compassion, self-esteem (mediators)	Mediator
Scully *et al*. (2023) [17]	Ireland	210 girls; M = 15.16 years	Cross-sectional; serial mediation	Online appearance-related activity	Body dissatisfaction	Online social comparison, thin-ideal internalization (mediators)	Control variable
Ward *et al*. (2023) [23]	United States	884 girls; 13–18 years	Cross-sectional; SEM	Use of and engagement with multiple platforms	Body shame	Self-sexualization (mediator); age, racial identity, peer-group racial composition (moderators)	Well-being indicator (outcome)
Park *et al*. (2026) [10]	South Korea	594 girls; M = 14.27 years	Cross-sectional; latent profile analysis, moderation	Degree of social media use	Body image; weight perception (profile indicators)	Social media use (moderator)	Outcome

Note: SNS = social networking sites; SEM = structural equation modeling.

Table 2: Main findings of the included studies

Study	Main findings
Brajdić Vuković *et al*. (2018) [1]	SNS use was associated with body surveillance, more strongly among girls with smaller peer networks; self-esteem was negatively associated with body surveillance.
Rodgers *et al*. (2020) [13]	An integrated biopsychosocial model including social media use, self-esteem, depression, BMI, ideal internalization, and appearance comparison fitted the data after modification; gender differences emerged.
Roberts *et al*. (2022) [2, 12]	After a three-day social media fast, body surveillance and body shame decreased; self-compassion mediated both changes, and self-esteem mediated the change in body shame.
Scully *et al*. (2023) [17]	Online social comparison mediated the link between appearance-related activity and body dissatisfaction (controlling for age and self-esteem), followed by thin-ideal internalization; comparisons with close friends showed the strongest association.
Ward *et al*. (2023) [23]	Social media use and engagement predicted self-sexualization, which was associated with poorer well-being (mental health symptoms, self-esteem, body shame); model fit was weaker for White girls.
Park *et al*. (2026) [10]	Social media use moderated the association between developmental profiles and self-esteem; the negative association was significant only among girls with later menarche, a lean body type, and positive body perception.

Note: SNS = social networking sites; BMI = body mass index. Findings are summarized from the published articles.

3. Associations between social media use, body image, and self-esteem

Five studies examined social media use in relation to body image. Four of them reported findings indicating that greater or more appearance-focused use was associated with more negative body image, whereas the fifth (Rodgers *et al*., 2020) [13] reported model-level results rather than a single summary association (Table 2). Among Croatian girls, the association between social networking site use and body surveillance was stronger for girls with smaller peer networks (Brajdić Vuković *et al*., 2018) [1]. Among Irish girls, body dissatisfaction was associated with more time spent on online social comparisons and with upward comparisons with various female targets, and the strongest association emerged when girls evaluated themselves less favorably than their close friends (Scully *et al*., 2023). Rodgers *et al*. (2020) [13, 17] tested an integrated biopsychosocial model that included social media use, self-esteem, depression, body mass index, ideal internalization, appearance comparison, and body dissatisfaction; after modification, the model showed a good fit to the data, and differences emerged between girls and boys.

Findings on self-esteem were fewer and less direct. Only two studies treated self-esteem as an outcome of social media use. Park *et al*. (2026) [10] found that greater social media use tended to be associated with lower self-esteem among Korean girls, but this association was significant only in one developmental profile: girls with later menarche, a lean body type, and a positive perception of their bodies. Ward *et al*. (2023) [23] found that social media use and engagement predicted greater self-sexualization, which in turn was associated with poorer well-being, assessed through mental health symptoms, self-esteem, and body shame. Brajdić Vuković *et al*. (2018) [1] reported that self-esteem was negatively associated with body surveillance.

4. Mechanisms and conditions of the associations

Two mechanisms were tested directly through mediation analysis. The first was social comparison: Scully *et al*. (2023) [17] found that time spent on online social comparisons mediated the association between appearance-related social media activity and body dissatisfaction, after controlling for age and self-esteem, and that this association was further partially mediated by thin-ideal internalization. The second was self-sexualization, which mediated the association between social media use and poorer well-being among adolescent girls (Ward *et al*., 2023) [23]. In addition, two studies treated self-objectification, measured as body surveillance and body shame, as an outcome associated with social media use (Brajdić Vuković *et al*., 2018; Roberts *et al*., 2022) [1, 2, 12].

The associations also varied across individual and social conditions. Rodgers *et al*. (2020) [13] found differences between girls and boys in the model linking social media use to body image. Smaller peer networks strengthened the association between social networking site use and body surveillance (Brajdić Vuković *et al*., 2018) [1]. The association between social media use and self-esteem depended on girls' profiles of physical development and body perception (Park *et al*., 2026) [10]. Finally, the self-sexualization model fitted less well for White girls than for Black and Asian American girls (Ward *et al*., 2023) [23].

5. \Evidence from intervention studies

Only one study manipulated social media use. Roberts *et al*. (2022) [2, 12] asked 65 adolescent girls who were dancers to abstain from all social media for three days, during which they also took part in a group chat reflecting on their experiences. After the abstinence period, body surveillance and body shame decreased significantly. Self-compassion mediated the decreases in both outcomes, and self-esteem mediated the decrease in body shame. Because the study used a single-group design with a small, specialized sample, these findings should be regarded as preliminary.

Discussion

This review synthesized empirical evidence on the associations between social media use, body image, and self-esteem among adolescents. In most of the included studies that examined this link, social media use, particularly appearance-focused use involving comparisons with others, was associated with more negative body image, whereas the evidence on self-esteem came from only a few studies and was less direct. The findings on body image are consistent with earlier reviews and meta-analyses conducted with broader populations (Holland & Tiggemann, 2016; Saiphoo & Vahedi, 2019) [7, 15] and with a recent systematic review of preadolescents and adolescents (Digennaro & Tescione, 2024) [3]. The present review extends this literature by examining self-esteem alongside body image, a construct that previous reviews have rarely treated as a central variable. The selection process itself is informative in this respect: only 6 of the 56 records identified (10.7%) m*et al*l eligibility criteria, and half of the full-text exclusions resulted from the absence of one of the three core constructs. This suggests that relatively few studies of adolescents have examined social media use, body image, and self-esteem together.

The findings provide partial support for the theoretical frameworks described in the introduction. The mediating role of online social comparison (Scully *et al*., 2023) [17] supports social comparison theory (Festinger, 1954) [5]. The finding that comparisons with close friends were most strongly associated with body dissatisfaction is especially relevant to adolescence, when peers become the most salient reference group, and supports the view that social media makes such comparisons constant and highly visible (Choukas-Bradley *et al*., 2022) [2]. The mediating role of self-sexualization (Ward *et al*., 2023) [23], together with the associations between social media use and body surveillance and body shame (Brajdić Vuković *et al*., 2018; Roberts *et al*., 2022) [1, 2, 12], is consistent with objectification theory (Fredrickson & Roberts, 1997) [6]. Thin-ideal internalization appeared in the serial mediation chain identified by Scully *et al*. (2023) [17], which is consistent with the tripartite influence model (Thompson *et al*., 1999) [20], although only one study tested this pathway directly.

A central finding of this review is that the relationship between body image and self-esteem has been conceptualized inconsistently. Across studies, self-esteem was treated as an outcome, a mediator, a model component, or a control variable, and none of the included studies explicitly tested whether body image mediates the association between social media use and self-esteem. As a result, the direction of these relationships remains unclear. Low self-esteem may make adolescents more vulnerable to appearance-related content, negative body image arising from social media use may in turn lower self-esteem, and the two processes may operate together as a reciprocal cycle. Because none of the included studies analyzed longitudinal data, this question cannot yet be answered.

The findings also show that the associations are not uniform. They varied by gender, peer network size, physical development and body perception, and race. This pattern is consistent with the conclusion of Valkenburg *et al*. (2022) [21] that associations between social media use and adolescent mental health are generally small and inconsistent, which suggests that they may differ across individuals and contexts. Some findings were unexpected: Park *et al*. (2026) [10] found that the association between social media use and lower self-esteem was significant among girls who had a positive perception of their bodies. This suggests that adolescents who appear to have a healthy body image may still be vulnerable, and that vulnerability cannot be inferred from body image alone.

These findings have several implications for education and school mental health. First, because social comparison and appearance-focused activities emerged as key mechanisms, interventions should address how adolescents use social media, not only how much time they spend on it. Media literacy education can help students recognize edited and filtered images, become aware of how comparisons with peers affect their feelings, and think critically about appearance ideals. Second, the findings of Roberts *et al*. (2022) [2, 12] suggest that short breaks from social media may be a simple, low-cost strategy that schools and families could encourage, although stronger evidence is needed. Third, because vulnerability appears to differ across individuals, school counselors may pay particular attention to students who are going through puberty, who have few close friends, or who tend to compare themselves with others, although each of these risk factors is currently supported by only a single study. Finally, the mediating roles of self-compassion and self-esteem in the study by Roberts *et al*. (2022) [2, 12] suggest, tentatively, that programs strengthening these resources may help protect adolescents against the negative effects of social media on body image.

This review has several limitations. First, the search was conducted in a single database with a relatively simple search string, and only English-language articles were included, so relevant studies may have been missed. The inclusion of the term "youth" in the search string also retrieved many studies of young adults, which accounted for a large proportion of the excluded records. The number of included studies was also smaller than in the review by Digennaro and Tescione (2024) [3], reflecting both the requirement that self-esteem be measured and the narrow search. Second, screening and data extraction were conducted by a single author, and the methodological quality of the included studies was not formally assessed. Third, five of the six studies involved only girls, which limits generalization to boys. Fourth, most studies used cross-sectional data, and the only intervention study had no control group, so causal conclusions cannot be drawn. Fifth, the measures of the three core constructs varied considerably, which prevented a meta-analysis. Finally, none of the included studies was conducted in Vietnam or Southeast Asia, so the findings may not reflect the experiences of Vietnamese adolescents.

Future research should address these gaps. Longitudinal studies are needed to clarify the direction of the

relationships among social media use, body image, and self-esteem, and in particular to test whether body image mediates the association between social media use and self-esteem. Studies should include boys and more diverse cultural contexts, including Vietnam, where research on this topic remains scarce. Measures of social media use should distinguish between types of activity and platforms, especially image- and video-based platforms such as TikTok. Finally, controlled experimental studies are needed to evaluate school-based interventions, such as media literacy programs and structured breaks from social media.

Conclusion

This systematic review synthesized six empirical studies on the associations between social media use, body image, and self-esteem among adolescents. The evidence indicates that social media use, particularly appearance-focused use involving comparisons with peers, is associated with more negative body image, with online social comparison and self-sexualization emerging as the mechanisms tested most directly. Evidence on self-esteem is more limited: the few available findings suggested negative associations with social media use that depended on individual characteristics, and self-esteem was conceptualized inconsistently across studies. Consequently, it remains unclear whether body image links social media use to self-esteem or whether self-esteem shapes adolescents' vulnerability to appearance-related content.

The current evidence base is small, relies mainly on cross-sectional data, focuses largely on girls, and does not include studies from Vietnam or Southeast Asia. Future research should use longitudinal and controlled experimental designs, include boys and more diverse cultural contexts, and distinguish between different types of social media activity. In practice, the findings support integrating media literacy education, strategies to reduce appearance comparison, and activities that strengthen self-esteem and self-compassion into school-based programs, so that adolescents can use social media in ways that protect their body image and self-esteem.

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