

# The Relationship Between Adolescent Social Media Use and Body Esteem: The Mediating Role of Self-Concept Clarity

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**Abstract:** Extensive social media use significantly affects adolescents' body esteem. Self-concept clarity, referring to a clear and stable understanding of one's identity, is crucial for mental health and may mediate the relationship between social media use and body esteem. This study aims to investigate the relationship between social media use intensity and body esteem in adolescents, along with the mediating role of self-concept clarity. A survey of 500 students from a university in Guangdong Province was conducted using the Social Networking Sites Usage Intensity Scale, the Body-Esteem Scale for Adolescents and Adults, and the Self-Concept Clarity Scale. Data were analyzed with regression analysis and mediation effect tests. Results indicated that social media use intensity was significantly negatively correlated with body esteem and self-concept clarity. Additionally, self-concept clarity mediates the relationship between social media use and body esteem. These findings suggest that self-concept clarity significantly influences adolescents' body esteem, and interventions should focus on enhancing self-concept clarity to improve body esteem.

**Keywords:** adolescents, social media use, body esteem, self-concept clarity

## 1. Introduction

### 1.1 Research background

Adolescents, as the digital generation, grow up with the internet. Social media, being a highly visual online platform, provides exceptionally convenient conditions for interpersonal communication and social information acquisition. With the widespread use of social media among adolescents, research has demonstrated a significant impact of social media use on their mental health. Adolescents are in a critical phase of rapid physical and psychological development, and their perception and evaluation of body image heavily rely on external feedback. Body esteem, an individual's evaluation of their physical appearance, is a crucial component of overall self-esteem. Studies have linked lower body esteem to psychological issues such as depression and anxiety. Therefore, examining the relationship between social media use and body esteem is of paramount importance.

This research studies the relationship between adolescent social media use and body esteem and its possible underlying mechanisms. Besides contributing to the theoretical research of adolescent body image, the current paper offers explicitly some group counseling strategies to enhance body esteem through intervention and to let the adolescents approach their bodies healthily and appreciatively.

### 1.2 Research significance

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The theoretical importance of this research is to examine the relationship between the use of social media, the clarity of self-concept, and the body esteem of adolescents. Knowledge about the mediating role of self-concept clarity helps in understanding the psychological mechanism that adolescents possess when influenced by social media. Value of practical significance: The findings give theoretical background and objective evidence for developing interventions to enhance the body esteem of adolescents. A simple, straightforward way to strengthen one's body esteem is through enhancing self-concept clarity; such implications are important in educational and psychological interventions.

### **1.3 Research objectives**

This paper examines the link between the intensity of social media use and body esteem in adolescents and proves mediation by self-concept clarity with the following specific objectives:

To investigate the relationship between the intensity of social media use and body esteem in adolescents.

To verify the mediating role of self-concept clarity in the relationship between social media use and body esteem.

## **2. Literature review**

### **2.1 Body esteem**

Body esteem is vital for self-perception and well-being. Various studies have examined its relationship with factors like self-esteem, gender, weight, and age. Mendelson et al. (1982) highlighted the importance of body image in shaping self-perception in obese and normal children<sup>[1]</sup>. Franzoi et al. (1984) explored the multidimensional structure of body esteem, noting sex differences in college students<sup>[2]</sup>. McKinley (1999) studied women's objectified body consciousness, considering cultural and familial influences<sup>[3]</sup>. Collectively, these studies underscore body esteem's significance in self-perception, behavior, and well-being, highlighting the need for promoting positive body image and self-acceptance.

### **2.2 Social media use**

The impact of social media on adolescents has garnered increasing attention. Studies have explored its effects on various aspects of their lives. Vernon et al. (2015) found that problematic social networking can disrupt sleep, impacting school experiences<sup>[4]</sup>. Vossen et al. (2016) involved Dutch adolescents. They concluded the fact that social media usage determines the emergence of empathy, although it remains unclear yet if it increases or reduces it<sup>[5]</sup>. The result of the work by Barry et al. (2017) discovered the more significant severity of anxious and depressive symptoms in adolescence with several accounts on social media and a high level of fear of missing out<sup>[6]</sup>. This is because the literature shows a complex relationship between social media use and adolescent well-being, and more studies are necessary better to inform interventions and policies for healthier social media use.

### **2.3 Self-concept clarity**

Self-concept clarity is crucial for self-perception and well-being. Campbell (1990) highlighted the link between self-esteem and self-concept clarity, emphasizing its role in psychological well-being<sup>[7]</sup>. Bigler et al. (2001) found that self-concept clarity significantly predicts psychological adjustment levels<sup>[8]</sup>. Slotter et al. (2010) observed changes in self-concept clarity after romantic breakups<sup>[9]</sup>. Overall, self-concept clarity impacts psychological adjustment, emotional regulation, academic performance, and relationship quality.

### **2.4 Between social media use, self-concept clarity and body esteem**

Recent literature extensively explores the relationship between social media use, self-concept clarity, and body esteem. Fernandez et al. (2012) found a connection between the drive for thinness, media influence, and self-esteem<sup>[10]</sup>. Cohen et al. (2015) highlighted the role of appearance comparison on body image dissatisfaction<sup>[11]</sup>. Yang et al. (2017) linked positive online self-presentation to higher self-esteem among college freshmen<sup>[12]</sup>. These studies underscore the complex interplay between social media, self-concept clarity, and body esteem.

## **3. Research hypotheses**

Based on the above literature review, this study proposes the following hypotheses:

Hypothesis 1: Adolescent social media use negatively predicts body esteem.

Hypothesis 2: Self-concept clarity serves as a mediator in the relationship between social media usage and body esteem.

## **4. Research methods**

### **4.1 Research subjects**

This study randomly sampled 500 students from a university in Guangdong Province. After excluding invalid questionnaires, valid data from 494 students were obtained. The participants included 251 males and 243 females, aged 19 to 21 years ( $M=19.73$ ,  $SD=0.73$ ).

### **4.2 Measurement tools**

#### **4.2.1 Social networking sites usage intensity scale**

The Social Networking Sites Usage Intensity Scale comprises eight items that assess various aspects, including the number of social network friends, average daily usage time, emotional attachment to social networks, and the degree of integration of social networks into personal life. Higher scores reflect a more intense use of social media. In this study, the Cronbach's  $\alpha$  coefficient was 0.837, demonstrating good internal consistency.

#### **4.2.2 Body-esteem scale for adolescents and adults**

The Body-Esteem Scale for Adolescents and Adults comprises 23 items that assess three dimensions of body esteem: appearance perception (overall feelings about one's appearance), weight satisfaction (contentment with one's weight), and social evaluation (how individuals perceive others' opinions of their body and appearance). This scale uses a 5-point scoring system, where higher scores indicate greater body esteem. In this study, the Cronbach's  $\alpha$  coefficient was 0.872, indicating high internal consistency. The subscale coefficients were 0.772 for appearance perception, 0.874 for weight satisfaction, and 0.788 for social evaluation.

#### **4.2.3 Self-concept clarity scale**

The Self-Concept Clarity Scale comprises 12 items that assess the clarity and stability of an individual's self-concept. Higher scores indicate a greater degree of self-concept clarity. In this study, the Cronbach's  $\alpha$  coefficient was 0.781, demonstrating good internal consistency.

### **4.3 Data analysis**

Data analysis was performed using SPSS 25.0., incorporating descriptive statistics, correlation analysis, and regression analysis. To test the mediation effect, Hayes' (2013) SPSS macro program PROCESS was utilized, specifically selecting Model 4. Gender, grade, and body mass index (BMI) were included as control variables to examine the mediating role of self-concept clarity between social media use and body esteem.

## **5. Research results**

### **5.1 Descriptive statistics and correlation analysis**

The study showed that the number of social media platform friends among adolescents ranged from 19 to 200, accounting for 68.3% of the total respondents. Notably, 10.9% of adolescents had more than 400 social network friends. Regarding social media usage time, 35.4% of adolescents used social media for more than 3 hours per day on average last week. Additionally, 89.7% of adolescents indicated that using social media had become a daily habit.

Descriptive statistics showed that the average score for social media usage intensity was 3.71 ( $SD=0.97$ ), the average score for self-concept clarity was 2.95 ( $SD=0.62$ ), and the average score for body esteem was 2.23 ( $SD=0.57$ ). Correlation analysis indicated that social media usage intensity was significantly negatively correlated with body esteem ( $r=-0.254$ ,

$p < 0.01$ ) and self-concept clarity ( $r = -0.323$ ,  $p < 0.01$ ), and self-concept clarity was significantly positively correlated with body esteem ( $r = 0.367$ ,  $p < 0.01$ ).

When comparing these findings with the initial hypotheses, the negative correlation between social media usage intensity and body esteem supports Hypothesis 1, indicating that higher social media use predicts lower body esteem. Furthermore, the significant correlation between self-concept clarity and both social media usage and body esteem supports Hypothesis 2, suggesting that self-concept clarity mediates the relationship between social media usage and body esteem.

Table 1 Descriptive Statistics and Correlation Analysis Results

Variable	M	SD	1	2	3	4
Social Media Use	3.71	0.97	1			
Self-Concept Clarity	2.95	0.62	-0.323**	1		
Body Esteem	2.17	0.59	-0.254**	0.367**	1	
Appearance Perception	2.29	0.61	-0.189**	0.286**	0.817**	1
Weight Satisfaction	2.32	0.93	-0.194**	0.481**	0.811**	0.482**
Social Evaluation	1.62	0.78	-0.233**	0.251**	0.571**	0.272**

## 5.2 Differences in research variables across demographic variables

### 5.2.1 Differences in research variables by gender

An independent sample t-test in SPSS was conducted to examine differences in research variables (social media use, body image comparison, self-concept clarity, and body esteem) across gender groups. The results (see Table 2) showed significant differences in social media use between males and females ( $t(494) = -3.952$ ,  $p < 0.01$ ), with females scoring higher than males. No significant differences were found in overall body esteem, body image comparison, or self-concept clarity. However, a significant difference was observed in the body esteem weight satisfaction dimension ( $t(494) = 3.522$ ,  $p < 0.01$ ), with males showing higher weight satisfaction than females.

Females' higher social media usage intensity could be attributed to gender-specific social media engagement patterns, such as a greater focus on social connections and appearance-related content. The higher weight satisfaction among males might reflect societal pressures and standards differing by gender.

Table 2 Gender Differences in Research Variables

	Gender	N	M	SD	t	p
Social Media Use	Male	251	3.47	0.99	-3.952***	0.000
	Female	243	3.76	0.96		
Self-Concept Clarity	Male	251	2.99	0.64	1.092	0.276
	Female	243	2.82	0.59		
Body Esteem	Male	251	2.17	0.60	1.131	0.262
	Female	243	2.15	0.52		
Appearance Perception	Male	251	2.32	0.67	-0.924	0.363
	Female	243	2.31	0.60		
Weight Satisfaction	Male	251	2.44	0.94	3.522*	0.000
	Female	243	2.17	0.89		
Social Evaluation	Male	251	1.58	0.81	-1.252	0.217
	Female	243	1.66	0.77		

### 5.2.2 Differences in research variables by age

Using SPSS one-way ANOVA, the differences in research variables across age groups were tested. The results showed that there were no significant differences in the research variables across different ages. The lack of age differences suggests that the impact of social media usage, self-concept clarity, and body esteem is consistent among adolescents aged 19 to 21.

Table 3 Differences in Research Variables by Age

	Age	N	M	SD	F	P
Social Media Use	19	228	3.62	0.95	0.476	0.627
	20	237	3.59	1.04		
	21	29	3.71	1.02		
Self-Concept Clarity	19	228	2.86	0.58	1.266	0.289
	20	237	2.99	0.61		
	21	29	2.81	0.54		
Body Esteem	19	228	2.15	0.58	0.419	0.652
	20	237	2.16	0.59		
	21	29	2.12	0.56		
Appearance Perception	19	228	2.27	0.64	1.782	0.171
	20	237	2.37	0.61		
	21	29	2.29	0.60		
Weight Satisfaction	19	228	2.26	0.92	0.003	0.988
	20	237	2.27	0.91		
	21	29	2.28	0.88		
Social Evaluation	19	228	1.64	0.79	0.065	0.945
	20	237	1.67	0.81		
	21	29	1.65	0.70		

### 5.2.3 Differences in research variables by grade

Using SPSS independent sample t-tests, the differences in research variables between grade groups were tested. The results showed (see Table 4) that there were significant differences in social media use between freshmen and sophomores ( $t(494)=3.134$ ,  $p<0.01$ ), with sophomores scoring higher. There were no significant differences in body esteem and its dimensions, body image comparison, and self-concept clarity.

The higher social media usage among sophomores may be due to increased social activities and academic pressures that encourage more online engagement. However, this increase does not seem to affect body esteem or self-concept clarity significantly.

Table 4 Grade Differences in Research Variables

	Grade	N	M	SD	t	p
Social Media Use	Freshman	261	3.51	1.04	3.134***	0.001
	Sophomore	233	3.79	0.99		
Self-Concept Clarity	Freshman	261	2.91	0.62	0.122	0.911
	Sophomore	233	2.94	0.57		
Body Esteem	Freshman	261	2.12	0.56	0.322	0.752
	Sophomore	233	2.17	0.58		
Appearance Perception	Freshman	261	2.33	0.63	0.492	0.641

	Sophomore	233	2.37	0.61		
	Freshman	261	2.32	0.93		
Weight Satisfaction					-0.312	0.755
	Sophomore	233	2.29	0.91		
	Freshman	261	1.61	0.77		
Social Evaluation					1.154	0.253
	Sophomore	233	1.67	0.84		

Note: \*\*\* represents a significance level of 1%.

### 5.3 Mediation effect analysis

The mediation analysis using Hayes' PROCESS macro revealed that the intensity of social media use significantly negatively predicted both self-concept clarity ( $\beta=-0.174$ ,  $p < 0.01$ ) and body esteem ( $\beta=-0.162$ ,  $p < 0.01$ ). Self-concept clarity significantly positively predicted body esteem ( $\beta=0.373$ ,  $p < 0.01$ ). The mediation analysis confirmed that self-concept clarity partially mediated the relationship between social media use and body esteem, with an indirect effect value of  $-0.0871$  (95% CI =  $[-0.1413, -0.0362]$ ).

These results highlight the potential adverse effects of intense social media engagement on self-concept clarity and body esteem. The partial mediation by self-concept clarity indicates that while social media use directly affects body esteem, its impact is also significantly channeled through self-concept clarity. This underscores the importance of fostering a stable and clear self-concept to mitigate the negative effects of social media on body esteem.

In comparing these results with the initial hypotheses, the findings strongly support Hypothesis 1: Higher social media use predicts lower body esteem. The results also confirm Hypothesis 2 because self-concept clarity strongly mediates the relationship between social media use and body esteem. The results align with existing literature, which suggests the negative role of social media on body esteem and the mediating role of self-concept clarity. An exception might be noted about the nonsignificance of differences across the age groups, which may require a deeper exploration of the variables related to age that drive these results.

## 6. Discussion

### 6.1 Main findings

The study sought to investigate the relationship between the intensity of social media use and adolescent body esteem, emphasizing the mediating role of self-concept clarity. The results found a pattern: higher social media use intensity is associated with lower body esteem among adolescents. This relationship is partially mediated by self-concept clarity, meaning that social media usage influences body esteem directly and indirectly through its impact on self-concept clarity. These results are consistent with existing literature, which has similarly highlighted the adverse effects of social media on body image and self-perception among young people. Evidence of how much social media pervades adolescent mental health is indicated by the fact that social media use was significantly negatively correlated with both body esteem and self-concept clarity.

### 6.2 Theoretical significance

The current study is of high theoretical importance because it established the mediating role of self-concept clarity in the relationship between social media use and body esteem. This finding expands the framework of theory in mental health studies in adolescents by incorporating self-concept clarity as an imperative psychological trait that can moderate the impact of social media, thereby providing a new lens through which to understand the dynamics of social media's influence on body esteem. The present study confirms extant theories yet extends them by highlighting the importance of self-concept clarity. This would suggest that only those interventions that increase self-concept clarity may effectively combat the adverse impacts of social media on body image.

### **6.3 Practical implications**

The practical implications of the findings are powerful. Body esteem can be raised as a strategic intervention by promoting self-concept clarity in adolescents. Educators, parents, and mental health professionals must look into the fact that adolescents develop a clear and stable self-concept. Programs and interventions that aim to develop self-awareness, self-acceptance, and resilience to things going on in the environment may be beneficial. Such programs may even include activities that will initiate self-reflection or self-affirmation within curricula at schools or during counseling to help the young person build up a more solidified sense of self-concept through which the negative impacts of social media use can either be reduced or ameliorated, leading to a general improvement in mental health and well-being.

### **6.4 Limitations and future research**

While this study is beneficial, there are limitations specific to the study. The sample, for instance, was limited to only college students within one region, so the generalization of the findings might be limited. Future research should try and get a sample that is more heterogeneous and wider to generalize the results across several different populations and contexts. Moreover, this study controlled only the self-concept clarity variable. This points to the need for further research to investigate other possible mediators, like social support, self-efficacy, and coping strategies, to fully understand the mechanisms through which social media use will ultimately affect body esteem. Longitudinal studies may be of more help in probing the long-term effects of social media use on body esteem and self-concept clarity for discussing relationships and their development over time.

### **6.5 Summary of research findings and significance**

Overall, this study has vividly shown that social media use significantly affects adolescent body esteem through self-concept clarity. The contributions of the findings made to theory and practice in the context of how social media use relates to body image and, in particular, to educational and mental health interventions are discussed next. Interventions that promote self-concept clarity may be developed with the help of educators and mental health professionals and might have a resultant effect on some of the negative correlates of social media, leading to healthier body esteem and mental health in adolescents. Future work needs to build on these findings by testing further mediating factors and taking general samples demographically to increase the applicability and understanding of these critical linkages. This enlarged knowledge base can lead to more effective interventions and policies about supporting the mental health of adolescents in the digital age.

### **Conflicts of interest**

The author declares no conflicts of interest regarding the publication of this paper.

### **References**

- [1]Mendelson B. K., White D. R. Relation between body-esteem and self-esteem of obese and normal children. *Perceptual and Motor Skills*. 1982; 54(3): 899-905.
- [2]Franzoi S. L., Shields S. A. The Body Esteem Scale: Multidimensional structure and sex differences in a college population. *Journal of Personality Assessment*. 1984; 48(2): 173-178.
- [3]McKinley N. M. Women and objectified body consciousness: Mothers' and daughters' body experience in cultural, developmental, and familial context. *Developmental Psychology*. 1999; 35(3): 760-769.
- [4]Vernon L., Barber B. L., Modecki K. L. Adolescent problematic social networking and school experiences: The mediating effects of sleep disruptions and sleep quality. *Cyberpsychology, Behavior and Social Networking*. 2015; 18(7): 386-392.
- [5]Vossen H. G. M., Valkenburg P. M. Do social media foster or curtail adolescents' empathy? A longitudinal study. *Computers in Human Behavior*. 2016; 63: 118-124.
- [6]Barry C. T., Sidoti C. L., Briggs S. M., Reiter S. R., Lindsey R. A. Adolescent social media use and mental health

from adolescent and parent perspectives. *Journal of Adolescence*. 2017; 61: 1-11.

[7]Campbell J. D. Self-esteem and clarity of the self-concept. *Journal of Personality and Social Psychology*. 1990; 59(3): 538-549.

[8]Bigler M., Neimeyer, G. J., Brown, E. The divided self revisited: Effects of self-concept clarity and self-concept differentiation on psychological adjustment. *Journal of Social and Clinical Psychology*. 2001; 20(3): 396-415.

[9]Slotter E. B., Gardner, W. L., Finkel, E. J. Who am I without you? The influence of romantic breakup on the self-concept. *Personality and Social Psychology Bulletin*. 2010; 36(2): 147-160.

[10]Fernandez S., Pritchard M. Relationships between self-esteem, media influence and drive for thinness. *Eating Behaviors*. 2012; 13(4): 321-325.

[11]Cohen R., Blaszczynski, A. Comparative effects of Facebook and conventional media on body image dissatisfaction. *Journal of Eating Disorders*. 2015; 3(1): 23.

[12]Yang C., Holden S. M., Carter M. D. K. Emerging adults' social media self-presentation and identity development at college transition: Mindfulness as a moderator. *Journal of Applied Developmental Psychology*. 2017; 52: 212-221.