

Self-Perception and Self-Esteem of Patients Seeking Cosmetic Surgery

G.A. Ferraro, M.D., F. Rossano, M.D., and F. D'Andrea, M.D.

Naples, Italy

Abstract. Cosmetic surgery represents a particular application of plastic surgery, in which the operative competence of the discipline is focused not on the correction of pathological disorders, but on the correction of some morphologic traits not accepted by the patients, or not adherent with the aesthetic canons of the time, although they are absolutely compatible with the norm. As a consequence, cosmetic surgery recognizes subjective indications. According to a particular literature on the subject, patients seeking these interventions would live a dualism between (their own) body image and inner self-image. Very psychotic case histories would come out of this. A base psychological approach adopted by the surgeon, competent both in the surgical and the psychological level, is absolutely needed.

In this study, the psychological features of patients seeking cosmetic surgery were explored in an attempt to define common profiles or prevalent characteristics, and to isolate major psychiatric disorders. Patient self-esteem and physical self-perception also were investigated.

Key words: Cosmetic surgery—Body image—Self-esteem—Self-perception

The importance of the psychological aspects in cosmetic surgery has been well known since the second half of the 20th century. Early studies considered psychopathology as a common aspect of people seeking cosmetic surgery [13,27], whereas new studies have shown that most patients are more psychologically normal than previously asserted [21,23]. When we consider that psychopathology still is observed in patients seeking cosmetic surgery, evaluation of the psychological aspects is an important point in the

preoperative evaluation of patients [14] because the main objective of cosmetic surgery should be the improvement of the patient's self-image and psychological well-being. Some authors have described this surgery as a "psychosocial intervention" [20]. The preceding views are based on the well-grounded psychological impact of cosmetic surgery. For example, in a study of 121 patients, Goin and Rees [9] demonstrated that rhinoplasty in psychologically stable patients is able to reduce social embarrassment, anxiety, and interpersonal susceptibility, and to increase self-esteem. It has long been known that the augmentation mastoplasty has the potential to decrease feelings of shyness and inadequacy and improve interpersonal relationships [6]. These conclusions are well supported by more recent studies demonstrating that patients undergoing augmentation mastoplasty think of surgery as a means of increasing their attractiveness and positive image [16].

Nevertheless, cosmetic surgery generally is underestimated in its ability to reduce body image dissatisfaction. The source of this dissatisfaction is not known. It can extend from a normal self-perception to worries about physical aspects that affect the individual's daily functioning.

For such individuals, the dissatisfaction with their body image may reach psychopathologic levels. Extreme dissatisfaction with the body image is one of the symptoms of the body dysmorphic disorder [24], the only diagnostic category referring strictly to the body image included in the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* [1]. The most authoritative literature on the subject suggests that people who seek cosmetic surgery have more personal problems than people who do not, but the literature generally consists of unverified clinical cases [4,13,17–19,22,26,29]. There are many studies in which pre- and postoperative evaluations have been made, but in no case have data been compared with appropriate control groups [5,7–9,11,25]. A more accurate search of the

Correspondence to G.A. Ferraro M.D., Centro Direzionale di Napoli, Isola B/8, 80143, Napoli, Italia; *email*: gaferraro@libero.it

literature shows only five studies [3] in which cosmetic surgery and control groups have been compared [2,10,12,15,28]. However, two of these have studies disputable value. In one case [15], equivalent control groups (female aesthetic surgery group and male control group) were not used. In the other case [28], there is very little information on the control group, and it is not clear whether it is equivalent or comparable with the surgery group for all the aspects examined, except for the typology of the surgical interventions.

The aim of the previous literature was to recognize major psychic disorders (e.g., body dysmorphic disorder) in potential cosmetic surgery patients using category criteria, whereas an evaluation and definition of the cognitive system of the self that includes self-perception and self-esteem, was excluded.

The main aim of this study was to explore these questions. We decided to evaluate and define the motivation that induced patients to undergo cosmetic surgery. The patient's psychological features were evaluated, and the results were compared with those of a control group enrolled from the general non-surgical population. In contrast to previous studies, we enrolled a control group equivalent to the group under study with respect to number of subjects, distribution between sexes, age, and level of education. Patients were not limited to a single type of operation. Patients undergoing eight different types of operations were included. The fundamental objective of our study was on the one hand, to exclude patients with major psychic disorders from our experimental group, and on the other hand, to examine closely the concept of the self and the self-esteem expressed by the surgery patients and to compare them with the general population represented by the control group.

Material and Methods

The surgical and control groups were evaluated using two self-administered tests. First, the Minnesota Multiphasic Personality Inventory (MMPI-2) was given to exclude subjects with personality disorders or emotive alterations that would invalidate the reliability of the self-esteem evaluation. Second, the subjects underwent multidimensional evaluation of self-esteem using the Multidimensional Self-Concept Scale.

The MMPI-2 is a wide-spectrum test that evaluates the main structure of personality features and emotive disorders. It is a 567-item questionnaire with true/false responses that comprise 3 scales of validity, 10 scales of base, 12 supplementary scales, and 15 scales of content.

The Multidimensional Self-Concept Scale is used for a wide range of professional applications. It is mainly a tool for global evaluation of self-esteem characterized by validity from the psychometric viewpoint, theoretical exhaustiveness, practicalness,

and usefulness. The test is based on the self-esteem, hierarchical model in which the various dimensions constituting self-esteem are interconnected. These dimensions comprise interpersonal relationships, competence in the control of the ambient, emotionality, success, family life, and body experiences. The various ambits are superimposed in a way, and at the center of all the dimensions, a generalized concept similar to Spearman's conceptualization of general intelligence could take place. These specific dimensions are superimposed partly among them and in the central nucleus of global self-esteem.

The Multidimensional Self-Concept Scale is composed of 150 items, each with four alternative answers (absolutely true, true, not true, absolutely not true) distributed to compose six scales that evaluate the fundamental ambits of self-perception and self-esteem. Several studies allow us to conclude that the scales, although correlated, are sufficiently independent to be treated as single ambits.

Scoring includes both positive ("People like me") and negative (Most people don't like me) items. Two different procedures are required for the scoring the two items. Once scores for the single scales and for the total scale have been calculated, the resulting data can be interpreted in intrapersonal and normative terms. On the basis of the evaluation rules, the interpersonal interpretation is focused on the comparison between the subject's level and the level reached by the control group, representative of the general population. In contrast, the intraindividual interpretation compares the subject's score for each scale with the global result of the test. The advantage of the latter is that the global self-esteem is the rule by which the relative strong or weak points are determined. Therefore, although the subject may show average global self-esteem, there may be areas in which his autonomy is expressed at a higher or lower level than his average. These significant deviations are interpreted as strong or weak points of the self-esteem.

Data Analysis

The comparisons between the averaged results from the experimental group and those from the control group were analyzed for statistically significant differences using the Student's *t* test. Pearson's correlation test was used to analyze the trend of the two variables. Variables could be positively Correlated (If one increases or decreases, the other increase or decrease), negatively correlated (If one decreases, the other increases), or not correlated at all (There is no relation between the two variables, which are independent).

Patients

Group 1 consisted of 70 patients from our institution who had been studied before the surgical operation.

The study group was composed of 56 females (80%) and 14 males (20%), who had an average age of 28.1 years, and a median age of 28 years (range, 17–48 years). The procedures included 36 rinoplasties (51.4%), 13 chinplasties (18.6%), 7 abdominoplasties (10%), 5 augmentation mastoplasties (7.1%), 2 otoplasties (2.8%), 2 reduction mastoplasties (2.8%), 2 upper and lower blepharoplasties (2.8%), 2 lower limb liposuctions (2.8%), and 1 facial lift (1.4%).

Group 2 was composed of 70 subjects from the general population including 56 females (80%) and 14 males (20%). These subjects had an average age of 28.5 years and, a median age 28 years (range, 17–54 years). The selection criteria for subjects in the control group included negative anamnesis for previous cosmetic surgery interventions and disinterestedness in undergoing such surgery in the future.

The two groups were amalgamated according to homogeneous criteria with regard to age, sex, and education level (Table 1).

Results

The analysis of the data from the MMMPI-2 evaluation excluded the any psychopathological profile and showed, nonsignificant differences between the study and control groups. Measurements of self-esteem from the multidimensional self-concept scale showed no differences between the two groups for the parameter used.

Data evaluation was performed both by evaluation based on the rules and intraindividual analysis. The former emphasizes the fact that in the experimental group 87.1% of the subjects showed a mean global self-esteem percentage absolutely equal to that of the control group (87.1%). In reference to the single scales, particularly that for bodily self-esteem, the percentages were nearly matching between the two groups (mean 74.2%), diverging only slightly for the other scales. The scale (Table 2).

The intraindividual interpretation also demonstrates that there were no differences between the two groups. In the analysis of the scale for bodily self-esteem, 84.3% of the patients in the experimental group fell within the mean. The percentage for the control group was slightly lower (78.4%). On the same scale, 15.7% of the subjects in the experimental group were on the weak side, compared with 18.6% of the control group (Table 3). The comparison of the two groups with regard to global self-esteem by means of Student's *t* test gave us the results reported in Table 4. The figure for the *t* test was -0.605 , with 60 degrees of freedom and an associated probability higher than 0.05 ($p = 0.547$). The means for the two groups were not significantly different.

The same was true for the comparison of the means with regard to body image (Table 5). The value of the *t*-test was -0.123 , with 60 degrees of freedom and an

Table 1. Patient data

No. of patients	Experimental group	Control group
No. of Patients	70	70
Females (%)	56 (80)	56 (80)
Males (%)	14 (20)	14 (20)
Average age (years)	28.1	28.5
Median age (years)	28 (ranges, 17–48)	28 (range, 17–54)

associated probability higher than 0.05 ($p = 0.093$). The Pearson correlation test showed correlations between body image and the other four dimensions (the multidimensional self-concept scale) (interpersonal relations, competence, emotionality and family) and also between body image and global self-esteem in both surgical and control subjects. The results for the two groups were similar in the correlation between body image and the other components under study. Except for family, all the correlations with body image were significant. The data are shown in Table 6.

Discussion and conclusions

In the light of our results, we conclude that the people seeking cosmetic surgery do not express greater psychopathological profiles. This conclusion contrasts with the less recent literature, according to which the subjects seeking cosmetic surgery express more psychological problems than the subjects who do not. At the same time, it fits perfectly with the latest studies, which maintain that among cosmetic surgery patients, there is an absolute lack of an underlying psychopathologic background. In addition, our study explores new aspects such as self-perception, self-image, and self-esteem, making clear that cosmetic surgery patients do not differ from the general population in terms of self-esteem.

We have clarified that global self-esteem is not a determining component in the motivation for cosmetic surgery. These results should not be interpreted as a reason to lower one's guard with respect to the enormous variability in psychological profiles among the population seeking cosmetic surgery. Rather, they draw our attention to the value of the preoperative interview in screening cosmetic surgery patients and the importance for basic clinical psychology of selecting patients who are really motivated, and not driven by underlying psychopathologic traits that could undermine the success of the intervention, in terms of personal satisfaction, independently from the surgical technique and the surgical result.

The study has been examined closely also with respect to the component of self-esteem that accounts for body image to a greater extent. Its interrelations

Table 2. Results for the Multidimensional Self-Concept Scale evaluation based on the rules

	Interpersonal n (%)	Competence n (%)	Emotionality n (%)	Family life n (%)	Body experiences n (%)	Global self-esteem n (%)
Experimental group						
In the mean	61 (87.1)	54 (77.1)	59 (84.3)	50 (71.4)	52 (74.3)	61 (87.1)
Slightly negative	5 (7.1)	2 (2.9)	9 (12.8)	9 (12.8)	16 (22.8)	7 (10)
Slightly positive	2 (2.9)	12 (17.1)	2 (2.9)	11 (15.8)	2 (2.9)	
Very positive	2 (2.9)	2 (2.9)				2 (2.9)
Control group						
In the mean	59 (84.3)	61 (87.1)	61 (87.1)	55 (78.6)	52 (74.2)	61 (87.1)
Slightly negative	7 (10)	5 (7.1)	5 (7.1)	9 (12.8)	14 (20)	7 (10)
Slightly positive	2 (2.9)	2 (2.9)	2 (2.9)	6 (8.6)	2 (2.9)	
Very negative	2 (2.9)	2 (2.9)	2 (2.9)		2 (2.9)	2 (2.9)

Table 3. Results for the Multidimensional Self-Concept Scale: intraindividual interpretation

	Interpersonal n (%)	Competence n (%)	Emotionality n (%)	Family life n (%)	Body experiences n (%)
Experimental group					
In the mean	64 (91.4)	64 (91.4)	68 (97.1)	44 (62.8)	59 (84.3)
Strong point	6 (8.6)	6 (8.6)		13 (18.6)	
Weak side			2 (2.9)	13 (18.6)	11 (15.7)
Control group					
In the mean	66 (94.2)	70 (100)	66 (94.3)	50 (71.4)	55 (78.5)
Strong point	2 (2.9)			11 (15.8)	2 (2.9)
Weak side	2 (2.9)		4 (5.7)	9 (12.8)	13 (18.6)

Table 4. Comparison of the two groups with regard to global self-esteem student

Group	No. of subjects		Mean	SD	SEM				
Experimental	70		95.8065	11.6688	2.0958				
Control	70		97.4516	9.6431	1.7320				
	Levene's test		t-Test						
	F	Sig.	t	df	Sig. (2-tailed)				
					Mean difference				
					SE difference				
					95% CI of the mean				
					Lower	Upper			
Equal variances assumed	1.011	0.319	-0.605	60	0.547	-1.645	2.7188	-7.083	3.793
Equal variances not assumed			-0.605	57.94	0.547	-1.645	2.7188	-7.083	3.797

SD, standard deviation; SEM, standard error of the mean; Sig., Significance; CI, confident interval

with the other ambits of self-esteem and global self-esteem, considering the coincidence of the data for the surgery and control patients, further corroborate the noninfluence of self-esteem and the perception of the bodily, *se ipse* on the option for cosmetic surgery. Further study is needed to clarify the motivations for

cosmetic surgery and should be paid closer attention to body image than to reduced self-esteem. In the event that self-esteem changes as a result of the surgery intervention, a post hoc study and a postsurgery follow-up investigation would be required to verify modifications in the ambits of self-esteem.

Table 5. Student's *t*-test comparison of the two groups with regard to body image

Group	No. of subjects		Mean	SD	SEM				
Experimental	70		92.8065	11.2292	2.0168				
Control	70		93 s.1290	9.3728	1.6834				
	Levene's test		<i>t</i> -Test		95% CI of the mean				
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>Sig.</i> (2-tailed)	Mean difference	SE difference	Lower	Upper
Equal variances assumed	1.841	0.180	-0.123	60	0.903	-0.322	2.6271	-5.577	4.932
Equal variances not assumed			-0.123	58.14	0.903	-0.322	2.6271	-5.581	4.936

SD, standard deviation; SEM, standard error of the mean; Sig., Significance; CI, confident interval

Table 6. Pearson test correlation between the different components of self-esteem

Experimental group						
		<i>Competence</i>	<i>Body image</i>		<i>Body image</i>	<i>Emotionally</i>
Pearson correlation	<i>Competence</i>	1.000	0.524**	<i>Body image</i>	1.000	0.506**
	<i>Body image</i>	0.524**	1.000	<i>Emotionality</i>	0.506**	1.000
Sig. (2-tailed)	<i>Competence</i>	—	0.002	<i>Body image</i>	—	0.004
	<i>Body image</i>	0.002	—	<i>Emotionally</i>	0.004	—
Pearson correlation	<i>Interpersonal</i>	1.000	0.655**	<i>Family</i>	1.000	0.151
	<i>Body image</i>	0.665**	1.000	<i>Body image</i>	0.151	1.000
Sig. (2-tailed)	<i>Interpersonal</i>	—	0.000**	<i>Family</i>	—	0.417
	<i>Body image</i>	0.000**	—	<i>Body image</i>	0.417	—
Pearson correlation	<i>Body image</i>	1.000	0.645**	<i>Global self-esteem</i>		
	<i>Global self-esteem</i>	0.645**	1.000			
Sig. (2-tailed)	<i>Body image</i>	—	0.000			
	<i>Global self-esteem</i>	0.000	—			
Control group						
		<i>Competence</i>	<i>Body image</i>		<i>Body image</i>	<i>Emotionally</i>
Pearson correlation	<i>Competence</i>	1.000	0.477**	<i>Body image</i>	1.000	0.577**
	<i>Body image</i>	0.477	1.000	<i>Emotionality</i>	0.577**	1.000
Sig. (2-tailed)	<i>Competence</i>	—	0.007	<i>Body image</i>	—	0.001
	<i>Body image</i>	0.007	—	<i>Emotionally</i>	0.001	—
Pearson correlation	<i>Interpersonal</i>	1.000	0.681**	<i>Family</i>	1.000	0.185
	<i>Body image</i>	0.681**	1.000	<i>Body image</i>	0.185	1.000
Sig. (2-tailed)	<i>Interpersonal</i>	—	0.000**	<i>Family</i>	—	0.320
	<i>Body image</i>	0.000**	—	<i>Body image</i>	0.320	—
Pearson correlation	<i>Body image</i>	1.000	0.714**	<i>Global self-esteem</i>		
	<i>Global self-esteem</i>	0.714**	1.000			
Sig. (2-tailed)	<i>Body image</i>	—	0.000			
	<i>Global self-esteem</i>	0.000	—			

Sig., significance; ** = $p < 0.05$

References

1. American Psychiatric Association *Diagnostic and Statistical Manual of Mental Disorders*. 4th ed. American Psychiatric Association: Washington DC, 1994
2. Beale S, Lisper H, Palm B: A psychological study of patients seeking augmentation mammoplasty. *Br J Psychiatry* **136**:133–138, 1980
3. Dunofsky M: Psychological characteristics of woman who undergo single and multiple cosmetic surgery. *Ann Plast Surg* **39**:223–228, 1997
4. Edgerton M, Jacobson W, Meyer E: Surgical-psychiatric study of patients seeking plastic (cosmetic) surgery: Ninety-eight consecutive patients with minimal deformity. *Br J Plast Surg* **13**:136–145, 1960
5. Edgerton M, Langmann M, Pruzinsky T: Plastic surgery and psychotherapy in the treatment of 100 psychologically disturbed patients. *Plast Reconstr Surg* **88**:594–608, 1991
6. Edgerton M, McClary A: Augmentation mammoplasty: Psychiatric implications and surgical indications. *Plast Reconstr Surg* **21**:279–303, 1958
7. Goin M, Burgoyne R, Goin J: Face-lift operation: The patient's secret motivations and reactions to "informed consent.". *Plast Reconstr Surg* **58**:273–279, 1976
8. Goin M, Burgoyne R, Goin J, et al.: A prospective psychological study of 50 female face-lift patients. *Plast Reconstr Surg* **65**:436–442, 1980
9. Goin M, Rees T: A prospective study of patients' psychological reactions to rhinoplasty. *Ann Plast Surg* **27**:210–215, 1991
10. Hay G: Psychiatric aspects of cosmetic nasal operations. *Br J Psychiatry* **116**:85–87, 1970
11. Hay G, Heather B: Changes in psychometric test results following cosmetic nasal operations. *Reconstr Surg* **58**:272–279, 1979
12. Hueston J, Donnerstein L, Gotts G: Psychological aspects of cosmetic surgery. *J Psychosom Obstet Gynaecol* **4**:335–346, 1985
13. Jacobson W, Edgerton M, Meyer E, et al.: Psychiatric evaluation of male patients seeking cosmetic surgery. *Plast Reconstr Surg* **28**:356–372, 1960
14. Jafar S, Hasan JS: Psychological issues in cosmetic surgery: A functional overview. *Ann Plast Surg* **44**:89–96, 2000
15. Jerome L: Body dysmorphic disorder: A controlled study with patients requesting rhinoplasty (letter). *Am J Psychiatry* **149**:577, 1992
16. Kilman P, Sattler J, Taylor J: The impact of augmentation mammoplasty: A follow-up study. *Plast Reconstr Surg* **80**:374–378, 1987
17. Knorr N, Hoopes J, Edgerton M: Psychiatric-surgical approach to adolescent disturbance in self-image. *Plast Reconstr Surg* **41**:248–253, 1968
18. Meyer E, Jacobson W, Edgerton M, et al. Motivational patterns in patients seeking plastic surgery. *Psychosom Med* **22**:193–203, 1960
19. Oiley P: Aspects of plastic surgery. *Br Med J* **3**:322–324, 1947
20. Pertschuk M: Psychosocial considerations in interface surgery:. *Clin Plast Surg* **18**:11–18, 1991
21. Pertschuk M, Sarwer D, Wadden T, Whitaker L: Body image dissatisfaction in male cosmetic surgery patients. *Aesth Plast Surg* **22**:20–24, 1998
22. Reich J: Aesthetic plastic surgery development and place in medical practice. *Med J Aust* **1**:1152–1156, 1972
23. Sarwer D, Wadden T, Pertschuk M, Whitaker L: Body image dissatisfaction and body dysmorphic disorder in 100 cosmetic surgery patients. *Plast Reconstr Surg* **101**:1644–1649, 1998
24. Sarwer DB, Wadden TA, et al.: Body image dissatisfaction and body dysmorphic disorder in 100 cosmetic surgery patients. *Plast Reconstr Surg* **101**:1644–1649, 1998
25. Sihm F, Jagd M, Pers M: Psychological assessment before and after augmentation mammoplasty. *Scand J Plast Reconstr Surg* **12**:295–298, 1978
26. Thomason J, Knorr N, Edgerton M: Cosmetic surgery: The psychiatric perspective. *Psychosomatic* **19**:7–15, 1978
27. Thompson H: Preoperative selection and counseling of patients for rhinoplasty. *Plast Reconstr Surg* **50**:174–177, 1972
28. Wright M, Wright W: A psychological study of patients undergoing cosmetic surgery. *Arch Otolaryngol* **101**:145–151, 1975
29. Wright R: The male aesthetic patient. *Arch Otolaryngol Head Neck Surg* **113**:724–727, 1987