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Study of the relationship between social anxiety of negative evaluation and negative body image with the tendency of cosmetic surgery in women

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Abstract

Background & Aims: The increasing focus on physical appearance is the primary motivator for women's desire to undergo cosmetic surgery. This study aimed to examine the associations between fear of negative social evaluation, negative body image, and the inclination towards cosmetic surgery among women.

Materials & Methods: In this descriptive-correlational study, the statistical population included all girls and women referring to cosmetic surgery clinics in Karaj in 2022. Moreover, a sample of 200 participants was conveniently selected based on the Green sample size formula. The research tools were the standardized questionnaires of Henderson-King Tendency to Cosmetic Surgery, Littleton et al.'s Negative Body Image, and Leary's Fear of Negative Evaluation. After collecting the data, analysis was performed in two sections of descriptive and inferential statistics using SPSS software.

Results: The findings showed that the standardized coefficients (β) of negative body image (43.3%) and fear of negative social evaluation (23.8%) can predict the tendency for surgery among women candidates for rhinoplasty (β = 0.434, p<0.01; β = 0.382, p<0.01).

Conclusion: The results of this study showed that by conducting a psychological assessment of cosmetic surgery volunteers before any action, identifying psychological factors before surgery, and providing psychotherapy, can help individuals become aware of their distorted perception of reality in order to take action to resolve it.

Keywords: Cosmetic surgery, Negative body image, Negative social evaluation

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Introduction

Millions of people around the world go under the knife of cosmetic surgeons every year to change their physical appearance (1). According to the International Society of Plastic Surgery, in 2019 more than 30 million cosmetic procedures were performed worldwide, representing a 9% increase compared to 2018 (2). In recent years, media coverage and advertisements for cosmetic surgery (through TV

programs and magazines promising increased attractiveness and introducing the latest developments in cosmetic procedures) have increased public appetite for these surgeries and access to them (3).

On the other hand, overemphasis on physical beauty by the media and promotion of ideal beauty standards that are unachievable through natural means have led more people to seek cosmetic surgery to conform to these standards (4,5). These developments

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have increased people's concern about their appearance. Since in most societies women are more concerned with their beauty and appearance than men, significant differences between women and men in body image and body management are natural (6). Webster (2003) believes that women have a strong psychological need to maintain and pursue beauty, and enhance their attractiveness. They are more sensitive to their body image than men (7). From another perspective, although cosmetic surgery is primarily a medical phenomenon, the psychological aspects and behavioral patterns of its applicants are constructed and examined by researchers and psychologists. Given that cosmetic surgery is performed to increase satisfaction with appearance and, in many cases, to increase selfesteem, it can be considered a psychological phenomenon or at least a surgical method with psychological consequences (8-10).

Therefore, the question arises as to why most girls and women seeking plastic, reconstructive, and cosmetic surgeries, despite having no medical (11) or aesthetic need for these surgeries (12), choose to undergo cosmetic surgery.

The concept of body image has emerged from several fields of study including neurocognition, psychology, and medicine (13-14). By definition, body image is in fact the attitude, perception, and impression that a person has of their own appearance, with the main focus being their feelings about their body and limbs. In other words, body image is an individual's psychological and social experience of their own body (15). This image is formed from childhood and is completed as the individual grows, changing throughout the stages of life. Negative body image (body dysmorphia) is one of the most common disorders observed in individuals seeking cosmetic surgery compared to the general population (16).

The Diagnostic and Statistical Manual of Mental Disorders by the American Psychiatric Association (2013), in its fifth edition, defines this disorder as a preoccupation with one or more perceived defects or flaws in appearance that are not observable or appear slight to others (17). Previous studies (18-24) have

shown that cosmetic surgery often does not lead to satisfaction in individuals with body dysmorphic disorder, and this dissatisfaction can increase the risk of suicide attempts or violence towards the surgeon in these individuals (25).

The reality is that human beings invest in and emphasize distinct and varied aspects of their existence at different stages of life, and based on the importance they attribute to these facets, they also consider others' evaluations significant in those same regards. This behavioral pattern is normal in life; the problem starts when such assessments become unrealistic and grounded in self-doubt (26). Lees, et al. demonstrated in their research that whenever a society's cultural context emphasizes the value of physical attractiveness, especially for women, it gradually paves the way for concern over others' evaluations regarding one's body image (negative body image) (27). Previous studies (18-24) have shown that research gaps still exist that have failed to paint a clear picture of what has transpired, especially since the psychological burden of cosmetic surgery can inflict irreparable damage on individuals and society. Therefore, by selecting the two variables of negative body image and fear of negative social evaluation, the researcher aimed to approach the issue of the desire for cosmetic surgery from this perspective. Given the above, the main question of the present study was whether the desire for cosmetic surgery can be predicted based on negative body image and fear of negative social evaluation in women seeking rhinoplasty. The present study aimed to investigate the relationship between the variables of fear of negative social evaluation and negative body image with the desire for cosmetic surgery.

Materials & Methods

In this descriptive-correlational study, conducted in Karaj in the spring of 2022, sampling was done conveniently and individuals with the inclusion criteria participated. Due to the coronavirus pandemic (COVID-19), the standard questionnaires of the study (including the Negative Body Image Questionnaire by Littleton, the Desire for Cosmetic Surgery

Questionnaire by Henderson-King, and the Fear of Negative Evaluation Questionnaire by Leary) were first created electronically. After the necessary coordination with the respected management of Asmane-Abi Cosmetic Surgery Clinic in Alborz, the questionnaire links were provided to applicants who were willing to collaborate; 200 completed responses were included in the study. It should be noted that before starting, all participants were informed of the research objectives and were assured that their information would remain confidential and only the results of this study (without any names or details of participants) would be used. Considering the number of questionnaire items, the estimated average time to complete the questionnaires was between 30 to 45 minutes.

Inclusion criteria for the study:

Female gender, girls and women referring to cosmetic surgery clinics, age 20 to 50 years (last four years of adolescence to youth), having undergraduate to doctoral education, not suffering from any medical or psychiatric illness requiring consumption of any medication including substance abuse and psychiatric medications, and willingness to participate in the

research

The exclusion criteria were:

If during the study, any of the conditions in criterion 2 for inclusion were met and the researcher became aware, it would lead to the participant's exclusion from the research project. And unwillingness to participate in the research.

Finally, after collection, the raw data were transferred to Microsoft Excel 2021 and scored according to the instructions for each questionnaire, then transferred to SPSS version 26 for analysis and processing.

Results

The present study included 200 participants, with the highest frequency distribution being the age range of 36 to 40 years with 58 individuals, and the lowest distribution being the age range of 20 to 25 years with 13 individuals.

Also, the highest frequency distribution was at the postgraduate level with 119 (59.5%) individuals, and the lowest distribution was at the doctoral level, with 36 (18%) individuals (Table 1).

Table 1. Demographic characteristics of female research participants

Va	riable	Abundance	Percent
	Between 20 and 25 years	13	6.5
	Between 26 and 30 years	19	9.5
A	Between 31 and 35 years	53	26.5
Age	Between 36 and 40 years	58	29
	Between 41 and 45 years	22	11
	Between 46 and 50 years	35	17.5
	Masters	45	22.5
Level of Education	Masters	119	59.5
	Ph.D.	36	18

The mean score for desire for cosmetic surgery in the 200 women participating in the study was 83.76 ± 2.971 , for negative body image it was 73.82 ± 5.203 ,

and for fear of negative social evaluation it was 39.95 ± 6.608 (Table 2).

Table 2. Central and dispersion indices of research variables

Variable	Mean	Median	Standard deviation
Desire for cosmetic surgery	83.76	84	2.971
Negative body image	73.82	74	3.205
Fear of negative social evaluation	39.95	40.01	6.608

The results of Table 3 indicate the normality of the three variables of desire for cosmetic surgery, negative body image, and fear of negative social evaluation based on the Kolmogorov-Smirnov test, which were not significant at the 0.05 level. Parametric tests can be used to test the research hypotheses.

Table 3. Kolmogorov-Smirnov test of research variables

Variable	Significance level	The test statistic	
Desire for cosmetic surgery	0.079	0.164	
Negative body image	0.083	0.281	
Fear of negative social evaluation	0.075	0.199	

In the regression model below (Table 4), desire for cosmetic surgery is defined as the response variable, and negative body image and fear of negative social evaluation are defined as predictor variables. The result of this test can be examined in the table below:

Table 4. Summary of the regression model predicting desire for cosmetic surgery (b) based on negative body image and fear of negative social evaluation (a)

Model	R	R ²	Modified R ²	F	Significance level	Durbin Watson's statistic
1	0.598ª	0.357	0.351	54.454	0.000	1.889

- a: Predictive variables (fixed): negative body image and fear of negative evaluation
- b: Dependent variable: desire for cosmetic surgery

The above table reports the total score of the predictor variables in model 1. Accordingly, the coefficient of determination (R2 = 0.357) accounts for 35.7% of the variance in the desire for cosmetic surgery variable. Also, based on the table information, the observed F with 99% confidence is significant at less than 0.01, hence the regression equation is generalizable to the whole statistical population. Since the condition of normality of the variables is also met

(refer to the results of normality tests), the requirements for using regression have been observed and it can be used (R2 = 0.357, p < 0.01).

Table 5 examines the regression coefficients. It is also noted that in the table below, the predictor variable of negative body image is defined as variable 1 and the predictor variable of fear of negative social evaluation is defined as variable 2:

Table 5. Results of regression coefficients predicting desire for cosmetic surgery based on negative body image and fear of negative social evaluation

Model	Non standardized coefficients Standardized coefficients			t	Significance
	В	Mean standard error	β		level
Fixed amount	115.059	89.11		12.912	0.000
Negative body image	0.376	0.050	0.434	7.553	0.000
Fear of social evaluation	0.240	0.036	0.382	6.660	0.000

Based on the observed values, it can be said that, in general, the level of significance of the above model in both predictor variables has become significant with 99% confidence at a level less than 0.01 (p < 0.01). In addition, the table above shows that predictor variable 1 (negative body image) can predict the tendency for cosmetic surgery by 43.4% ($\beta = 0.434$), and predictor variable 2 (perception of negative evaluation) can predict it by 2.38% ($\beta = 0.382$). Furthermore, the positive beta coefficients of variables 1 and 2 indicate a significant direct relationship between predictor

variables and the tendency for cosmetic surgery (β = 0.434, β = 0.382, p <0.01). On the other hand, the intercept of the above model is 0.115, and based on the collinearity indices, there is no collinearity between the predictor variables, and the results of the regression model are reliable. Therefore, based on the results obtained, the null hypothesis was rejected, and it can be said that negative body image and perception of negative evaluation can predict the tendency for cosmetic surgery in women who are seeking rhinoplasty.

Discussion

The results obtained showed that at the highest level, the inclination towards cosmetic surgery can be explained and predicted in women seeking rhinoplasty in Karaj city. Moreover, it must be pointed out that the positive standard beta coefficient of the research indicated that the aforementioned variables have a significant direct relationship with the inclination towards cosmetic surgery. In other words, these coefficients tell us that for each one-unit increase in the variables of negative body image and delusion of negative social evaluation that women seeking surgery experience, one unit will also be added to their inclination for cosmetic rhinoplasty surgery.

In this regard, we can refer to the research conducted by other researchers: Mafakheri et al. (1), Imani et al. (28), Nobakht et al. (16), Hashemi et al. (29), Gillen et al. (30), Kazmai (31), Aghazadeh et al. (32), Pavijit et al. (33), and Kint et al. (34), who had findings in line with our result.

Some surgeries may be influenced by the current fashion and prevalent culture, but there is no doubt that some cases are due to negative body image, a disorder that has been recognized for over a hundred years but has been classified as a psychological and psychiatric disorder in the last thirty years and has attracted the attention of specialists. The afflicted person imagines that some parts of his body are abnormal, lack beauty and attractiveness, or are even anomalous, while the organ or limb in question is often normal, or the issue is very minor compared to the torment it has caused the person, but the person himself is dissatisfied with it and believes that he will not be freed from his mind's constant preoccupation with this defect until he submits it to the surgeon's knife. Also, the onset of this disorder is in late childhood or early adulthood, a time when concern about appearance is greater than at other stages of life. All people at some point in life worry about their appearance, and almost everyone would prefer to look different.

In other words, these concerns come and go and are normal, but become a disorder when the preoccupation becomes persistent and causes severe distress and anxiety that disrupts the individual's life. Thus, we can now understand why the participants' scores in the present study showed that there is a direct correlation between negative body image and the tendency to undergo cosmetic surgery. However, cosmetic surgery specialists, in line with psychologists, often do not recommend surgery to individuals diagnosed with body dysmorphic disorder, because experience shows that even if the surgery is successful, the focus shifts to another body part or the surgical scar causes problems. Also, patients who undergo cosmetic surgery initially feel better, but after a while the feeling of dissatisfaction returns, the problem remains, and only its form changes; as statistics show, only about 10% of those with body dysmorphic disorder may become satisfied with plastic surgery (29-34).

In addition, it should be noted that all the participants in the present study were educated individuals. It was assumed that they would approach such issues based on objective, scientific data, and act accordingly. But surprisingly, their behavioral patterns were similar to those of people with lower education levels than them, as Brawer and Titel (35) found.

Another finding of the current study was that fear of negative social evaluation can explain and predict the tendency for cosmetic rhinoplasty surgery among women seeking rhinoplasty in Karaj. The fear of being judged and evaluated negatively can exist in anyone, because we are all social beings and are influenced by others' opinions about us. But sometimes, the fear of judgment becomes very intense, so that the person is constantly worried about what others think of them. These thoughts can be very damaging, inhibiting growth and progress, and gradually causing the person to feel unpleasant based on a wrong assessment, or decide to adopt the wrong behavior to impress others.

The findings indicated that negative body image significantly predicts the tendency for cosmetic surgery with 41.1 percent at the 99% confidence level and 0.01% significance level, explaining it at the highest level. In addition, it should be noted that the positive beta coefficient in the study showed that negative body image has a significant direct relationship with the

tendency for cosmetic surgery. This means that for every one unit increase in the negative body image experienced by women seeking surgery, their tendency for rhinoplasty cosmetic surgery will also increase by one unit. In this context, we can refer to similar studies by other researchers: Mafakheri et al. (1), Imani et al. (28), Nobakht et al. (16), Hashemi et al. (29), Gillen et al. (30), and Kazmai et al. (31).

In order to explain and infer from the findings, we will first discuss the role of the tendency for cosmetic surgery in women seeking surgery, and then interpret the findings. Overall, cosmetic surgery is a specialty that uses various surgical techniques to repair and improve an individual's physical appearance. Although the main purpose of cosmetic surgery is to improve the appearance of people with abnormal appearances, today diverse factors have led many women and men to gravitate towards it. This is confirmed by the findings of the present study, alongside previous research.

The reality is that every human's perception of their own body shows how they comprehend their body. This outlook may even affect their ability to relate to others, and influence the responses others give to them. Now, with the arrival of the modern era, the physical appearance of the body, which was previously subject to standards based on traditional criteria, has changed dramatically. Looking at the hierarchy of social values in different societies also shows that beauty holds a significant place among them. Therefore, one of the ways for humans to become beautiful is to intervene in their own bodies or, in other words, engage in body management or appearance management. Thus, as much as possible, the individual tries to bring their natural body shape closer to its socially accepted form. As such, paying attention to the body and appearance, and being well-groomed, is not only not a flaw but also a desirable human trait. However, the problem starts when a person tries to fill all their psychological voids and attract others' attention to their appearance (in any way and by any means), and they will not refrain from conventional or unconventional actions to realize this desire. From their perspective, cosmetic surgery (even when medical criteria do not deem it necessary) must be done because it makes them attractive. In this context, a deeper investigation of the underlying layers of the disorder called body dysmorphic disorder provides a clearer illustration of what lies in the minds of these individuals.

The findings also showed that fear of negative social evaluation significantly predicts the tendency for cosmetic surgery with 29.9 percent at the 99% confidence level and 0.01% significance level, explaining it at the highest possible level. In addition, it should be noted that the positive beta coefficient in the study showed that fear of negative evaluation has a significant direct relationship with the tendency for cosmetic surgery. This means that for every one unit increase in fear of negative evaluation experienced by women seeking surgery, their tendency for rhinoplasty cosmetic surgery will also increase by one unit.

In this context, we can refer to similar studies by other researchers: Nobakht et al. (16), Kazmai (31), Aghazadeh et al. (32), Pavijit et al. (33), and Kint et al. (34) whose findings are consistent with our results and confirm them.

In analyzing and elucidating these findings, it can be said that based on research conducted in this field, phenomenologically, there is a significant correlation between fear of negative evaluation and negative body image in terms of comorbidity, age of onset, chronicity, cross-cultural manifestations, response to interventions, and cognitive biases. This itself confirms that this variable also shares aspects of psychopathology. Some researchers believe that people's preference for an attractive appearance may be innate, formed in the human ancestral brain millions of years ago. For example, before children encounter cultural norms related to beauty, they prefer attractive faces more. The preference for bodily symmetry, which is a concern for about a third of those suffering from negative body image, may have a biological and evolutionary basis. Researchers have found that even some animals (e.g., felines) prefer fitness and beauty in their mates. Symmetry and smooth, beautiful skin may have biological and evolutionary foundations and be a sign of reproductive fitness or health (36).

Conclusion

Cosmetic surgery should be seen as a paradox caught between individuality, personal satisfaction, and the pressure of social structures. This pattern can still occur as long as there is a lack of awareness and knowledge in life. Although the results of this study can help analyze the factors influencing the tendency for cosmetic surgery, ultimately it must be emphasized that in order to analyze the reasons for cosmetic surgeries and their high rate in Iran, superficial perspectives must be avoided. All contributing factors and contexts must be considered. In fact, one-sided and mono-causal interpretations cannot ultimately provide a clear and accurate perspective on what is happening in Iranian society, which prevents effective resolution of the problem.

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Conflict of interest

The authors have no conflict of interest in this study.

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Data availability

The raw data supporting the conclusions of this article are available from the authors upon reasonable request.

Ethical statement

This research was conducted in accordance with ethical principles.

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