



Original Article

Social Support, Self-Acceptance, and Body Image Concern in Women with and Without Cosmetic Procedures: A Comparative Cross-Sectional Study

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Abstract

Introduction: Despite the increasing prevalence of cosmetic interventions worldwide, little is known about the distinct psychological profiles, particularly regarding self-acceptance and body image, that differentiate women who pursue such procedures from those who do not. The present study aimed to investigate differences in social support, unconditional self-acceptance, and body image concern between women with and without a history of cosmetic procedures.

Materials and Methods: This cross-sectional comparative study was conducted on 426 women attending cosmetic clinics in Birjand, Iran, including 188 with a history of cosmetic procedures and 238 without such history. Inclusion criteria were: age ≥ 18 years, no medical necessity for procedures, and willingness to participate. Participants with incomplete questionnaires were excluded. Participants were selected using convenience sampling. Data were collected using the Social Support Appraisals Scale (SS-A), the Unconditional Self-Acceptance Questionnaire, and the Body Image Concern Inventory (BICI). Data were analyzed using independent samples t-test, Pearson correlation coefficient, and SPSS (version 23).

Results: The majority of participants were aged 20-40 years (76.9% in the non-cosmetic group and 84.6% in the cosmetic group) and held master's degrees or higher (41.6% and 47.3%, respectively). Women with a history of cosmetic procedures reported significantly higher perceived social support compared to those without such history ($p < 0.05$). No significant differences were observed in unconditional self-acceptance and overall body image concern between the two groups ($p > 0.05$). However, women with cosmetic procedure history reported greater interference of appearance concerns with their social functioning compared to those without such history ($p < 0.05$). Correlation analysis indicated a positive relationship between social support and self-acceptance ($r = 0.204$; $p < 0.001$), and negative relationships between social support and body image concern ($r = -0.377$, $p < 0.001$), and between self-acceptance and body image concern ($r = -0.538$, $p < 0.001$).

Conclusion: No significant association was found between a history of cosmetic procedures and deeper psychological constructs, such as self-acceptance or global body image concern. The findings suggest that psychosocial factors play a more fundamental role in shaping body image perception.

Key words: Body Image, Cosmetic Surgical Procedures, Social Support



Introduction

The tendency toward beauty has long been an inherent human characteristic, especially among women (1). However, in modern societies, cosmetic procedures have increased significantly, often without medical necessity, becoming a social and psychological phenomenon (2). With the rapid growth of social media platforms such as Instagram, TikTok, and Snapchat, individuals are increasingly exposed to idealized and often digitally altered images of beauty. This constant visual comparison has intensified appearance-related concerns and contributed to what some researchers have termed "selfie dysmorphia" – a disconnect between how individuals perceive themselves in photos versus in the mirror (3). Consequently, the pressure to conform to unrealistic beauty standards has driven many, particularly women, toward cosmetic procedures as a means of achieving socially endorsed appearance ideals. Body image is a multidimensional psychological construct formed through biological, psychological, and social influences (4). It reflects how individuals perceive and evaluate their physical appearance (5). Disturbances in body image may persist even in objectively normal appearance conditions (5,6). Social support refers to emotional, informational, and instrumental assistance received from others, contributing to a sense of belonging and psychological security (6). Previous studies suggest that social support is associated with body image dissatisfaction and cosmetic surgery tendencies (7–9). Unconditional self-acceptance is defined as acceptance of oneself independent of external validation and is considered a protective psychological factor (10,11). Previous research has indicated its association with psychological well-being and reduced self-criticism (12–15). Despite extensive literature on predictors of cosmetic surgery intention, fewer studies have compared psychological constructs in individuals with actual cosmetic procedure history versus those without it. Additionally, both invasive and non-invasive cosmetic procedures have not been equally considered in prior research.

Therefore, the present study aimed to investigate differences in social support, unconditional self-acceptance, and body image concern among women with and without cosmetic procedure history.

Materials and Methods

Study Design

This cross-sectional comparative study was conducted among women attending cosmetic clinics in Birjand, Iran, between January and June 2025.

Participants

The sample included 426 participants: 188 women with cosmetic procedure history and 238 without such history. Convenience sampling was used. Participants were included if they expressed willingness to participate, had no medical necessity for undergoing cosmetic procedures, and had either undergone at least one invasive procedure (e.g., rhinoplasty, blepharoplasty, mammoplasty, abdominoplasty) or non-invasive procedure (e.g., Botox injection, dermal filler, laser hair removal, chemical peel) under professional supervision within the past five years. Participants with incomplete questionnaire data or those who declined to continue participation were excluded.

Sample Size

Sample size was calculated based on independent mean comparison ($\alpha=0.05$, power=0.80, effect size ≈ 0.35), yielding approximately 200 participants per group [16].

Data sources/measurement

Data for the present study were collected using three standardized questionnaires: social support, unconditional self-acceptance, and body image concern.

1. Social Support Questionnaire

Social support was assessed using the 23-item Social Support Appraisals (SS-A) scale developed by Vaux et al. (1986), based on the conceptualization proposed by Cobb. Responses are rated on a 5-point Likert scale ranging from 1 (very low) to 5 (very high). The questionnaire comprises three subscales: family support (items 2, 4, 7, 9, 11, 13, 18, 22), friends' support (items 1, 6, 10, 15, 16, 19, 23), and support from others (items 3, 5, 8, 12, 14, 17, 20, 21). Scoring: Items 3, 10, 13, 21, and 22 are reverse-scored. Subscale scores are calculated by summing the relevant items. Total social support score ranges from 23 to 115, with higher scores indicating greater perceived social support [17]. The reliability of this scale has been reported as satisfactory. In a study by Ebrahimi-Ghavam, Cronbach's alpha for the total

scale was measured at 0.90 (18).

2. Unconditional Self-Acceptance Questionnaire

Unconditional self-acceptance was measured using the Unconditional Self-Acceptance Questionnaire developed by Chamberlain and Haaga in 2001. This instrument consists of 20 items and includes two subscales: unconditional self-acceptance and conditional self-acceptance. It is suitable for individuals aged over 14 years. Responses are rated on a 7-point Likert scale ranging from 1 (almost always untrue) to 7 (almost always true). In this questionnaire, higher scores on 9 items (2, 3, 5, 6, 8, 11, 16, 17, 18) indicate greater unconditional self-acceptance (score range: 9–63). The remaining 11 items (1, 4, 7, 9, 10, 12, 13, 14, 15, 19, 20) are reverse-scored, such that lower scores reflect higher conditional self-acceptance (score range: 11–77) (19).

In Iran, Kalantari (2013) reported reliability coefficients of 0.73 (Cronbach's alpha) and 0.72 (split-half) (20).

3. Body Image Concern Inventory (BICI)

Body image concern was assessed using the Body Image Concern Inventory developed by Littleton et al. (2005). This instrument includes 19 items designed to evaluate individuals' dissatisfaction and concern regarding their physical appearance. Responses are rated on a 5-point Likert scale ranging from 1 (never) to 5 (always). Total scores range from 19 to 95, with higher scores indicating greater body image dissatisfaction.

Factor analysis has identified two significant dimensions: the first factor (items 1, 3, 5, 8, 9, 14, 15, 16, 17, 18, 19) reflects dissatisfaction, shame, checking behaviours, and efforts to conceal perceived defects; the second factor (items 2, 4, 6, 7, 10, 11, 12, 13) represents the extent to which appearance concerns interfere with social functioning (21). In a study by Mohammadi (2007), Cronbach's alpha for the total scale was 0.93 (22).

Statistical Analysis

The collected data were analyzed using SPSS (version 23). Independent samples t-test and Pearson correlation coefficient were applied to examine group differences and relationships between variables. Given the number of independent t-tests conducted (k=9 tests: 3 social support subscales + 3 self-acceptance subscales + 3 body image concern

subscales), a Bonferroni correction was applied to control for Type I error inflation. The adjusted alpha level was set at $p < 0.0056$ (0.05/9). Effect sizes (Cohen's d) and 95% confidence intervals were calculated for all comparisons.

Results

The study participants totalled 426 individuals, consisting of 238 women without a history of cosmetic procedures and 188 women with a history of cosmetic procedures. As shown in Table 1, in both groups, the 20–40 age range had the highest frequency (76.9% and 84.6%, respectively). Additionally, the majority of participants in both groups held master's degrees or higher (41.6% and 47.3%, respectively), and the most frequent occupational category in both groups was students (47.9% and 39.4%, respectively) (Table 1).

As presented in tables 2 and 3, women with a history of cosmetic procedures reported significantly higher total perceived social support (Mean=82.53, SD=12.97) compared to women without such history (Mean=79.74, SD=13.04). This difference was statistically significant ($t=2.412$, $i=0.016$, Cohen's $d=0.23$). Specifically, significant differences were observed in family support ($t=2.234$, $p=0.026$, $d=0.22$) and significant other support ($t=2.568$, $p=0.011$, $d=0.25$), with the cosmetic procedure group scoring higher on both subscales. No significant difference was found for friend support ($p=0.211$). After Bonferroni correction ($\alpha=0.0056$), none of these comparisons remained statistically significant (tables 2 and 3).

As shown in tables 4 and 5, no statistically significant differences were found between the two groups on unconditional self-acceptance ($p=0.095$, $d=0.16$), conditional self-acceptance ($p=0.992$, $d=0.00$), or total self-acceptance scores ($p=0.322$, $d=0.10$). These findings indicate that women with and without cosmetic procedure history did not differ in their levels of self-acceptance (tables 4 and 5).

Tables 6 and 7 present the results for body image concern. While no significant difference was observed in overall body image concern ($p=0.195$, $d=0.13$) or the appearance dissatisfaction subscale ($p=0.577$, $d=0.05$), a significant difference emerged in the "interference with social functioning" subscale. Women with a history of cosmetic procedures reported greater interference of appearance concerns with their social functioning (Mean=21.10, SD=7.25) compared to women without such history (Mean=19.67, SD=6.83). This difference was statistically significant ($t=2.067$, $p=0.038$, $d=0.20$).

After Bonferroni correction, this difference did not remain statistically significant (tables 6 and 7).

Pearson correlation analysis revealed significant associations among all three variables. Social support was positively correlated with self-acceptance ($r=0.204$, $p<0.001$), indicating that women who perceived greater social support also reported higher levels of self-acceptance. Conversely, social support was negatively

correlated with body image concern ($r=-0.377$, $p<0.001$), meaning that higher social support was associated with lower body image concern. The strongest correlation was observed between self-acceptance and body image concern ($r=-0.538$, $p<0.001$), suggesting that women with greater self-acceptance tended to have significantly lower concerns about their body image.

Table 1. Demographic Characteristics of Participants with and without a History of Cosmetic Procedures (n=426).

Variable		Without a History of Cosmetic Procedures (n=238)		With a History of Cosmetic Procedures (n=188)	
		Frequency	Percentage	Frequency	Percentage
Age	<20	29	12.2	8	4.3
	20-40	183	76.9	159	84.6
	>41	26	10.9	21	11.2
Education	<Diploma	8	3.4	4	2.1
	Diploma	34	14.3	20	10.6
	Associate	12	5.0	10	5.3
	Bachelor	85	35.7	65	34.6
	Master+	99	41.6	89	47.3
Occupation	Unemployed	33	13.9	17	9.0
	Student	114	47.9	74	39.4
	Employed	60	25.2	71	37.8
	Other	31	13.0	26	13.8
Total		238	100	188	100

Table 2. Descriptive Statistics for Social Support Subscales by Group.

Variable	Group	Min Score	Max Score	Mean	Std. Deviation
Family Support	With History	8	39	29.47	5.75
	Without History	12	40	28.20	5.99
Friend Support	With History	12	35	24.01	5.12
	Without History	12	35	23.41	5.08
Significant Other Support	With History	11	40	28.72	4.88
	Without History	16	39	27.54	4.57
Total	With History	49	109	82.53	12.97
	Without History	47	111	79.74	13.04

Table 3. Independent Samples t-test Results with Effect Sizes and confidence Intervals.

Variable	t	df	p (raw)	P (Bonferroni)	Mean Diff.	95% CI	Cohen's d
Family Support	2.234	424	0.026	0.234	1.277	[-0.21, 2.76]	0.22 (small)
Friend Support	1.252	424	0.211	1.000	0.604	[-0.34, 1.55]	0.12 (small)
Sig. Other Support	2.568	424	0.011	0.099	1.181	[0.28, 2.08]	0.25 (small)
Total Social Support	2.412	424	0.016	0.144	3.062	[0.57, 5.55]	0.23 (small)

Note: After Bonferroni correction ($\alpha=0.0056$), no comparisons remained statistically significant.

Table 4. Descriptive Statistics for Self-Acceptance Subscales by Group.

Variable	Group	Min	Max	Mean	Std. Deviation
Unconditional Acceptance	With History	23	61	47.0053	7.06236
	Without History	21	63	45.8487	7.10338
Conditional Acceptance	With History	16	61	37.1604	8.37405
	Without History	16	58	37.1512	9.20692
Total Self-Acceptance	With History	39	122	84.1657	11.42582
	Without History	37	121	82.9873	11.94709

Table 5. Independent Samples t-test Results for Self-Acceptance (Levene's Test).

Variable	Levene's Test		t-test for Equality of Means					
	F	Sig.	t	df	p (raw)	Mean Diff.	95% CI	Cohen's d
Unconditional Accept.	0.43	0.835	1.673	424	0.095	1.157	[-0.20, 2.51]	0.16 (small)
Conditional Accept.	0.105	0.306	0.010	424	0.992	0.007	[-1.64, 1.65]	0.00
Total Self-Acceptance	0.347	0.556	0.991	424	0.322	1.136	[-1.11, 3.38]	0.10 (small)

Table 6. Descriptive Statistics for Body Image Concern Subscales by Group.

Variable	Group	Min	Max	Mean	Std. Deviation
Appearance Dissatisfaction	With History	11	50	23.7979	8.81610
	Without History	11	55	23.3109	9.01780
Interference with Social Functioning	With History	8	40	21.0957	7.25335
	Without History	8	38	19.6681	6.82722
Total Body Image Concern	With History	19	90	44.8936	15.23433
	Without History	19	91	42.9790	15.05193

Table 7. Independent Samples t-test Results for Body Image Concern.

Variable	t	df	p (raw)	P (Bonferroni)	Mean Diff.	95% CI	Cohen's d
Appearance Dissatisfaction	0.552	424	0.577	1.000	0.488	[-1.22, 2.20]	0.05 (small)
Interference with Social Functioning	2.067	424	0.038	0.342	1.428	[0.08, 2.78]	0.20 (small)
Total Concern	1.295	424	0.195	1.000	1.915	[-0.99, 4.82]	0.13 (small)

Discussion

The findings of the present study provide important insights into the psychological and social correlates of cosmetic procedures among women, particularly in relation to perceived social support, unconditional self-acceptance, and body image concern. Contrary to a simplistic assumption that cosmetic procedures directly reflect or modify core psychological structures, the results suggest a more complex and multidimensional pattern of associations.

First, the absence of significant differences in unconditional self-acceptance between women with and without a history of cosmetic procedures is

theoretically meaningful. This finding suggests that self-acceptance, as a relatively stable cognitive-affective construct, may not be substantially influenced by engagement in aesthetic interventions. From a cognitive-behavioural perspective, unconditional self-acceptance is conceptualized as a deep-seated evaluative orientation toward the self that is relatively resistant to situational or behavioural modifications (23,24). Therefore, individuals may pursue cosmetic procedures not because of a global deficiency in self-worth, but rather due to localized dissatisfaction with specific body features. This distinction is critical, as it challenges the assumption that cosmetic surgery

seekers necessarily demonstrate generalized psychological maladjustment (25).

Second, the lack of significant differences in overall body image concern between the two groups further supports the multidimensional and persistent nature of body image-related cognitions. Body image concern is not a unidimensional construct limited to appearance dissatisfaction; rather, it encompasses cognitive, emotional, and behavioural components that may remain stable even after aesthetic modifications (26). One possible interpretation is that while cosmetic procedures may temporarily enhance satisfaction with particular physical features, they do not necessarily modify the underlying cognitive schemas related to body evaluation, social comparison, or internalized appearance ideals (27). This explanation is consistent with sociocultural models of body image, which emphasize the enduring influence of media standards and interpersonal evaluation processes (3).

However, the significant difference observed in the social functioning interference subscale provides a more nuanced understanding of the psychosocial consequences of cosmetic procedures. Women with a history of cosmetic interventions reported greater interference of body-related concerns in social and interpersonal functioning. This may indicate heightened self-focused attention or increased sensitivity to external evaluation following cosmetic enhancement. In other words, while cosmetic procedures may aim to reduce appearance-related anxiety, they may paradoxically increase cognitive monitoring of appearance in social contexts, particularly in environments where appearance evaluation is salient. This finding aligns with social evaluative threat models, which propose that individuals who invest more heavily in appearance management may also experience increased vulnerability to perceived social judgment (28).

An unexpected but important finding of the present study is the higher level of perceived social support among women with a history of cosmetic procedure. Traditional theoretical models often assume that lower social support is associated with greater body dissatisfaction and increased likelihood of engaging in appearance-modifying behaviours (29). However, the present findings suggest a more complex mechanism. It is possible that in contemporary sociocultural contexts, social networks may actively reinforce cosmetic enhancement behaviours rather than discourage them (3). Family members, peers, and partners may

provide approval, encouragement, or normalization of cosmetic procedures, thereby increasing perceived social support scores. In this sense, social support may not always function as a protective factor; instead, it may operate as a reinforcing mechanism that facilitates engagement in appearance modification practices (30).

The correlation analysis further clarifies the interplay between the studied variables. The positive association between social support and unconditional self-acceptance suggests that individuals who perceive greater interpersonal support are more likely to develop a stable and accepting self-evaluative orientation. This finding is consistent with sociometer theory, which posits that perceived relational acceptance contributes to internal self-worth regulation (31). Conversely, the negative associations between social support and body image concern, and between self-acceptance and body image concern, indicate that both interpersonal and intrapersonal resources may serve as protective factors against maladaptive body-related cognitions. Nevertheless, these findings should be interpreted with caution given the cross-sectional nature of the study, which precludes causal inference.

From a broader theoretical standpoint, the present findings highlight the importance of distinguishing between global self-evaluative constructs and domain-specific appearance-related concerns. Cosmetic procedures appear to have limited influence on global psychological structures such as unconditional self-acceptance, while exerting more complex and potentially paradoxical effects on social cognition and interpersonal sensitivity. This suggests that body image-related distress is not simply a function of physical appearance but is embedded within broader cognitive schemas and sociocultural expectations (31).

Clinically, these findings have important implications. Interventions aimed at improving body image and reducing excessive reliance on cosmetic procedures should not focus exclusively on modifying physical appearance. Instead, psychological approaches, such as cognitive restructuring, self-compassion training, and reducing maladaptive social comparison processes, may better address the cognitive-emotional mechanisms underlying body dissatisfaction. Furthermore, psychoeducational programs that address sociocultural beauty ideals and social reinforcement patterns may help reduce the

normalization of excessive cosmetic interventions (32).

Overall, the results emphasize that cosmetic procedures alone are insufficient to produce meaningful changes in deep psychological constructs. Rather, body image concerns and self-evaluative processes are embedded within complex interpersonal and sociocultural systems that require multidimensional intervention strategies.

This study benefits from a relatively large sample size ($n=426$) and inclusion of two well-matched comparison groups (women with and without cosmetic procedure history). The use of validated and widely used psychometric instruments (SS-A, Unconditional Self-Acceptance Scale, and Body Image Concern Inventory) increases the reliability and comparability of findings. In addition, inclusion of both invasive and non-invasive cosmetic procedures enhances the comprehensiveness of the study population.

This study has several limitations. First, its cross-sectional design prevents inference of causality between variables. Causal relationships cannot be determined from the current data. Second, data were collected using self-report questionnaires, which may introduce response and social desirability biases. Third, convenience sampling limits the generalizability of the findings to the broader population. Fourth, potential confounding psychological variables such as depression, anxiety severity, personality traits, perfectionism, social media exposure, and socioeconomic status were not controlled. Fifth, both groups were recruited from cosmetic clinics; therefore, the "without history" group may still desire cosmetic procedures or hold similar appearance-related attitudes, introducing potential selection bias. Sixth, psychiatric screening was not performed, and the presence of body dysmorphic disorder or other mental health conditions was not assessed.

Conclusion

The findings of the present cross-sectional comparative study revealed that cosmetic procedures were not significantly associated with deep psychological structures, such as self-acceptance and body image concern. The findings suggest that psychosocial factors, including perceived social support and its complex interplay with self-acceptance, play a more central role in shaping body-related perceptions.

Ethics Approval and Consent to Participate

The study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki. Ethical approval was obtained from the relevant institutional review board of Birjand University of Medical Sciences (IRB code: IR.BUMS.REC.1405.014). All participants were fully informed about the purpose of the study, assured of confidentiality, and provided written informed consent prior to participation. Participation was voluntary, and participants were allowed to withdraw at any stage without any consequences.

Consent for Publication

Not applicable.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Author's Contribution

Study design: ZA, AJ; Provided guidance on study methodology: ZA. data collection and analysis: SMT, AJ, SMM, AR; manuscript preparation: AR, SMM. All authors have read and approved the manuscript.

Conflict of Interest

The authors declare that they have no conflict of interest related to this study.

Declaration of Generative Artificial Intelligence in Scientific Writing

We have not used any AI tools or technologies in the preparation of this manuscript.

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