

# Self-Esteem as a Mediator: Exploring the Link between Social Media Addiction, Psychopathology, and Intentions to Seek Cosmetic Consultations in Women

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## Abstract

**Background:** The influence of social media on mental health and body image necessitates investigating its relationship with the pursuit of cosmetic surgery, particularly in women.

**Objectives:** The present study investigated the associations between social media addiction, psychopathology, and intentions to seek cosmetic surgery in women, examining the mediating role of self-esteem in these relationships.

**Methods:** This study utilized a cross-sectional, descriptive-correlational design. Two hundred women were recruited via convenience sampling. Participants were included if they expressed intentions to seek cosmetic procedures. Data were collected using the Symptom Checklist-90 (SCL-90), the Social Media Addiction Questionnaire, the Rosenberg Self-Esteem Scale, and the Cosmetic Surgery Tendencies Questionnaire. Statistical analyses were performed using SPSS-22 and AMOS-22.

**Results:** This study found significant positive correlations between social media addiction and both cosmetic surgery tendencies and psychopathology in women, and a significant negative correlation between self-esteem and cosmetic surgery tendencies ( $P < 0.001$ ). Self-esteem significantly mediated the relationships between both social media addiction and psychopathology with cosmetic surgery tendencies ( $P < 0.001$ ). The model demonstrated a good fit to the data (RMSEA = 0.060, IFI = 0.97, CFI = 0.96, and GFI = 0.96).

**Conclusion:** This study found significant correlations between social media addiction, psychopathology, and intentions to seek cosmetic surgery in women, with self-esteem playing a crucial mediating role. These findings underscore the importance of integrating self-esteem enhancement into interventions designed to address body image concerns and mitigate the influence of social media and psychological distress on intentions regarding cosmetic procedures.

**Keywords:** Self-esteem, Internet Addiction Disorder, Psychopathology, Cosmetic Surgery

## 1. Background

The desire to achieve an ideal self-image, often influenced by sociocultural beauty standards, fuels the growing trend of cosmetic surgery. This global phenomenon encompasses a range of surgical and non-surgical procedures aimed at altering or enhancing physical appearance.<sup>1</sup> These interventions span from minimally invasive treatments like botulinum toxin injections and dermal fillers to more extensive surgeries such as rhinoplasty, breast augmentation, and liposuction. Motivations for seeking cosmetic enhancements are complex, often intertwining sociocultural ideals, perceived social pressures, and individual desires for improved self-image and confidence.<sup>2</sup> The prevalence of cosmetic procedures, particularly among women, has significantly increased due to evolving societal norms and advancements in medical technology.<sup>3</sup> This increase raises questions about the psychological factors influencing the decision to undergo such procedures,

including the interplay between body image dissatisfaction, self-esteem, and external influences like social media and cultural beauty standards.<sup>4</sup> Understanding the motivations and psychological profiles of women seeking cosmetic surgery is crucial for proper pre-operative assessment, managing expectations, and ensuring positive post-operative outcomes.<sup>5</sup>

Social media's pervasive presence significantly influences contemporary perceptions of ideal self-image. While offering benefits like social connection and information sharing, the proliferation of social media platforms has also raised concerns about "social media addiction" or "problematic social media use".<sup>6</sup> Although not a formal DSM-5 diagnosis, it shares characteristics with behavioral addictions, such as salience, mood modification, tolerance, withdrawal, conflict, and relapse.<sup>7</sup> Individuals with problematic use experience preoccupation with these platforms, excessive online time, and negative

consequences in areas like academics, work, relationships, and well-being.<sup>8</sup> Constant exposure to idealized portrayals of beauty and lifestyle on social media can contribute to social comparison, body image dissatisfaction, and a heightened desire for physical enhancement, directly influencing the pursuit of cosmetic procedures.<sup>9,10</sup> Therefore, social media powerfully disseminates and reinforces sociocultural beauty ideals, further driving the desire for physical alterations.

The pursuit of an ideal self-image is closely linked to psychological well-being. Psychopathology, the study of mental disorders, encompasses conditions significantly impacting self-perception and body image. These conditions, characterized by deviations from cultural norms causing distress or impairment,<sup>11</sup> include mood disorders, anxiety disorders, personality disorders, and eating disorders. Research demonstrates a complex, bidirectional relationship between psychological well-being and physical appearance; individuals experiencing psychopathology often exhibit heightened sensitivity to perceived flaws and engage in maladaptive coping strategies.<sup>12-14</sup> For example, individuals with Body Dysmorphic Disorder (BDD), characterized by preoccupation with perceived appearance defects, are vulnerable to seeking cosmetic procedures for relief, but these interventions often fail and may exacerbate symptoms.<sup>15</sup> Underlying psychopathology like depression or anxiety can influence motivations for cosmetic surgery, potentially leading to unrealistic expectations and post-surgical dissatisfaction.<sup>16</sup>

A key factor linking these concepts is self-esteem, an individual's subjective evaluation of their own worth.<sup>17</sup> Self-esteem plays a crucial role in psychological well-being, social functioning, and overall life satisfaction. Low self-esteem, characterized by negative self-perceptions, feelings of inadequacy, and self-doubt, has been linked to a range of negative outcomes, including depression, anxiety, social difficulties, and increased vulnerability to negative social comparisons.<sup>18</sup> The pursuit of cosmetic surgery is often intertwined with self-esteem concerns, as individuals may seek physical alterations in an attempt to enhance their self-worth and improve their perceived social desirability.<sup>19</sup> It is hypothesized that individuals with lower self-esteem may be more susceptible to internalizing societal beauty ideals and may view cosmetic procedures as a means of achieving greater self-acceptance and social acceptance.<sup>20</sup> Therefore, self-esteem acts as a critical mediator between sociocultural pressures, social media influence, psychopathology, and the decision to pursue cosmetic changes.

Given the global rise of cosmetic surgery, widespread social media use, and their links to mental health, investigating the interplay of factors driving cosmetic enhancements is crucial. This is particularly important in Iran, where cosmetic surgery, especially rhinoplasty, is

remarkably prevalent. Sociocultural factors in Iran, including emphasis on facial aesthetics as a marker of social status and media portrayals of beauty, contribute to this high demand. Increased social media accessibility in Iran further amplifies exposure to idealized images, potentially exacerbating body image concerns. While research has explored individual associations between social media, psychopathology, self-esteem, and cosmetic surgery seeking, few studies examine these factors concurrently, especially the mediating role of self-esteem within the Iranian context. Understanding how social media and psychopathology influence the desire for cosmetic procedures in Iran, and how self-esteem mediates these relationships, is essential for developing culturally tailored interventions. This research is necessary to inform clinical practice, enhance patient screening, and promote realistic expectations regarding cosmetic surgery outcomes within the Iranian cultural framework.

## 2. Objectives

The aim of this study was to investigate the relationships between social media addiction, psychopathology, and the tendency towards cosmetic surgery in women seeking cosmetic surgery, specifically examining the mediating role of self-esteem in these associations.

## 3. Methods

This study examined the associations between social media addiction, emotion regulation strategies, body image concerns, and intentions to undergo cosmetic surgery among women. A cross-sectional, descriptive-correlational design was utilized to investigate these relationships. The sample size (200 women) was determined based on the number of research variables, using a rule of thumb of 10 participants per variable. The study population included women in Ahvaz, Iran. Participants were recruited during 2022-2023 via convenience sampling. Inclusion criteria were: female gender, age between 20 and 50 years, provision of informed consent, and at least a middle school education. To maintain the focus on intentions, participants were included if they expressed an intention to seek cosmetic procedures, including consultations. Exclusion criteria were: current diagnosis of a psychotic disorder (as self-reported), self-reported cognitive impairment that would hinder online questionnaire completion, and inability to read and understand Farsi (the language of the questionnaires). Data were collected online using the questionnaires. Data collection adhered to ethical principles, including obtaining informed consent and ensuring data confidentiality.

### 3.1. Measure

#### 3.1.1. *The Cosmetic Surgery Tendencies Questionnaire (CSTQ)*

The Cosmetic Surgery Tendencies Questionnaire (CSTQ),<sup>21</sup>

a 24-item self-report measure, was used to assess participants' propensity for cosmetic surgery. The CSTQ utilizes a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree) and yields a total score indicative of cosmetic surgery tendencies. The original study demonstrated acceptable internal consistency (Cronbach's alpha = 0.79) and construct validity (confirmatory factor analysis, CFI = 0.76).<sup>21</sup> A pilot test with 30 participants in the present study confirmed adequate internal consistency (Cronbach's alpha = 0.73) for the current sample.

### 3.1.2. The Mobile Social Networking Addiction Questionnaire (MSNAQ)

The Mobile Social Networking Addiction Questionnaire (MSNAQ)<sup>22</sup> is a 23-item self-report measure assessing the severity of mobile social networking addiction. By using a 5-point Likert scale, the MSNAQ evaluates four dimensions: individual functioning, time management, self-control, and social relationships. The MSNAQ demonstrates strong psychometric properties, with a content validity ratio of 0.95, construct validity ratio of 0.86, and internal consistency reliability (Cronbach's alpha) of 0.85.<sup>22</sup>

### 3.1.3. The Symptom CheckList-90 (SCL-90)

The Symptom CheckList-90 (SCL-90)<sup>23</sup> is a 90-item self-report measure assessing nine current psychiatric symptoms, including somatization, obsession-compulsion, depression, anxiety, hostility, phobic anxiety, paranoid ideation, interpersonal sensitivity, and psychoticism. By using a 5-point Likert scale (1 = not at all, 5 = severe), the SCL-90 yields a total score indicative of overall psychological distress. Higher scores on the SCL-90 reflect greater psychological vulnerability. Mohammadian et al.<sup>24</sup> reported a reliability coefficient of 0.87 (Cronbach's alpha) for this scale. In the present study, the Cronbach's alpha for the scale was 0.83, indicating acceptable internal consistency.

### 3.1.4. The Rosenberg Self-Esteem Scale (RSES)

The Rosenberg Self-Esteem Scale (RSES)<sup>25</sup> is a 10-item self-report measure assessing global self-worth. By using a 4-point Likert scale, the RSES comprises five positively worded and five negatively worded statements. Scores range from 10 to 40, with higher scores indicating higher self-esteem. Previous research reported a Cronbach's alpha of 0.84.<sup>26</sup> In the present study, the RSES demonstrated acceptable internal consistency (Cronbach's alpha = 0.80).

## 3.2. Statistical Analysis

Data were analyzed using SPSS Statistics 22.0 and AMOS 22.0. Descriptive statistics were computed for all variables. The hypothesized mediation model was tested using Structural Equation Modeling (SEM).

## 4. Results

The sample comprised 200 women with a mean age of 32.56 years (SD = 6.10). Regarding education, 23% (n = 46) had secondary education (middle school and high school), 25% (n = 50) had post-secondary education (diploma), 40% (n = 80) held a bachelor's degree, and 12% (n = 24) had a master's degree or higher. Employment status was divided between 31% (n = 62) employed and 69% (n = 138) homemakers. Table 1 presents descriptive statistics for all variables. Skewness and kurtosis values for all numerical variables fell within the acceptable range (-2 to +2), indicating a normal distribution.

Pearson correlation analysis revealed several statistically significant associations among the examined variables. Cosmetic surgery tendencies showed a small, positive correlation with both social media addiction ( $r = 0.17, P < 0.05$ ) and psychopathology ( $r = 0.18, P < 0.05$ ). Conversely, a small to moderate, negative correlation was observed between cosmetic surgery tendencies and self-esteem ( $r = -0.26, P < 0.05$ ). Social media addiction showed a moderate, positive correlation with psychopathology ( $r = 0.44, P < 0.01$ ) and a small, negative correlation with self-esteem ( $r = -0.21, P < 0.05$ ). Additionally, a small, negative correlation was found between psychopathology and self-esteem ( $r = -0.22, P < 0.05$ ) (Table 1).

**Table 1.** Mean, SD, Skewness, Kurtosis, and Pearson Correlation Coefficients of the Studied Variables

Variables	Mean ± SD	Skewness	Kurtosis	1	2	3	4
Cosmetic surgery tendencies	67.52 ± 16.54	0.39	0.37	1			
Social media addiction	82.85 ± 19.09	0.24	0.11	0.17*	1		
Psychopathology	228 ± 52.84	-0.35	0.33	0.18*	0.44**	1	
Self-esteem	6.49 ± 3.72	-0.20	0.09	-0.26*	-0.21*	-0.22*	1

\*\* $P < 0.01$ ; \* $P < 0.05$

**Table 2.** Fit Indicators in the Research Model

Fit indicators	$\chi^2$	df	( $\chi^2/df$ )	CFI	IFI	GFI	RMSEA
Model	221.20	198	1.12	0.96	0.97	0.96	0.060
Acceptable ranges	-	-	< 3.00	> 0.90	> 0.90	> 0.90	< 0.08

Table 2 presents the fit indices for the proposed model, including RMSEA (0.060), IFI (0.97), CFI (0.96), and GFI (0.96). All indices fell within acceptable ranges, indicating a good fit of the model to the data. Figure 1

provides a visual representation of the hypothesized model, illustrating the mediating role of self-esteem in the relationship between social media addiction, psychopathology, and the tendency to seek cosmetic surgery among women.

Table 3 presents the path coefficients of the direct and indirect relationships between research variables. The results indicate significant direct effects of social media addiction ( $\beta = 0.12, P < 0.001$ ) and psychopathology ( $\beta = 0.17, P < 0.001$ ) on cosmetic surgery tendencies. Notably,

self-esteem plays a significant mediating role. Social media addiction indirectly predicts cosmetic surgery tendencies through self-esteem ( $\beta = 0.19, P < 0.001$ ), and psychopathology also indirectly predicts cosmetic surgery tendencies through self-esteem ( $\beta = 0.18, P < 0.001$ ).

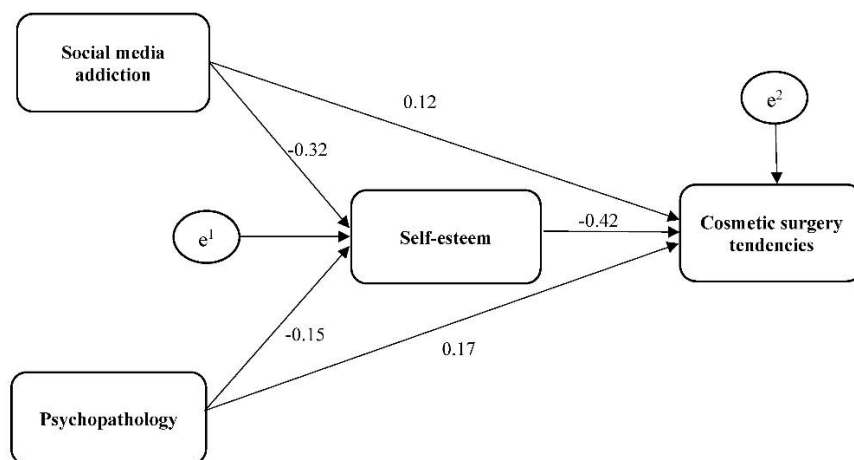


Figure 1. The Proposed Research Model.

Table 3. Path Coefficients of Direct and Indirect Relationships between Research Variables

Path	$\beta$	$P$
Social media addiction → Cosmetic surgery tendencies	0.12	0.001
Social media addiction → Self-esteem	-0.32	0.001
Psychopathology → Cosmetic surgery tendencies	0.17	0.001
Psychopathology → Self-esteem	-0.15	0.001
Self-esteem → Cosmetic surgery tendencies	-0.42	0.001
Social media addiction → Cosmetic surgery tendencies through the mediating role of self-esteem	0.19	0.001
Psychopathology → Cosmetic surgery tendencies through the mediating role of self-esteem	0.18	0.001

### 5. Discussion

This study examined the relationship between social media addiction, psychopathology, and the propensity for cosmetic surgery among women, with a focus on the mediating role of self-esteem. The results showed that social media addiction had a direct, positive association with cosmetic surgery tendencies. The finding that social media addiction is directly and positively associated with cosmetic surgery tendencies suggests that increased engagement with social media platforms is associated with a greater inclination towards pursuing cosmetic procedures. This implies that individuals who exhibit higher levels of social media addiction may be more likely to consider or actively seek cosmetic enhancements. This relationship could be attributed to several factors prevalent within social media environments, such as exposure to idealized and often unrealistic portrayals of beauty, social comparison processes, and the pursuit of validation through online feedback and approval.<sup>27</sup> These platforms can foster a heightened awareness of perceived physical flaws and a desire to conform to prevailing beauty standards, potentially driving individuals towards cosmetic interventions.<sup>28</sup>

The finding that psychopathology has a direct, positive association with cosmetic surgery tendencies

suggests a significant relationship between underlying psychological distress and the desire for cosmetic alterations. This suggests that individuals experiencing higher levels of psychopathology, encompassing conditions such as anxiety, depression, or body dysmorphic disorder, may be more inclined to seek cosmetic procedures as a means of addressing perceived flaws or improving their emotional well-being.<sup>29</sup> This association may stem from a distorted body image, low self-esteem, or a desire to achieve an idealized self-image, all of which can be exacerbated by psychopathology. It is crucial to consider these underlying psychological factors when assessing an individual's motivations for pursuing cosmetic surgery, as addressing the root causes of their distress may be a more effective and sustainable approach than solely focusing on physical alterations.<sup>30</sup>

The finding that self-esteem had a negative association with cosmetic surgery tendencies suggests that individuals with higher self-esteem tend to have a lower tendency to seek cosmetic procedures. This aligns with theoretical frameworks positing that a strong sense of self-worth and acceptance of one's physical appearance reduces the perceived need for external validation or physical alteration.<sup>31</sup> Individuals with higher self-esteem tend to possess a more positive body image and are less

susceptible to societal pressures or internalized ideals of beauty that often drive the desire for cosmetic enhancements. Conversely, lower self-esteem may contribute to feelings of inadequacy, body dissatisfaction, and a heightened vulnerability to external influences, thereby increasing the likelihood of considering or undergoing cosmetic surgery as a means of improving self-perception.<sup>32</sup>

Importantly, both social media addiction and psychopathology demonstrated significant indirect effects on cosmetic surgery tendencies, mediated by self-esteem. These results suggest that lower self-esteem is associated with both social media addiction and psychopathology, and in turn, is associated with an increased tendency towards cosmetic surgery. This mediating role of self-esteem underscores the importance of self-perception in understanding this relationship. Specifically, the findings indicate that the association between social media addiction and psychopathology and the desire for cosmetic surgery is, at least partially, explained by their relationship with self-esteem. That is, increased social media use and elevated psychopathology can diminish self-esteem, subsequently increasing the likelihood of considering or undergoing cosmetic procedures.<sup>20</sup> This suggests that interventions targeting self-esteem may be crucial for individuals vulnerable to the adverse effects of social media and psychological distress in the context of seeking cosmetic surgery.

The use of convenience sampling limits the generalizability of the findings. The descriptive-correlational design, while suitable for exploring relationships between variables, does not allow causal inferences. Since data were collected at a single point in time, it is impossible to determine the direction of the relationships observed.

## 6. Conclusion

This study provides compelling evidence for the complex interplay between social media addiction, psychopathology, self-esteem, and intentions regarding cosmetic surgery in women. Our findings demonstrate significant positive associations between social media addiction and both cosmetic surgery intentions and psychopathology, and a significant negative association between self-esteem and cosmetic surgery intentions. Critically, self-esteem mediated the relationships between both social media addiction and psychopathology and intentions to seek cosmetic procedures, highlighting its crucial role in these pathways. This underscores the importance of addressing self-esteem in interventions designed to mitigate the potential negative influences of social media and psychological distress on body image and the pursuit of cosmetic surgery. Future research should investigate these relationships longitudinally to establish temporal precedence and examine the long-term effects of social media use and psychopathology on self-esteem and subsequent cosmetic surgery intentions. Furthermore, studies should evaluate

the effectiveness of targeted interventions, such as cognitive behavioral therapy or mindfulness-based interventions, aimed at enhancing self-esteem and promoting healthy body image among women vulnerable to social media's negative influences.

## Research Highlights

### What Is Already Known?

Social media exerts a significant influence on individuals. Research has demonstrated that excessive social media use can have a detrimental impact on mental health, contributing to issues such as anxiety, depression, and low self-esteem. Furthermore, social media platforms often present idealized and often unrealistic portrayals of bodies, which can negatively influence body image perceptions and contribute to body dissatisfaction.

### What Does This Study Add?

This study confirmed a significant association between social media addiction, the presence of psychopathology, and the tendency to seek cosmetic surgery procedures in women. Individuals with social media addiction and higher levels of psychopathology tend to have lower self-esteem, which in turn, significantly increases their likelihood of pursuing cosmetic surgery.

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## Author Contributions

ARM and FH contributed to designing the study, data collection, interpreted the results, and wrote the manuscript. FH contributed to data collection and statistical analysis. All the authors approved the submission of the final version of the manuscript.

## Conflict of Interest Disclosures

All authors declared that they have no conflict of interest.

## Ethical Approval

Ethical approval for this study was granted by the Ethics Committee of Islamic Azad University, Ahvaz Branch (code: IR.IAU.AHVAVZ.REC.1402.043).

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