

Associations and differences between men and women on the acceptance of cosmetic plastic surgery in Brazil

Associações e diferenças entre homens e mulheres na aceitação de cirurgia plástica estética no Brasil

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ABSTRACT

Background: Brazil ranks third among all countries in the number of cosmetic plastic surgery procedures performed per year. The objective of this study was to examine the relationship between acceptance of plastic surgery and bodily satisfaction, internalization of media messages, and other psychosocial variables in a convenience sample of male and female Brazilian adults. **Methods:** Non-probabilistic sampling was used to select a sample (n = 198) of an equal number of men and women for voluntary participation. All participants completed 5 study instruments that collected data used to perform correlation and variance analyses at a 95% level of significance. **Results:** A significant association between acceptance of cosmetic plastic surgery and the variables of internalization of media messages and bodily appreciation was found in both sexes. A significant association between acceptance of cosmetic plastic surgery and life satisfaction was found only in women. Except for differences regarding the decision to undergo surgery after having considered the risks, no other differences regarding the acceptance of cosmetic plastic surgery in general were found between men and women. **Conclusions:** Despite the small sample examined in this study, the findings largely accord with international observations and are expected to contribute to further understanding of the demand for cosmetic plastic surgery in Brazil.

Keywords: Surgery, plastic. Propaganda. Personal satisfaction.

RESUMO

Introdução: O Brasil é o terceiro país no mundo em número de cirurgias plásticas estéticas. O objetivo deste estudo é verificar as correlações entre a aceitação de cirurgia plástica, a satisfação com o corpo e a internalização de mensagens midiáticas e outras variáveis psicossociais em uma amostra de adultos brasileiros, de ambos os sexos. **Método:** A amostragem foi não-probabilística, voluntária, composta por 198 pessoas, sendo 50% mulheres, que responderam os 5 instrumentos desta pesquisa. Na análise dos dados, foram usados testes de correlação e variância, com significância de 95%. **Resultados:** Há correlações significantes entre aceitação de cirurgia plástica estética, internalização da mídia e apreciação corporal, em ambos os sexos. A aceitação de cirurgia plástica estética correlaciona-se com a satisfação com a vida apenas entre as mulheres. Não há diferenças entre os sexos quanto à aceitação de cirurgia plástica estética de uma forma geral, apenas especificamente quanto à decisão de se submeter a cirurgia após análise dos riscos. **Conclusões:** Os dados da amostra apontam convergência com observações internacionais e, apesar da amostra restrita, espera-se contribuir para a compreensão ampliada da procura de cirurgia plástica estética em nosso País.

Descritores: Cirurgia plástica. Propaganda. Satisfação pessoal.

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INTRODUCTION

Cosmetic plastic surgery is an elective surgical procedure that aims to improve appearance by modifying original facial or bodily features that the individual finds displeasing¹. According to a survey conducted in 2009 by the International Society of Aesthetic Plastic Surgery, Brazil ranks third in the number of cosmetic surgical procedures performed per year, behind only the United States and China. Following the global trend, the 5 most common aesthetic procedures performed in Brazil are, in ascending order, liposuction, breast augmentation, blepharoplasty, rhinoplasty, and abdominoplasty. Of the estimated 8,536,379 cosmetic surgical procedures performed worldwide in 2009, 1,054,430 were performed in Brazil, a figure that indicates a considerable increase when compared to the 2004 figure of 363,609 surgical procedures, as estimated by the Brazilian Society of Plastic Surgery^{2,3}. According to Finger⁴, who established the profile of the Brazilian most likely to request plastic surgery, most patients are young women who seek larger breasts via breast augmentation and removal of fat via liposuction.

Research into the reasons for and predictors of cosmetic plastic surgery has become a focus of academic studies over the past several years. It is known that acceptance of plastic surgery is positively correlated to exposure to media messages⁵ and exposure to individuals, particularly those to whom the individual is close, who have previously undergone this type of surgery⁶. Sarwer et al.⁷ identified a positive association between acceptance of cosmetic plastic surgery in line with exposure to and influence by the media regarding attitudes toward plastic surgery. Henderson-King and Brooks⁸ concluded that the internalization of beauty standards, materialism (the tendency to consider the body an object, in this case), and paternal comments regarding beauty are predictors of acceptance of cosmetic plastic surgery. Body mass index (BMI) has also been found to be positively correlated with acceptance of plastic surgery. In an ethnographic study of Brazilian women, Edmonds⁹ found that bodily dissatisfaction, having a mother who has had a positive plastic surgery experience and who comments on the beauty of her daughter, partner acceptance of surgery, fear of being “replaced” by a more attractive woman, and desire to improve appearance for career success are the primary reasons reported for undergoing cosmetic plastic surgery.

The term beautiful is generally correlated with something good¹⁰. The association between being beautiful and being good offers a simple yet credible explanation for the search for the perfect body among men and, especially, women. In Brazil, women consider a beautiful woman to be a woman with straight, blonde hair; clear skin; and a curvy body. In contrast, men consider the ideal woman to be a woman with a curvy body, specifically large and firm breasts and

well-shaped buttocks; well-defined and balanced facial features; a height of approximately 1.80 m; a low percentage of body fat; a defined abdomen and chest; and wide shoulders. To achieve the ideal would mean to obtain perfection, harmony, and beauty. It would mean to realize the essence of the divine in the body, which would allow men to create the eternal body¹¹.

The beautiful body is a social standard based on attributes and behaviors that are classified as appropriate or ideal¹². The messages transmitted by conventional and alternative media penetrate into daily life, thus becoming powerful instruments in the determination of the standards of the ideal physical appearance¹³. Nevertheless, they do not affect everyone equally; individuals differ in the internalization of these media messages, leading to impact on behaviors, cognitions, and attitudes regarding the appearance differently¹⁴. According to Cash¹⁵, research into media messages related to physical appearance and internalization cover 2 aspects of attitudes toward appearance: a social aspect that concerns how individuals see their body in relation to other bodies and a personal, subjective aspect that concerns how individuals experience their appearance. The influences related to these factors are bidirectional and, ultimately, underline individual investment in and evaluation of bodily appearance. Concerns and investments in relation to appearance vary along a continuum that ranges from those that are necessary, pertaining to medical procedures required for medical treatment and health care of the body, to those that are excessive, pertaining to those that put health at risk and are related to social and affective loss. Excessive concerns and investments in appearance may ultimately lead to body dysmorphic disorder^{16,17}, a condition in which real or imagined bodily defects become the center of individual and social life and that poses the risk of financial difficulty due to the search for the ideal body by means of investment in diet, exercise, and plastic surgery¹⁷.

In light of the significant increase in cosmetic plastic surgery performed in Brazil in 2009 as well as the role of media messages in establishing standards of the ideal body, particular the emphasis on a thin body and large breasts for women and strength and virility for men^{18,19}, systematic research into how the internalization of media messages and other psychosocial variables highlighted in the literature influence the perception of plastic surgery in Brazil is necessary. To fill this research need, this study aimed to examine differences between men and women in the acceptance of plastic surgery and the correlations between their attitudes toward plastic surgery and other psychosocial variables, including body satisfaction, perception of physical attractiveness, and media internalization, in a sample of adult Brazilians.

METHODS

A non-probabilistic method was used to select a convenience sample of faculty members, technical-administrative professionals, students, and common people working in a public university located a city in the interior of São Paulo State who voluntarily agreed to participate. The sample consisted of 198 individuals with a mean age of 27.98 ± 10.56 years (range 18 to 73 years) composed of an equal number of men and women. Regarding body mass, the mean BMI of the female and male participants was 23.23 ± 4.11 kg/m² (range 16.11 kg/m² to 40.9 kg/m²) and 24.21 ± 2.96 kg/m² (range 17.54 kg/m² to 33.95 kg/m²), respectively. Regarding sexual orientation, 94.9% of the participants identified as heterosexual. Regarding religion, 72.7% identified as Catholic, 12.1%, as Protestant, 8.1% as “spiritual,” 5.1% as atheist or agnostic, and 2.0% as another denomination. Regarding marital status, 37.4% identified as single, 53.0% as married or in a relationship, 7.6% as divorced, and 2.0% as widows or widowers.

After accepting the invitation to participate in this research and signing the informed consent form, the participants completed the following 5 study instruments:

- *Acceptance of Cosmetic Surgery Scale (ACSS)*²⁰: The ACSS is a scale composed of 15 questions that evaluates 3 distinct attitudinal components related to cosmetic plastic surgery, namely 1) a social component via 5 questions that assess social motivations to undergo cosmetic plastic surgery; 2) an intrapersonal aspect via 5 items that assess attitudes regarding the perceived benefits of cosmetic plastic surgery; and 3) a reflective component via 5 questions that assess likelihood to undergo cosmetic plastic surgery based on consideration of possible complications, such as pain and side effects. The participants responded to all items using a Likert scale ranging from 1 to 7, with 1 indicating that the participant strongly disagreed with the item and 7 indicating that the participant strongly agreed. A validation study conducted in Brazil²¹ confirmed the original factorial structure of the scale, obtaining appropriate indices of reliability ($\alpha > 0.70$) for each factor and the general scale. Regarding the sample of this study, the internal reliability of the factors were found to be $\alpha = 0.80$ for factor 1, $\alpha = 0.82$ for factor 2, $\alpha = 0.87$ for factor 3, and $\alpha = 0.91$ for the entire scale. The final score was obtained by the sum of the scores obtained for each question, with a higher final score indicating a stronger predisposition to undergoing plastic surgery.
- *Sociocultural Attitudes Towards Appearance Questionnaire-3 (SATAQ-3)*²²: The SATAQ-3 consists of 30 questions designed to assess the extent of

internalization of media messages via assessment of 4 factors, namely 1) general internalization of information related to beauty and attractiveness that is broadcast by various media channels; 2) athletic internalization of information regarding the ideal athletic body in evaluation of and investment in appearance; 3) the extent of pressure faced regarding the parameters of the perfect body and how the media influences their pursuit, and 4) the extent to which media channels are considered important sources of information regarding attractiveness. Validation testing of the Portuguese language version of the scale in Brazil²¹ found that the scale presented the same factorial structure and distribution of questions when compared to the original scale with adequate reliability indices. For the sample of this study, internal reliability was found to vary from $\alpha = 0.90$ to 0.92 among the factors. The final score was obtained by the sum of the scores obtained for each question, with a higher final score indicating greater internalization of media messages specific to a factor.

- *Body Appreciation Scale (BAS)*²³: The BAS measures appreciation of the body, an aspect of positive body image, by assessing the components of a positive body image, namely favorable opinion of the body, body acceptance regardless of weight, respect of the needs of the body, adoption of “healthy behaviors,” and protection against stereotypical images. The original scale was a unidimensional survey consisting of 15 items to which the participants responded using a Likert scale that ranged from 1 to 5, with 1 indicating that the participant never agreed with the item and 5 that the participant always agreed. In validation testing conducted in Brazil²¹, the survey was initially found to be bidimensional, consisting of the factors of general appreciation of the body, which was assessed with 10 items that focused on positive attitudes related to the body and investment in the body, which was assessed with items examining body protection behaviors. However, as this factor did not obtain an adequate internal index of reliability in the study, it was recommended to use only 10 questions for the first factor. The data collected regarding the second factor had to be discarded from the analysis, and were used only as sources of supplementary information. In this study, the internal reliability of factor 1 was found to be $\alpha = 0.90$. The final score was obtained by the sum of the scores obtained for each question, with a higher final score indicating a higher appreciation of the body.
- *Indicators of Psychosocial Variables Scale (IPVS)*: The IPVS contains 3 items, one of which that

assesses physical attractiveness by instructing the participant to respond to the question “How physically attractive would you say you are?” using a 7-point Likert scale that ranges from 1 (unattractive) to 7 (very attractive), one of which assesses life satisfaction by instructing the participant to respond to the question “How satisfied would you say you are with life?” using a 7-point Likert scale that ranges from 1 (unsatisfied) to (7 = very satisfied), and one of which assesses perception of financial security by instructing the participant to respond to the question “Today, how financially secure do you feel?” using a 4-point Likert scale that ranges from 1 (insecure) to 4 (secure).

- Demographic questionnaire: The demographic questionnaire was designed to collect specific data regarding age, weight, height, sexual orientation, and civil status.

The data were tabulated and the Statistical Package for the Social Sciences (SPSS), version 15, was used to determine the correlation among the factors examined according to sex. The Kolmogorov–Smirnov normality test was used to assess the distribution of the findings and to determine the employment of adequate tests for each form of analysis. One-dimensional correlation analysis of the variables was conducted to establish correlations between variables, and variance analysis of the scores was performed to assess differences between the sexes regarding these variables. Bivariate correlation analysis of the scores pertaining to each factor assessed in the ACSS, SATAQ-3, and BAS and of the responses to the items assessing life satisfaction, physical attractiveness, financial security, and age was conducted separately for each sex.

The study was approved by the Unicamp Ethics Research Committee (register 657/2010).

RESULTS

Among women, higher acceptance of cosmetic plastic surgery based on social motivations was found to be correlated with a belief in realizing greater personal benefits by undergoing surgery. Women were also found to have a higher tendency to undergo surgery after having considered the risks and side effects, a higher level of internalization of general media information regarding beauty and attractiveness, a higher level of internalization of the ideal athletic body in the evaluation of appearance, and a lower appraisal of the body itself (Table 1). Recently, higher acceptance of cosmetic plastic surgery based on personal motivations, benefits, and perceived personal gains was positively correlated with a higher tendency to undergo surgery, even after considering the risks and side effects, and a higher level of internalization

of general media advertisements related to beauty and attractiveness. Higher acceptance of cosmetic plastic surgery was also positively correlated with the ACSS reflection factor. These associations indicate the existence of 4 important phenomena pertaining to women: 1) the risks of cosmetic plastic surgery tend to be underestimated, 2) the social and personal benefits of surgery tend to be maximized, 3) advertisements regarding beauty and physical attractiveness accord with perceptions of the ideal body that are formed by current standards, and 4) the real body is undervalued.

Among men, the common social motivations to undergo cosmetic plastic surgery, even after considering the risks and side effects, were found to be significantly correlated among themselves and to be related to higher general internalization of media messages regarding beauty and attractiveness, higher internalization of referential athletic messages conveyed by the media, higher pressure to achieve the perfect body conveyed by the media, higher internalization of information related to beauty and attractiveness conveyed by various media channels, and less general appreciation of the body. The most relevant personal benefits that have been credited to cosmetic plastic surgery were found to be significantly correlated with higher internalization of general messages regarding beauty and attractiveness, higher internalization of the ideal athletic body in the evaluation of appearance, and lower appraisal of the body itself. In both men and women, a correlation was found between acceptance of cosmetic plastic surgery and underestimation of associated risks and overestimation of gains. However, men’s acceptance of cosmetic plastic surgery was found to be affected by not only general media messages regarding the ideal body but also promotion of the athletic standard by the media.

The results of the Mann–Whitney test were not significantly different from the ACSS scores for social and intra-personal factors for both men and women ($U = 4,673$; $N_1 = 99$; $N_2 = 99$; $P = 0.57$; $U = 4,571$; $N_1 = 99$; $N_2 = 99$; $P = 0.43$, respectively). However, a significant difference was found for the reflection factor, specifically the probability of undergoing cosmetic plastic surgery after considering the risks and pain ($U = 3,847.5$; $N_1 = 99$; $N_2 = 99$; $P = 0.009$). The results for women (mean = 110.14) indicate that they tend to assess the gains of cosmetic plastic surgery more positively and minimize the risks and side effects more strongly compared to men (mean = 88.86).

Regarding appreciation of the body, the results of the variance test indicate a significant difference between men and women ($U = 3,675$; $N_1 = 99$; $N_2 = 99$; $P = 0.002$), with women obtaining lower body appreciation scores (mean = 87.12) than men (mean = 11.88). A significant difference between the sexes was also found regarding the scores for the general internalization factor ($U = 3,892$; $N_1 = 99$; $N_2 = 99$; $P = 0.012$) and the SATAQ-3 pressure factor ($U = 4,017.5$; $N_1 = 99$;

Table 1 – Correlations between variables in women (lower diagonal) and men (upper diagonal).

	1	2	3	4	5	6	7	8	9	10	11	12	13
(1) Factor 1 ACS	-	0.59**	0.79**	0.56**	0.39**	0.34**	0.28**	-0.26**	-0.16	-0.09	-0.02	0.10	0.02
(2) Factor 2 ACSS	0.43**	-	0.67**	0.31**	0.27**	0.17	0.12	-0.22**	0.05	-0.01	-0.08	0.09	0.10
(3) Factor 3 ACSS	0.60**	0.59**	-	0.44**	0.37**	0.45**	0.22**	-0.30**	-0.17	-0.06	-0.09	0.16	0.09
(4) Factor 1 SATAQ-3	0.28**	0.21*	0.19	-	0.72**	0.59**	0.47**	-0.20*	-0.07	0.03	-0.15	-0.23*	-0.25*
(5) Factor 2 SATAQ-3	0.22*	0.16	0.05	0.66**	-	0.46**	0.35**	-0.18	-0.15	0.05	-0.13	-0.15	-0.19
(6) Factor 3 SATAQ-3	0.15	0.05	-0.11	0.59**	0.58**	-	0.35**	-0.19	-0.16	-0.13	-0.09	-0.04	-0.03
(7) Factor 4 SATAQ-3	0.04	0.11	0.12	0.49**	0.40**	0.29**	-	-0.20**	0.06	-0.16	0.14	0.12	0.02
(8) BAS	-0.34**	-0.76	-0.27**	-0.24**	-0.09	-0.25**	-0.09	-	0.32**	0.34**	0.08	0.09	-0.08
(9) Life satisfaction	-0.13	-0.06	-0.23**	-0.21**	-0.05	-0.20**	-0.015	0.39**	-	-0.11	0.29**	0.06	-0.002
(10) Physical attraction	-0.17	0.002	-0.20	-0.16	-0.06	-0.06	-0.22*	0.42**	0.35**	-	-0.09	0,04	-0.10
(11) Financial security	-0.05	0	-0.13	0.06	-0.01	0.001	0.03	0.16	0.40**	0.09	-	0.12	0.03
(12) Age	0.13	0.14	0.11	-0.08	-0.23**	-0.06	0.01	-0.07	-0.11	-0.27**	0.23*	-	0.40**
(13) BMI	0.17	0.08	0.07	-0.003	-0.05	-0.02	-0.11	-0.26**	-0.02	-0.11	0.14	0.14	-

*P < 0.05; **P < 0.01.

ACSS = *Acceptance of Cosmetic Surgery Scale*; BAS = *Body Appreciation Scale*; BMI = *body mass index*; SATAQ-3 = *Sociocultural Attitudes Toward Appearance Questionnaire-3*.

$N_2 = 99$; $P = 0.028$), with women's higher scores (mean = 109.69 and 108.42, respectively) indicating that they internalize general messages of beauty and attractiveness and feel more pressure by the media to achieve a perfect body compared to men (mean = 89.31 and 90.58, respectively). The scores also indicate that men (mean = 106.26) are significantly more satisfied with life ($U = 4,041.5$; $N_1 = 99$; $N_2 = 99$; $P = 0.048$) than women (mean = 90.74). No significant differences were found between men and women regarding any of the other variables examined.

DISCUSSION

The aim of this exploratory study was to objectively examine the associations between the acceptance of cosmetic plastic surgery in Brazil and several psychosocial variables selected according to evidence reported in the international and national literature, with those contained in the latter being primarily qualitative variables. Among all the variables investigated, internalization of media messages, as investigated in terms of 4 factors, was found to be the variable most

highly correlated with the acceptance of cosmetic surgery. Indeed, as highlighted by Goldenberg and Ramos¹¹, it is through “cinema, television, journal, and magazine reports that the requirements [of good physical shape] reach the mere mortals who are bombarded by images of faces and the perfect body.”

Of particular notice was the significant difference found between men and women regarding the specific factor of “reflection,” with women being found to be more likely to undergo cosmetic plastic surgery after having considered the associated side effects and pain. Particularly interesting is the negative correlation found between “reflection” and life satisfaction. This finding is in agreement with Vigarello¹⁹, who argued that beauty values and reinforces the status of women in modernity despite the diversity of roles and values achieved by women over the last 60 years, and thus the responsibility to remain beautiful falls more heavily on women than on men. Since its formulation among the European elite in the 17th and 18th centuries, the belief has existed that because beauty is a product that can be sold, women who do not seek or fail to achieve it are not socially successful.

Surprisingly, a negative correlation was found between acceptance of cosmetic plastic surgery, as reflected in both the general score and the score for each factor of the scale, and appreciation of the body in men. The results for the men in this study indicate that they do not accept having an “inadequate” body and are willing to undergo sacrifices to achieve a beautiful one. According to the Brazilian Society of Plastic Surgery, the percentage of men requesting cosmetic plastic surgery in Brazil has increased from 5% to 30% in the past 5 years, with liposuction, rhinoplasty, and otoplasty being the most requested procedures. Over the past decade, researchers and clinicians have observed a different pattern of bodily dissatisfaction among men that was highlighted with the identification of the “Adonis Complex,” a condition that encompasses different forms of body obsession concerning baldness, penis size, diet, plastic surgery, and anabolic steroid use and is characterized by the desire to be a “Superman” at any price. This obsessive behavior goes beyond physical dissatisfaction and impacts personal and professional relationships. Besides concerns regarding and strategies of remodeling the body that are typical of the “Adonis Complex,” eating disorders, body and muscle dysmorphia, and exercise dependence are other disorders that might be included in this scenario¹.

The first limitation of this study regards the limited extent to which the sample analyzed was representative of the Brazilian population, despite its avoidance of an exclusive focus on undergraduate students, a recurring criticism of similar studies. The second limitation regards the variables examined, which were chosen according to their relevance in the international literature. Future investigation within a national context might identify other important variables, thus providing more understanding of the acceptance of plastic surgery, the influence of the media, and the attitudes of Brazilians toward their bodies. The third limitation concerns a possible difference in the acceptance of cosmetic plastic surgery and level of exposure of the body. Since a person who is skimpily clad is expected to have firm and “remodeled” skin¹¹, it would be interesting to examine the acceptance of plastic surgery in the coastal cities of Brazil, especially in Rio de Janeiro. Despite these limitations, it is believed that the study provides a deep understanding of the demand for cosmetic plastic surgery in Brazil and why thousands of Brazilians are willing to undergo elective surgery, very often by nonspecialists, to achieve a perfect body. Moreover, the finding that the individuals analyzed in this study appear susceptible to media-driven messages regarding the ideal body indicates that the media can be used as a means of mass intervention to promote greater acceptance of the real body. In fact, private industry has already recognized this possibility, with one multinational company leading a

campaign for appreciating “real beauty” directed toward women who had been targets of scientific studies²⁴. However, this campaign does not focus on men nor specifically clarify the risks of cosmetic plastic surgery, thus implying a lack of expansion of this initiative by federal agencies or even by private programs.

CONCLUSIONS

Although a statistically significant difference was identified between men and women regarding the acceptance of cosmetic plastic surgery, this difference was found to pertain only to the risks and pain associated with surgical procedures, with women being found more willing to take risks and endure pain. The finding of a significant association between the internalization of media messages and acceptance of cosmetic plastic surgery indicates the importance of the media in disseminating the ideals of beauty. These ideals of beauty are mostly associated with cosmetic plastic surgery as compared to other psychosocial factors, such as satisfaction with life and perception of financial security.

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