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Does Self-Esteem Mediate the Association Between Social Health and Esthetic Procedure Intentions Among Women Attending Private Clinics in Isfahan?

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ABSTRACT

Background: This study aimed to explore the self-esteem's mediating role between social health and esthetic procedure intentions among Iranian women.

Methods: This cross-sectional study was conducted on the women referred to private esthetic surgery clinics in Isfahan city. Cluster and convenience sampling methods were used to select clinics and participants, respectively. Demographic information, Rosenberg's self-esteem, social health, and esthetic procedure intention in women questionnaires were used to collect data. Data were analyzed using Independent Samples *t*-test, logistic regression and structural equation modeling (SEM) with SPSS-20 and AMOS-20 statistical software. Additionally, R free software (Version 4.6.1) and Mplus (Version 7) were used for Monte Carlo power analysis.

Results: A total of 763 women with an average age of 34.07 ± 10.7 years, of whom 63.4% were married, were included in the study. The intention to undergo esthetic procedure was higher among women with low self-esteem and attitude to society. In the logistic regression model, after adjusting for confounding variables, only the attitude to society showed a significant association with esthetic procedure intention. Finally, the results revealed that self-esteem mediate the relationship between Conscientiousness and the intention to undergo esthetic procedure among women.

Conclusion: Self-esteem was found to mediate the relationship between conscientiousness and the intention to undergo esthetic procedure among women. These findings emphasize the importance of simultaneously paying attention to promoting and strengthening the personality traits of self-respect and consciousness in designing preventive interventions to reduce esthetic procedure intentions among women.

1 | Introduction

An individual's appearance can significantly influence their social interactions with others [1]. It is both common and enjoyable to be attentive to one's appearance in social contexts. However, modern societies place an excessive emphasis on physical attractiveness, especially among women, a trend that spans all social classes. This intense focus on looks has reached extreme levels and is becoming increasingly prevalent. Given society's preoccupation with physical appearance and the desire for social acceptance and attention, esthetic surgery has emerged as a potential solution [2]. In 2020, the International

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Society of Esthetic Plastic Surgery (ISAPS) reported a 13.9% increase in non-surgical methods such as filler injections and hair removal, along with nose surgeries and eyebrow lifts [3]. In the United States, the prevalence of both surgical and non-surgical esthetic procedures rose, accounting for 14.7% of all surgical and 22.1% of all non-surgical procedures performed globally. The USA, Brazil, and Germany were the top three countries for esthetic procedures in 2020 [4]. Among women, breast augmentation, liposuction, eyelid surgery, abdominoplasty, and rhinoplasty were the most commonly performed procedures [3]. In Iran, nose esthetic surgery was the most popular, followed by facial wrinkle removal [5]. In 2013, Iran had the highest ratio of esthetic surgeries to the total population, with over 175,000 registered surgical and non-surgical procedures [6].

Esthetic surgery has become a trend and is perceived as a means to achieve higher social status, resulting in a phenomenon known as fashionism [7]. People pursue esthetic surgery to enhance their physical appearance and compete with others, believing that increased attractiveness can help them establish and strengthen social relationships [8]. Social health is a crucial element of overall health, and social relationships are a key component of social health, which can be influenced by the social environment [9]. Keyes [10] defined social health as an individual's evaluation of his or her performance in relation to society. Social health, as one of the key dimensions of public health, not only affects individuals' quality of life but also serves as a fundamental factor in shaping behaviors and personal decisions [11]. Social health has seven components including: social interaction (this element reflects information about the process in which we act and react to those around us), social responsibility (focuses on the framework within which each individual should behave ethically and with sensitivity to environmental, economic, cultural and social issues that benefit society), conscientiousness (refers to an aspect of an individual's personality that is very careful, careful and vigilant towards society), attitude towards society (refers to the tendency or tendency to respond positively or negatively towards a society or community), empathy (refers to the feeling that an individual can understand and share the experiences and emotions of other people), family relationships (refers to the quantity and quality of family connections with each other) and social participation (refers to the degree of an individual's participation in society or community) [12].

Social health and self-esteem are interrelated [13]. Social health significantly impacts an individual's functioning at personal, family, and societal levels. Therefore, higher social health, characterized by social acceptance, prosperity, cohesion, participation, and adaptation, is likely to result in greater self-esteem [14]. Also, a study conducted in Iran found that enhancing social health can increase women's self-esteem [8]. In this context, self-esteem, as a major factor influencing social and personal behaviors and an important psychological component, can significantly impact individuals' intentions regarding esthetic surgery [15].

The high demand for esthetic procedures is driven by cognitive and emotional factors. One of these factors is self-esteem. Self-esteem, which is a general overall evaluation of oneself, means a sense of self-worth and expresses the positive aspect of self-concept [16]. However, a lack of consensus exists among researchers regarding the relationship between esthetic surgery and self-esteem. While some studies suggest that self-esteem has little effect on the tendency towards esthetic surgery [17–19]; others report that low self-esteem can lead to a preference for esthetic procedures and that self-esteem can increase post-surgery [20–24]. Enayat & AnbaryRoozbahany [25] found that by increasing the rate of self-esteem and satisfaction of physical image, trend to esthetic surgery decreases, but the results of the study conducted by Al Ghadeer et al. [26] showed that there was an insignificant weak positive correlation between participants' self-esteem and their acceptance of esthetic surgery. On the other hand, The trend towards esthetic surgery has negative consequences, such as lowering self-esteem and increasing the desire for further esthetic procedures [27]. Expecting that esthetic surgery to solve social problems can lead to disappointment with the results [28], and may even prompt individuals to seek additional surgeries to further enhance their appearance. This excessive pursuit of esthetic procedures can place a financial burden on society, impacting the economy, families, and healthcare systems [29].

Self-esteem plays a mediating role between social health and the decision to undergo esthetic procedure. In other words, self-esteem may act as a determining factor in individuals' decision-making regarding esthetic procedures, particularly among those who perceive themselves as having low social health or feel socially unaccepted. In this regard, understanding the relationship between social health, self-esteem, and the intention for esthetic procedure can contribute to improving the quality of life and mental health in society [30, 31]. It is essential to recognize that esthetic procedure is not only a medical procedure but also has social implications that have been overlooked. Therefore, this study aims to investigate the role of self-esteem in mediating the association between social health and intention to undergo esthetic procedure among women (Figure 1).

2 | Methodology

2.1 | Study Design and Population

This study, conducted in 2022, employed a cross-sectional method and a structural equation modeling approach to investigate the mediating role of self-esteem in the relationship between social health and the intention to undergo esthetic procedure among women in Isfahan, Iran.

2.2 | Sample Size and Sampling Procedure

Isfahan was geographically divided into five regions (center, north, south, east, and west). Two regions (north and south) were then randomly selected. Subsequently, eight private esthetic clinics (out of a total of 22 clinics) in these regions (3 clinics in the North and 5 clinics in the South) selected to participate in the study. Eligible women attending these clinics were recruited using convenience sampling.

The sample size was calculated to be 726 women, considering a significance level of 5%, 90% power, and a correlation of −0.12

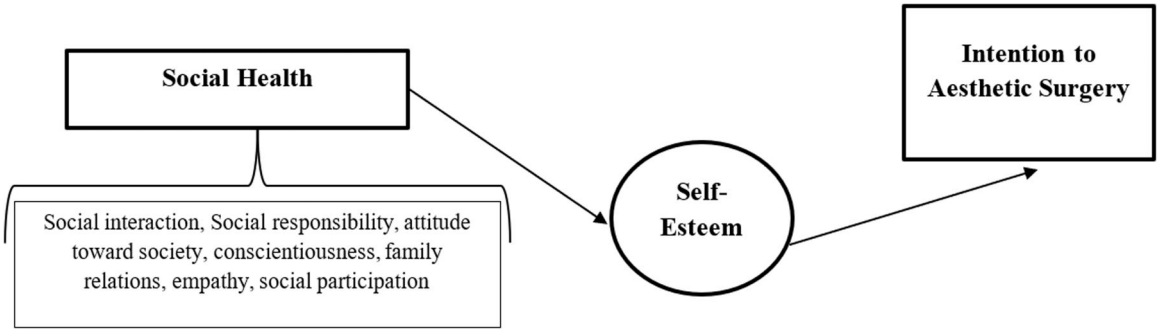


FIGURE 1 | Conceptual model of the mediating role of self-esteem with social health and intention to under esthetic procedure.

between self-esteem and the intention to undergo esthetic procedure [20], based on the following formula:

$$n = \frac{(z_{1-\alpha} + z_{1-\beta})^2}{u_p^2} + 3$$

$$u_p = \frac{1}{2}\log\frac{1+\rho}{1-\rho}$$

The final sample size was increased to 763 women to account for a 5% attrition rate. The inclusion criteria were being over 15 years old, having Iranian nationality, and not having a medical reason to undergo esthetic procedure. The only exclusion criterion was unwillingness to participate in the study.

2.3 | Research Tools

The following demographic questionnaire and self-report tools were used to measure variables and collect data. The assessed demographic characteristics were age, education level, marital status, job condition and housing status.

1.Social Health Questionnaire: This questionnaire was developed by Rafiey et al. [12] in 2017.

It included 29 questions and 7 subscales of social interaction (9 questions), social responsibility (3 questions), conscientiousness (5 questions), attitude to society (3 questions), empathy (5 questions), family relationships (2 question), and social participation (2 questions). This questionnaire is composed of two parts. In the first part (questions 1–19), if the respondent has chosen the "None" option, he (she) will be given a score of zero, and otherwise he (she) will be given a score according to the number of options he (she) has chosen. In the second part (questions 20-29), all items were scored on a 5-point Likert scale ranging from "completely agree=5" to "completely disagree=1)". Questions number 20, 24 and 29 were scored reversely. In the study of Rafiey et al. [12], internal consistency using Cronbach's alpha was obtained 0.86.

2) Rosenberg Self-Esteem Questionnaire: To assess self-esteem, this 10-item questionnaire was used. This scale is scored using several proposed methods, some of which score it as a four-option spectrum (completely agree to completely disagree) and others as two options (I agree and I disagree). The second form of this scale has been prepared in the Persian version in Iran, which is scored as "I agree" and "I disagree". In this scale, +1 and −1 scores are respectively assigned to each "I agree" answer and each "I disagree" answer in questions 1–5. Questions 6–10 are scored in reverse, that is, +1 and −1 scores are respectively assigned to each "I agree" answer and each "I disagree" answer in questions 6–10. Scores + 10, > 0, < 0, and −10 indicate very high, high, low, and very low self-esteem levels, respectively [32, 33]. The validity and reliability of this questionnaire have been previously confirmed in Iran through other studies [34].

3) Esthetic Procedure Intentions Questionnaire for Women: This questionnaire is a 25-item self-report tool developed by Amini Rarani et al. [35] and is divided into three factors. The first factor includes 9 questions related to the intention to undergo procedures such as thigh liposuction, thigh lift, arm lift, buttock lift, liposuction of the hips, abdominal and flank liposuction, neck lift, forehead lift, and breast reduction. The second factor consists of 11 questions about the intention to undergo procedures such as orthognathic (corrective jaw) surgery, chin surgery, skin rejuvenation, facial prosthetic surgery, eyelid surgery, chemical peeling, microdermabrasion, nose surgery, micropigmentation, giant mole surgery, and laser hair removal. The third factor comprises five questions related to the intention to undergo procedures such as breast prosthesis, breast fat injection, breast augmentation, breast lift, and esthetic genital surgery. Subjects' responses to each item are scored on a 7-point Likert scale (not at all = 0, very low = 1, low = 2, somewhat low = 3, somewhat high = 4, high = 5, very high = 6). High scores indicated a high level of intention to undergo procedure surgery in the subject. Item score for face validity was 3.08, indicating good validity. The internal consistency of the questionnaire was confirmed using Cronbach's alpha, which was 0.967 for the test and 0.978 for the retest. Additionally, the intra-cluster correlation coefficient for the questionnaire was 0.957 [35].

2.4 | Data Analysis

Descriptive statistics, including mean (standard deviation) and number (percentage), were used to analyze the data. We defined the index of intention to undergo esthetic procedure as a latent variable using Latent Class Analysis (LCA) based on various observed variables (i.e., questionnaire items). LCA elucidates complex patterns of association emerging from the data; it examines the relationships among a set of observed categorical variables and classifies individuals into

homogeneous latent classes based on the construct of interest—in this case, the intention to undergo esthetic procedure. This results in individuals within a given latent class being highly similar to one another while remaining distinct from those in other classes. Consequently, comparisons can be made across the latent classes derived from the observed items [36]. In this study, various models (ranging from two to six classes) were fitted. The two-class model demonstrated the greatest separation between classes (misclassification rate: 0.01; entropy: 95%; BIC: 59,545.62). The two resulting latent classes were labeled "Intention to Undergo Esthetic Procedure: Lower versus Higher." Participant membership in these classes was subsequently used as a variable in further analyses. To compare quantitative variables between two groups of women (with higher intention/lower intention for esthetic procedure), an independent t-test was used. Logistic regression was used to examine the relationship between intention to undergo esthetic procedure and independent variables. First, the crude model was implemented for each of the social health components, and then the adjusted model was estimated by controlling for confounding variables. Confounding variables (included age, education level, marital status, job situation, income situation, housing situation and health condition), which were selected based on evidence from previous studies and potential association with the outcome variable and entered into the model using the Enter method. Also, despite the natural correlation, destructive collinearity of the regression model between the social health components was not observed (VIF indices below 4). The statistical significance level for P-values was considered to be less than 0.05. Path analysis using structural equation modeling was employed to test the mediating role of self-esteem between social health and its components and the intention to undergo esthetic procedure. All hypothesis tests in the study, including tests of indirect effects, were conducted using a two-sided alpha of 0.05. Additionally, the term "non-response/incomplete data allowance" is used throughout to describe the proportion of participants with missing or incomplete responses, as the study design was cross-sectional. The statistical analyses were performed using SPSS-20 and AMOS-20.

2.5 | Sample Size Justification and Monte Carlo Power Analysis

The adequacy of the final sample size ($n = 763$) for testing the hypothesized multiple mediation model was evaluated using Monte Carlo power analysis in both R free software (Version 4.6.1) with the "lavaan" package [37] and Mplus (Version 7), following the framework of Thoemmes, MacKinnon, and Reiser [38]. Population parameter values for the simulation were set to the unstandardized estimates obtained from the final fitted model. Analyses employed 5000 replications with a two-sided alpha of 0.05. Power was estimated for each specific indirect effect based on the proportion of replications in which the indirect effect was statistically significant.

2.6 | Ethics Statement

Ethical approval was received for this study from the Ethics Committee of the Isfahan University of Medical Sciences (IR.MUI.RESEARCH.REC.1399.361). Written informed consent was obtained from individuals who participated in this study. Participants younger than 18 years provided assent, and written informed consent was obtained from a parent or legal guardian, in accordance with the ethics approval.

3 | Results

Table 1 presents the demographic characteristics of the women participated in the study ($n = 763$). The mean age of them was 34 years. A majority of the women had a university education (63.8%) and owned their housing (73.5%). Additionally, 63.4% of the women were married, and 39.6% were housewives.

As shown in Table 2, the results of the independent samples t-Test between self-esteem, social health components and the intention to undergo esthetic procedure- as outcome variable classified into having more ($n = 264$) or less ($n = 448$) intentions- demonstrated that self-esteem and attitude to society were significantly associated with the intention to undergo esthetic procedure. Individuals who had more intentions to undergo esthetic procedure, had lower mean scores for these factors compared to those who had less.

Table 3 presents the results of the logistic regression analysis examining the relationship between the intention to undergo esthetic procedure (outcome variable) and self-esteem and social health components (explanatory variables). First, a crude (unadjusted) model was fitted containing only the eight independent variables (self-esteem and social health components) and the outcome, without any covariates. Second, an adjusted multivariable model was fitted that additionally included age, education level, marital status, job situation, income situation,

TABLE 1 | Participants' characteristics.

Characteristics		Frequency (Mean)	Percentage (Standard Deviation)
Age		34.0	10.7
Education level	Under Diploma	82	10.9
	Diploma	187	24.8
	Academics	486	64.4
Marital status	Single	254	33.6
	Married	479	63.4
	Divorced	15	2. 0
	Widow	8	1.1
Job condition	Employed	285	37.7
	Housewife	302	40.0
	Student	111	14.7
	Retired	14	1.9
	Others*	43	5.7
Housing Status	Owner	551	73.5
	hired	199	26.5

*Others means unemployed women as well as women covered by support institutions.

TABLE 2 | Relationship between self-esteem, social health components, and women's Intentions to esthetic procedure.

Variable	Having less intentions to undergo esthetic procedure ($n = 448$) Mean (standard deviation)	Having more intentions to undergo esthetic procedure ($n = 264$) Mean (standard deviation)	*p* value
Self-esteem	6.49 (3.93)	5.48 (4.09)	0.001
Social interaction	19.33 (8.67)	18.54 (8.32)	0.235
Social responsibility	11.06 (2.3)	11.41 (2.29)	0.054
Conscientiousness	15.2 (6.95)	14.72 (6.9)	0.372
Attitude to society	7.35 (2.36)	6.88 (2.47)	0.013
Empathy	12.95 (5.78)	12.6 (5.67)	0.437
Family relationship	7.91 (1.69)	8.03 (1.69)	0.378
Social participation	6.24 (1.96)	6.13 (1.99)	0.477

Note: p value is based on Independent Samples *t*-test.

TABLE 3 | Logistic regression results (crude and adjusted models).

	Crude model		Adjusted model*	
Variable	Odds ratio (95% confidence interval)	*p* value	Odds ratio (95% confidence interval)	*p* value
Self-esteem	0.94 (0.91–0.98)	0.003	0.952 (0.909–0.996)	0.034
Social interaction	0.99 (0.96–1.02)	0.42	0.99 (0.958–1.024)	0.572
Social responsibility	1.12 (1.01–1.24)	0.03	1.114 (0.998–1.243)	0.053
Conscientious	1.003 (0.96–1.04)	0.89	1.013 (0.97–1.058)	0.554
Attitude to Society	0.94 (0.88–1.01)	0.08	0.915 (0.851–0.984)	0.016
Empathy	1 (0.95–1.05)	0.99	0.99 (0.935–1.049)	0.743
Family relations	0.97 (0.85–1.11)	0.71	0.954 (0.829–1.098)	0.513
Social Participation	0.98 (0.9–1.07)	0.6	0.974 (0.888–1.068)	0.569

Note: Outcome variable: intent to undergo esthetic procedure; In the adjusted model, the effect of variables of age, education level, marital status, job situation, income situation, housing situation and health condition has been controlled

housing situation and health condition as covariates. After adjusting for these variables, the relationship between self-esteem and attitude to society with the intention to undergo esthetic procedure remained significant, whereas the other components did not show a significant relationship.

The odds ratios for conscientiousness and empathy were approximately equal to 1, indicating that the odds of intending to undergo esthetic procedure were nearly similar for women with high or low levels of these components.

Before reporting the structural equation modeling results, it is important to evaluate the goodness of fit of different models. Goodness of fit indices (GFIs) such as Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA) and Standardized Root Mean Squared Residual (SRMR). The GFIs are calculated for five models and then compared to determine which model has the best fit. Out of five models, model number 5 was found to have statistically significant paths and relationships between variables. Model fit indices, including RMSEA = 0, CFI = 1, TLI = 1, and SRMR = 0, indicated that the model has no fitting errors (RMSEA = 0.035), the model is fully aligned with the data (CFI = 0.946 and TLI = 0.913) and the model provides an accurate prediction of the observed data (SRMR = 0.029). These values demonstrated that the theoretical model fit well with the empirical data, making the obtained results highly reliable. The model fit indices (CFI = 0.946, TLI = 0.913, RMSEA = 0.035) showed that the proposed model fits the data well. This result also, confirmed that the chosen theoretical framework was appropriate for analyzing the variables and that structural equation modeling was the right choice to examine the relationships between variables.

Based on findings showed in Table 4 and Figure 2, self-esteem was found to mediate the relationship between conscientiousness and the intention to undergo esthetic procedure among women. In addition, conscientiousness and family relations had a direct effect on self-esteem, and this effect is significant at the $p < 0.05$ level. This result could be an indicator that conscientiousness and family relations act as key factors in the formation of Self-esteem. Some variables, such as social interaction, social responsibility, social participation and attitude to society, had non-significant direct and indirect effects on self-esteem. Empathy also has a positive effect ($p = 0.059$), which is close to the significance level.

3.1 | Monte Carlo Power Analysis for Indirect Effects

Results of the Monte Carlo power analysis (5,000 replications, two-sided $\alpha = 0.05$) indicated that the final sample of 763

TABLE 4 | Linear structural equation modeling.

		Direct effect			Indirect effect					Total effect		
Mediating variable (Self-esteem)	Regression on	Regression Coefficient	SE	*p* value	Regression Coefficient	SE	*p* value	Power%	Estimate (BC 95% CI)	Regression Coefficient	SE	*p* value
	Social interaction	0.076	0.066	0.249	—	—	—			0.076	0.066	0.249
	Social responsibility	0.035	0.062	0.566	—	—	—			0.035	0.062	0.566
	Social participation	0.056	0.073	0.441	—	—	—			0.056	0.073	0.441
	Conscientiousness	0.217	0.042	0.000	—	—	—			0.217	0.042	0.000
	Attitude to society	−0.112	0.078	0.153	—	—	—			−0.112	0.078	0.153
	Empathy	0.112	0.059	0.059	—	—	—			0.112	0.059	0.059
	Family relations	0.088	0.045	0.049	—	—	—			0.088	0.045	0.049
Dependent variable (intention to esthetic procedure)	Self-esteem	−0.177	0.044	0.000	—	—	—			−0.177	0.044	$p < 0.001$
	Social interaction	0.035	0.059	0.555	−0.014	0.012	0.271	12.1%	−0.049 (−0.163, 0.021)	0.021	0.060	0.720
	Social responsibility	0.031	0.053	0.56	−0.006	0.011	0.573	6.0%	−0.084 (−0.535, 0.269)	0.024	0.053	0.645
	Social participation	−0.017	0.065	0.79	−0.010	0.013	0.451	7.1%	−0.044 (−0.203, 0.061)	−0.027	0.066	0.677
	Conscientiousness	−0.075	0.038	0.049	−0.039	0.012	0.002	96.3%	**−0.492 (−0.946, −0.211)**	−0.113	0.037	0.002
	Attitude to society	−0.034	0.07	0.623	0.020	0.015	0.179	16.0%	0.105 (−0.007, 0.349)	−0.015	0.071	0.836
	Empathy	0.007	0.051	0.884	−0.020	0.012	0.086	34.2%	−0.361 (−1.039, 0.066)	−0.012	0.051	0.808
	Family relations	0.002	0.040	0.967	−0.016	0.009	0.074	34.9%	−0.238 (−0.629, −0.005)	−0.014	0.040	0.726

Note: RMSEA = 0.035, CFI = 0.946, TLI = 0.913, SRMR = 0.029, Chi-Square value = 159.65, df = 82, $p < 0.001$. *Resulted from Monte Carlo Power Analysis; BC 95% CI = bias-corrected bootstrap 95% confidence interval (5000 resamples).

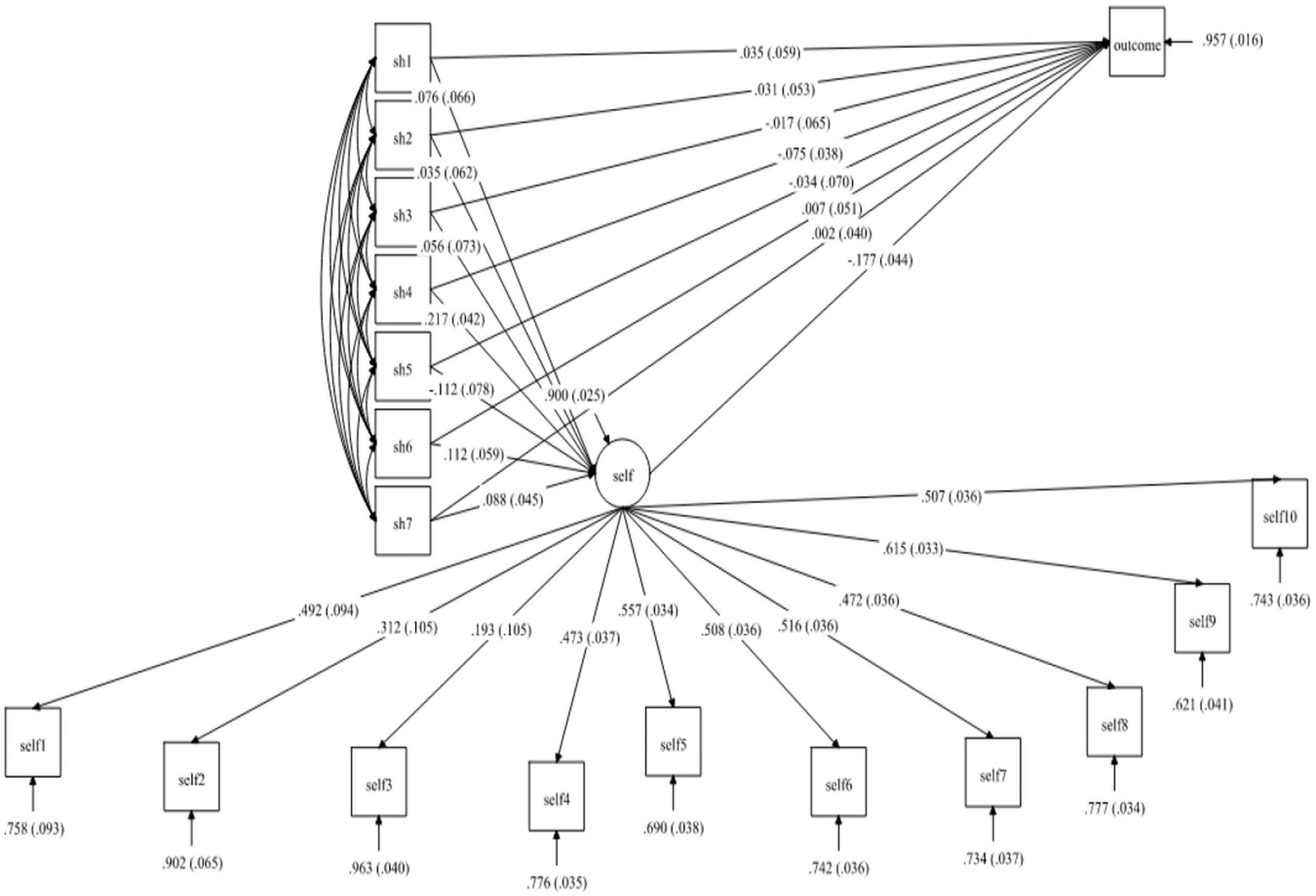


FIGURE 2 | The Final Mediation Model of Relationship between self-esteem, social health, and intention for esthetic procedure. *Note:* Outcome: Intention for Esthetic Procedure; Self: Self esteem; Sh1 -sh7: Social interaction (sh1), Social responsibility(sh2), Social participation (sh3), Conscientiousness (sh4), Attitude to society (sh5), Empathy (sh6), Family relations(sh7).

participants provided 96.3% power to detect the significant indirect effect of "conscientiousness → self-esteem → outcome (=−0.492)", which exceeds the conventional 80% threshold [39]. Both software packages yielded consistent power estimates, supporting the robustness of the findings. Power estimates for the remaining indirect effects, which were non-significant in the original model (all $p > 0.05$), ranged from 6.0% to 34.9% (Table 4). Given that only the "conscientiousness" indirect effect was hypothesized to be statistically detectable, these results confirm that the sample size was sufficient for testing the primary mediation hypothesis.

3.2 | Indirect Effects and Bootstrap Confidence Intervals

Using 5000 bootstrap resamples (4994 converged), bias-corrected 95% confidence intervals (BC 95% CI) were obtained for each indirect effect. Only two pathways had confidence intervals excluding zero: conscientiousness → self-esteem → intention (=−0.492, BC 95% CI (−0.946, −0.211)) and family relations → self-esteem → intention (=−0.238, BC 95% CI (−0.629, −0.005)). All other pathways had confidence intervals including zero and are not interpreted as mediation. No claim of general mediation for overall social health is made.

4 | Discussion

This cross-sectional study examined associations among social health, self-esteem, and intention to undergo esthetic procedures in women attending private esthetic clinics in Isfahan. Lower self-esteem was associated with higher intention in the bivariate, adjusted logistic regression, and structural equation analyses. Lower attitude toward society was also associated with higher intention in the bivariate and adjusted logistic analyses. In the structural model, an indirect association through self-esteem was clear for conscientiousness and tentative for family relations, while the remaining social health components showed no evidence of indirect associations. The mediating pattern was therefore specific to conscientiousness rather than general across social health, and, given the cross-sectional design, none of the associations should be interpreted as causal.

The inverse association between self-esteem and intention to esthetic procedure is in line with previous studies [25, 31, 40], although the literature is not uniform, and some studies have reported weak or no association [17–19, 26]. The association in our data was modest (adjusted OR = 0.95 per one-point increase in self-esteem score; 95% CI = 0.909–0.996), and its direction cannot be determined from cross-sectional data. Lower self-esteem may precede stronger intentions, but intentions, or prior experiences with appearance-related procedures, may also

relate to self-esteem, and earlier reviews suggest that self-esteem may change after procedures [20, 21]. Reciprocal or third-variable explanations therefore cannot be excluded.

Among the social health components, attitude toward society showed the most consistent association with intention in the regression analyses (adjusted OR = 0.92; 95% CI 0.851-0.984). Because this subscale captures a general positive or negative orientation toward society rather than attitudes toward appearance, one possible interpretation is that women with a less favorable orientation toward society are more sensitive to social appraisal; this interpretation is speculative and was not tested here. The association was not evident in the structural model, and social responsibility was not significantly associated with intention in the adjusted model (OR = 1.11; 95% CI 0.998-1.243; $p = 0.053$). Such inconsistencies, which may partly reflect differences in model specification between the two approaches, call for caution and replication.

Conscientiousness showed the clearest pattern in the structural model. Higher conscientiousness was associated with higher self-esteem ($\beta = 0.217$, $p < 0.001$), which in turn was associated with lower intention ($\beta = -0.177$, $p < 0.001$), yielding a significant indirect association (indirect coefficient = −0.039, $p = 0.002$; bootstrap 95% CI excluding zero) together with a small direct association ($\beta = -0.075$, $p = 0.049$). Conscientiousness was not associated with intention in the bivariate or logistic analyses, so this finding should be regarded as hypothesis-generating. One possible explanation is that, as operationalized in the social health questionnaire, conscientiousness includes perceived competence and capability [12], which are conceptually close to self-esteem [41]. A weaker pattern emerged for family relations ($\beta = 0.088$ for the path to self-esteem, $p = 0.049$): the bootstrap interval for the indirect association only just excluded zero, the conventional test was not significant ($p = 0.074$), and the estimated power for this pathway was low (34.9%), so this finding is tentative. Cross-sectional studies have linked better family functioning with higher self-esteem in young people [42], although a recent longitudinal study found no evidence of prospective effects of the family environment on self-esteem in adolescence [43]. Empathy was positively but not significantly associated with self-esteem ($\beta = 0.112$, $p = 0.059$) and showed no indirect association; although previous studies have linked empathy with self-esteem [44, 45], our data do not allow conclusions about empathy and intention.

Previous studies have reported links between social health and self-esteem in other groups of Iranian women [13, 14] and between perceived social support and self-esteem in adolescents [46]. Our results extend this only partially: only some social health components (conscientiousness and, with weaker evidence, family relations) were related to self-esteem, and the total association with intention was significant for conscientiousness alone.

These findings may help generate hypotheses. If the observed associations reflect modifiable processes, approaches that support self-esteem or particular aspects of social health could be hypothesized to be relevant to esthetic procedure intentions. However, this study did not implement or evaluate any intervention, did not examine whether the associations differ across subgroups such as marital status (so no conclusions can be drawn about targeting specific groups), and cannot indicate whether changing self-esteem would alter intentions. Esthetic procedures are sought for diverse reasons, and our findings should not be taken to imply that higher intention is itself undesirable. Longitudinal studies are needed to clarify temporal ordering, and intervention studies to test whether strengthening self-esteem or specific social health components changes intentions or decision-making.

4.1 | Research Limitations

This study has some limitations that should be noted. First, the cross-sectional design precludes causal and temporal inferences. The direction of the paths in the structural model (social health to self-esteem to intention) was specified on theoretical grounds and cannot be verified with data collected at a single time point; reverse or reciprocal relationships are plausible (e.g., planning a procedure or concern about appearance may itself relate to self-esteem). Second, the use of convenience sampling and the selection of samples from among women who visit private esthetic surgery clinics limits the generalizability of the results to other women, including those visiting government centers or the general population. Third, due to the selection of individuals from among applicants visiting private clinics, there is also the possibility of selection bias, as these individuals may initially have different attitudes, motivations, or characteristics than other women in the community. Fourth, all measures were self-reported. Questionnaires were completed by women waiting for their appointments, in whom intention may be closer to action than in the general population; however, actual uptake of procedures was not assessed, so we cannot say whether the intentions were realized. Fifth, intention was classified into lower and higher groups using latent class analysis; this reduces the information in the item scores, and the groups are defined relative to this sample, so “higher” does not correspond to a clinical or normative threshold. Sixth, several social health components were tested simultaneously, so isolated findings may reflect chance. Finally, unmeasured confounding cannot be excluded. Longitudinal and intervention studies, preferably with probability-based sampling, are recommended.

5 | Conclusion

In this cross-sectional study of women attending private esthetic clinics in Isfahan, lower self-esteem was associated with higher intention to undergo esthetic procedures in the bivariate, regression, and structural analyses. Lower attitude toward society was also associated with higher intention in the bivariate and adjusted regression analyses. In the structural model, a statistically significant indirect association linked conscientiousness with intention through self-esteem; the pattern for family relations was less certain, and no indirect association through self-esteem was found for the other social health components. The mediating pattern was therefore specific to conscientiousness and did not extend to social health as a whole. Because of the cross-sectional design, these results

describe associations only and cannot establish causal or temporal relationships or the effects of any intervention. Longitudinal and intervention studies are needed to determine whether strengthening self-esteem or specific social health components is relevant to intentions to undergo esthetic procedures, and whether the findings extend beyond women attending private clinics. Future research should explore intervention strategies that incorporate social health enhancement and self-esteem building to further elucidate their impacts on the intention to undergo esthetic procedure.

Author Contributions

Maryam Mazaheri Koohanestani: conceptualization, writing – original draft, data curation. **Zahra Heidari:** methodology, formal analysis. **Atefeh Homayuni:** writing – original draft, writing – review and editing. **Mostafa Amini-Rarani:** conceptualization, funding acquisition, writing – original draft, writing – review and editing, supervision.

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The authors have nothing to report.

Ethics Statement

All methods were performed in accordance with the Declaration of Helsinki. This study received the required ethics approval from the Research Ethics Committee of Isfahan University of Medical Sciences, Isfahan, Iran with ethical code No: IR.MUI.RESEARCH.REC.1399.361. The participants were informed that participation in the study was voluntary and they had the right to withdraw at any time during the data collection process. Written informed consent was obtained from all participants. All methods were performed in accordance with the relevant guidelines and regulations by including a statement in the declarations.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Transparency Statement

Mostafa Amini-Rarani confirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

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