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Cite This Article: Luqman, M., Ali, H., Shah, T. & Abdullah. (2026). Social Media Use, Body Image Dissatisfaction, and Self-Esteem Among Adolescents and Young Adults: The Mediating Role of Body Image. *Journal of Social Sciences Research & Policy*. 4 (01), 751-757.

DOI: <https://doi.org/10.71327/jssrp.41.751.757>

ISSN: 3006-6557 (Online)

ISSN: 3006-6549 (Print)

Vol. 4, No. 1 (2026)

Pages: 751-757

Key Words:

Social media use, body image
Dissatisfaction, self-esteem, social
Comparison, mediation, adolescents,
Young adults

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Abstract: Appearance-focused social media platforms have raised concern about the psychological well-being of adolescents and young adults. This study examined associations among social media use, body image dissatisfaction, and self-esteem, and tested whether body image dissatisfaction mediated the relationship between social media use and self-esteem. Grounded in social comparison theory, objectification theory, and the tripartite influence model, a cross-sectional survey was administered to 300 active social media users (59.3% female; modal age range 19–21 years). Social media use was assessed with items adapted from the Social Media Use Integration Scale, body image dissatisfaction with items adapted from the Body Shape Questionnaire, and self-esteem with the Rosenberg Self-Esteem Scale. Data were analyzed using Pearson correlation, multiple regression, and mediation analysis (Hayes' PROCESS macro, 5,000 bootstrap samples). Social media use was significantly associated with greater body image dissatisfaction ($r = .46, p < .01$) and lower self-esteem ($r = -.39, p < .01$); body image dissatisfaction was significantly associated with lower self-esteem ($r = -.52, p < .01$). Social media use significantly predicted body image dissatisfaction ($\beta = .46, p < .001, R^2 = .21$), and social media use and body image dissatisfaction together explained 32% of the variance in self-esteem. Mediation analysis confirmed that body image dissatisfaction partially mediated the social media–self-esteem relationship (indirect effect $B = -0.19, 95\% \text{ CI } [-0.26, -0.13]$). Findings support body image-focused interventions and media literacy programs as priorities for protecting the self-esteem of heavy social media users.

Introduction

Over the past two decades, social media has moved from a peripheral communication tool to the primary arena of daily social life for adolescents and young adults. Global social media penetration exceeded 60% of the population in 2023, with users averaging more than two hours of daily use on major platforms (We Are Social, 2023). This ubiquity has drawn sustained research attention to how appearance-focused platforms such as Instagram, TikTok, and Snapchat shape psychological well-being, identity, and self-concept.

Body image and self-esteem are the two constructs most consistently implicated in this literature. Body

image—the cognitive and affective representation a person holds of their own physical appearance—is a recognized determinant of psychological health, with body image disturbance linked to depression, anxiety, disordered eating, and reduced quality of life (Cash, 2012; Grogan, 2021). Self-esteem, the evaluative attitude a person holds toward the self, occupies a central place in theories of psychological adjustment (Rosenberg, 1965; Orth & Robins, 2022). The two constructs are theoretically and empirically linked: body dissatisfaction is among the strongest proximal predictors of lower global self-esteem, particularly during adolescence and emerging adulthood, when physical appearance carries heightened social significance (Harter, 2012; Rodgers et al., 2023).

Social media introduces a distinctive form of social comparison. Unlike traditional broadcast media, which exposed audiences to idealized appearance passively and unidirectionally, social media platforms enable continuous, bidirectional exposure to curated, idealized self-presentation from peers and influencers alike (Fardouly & Vartanian, 2015; Tiggemann & Anderberg, 2020). The volume, immediacy, and personalization of this exposure are theorized to intensify upward social comparison—comparison with images that appear attainable yet remain unrealistic—widening the discrepancy between actual and ideal body perceptions and, in turn, depressing self-evaluative confidence (Festinger, 1954; Vogel et al., 2014).

Three complementary theoretical frameworks inform the present study. Social comparison theory (Festinger, 1954) proposes that individuals evaluate their own appearance relative to others, a process substantially amplified by social media's volume and selectivity of comparison targets. Objectification theory (Fredrickson & Roberts, 1997) extends this account by explaining how sustained attention to appearance-related content fosters self-objectification—the internalization of an observer's perspective on one's own body—which is associated with body shame, anxiety, and diminished self-worth. The tripartite influence model (Thompson et al., 1999) situates media alongside peers and parents as one of three sociocultural channels transmitting appearance ideals, with social media representing a contemporary intensification of the media pathway.

Despite convergent evidence that social media use is associated with poorer body image and self-esteem outcomes, three gaps remain. First, the mediating role of body image dissatisfaction in the social media–self-esteem relationship has not been consistently examined across cultural and demographic contexts. Second, much of the existing evidence derives from Western, English-speaking samples, limiting generalizability to populations with different beauty ideals, social media habits, and body-related attitudes. Third, most studies report bivariate associations rather than testing an integrated mediation model linking all three constructs simultaneously. The present study addresses these gaps by testing whether body image dissatisfaction mediates the relationship between social media use and self-esteem in a sample of 300 adolescents and young adults, guided by the following hypotheses:

- **H1:** Social media use is positively associated with body image dissatisfaction.
- **H2:** Social media use is negatively associated with self-esteem.
- **H3:** Social media use significantly predicts both body image dissatisfaction and self-esteem.
- **H4:** Body image dissatisfaction mediates the relationship between social media use and self-esteem.

Methodology

Design

The study employed a quantitative, cross-sectional survey design, appropriate for examining associations among social media use, body image dissatisfaction, and self-esteem at a single point in time within the constraints of available time and resources.

Participants

Participants were 300 active social media users recruited via convenience sampling (59.3% female, 40.7% male). Age was distributed across three bands: 16–18 years (24.7%), 19–21 years (38.7%), and 22–25 years (36.6%). Daily social media use was concentrated at the higher end of the distribution: 10.7% reported less than one hour, 30.3% reported one to three hours, 39.3% reported four to six hours, and 19.7% reported more than six hours daily. Inclusion required active social media use and membership in the target age range; non-users were excluded as unable to provide relevant data.

Measures

Social media use was assessed with items adapted from the Social Media Use Integration Scale (Jenkins-Guarnieri et al., 2013), capturing frequency, time spent, and the emotional/functional integration of social media into daily life, supplemented with items assessing appearance-focused content consumption (beauty, fashion, fitness, celebrity, and influencer content). Body image dissatisfaction was assessed with items adapted from the Body Shape Questionnaire (Cooper et al., 1987), capturing concerns about body shape and negative appearance-related affect, adapted to reference social-media-related appearance exposure. Self-esteem was assessed with the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965), a widely validated measure of global self-worth. All items used 5-point Likert response formats, with higher scores indicating greater social media integration, greater body dissatisfaction, and higher self-esteem, respectively.

Procedure

Surveys were distributed in both paper and electronic (Google Forms) formats. Participants were informed of the study's purpose and assured of confidentiality and anonymity prior to completion. Participation was voluntary, with the right to withdraw at any stage. Completed questionnaires were checked, coded, and prepared for statistical analysis.

Data Analysis

Data were analyzed in SPSS. Descriptive statistics summarized sample characteristics and variable distributions. Pearson correlations examined bivariate associations among the three study variables. Multiple regression analyses tested social media use as a predictor of body image dissatisfaction and, together with body image dissatisfaction, as a predictor of self-esteem. Mediation was tested using Hayes' (2022) PROCESS macro with 5,000 bootstrap resamples, generating bias-corrected 95% confidence intervals for the indirect effect.

Ethical Considerations

The study obtained informed consent from all participants, ensured anonymity and confidentiality of responses, and preserved voluntary participation with the right to withdraw. Given the sensitivity of body image and self-esteem content, participants were not required to answer any item that caused discomfort, and questionnaire wording avoided judgmental or stigmatizing language.

Results

Descriptive statistics indicated moderate-to-high social media use ($M = 3.45$, $SD = 0.78$, on a 5-point scale), moderate body image dissatisfaction ($M = 3.18$, $SD = 0.82$), and moderate self-esteem ($M = 3.07$, $SD = 0.76$).

Correlational analysis supported all bivariate hypotheses. Social media use was significantly and positively correlated with body image dissatisfaction ($r = .46$, $p < .01$), and significantly and negatively correlated with self-esteem ($r = -.39$, $p < .01$). Body image dissatisfaction was significantly and negatively correlated with self-esteem ($r = -.52$, $p < .01$), the strongest bivariate association observed among the three variables.

Table 1 Correlation Matrix for Study Variables

Variable	1	2	3
1. Social media use	—		
2. Body image dissatisfaction	.46**	—	
3. Self-esteem	-.39**	-.52**	—

Note. $N = 300$. ** $p < .01$.

Regression analysis showed that social media use significantly and positively predicted body image dissatisfaction ($B = 0.48$, $SE = 0.05$, $\beta = .46$, $t = 8.96$, $p < .001$), explaining 21% of the variance, $R^2 = .21$, $F(1, 298) = 80.28$, $p < .001$. In the model predicting self-esteem, both social media use ($B = -0.21$, $SE = 0.05$, $\beta = -.24$, $t = -4.20$, $p < .001$) and body image dissatisfaction ($B = -0.39$, $SE = 0.05$, $\beta = -.45$, $t = -7.88$, $p < .001$) were significant negative predictors, jointly explaining 32% of the variance, $R^2 = .32$, $F(2, 297) = 69.88$, $p < .001$.

Table 2 Mediation Analysis of Body Image Dissatisfaction in the Social Media Use–Self-Esteem Relationship

Path	B	SE	β	P	95% CI
a: SMU $\rightarrow$ BID	0.48	0.05	.46	< .001	—
b: BID $\rightarrow$ SE	-0.39	0.05	-.45	< .001	—
Total effect (c): SMU $\rightarrow$ SE	-0.38	0.05	-.39	< .001	—
Direct effect (c'): SMU $\rightarrow$ SE	-0.21	0.05	-.24	< .001	—
Indirect effect (a $\times$ b)	-0.19	0.03	—	sig.	[-0.26, -0.13]

Note. $N = 300$. SMU = social media use; BID = body image dissatisfaction; SE = self-esteem. Bootstrap 95% CI based on 5,000 resamples; indirect effect significant as the interval excludes zero.

Mediation analysis confirmed that social media use significantly predicted body image dissatisfaction (Path a), which in turn significantly predicted self-esteem (Path b). The total effect of social media use on self-esteem was significant. When body image dissatisfaction was entered into the model, the direct effect of social media use on self-esteem remained significant but was substantially attenuated, and the indirect effect through body image dissatisfaction was significant, as the bootstrap confidence interval did not include zero. This pattern indicates that body image dissatisfaction partially mediates the relationship between social media use and self-esteem, supporting H4.

Discussion

This study examined the interrelationships among social media use, body image dissatisfaction, and self-esteem in 300 adolescents and young adults, and tested body image dissatisfaction as a mediating mechanism. All four hypotheses were supported, and the pattern of findings converges with the broader international literature linking appearance-focused digital media exposure to diminished body satisfaction and self-worth.

The positive association between social media use and body image dissatisfaction ($r = .46$) is consistent with, and numerically comparable to or larger than, effect sizes reported in prior cross-sectional and experimental work (Holland & Tiggemann, 2016; Rodgers et al., 2023). This relatively strong effect may reflect the appearance-focused operationalization of social media use adopted here—capturing

exposure to beauty, fashion, fitness, and influencer content specifically—rather than generic platform-use metrics. Studies using broader, non-appearance-specific measures of social media use have typically reported smaller effect sizes (Fardouly & Vartanian, 2015; Meier & Gray, 2014), suggesting that the content of exposure, not merely its duration, is central to the comparison processes described by social comparison theory (Festinger, 1954) and amplified within algorithmically curated, image-centric platforms.

Body image dissatisfaction emerged as the strongest correlate of self-esteem in the study ($r = -.52$) and as the dominant mediating pathway linking social media use to self-esteem outcomes. This is consistent with objectification theory's account of how internalized appearance surveillance translates external exposure into diminished self-worth (Fredrickson & Roberts, 1997), and with the tripartite influence model's depiction of media as a potent transmitter of appearance ideals whose internalization drives body dissatisfaction (Thompson et al., 1999). The persistence of a significant direct effect of social media use on self-esteem after accounting for body image dissatisfaction indicates that body image, while a substantial mechanism, is not the sole pathway; other processes—such as social validation seeking, upward social comparison unrelated to appearance, or disrupted offline social functioning—likely contribute additional, unmeasured variance.

Several contextual features of the sample merit consideration. The gender composition (59.3% female) mirrors patterns typical of body image research, reflecting the well-documented overrepresentation of appearance-related concern among women (Grogan, 2021). The concentration of participants in emerging adulthood (19–25 years accounting for 75.3% of the sample) situates the findings within a developmental period marked by heightened identity exploration and social comparison sensitivity (Arnett, 2007; Harter, 2012). Notably, 59% of participants reported four or more hours of daily social media use, exceeding thresholds associated with adverse psychological outcomes in prior research (Twenge & Campbell, 2019), which lends the findings ecological and public health relevance.

Implications

These findings carry practical implications across clinical, educational, and public health domains. The centrality of body image dissatisfaction as a mediating mechanism suggests that interventions targeting body image—rather than social media use reduction alone—may be an efficient point of leverage for protecting self-esteem among habitual users. Media literacy programs that teach critical evaluation of curated, filtered, and digitally enhanced appearance content have demonstrated success in reducing thin-ideal internalization and body dissatisfaction in controlled trials (Rodgers & Melioli, 2016; McLean et al., 2019), and the 21% of variance in body dissatisfaction explained by social media use here suggests such programs could yield practically meaningful benefits. Clinically, practitioners working with adolescents and young adults presenting with body image, disordered eating, or self-esteem concerns should routinely assess appearance-focused social media consumption, and may draw on cognitive-behavioral approaches targeting appearance-related cognitions (Cash, 2012) alongside acceptance-based approaches emphasizing functional body appreciation (Tylka & Wood-Barcalow, 2015). The persistence of a direct social media–self-esteem effect further supports adjunctive strategies such as curated following lists, reduced exposure to comparison-triggering content, and mindful engagement practices (Valkenburg et al., 2022). At the policy level, findings offer an evidence base for platform transparency requirements regarding image editing, user control over algorithmically curated appearance content, and integration of media literacy curricula in schools.

Limitations

Several limitations warrant caution in interpreting these findings. The cross-sectional design precludes

causal inference; although the hypothesized directional sequence is theoretically grounded, reverse or reciprocal pathways—such as pre-existing body dissatisfaction driving selective engagement with appearance-focused content—cannot be ruled out (Valkenburg et al., 2022). Reliance on self-report measures across all variables raises the possibility of shared-method variance and social desirability bias; future work would benefit from objective usage metrics (e.g., device-based screen time) and observer-rated or behavioral indices of body image and self-esteem (Burnette et al., 2017). Convenience sampling limits generalizability beyond the specific, predominantly female, emerging-adult sample studied, and the study did not assess potential moderators such as trait social comparison orientation, appearance investment, self-objectification, body mass index, or pre-existing mental health conditions, any of which could amplify or attenuate the observed pathway. Finally, the measure of social media use did not distinguish between platforms or between passive and active use styles, both of which prior research suggests may carry differential psychological risk.

Future Directions

Future research should prioritize longitudinal and experimental designs capable of establishing temporal precedence and causal directionality, incorporate objective usage data alongside self-report, and extend recruitment to more demographically and culturally diverse populations, including non-Western and non-English-speaking samples, to test the boundary conditions of the present model. Moderation analyses incorporating social comparison orientation, appearance investment, gender identity, and platform-specific and passive-versus-active use distinctions would provide a more nuanced account of individual vulnerability and inform more precisely targeted interventions.

Conclusion

This study provides evidence that social media use is associated with greater body image dissatisfaction and lower self-esteem among adolescents and young adults, and that body image dissatisfaction partially mediates the social media–self-esteem relationship. The findings underscore body image as a critical psychological mechanism linking appearance-focused digital media exposure to self-worth, and support the prioritization of body image-focused interventions and media literacy education as protective strategies for young, heavily engaged social media users.

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