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ORIGINAL ARTICLE

Psychological Profile of Taiwanese Female Cosmetic Surgery Candidates: Understanding Their Motivation for Cosmetic Surgery

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Abstract
Background Psychological processes consisting of body image and self-esteem are considered key to the motivation for cosmetic surgery (CS). The current study aimed to investigate such processes as well as social support, perception of other people's opinion, and sex life satisfaction of Taiwanese female CS candidates. Further analyses were conducted to identify which processes predicted motivation for CS.
Method Questionnaires comprising subscales of the Multidimensional Body–Self Relations Questionnaire, the Rosenberg Self-Esteem Scale, the Perception of Other Peoples' Opinion Scale, and social support and sex life questions were completed by Taiwanese female CS candidates ($n = 85$) preoperatively. The results were compared with those for a sex-matched nonsurgical control group ($n = 105$) as well as previously published data and reference norms. Correlation and multiple regression analysis also was conducted to identify any relationship between variables as well as which variable best predicted the likelihood of a patient having surgery.
Results A total of 29 CS candidates (34.1%) reported before their surgical consultation that they would "very likely" or "likely" have CS, and 54 (63.5%) received support from all three social groups, namely, family, friends, and partner. The body image (appearance evaluation, orientation, and body area satisfaction) of the CS candidates was *not* significantly different from that of the control group. The former had significantly higher self-esteem and perception of other people's opinion scores. Self-esteem was positively correlated with appearance evaluation ($r = 0.484$; $p < 0.01$) and body area satisfaction ($r = 0.494$; $p < 0.01$). Body area satisfaction had a fair degree of negative correlation with the likelihood of having CS ($r = -0.413$; $p < 0.01$). Regression analysis indicated that only body area dissatisfaction predicted the likelihood of having CS, accounting for 29.4% of the total variance.
Conclusions The results of this study indicate that the Taiwanese female CS candidates did not have higher body image dissatisfaction or greater body image investment than the control group. However, body area dissatisfaction was the only significant predictor for the likelihood of having CS, a feature not previously recognized in Asian CS candidates. The higher self-esteem of the CS candidates opposes the view that low self-esteem is a principal motivating factor for CS.

Keywords Cosmetic surgery · Aesthetic surgery · Psychological factors · Body image · Self-esteem · Multidimensional body–self relations questionnaire · Taiwan

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During the past decade, the demand for cosmetic surgery (CS) in Western countries has steadily increased. In the United States, more than 10 million surgical and nonsurgical cosmetic procedures were performed in 2008, with surgical procedures accounting for 17% of the total. From 1997 to 2008, the number of surgical procedures performed increased 80% [1].

The factors suggested to explain the rise in demand for CS include an increasing desire to appear youthful, social acceptability and increased public awareness of CS, affordability, higher disposable incomes, improved safety, and the advent of minimally invasive procedures with shorter recovery times [13, 20, 27, 33].

Currently, a growing body of evidence indicates that psychological factors are critical in determining the likelihood of patients seeking CS [4, 17, 24, 32]. Sarwer et al. [28] proposed a model to describe the relationship between body image dissatisfaction and CS. In addition to the influence of the physical self, a number of psychological influences were identified including perceptual, developmental, and sociocultural influences as well as self-esteem.

Perceptual influence on body image development refers to the person's perception of his or her own body image, whereas *developmental* influence refers to childhood and adolescent experiences. With CS patients, a relationship between peer teasing and body part dissatisfaction often can be uncovered. *Sociocultural* influence on body image development refers to the interaction and effect that social and cultural standards and mass media portrayal of beauty have on the person. The final component, *self-esteem*, is defined as the evaluation of self-worth and overall feeling about oneself.

In recent years, the relationship between body image and self-esteem has gained significance [17]. In a study of breast augmentation patients, self-esteem was recognized as a motivating factor for surgery [31].

Body image itself is considered a multidimensional construct consisting of two independent dimensions, namely, perception (size estimation) and attitudes (body-related affects and cognitions) [5]. Factor analysis of the Multidimensional Body–Self Relations Questionnaire supports this construct theory [3]. The *perception* dimension of body image relates to how accurately individuals judge their body size, whereas the *attitudinal* dimension relates to individuals' beliefs and feelings about their physical attributes. The latter can be further divided into two relatively distinct components, namely, orientation and evaluation [6]. Body image *orientation* refers to the degree of importance the individuals places on his or her appearance, whereas body image *evaluation* refers to how satisfied a person is with his or her body.

It has been stated that people with high body image orientation and low body image evaluation have a greater than average tendency to undergo CS [21, 28]. The evidence for this, however, is not clear-cut. Studies of women seeking breast augmentation, blepharoplasty, or rhytidectomy showed higher body image orientation than matched control subjects or normative data [26, 30]. Similarly, in another study comparing individuals interested in CS with disinterested subjects, Frederick et al. [18] found that the former did not report poorer global body image but did have higher body image orientation than the latter. In contrast, Didie et al. [14] and Sarwer et al. [29] found no difference between the body image orientation of CS candidates and that of matched control subjects or normative data.

In addition to body image and self-esteem, social acceptance has been identified as a key psychological factor that motivates patients to undergo CS [34]. Findings have shown a positive acceptance of CS in the patient's environment to be a strong predictor of motivation for CS. However, little research exists on this relationship. It is hypothesized that patients who receive support from their partner, family, and friends are more likely to pursue CS. Furthermore, it also is expected that patients exposed to an environment in which appearance is considered important are more likely to undergo CS.

In line with global trends, the demand for CS is increasing in Asia. Despite this, very little research exists on the psychological profile of Asian CS candidates. The majority of current research is limited to Western patients. This is problematic considering that body image has a cultural and racial/ethnic context [8]. It is clear from the literature that studies on the psychological profile of Asian CS patients are greatly needed.

The current study aimed to compare body image, self-esteem and perception of other people's opinion between Taiwanese female CS candidates and a matched control group; to compare high and low social support subgroups of the CS candidates with regard to the aforementioned variables; to compare the body image and self-esteem of the CS candidates with previously published data and reference norms; to identify any correlations among body image, self-esteem, social support, perception of other people's opinion, sex life satisfaction, and likelihood of having CS; and to identify any variable that predicted the likelihood of an individual having CS.

Patients and Methods

CS Candidates

All female patients who presented to a private CS clinic in Kaohsiung, Taiwan, Republic of China, and due to be seen by either one of two plastic surgeons (H.C.C., Y.T.L.) were

prospectively identified as potential participants in this study. Only patients requesting surgery primarily for cosmetic reasons were considered eligible for the study. Patient requests included rhytidectomy, blepharoplasty, rhinoplasty, breast augmentation, liposuction, laser skin resurfacing, and autologous fat transfer for facial rejuvenation.

Those seeking aesthetic improvement for cancer- or trauma-related disfigurement were excluded from the study. The period of recruitment was from January 2005 to January 2006.

Each eligible patient was approached by a psychologist before surgical consultation, which occurred a few weeks before any surgery. The nature of the study was explained, and the candidate's voluntary participation was requested. If the patient refused to participate, no further request was made.

For patients who did agree to participate, written consent was obtained before the questionnaire was issued. The questionnaire then was completed and returned before the surgical consultation. To maintain confidentiality, no personal identifying data were recorded. Ethical approval for the study was granted by hospital Institutional Review Board.

Control Group

The control group consisted of 105 women randomly recruited from local community schools at Kaohsiung, Taiwan. Their mean age was 33.6 ± 4.5 years (range, 28–49 years). The women were excluded from the study if they had previously undergone CS. In a manner similar to that of the CS candidates, participation in completing the questionnaire was entirely voluntary, and written consent was obtained before completion of the questionnaire. The period of recruitment also was from January 2005 to January 2006.

Questionnaire

The questionnaire issued to the CS candidates differed from that issued to the control group participants. Both required answering questions relating to demographic information, body image, and self-esteem. However, the CS candidates also answered questions relating to social support for CS, sex life satisfaction, and likelihood of having CS.

Demographic Information

The demographic information included age and marital status (single, married, or other). Cosmetic surgery candidates also were asked their primary concern regarding surgery. The options included safety of surgery, achievement of intended outcome, pain, swelling, privacy, and cost.

Assessment of Body Image

Body image was measured using three subscales of the Multidimensional Body–Self Relations Questionnaire (MBSRQ) [3, 7], which had been translated into Taiwanese. Permission to use the MBSRQ and scoring manual had been granted by Dr. Thomas Cash of Old Dominion University, Norfolk, Virginia.

The MBSRQ is a well-validated self-report questionnaire for assessing the body image of persons 15 years of age or older. It was chosen because it is one of the most widely used measures of body image that demonstrates cross-validity [23]. The full MBSRQ consists of 69 items divided into 10 subscales: health evaluation, health orientation, illness orientation, appearance evaluation, appearance orientation, fitness evaluation, fitness orientation, body area satisfaction scale (BASS), overweight preoccupation scale, and self-classified weight scale. The last three subscales are distinct in that they are multi-item subscales.

The first 57 items are answered on a 5-point Likert scale from 1 (definitely disagree) to 5 (definitely agree). Items 61 to 69, representing the body area satisfaction subscale, use a 5-point Likert scale indicating how dissatisfied or satisfied a person is with his or her body, with choices ranging from 1 (very dissatisfied) to 5 (very satisfied) [7]. The separate subscales that comprise the MBSRQ can be used either jointly or independently.

Three subscales were administered in this study:

1. Appearance evaluation subscale (affective evaluation of appearance). This 7-item subscale measures overall satisfaction with one's appearance. High scorers feel positive and satisfied with their appearance, whereas low scorers are generally unhappy with their appearance.
2. Appearance orientation subscale (cognitive–behavioral investment in appearance). This 12-item subscale measures the individual's perceived importance of his or her appearance. High scorers place much importance on their appearance and engage in extensive grooming behaviors, whereas low scorers are apathetic about their appearance and do not expend much effort to "look good" [9].
3. Body area satisfaction subscale (BASS) (extent of satisfaction with eight body parts). This 8-item subscale measures the degree of satisfaction about different aspects of one's appearance. High composite scorers are generally satisfied with most areas of their body, whereas low scorers are dissatisfied with the size or appearance of several areas.

All three subscales showed good internal consistency. The Cronbach alphas in the control group were respectively 0.77, 0.81, and 0.83.

Assessment of Self-Esteem

A Taiwanese-translated version of the Rosenberg Self-Esteem (RSE) scale was used [11, 22]. The RSE is a brief and widely used measure of global self esteem consisting of 10 items answered on a 4-point Likert scale ranging from 4 (from strongly agree) to 1 (strongly disagree). A sample item on the RSE states, "On the whole, I am satisfied with myself." Five items are negatively worded and reverse-scored (i.e., strongly agree = 1). An overall score is determined by summing the responses of all items. The overall scores range from 10 to 40, with higher scores representing higher self-esteem. The current study showed good internal consistency of the RSE scale items for the control group ($\alpha = 0.78$).

Perception of Other People's Opinion

An 11-item scale composed of 4 subscales was designed to measure the individual's perception of other people's opinion [36]. The items in the scale included the following:

Peer Opinion

1. If my appearance looked better, I would have more friends.
2. Most of my friends are concerned about their appearance.
3. My friends care about my appearance.

Peer Comparison

4. I compare my appearance with that of my friends/colleagues.
5. I discuss appearance issues with my friends/colleagues.

Peer Teasing

6. Other people make fun of my appearance.
7. My friends give me a nickname according to my appearance.
8. I think I don't look good enough, so people look at me with disapproval.

Parents' Opinion

9. My parents care about my appearance.
10. I care about the opinion my parents have about my appearance.
11. My parents compare my appearance with that of my friends/colleagues.

Each item was measured on a 5-point Likert scale ranging from 1 (definitely disagree) 5 (definitely agree). High composite scores indicated that the individual had greater perception of other people's opinion.

The scale had good internal consistency and test–retest reliability [36]. There was good internal consistency of the scale items for the CS candidate ($\alpha = 0.896$) and the control group ($\alpha = 0.80$).

Social Support for CS

Social support for CS was measured by asking the following three questions:

1. Did your family (parents, brothers, or sisters) support your wish for CS?
2. Did your friends support your wish for CS?
3. Did your partner (husband, wife, girlfriend, boyfriend) support your wish for CS?

The answers for all three questions were either "yes" or "no," with a score of 1 assigned to the former and 0 assigned to the latter. A score of 2 or less indicated weak social support, whereas a score of 3 indicated strong social support.

Sex Life Satisfaction

Satisfaction with sex life was measured using a 5-point Likert scale ranging from 1 (very dissatisfied) to 5 (very satisfied).

Likelihood of Having CS

Each patient was asked his or her likelihood of having CS (How likely are you to go ahead with CS?) A 5-point Likert scale ranging from 1 (very unlikely) to 5 (very likely) was used.

Reference Norms

Reference norms for the Multidimensional Body–Self Relations Questionnaire were derived from U.S. national survey data based on 1,064 female respondents [10].

Statistical Analyses

If a subscale item was left unanswered or incorrectly scored, then the entire subscale was excluded from the analysis. The means and standard deviations for each MBSRQ subscale, RSE scale, and Perception of Other People's Opinion scale were calculated using SPSS 11.0 (SPSS Inc. Chicago, IL, USA).

To determine any difference among the CS candidates, control group, and reference norms, a series of independent *t* tests were used. An independent *t* test also was used to determine any difference between CS candidates with weak and those with strong social support in terms of body image, self-esteem, and perception of other people's opinion. Pearson's correlation analysis was used to ascertain any relationship between variables (body image subscales, self-esteem, perception of other people's opinion, sex life satisfaction, and likelihood of having surgery) for the CS candidates. Multiple regression analysis was performed to determine which variable best predicted likelihood of an individual having CS. Independent variables included MBSRQ subscales, self-esteem, perception of other people's opinion, social support, and sex life satisfaction.

A positive value (β estimate) indicated a positive relationship between the independent variable and the likelihood of an individual having CS, whereas a negative value indicated the opposite. The coefficient of determination also was calculated to determine how well the predictive model fit the data. A value closer to 1 indicated that the predictive model explained all variability in the likelihood to have CS scores. The significance level for all statistical analyses was set at 0.05.

Results

CS Candidates

A total of 85 women consented to complete the questionnaire. Their mean age at the time of questionnaire completion was 35.8 ± 11.4 years (range, 16–63 years). This was not significantly different from that of the control group ($t = 1.81$; degrees of freedom [df] = 188; $p = 0.07$).

Of the 85 women, 13 were married, 8 were single, 2 answered "other," and 62 did not answer the question. All the patients were native Taiwanese from Kaohsiung or nearby districts.

For 59 of the CS candidates (69.4%), safety of surgery was the primary concern (Fig. 1). Family support was most prevalent, with 76 CS candidates (89.4%) receiving their family's approval (Fig. 2). The majority ($n = 54$, 63.5%) received support from all three social support groups (Fig. 3).

With regard to the likelihood of having CS, 6 participants (7.1%) stated that it was "very likely," 23 (27.1%) that it was "likely," 28 (32.9%) that it was "neither likely nor unlikely," 11 (12.9%) that it was "unlikely," and 5 (5.9%) that it was "very unlikely." No answer was given by 12 of the CS candidates (14.1%).

As stated by the CS candidates, 6 (7.1%) were "very satisfied" with their sex life, 22 (25.9%) were "satisfied," 15 (17.6%) were "neither satisfied nor dissatisfied," and 3 (3.5%) were "very dissatisfied." No answer was given by 39 (45.9%) of the CS candidates. No respondents were in the ''dissatisfied' category.

The descriptive results for the MBSRQ subscales, the RSE scale, and the Perception of Other People's Opinion scale from the control group and CS candidates are listed in Table 1. The mean scores for the MBSRQ subscales indicate that the responses ranged from "mostly disagree" to "neither agree nor disagree" (2.73 to 3.66 on a 5-point scale). The independent *t* test showed no significant difference for any of the MBSRQ subscales between the control group and the CS candidates. However, the CS candidates returned significantly higher self-esteem and Perception of Other People's Opinion scores ($p < 0.05$ for both).

The *t* test comparison of CS candidates with weak (score ≤ 2) and those with strong (score = 3) social support demonstrated no significant difference (Table 2). The comparison of the Taiwanese and Norwegian CS candidates on the independent *t* test indicated that the samples

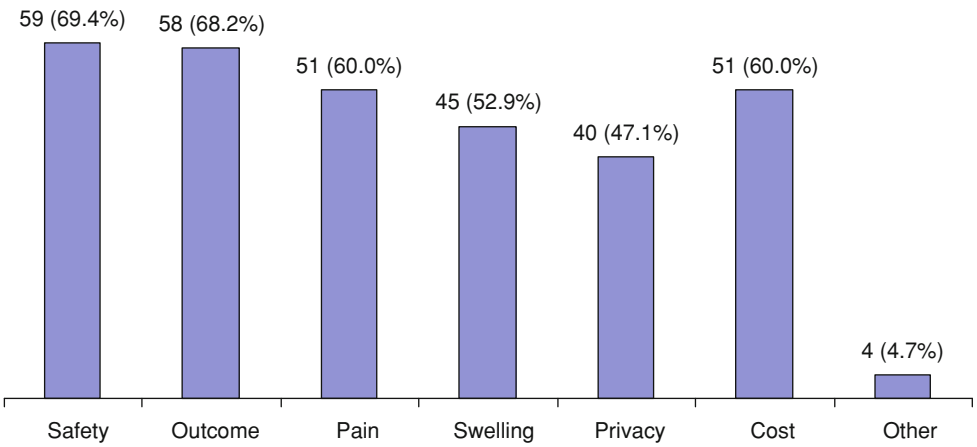

Fig. 1 Primary concern of the cosmetic surgery candidates ($n = 85$). Categories were not mutually exclusive. Figures in *parentheses* are percentages

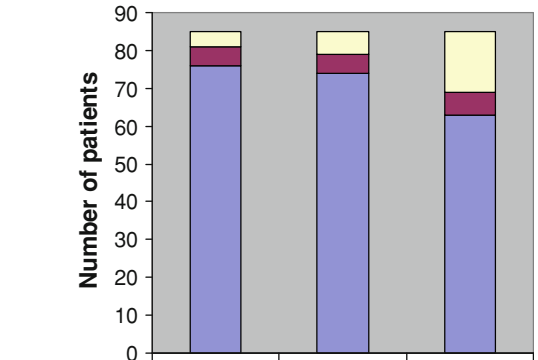

Fig. 2 Sources of social support for the cosmetic surgery candidates

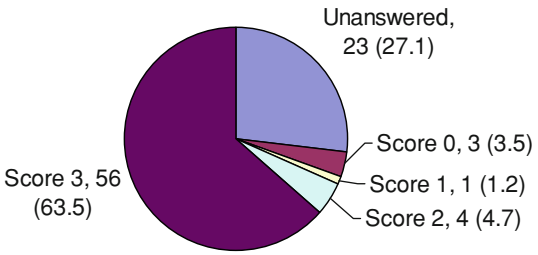

Fig. 3 Summed social support score for the cosmetic surgery candidates

were age matched ($p > 0.05$), but the latter group scored significantly higher on appearance evaluation and orientation (Table 3). Body area satisfaction could not be compared because this was not evaluated for the Norwegian candidates.

When reference norms were used for comparison, the mean ages and all three MBSRQ subscale scores were very significantly higher in the U.S. national survey. Pearson's correlation analysis showed that body area satisfaction had a fair degree of negative correlation with the likelihood of an individual having CS ($r = -0.413$; $p < 0.01$) but moderate and little positive correlation with appearance evaluation ($r = 0.665$; $p < 0.01$) or appearance orientation ($r = 0.274$; $p < 0.01$), respectively. Self-esteem had a fair degree of positive correlation with appearance evaluation ($r = 0.484$; $p < 0.01$) and body area satisfaction ($r = 0.494$; $p < 0.01$) (Table 4). Perception of other people's opinion, social support, and sex life satisfaction did not correlate with any other variable.

For the relationship between body area satisfaction and likelihood of having CS, the coefficient of determination (r^2) was 0.170. Thus, only 17% of the variation in the CS candidates' scores for likelihood of having CS can be explained by their body area satisfaction. The other 83% of the total variation remains unexplained.

Multiple regression analysis showed that body area satisfaction ($\beta = -0.58$; $p < 0.05$) was the only significant predictor for the likelihood of having CS (Table 5). The relationship was negative.

The coefficient of multiple determination was 0.294. This can be interpreted to mean that 29.4% of the variation found in the scores for likelihood of having CS could be explained by the covariates included in the regression model. The remaining 70.6% could be attributable to unknown, confounding variables or inherent variability.

Table 1 Comparison of *t* test outcomes between control and cosmetic surgery (CS) candidates with regard to multidimensional body–self relations questionnaire (MBSRQ) subscales, self-esteem, and perception of other people's opinion scale

	Control group ($n = 105$)	Cosmetic surgery candidates ($n = 85$)	*t*	df	*p* Value
MBSRQ subscales					
Appearance evaluation (7 items)	2.73 ± 0.62	2.87 ± 0.54	1.626	186	0.106
	$n = 105$ (100)	$n = 83$ (97.6)			
Appearance orientation (12 items)	3.66 ± 0.48	3.55 ± 0.53	1.404	168	0.162
	$n = 102$ (97.1)	$n = 68$ (80)			
Body area satisfaction (9 items)	2.73 ± 0.69	2.84 ± 0.53	1.118	171	0.265
	$n = 105$ (100)	$n = 68$ (80)			
Rosenberg self-esteem scale (10 items)	3.28 ± 0.59	3.47 ± 0.57	2.143	175	0.034*
	$n = 103$ (98.1)	$n = 74$ (87.1)			
Perception of other people's opinion scale (11 items)	2.64 ± 0.55	2.87 ± 0.71	2.455	179	0.015*
	$n = 105$ (100)	$n = 76$ (89.4)			

Values are mean ± standard deviation

df degrees of freedom, *n* number of participants that answered all items of that subscale. Values in parentheses are %

* Statistically significant ($p < 0.05$)

Table 2 Comparison of *t* test outcomes between weak and strong social support subgroups of cosmetic surgery (CS) candidates with regard to multidimensional body–self relations questionnaire (MBSRQ) subscales, self-esteem, and perception of other people's opinion scale

	Weak social support (score ≤ 2)	Strong social support (score = 3)	*t*	df	*p* Value
MBSRQ subscales					
Appearance evaluation (7 items)	3.00 ± 0.45	2.93 ± 0.55	0.342	57	0.734
	$n = 8$	$n = 51$			
Appearance orientation (12 items)	3.60 ± 0.45	3.63 ± 0.57	0.102	45	0.919
	$n = 4$	$n = 43$			
Body area satisfaction (8 items)	2.98 ± 0.59	2.86 ± 0.49	0.511	49	0.612
	$n = 5$	$n = 46$			
Rosenberg self-esteem scale (10 items)	3.52 ± 0.75	3.60 ± 0.53	0.307	47	0.760
	$n = 5$	$n = 44$			
Perception of other people's opinion scale (11 items)	3.23 ± 0.77	2.94 ± 0.70	0.950	54	0.347
	$n = 6$	$n = 50$			

Values are mean ± standard deviation

n number of CS candidates who answered all items of that subscale

Table 3 Comparison of *t* test outcomes between Taiwanese and Norwegian cosmetic surgery (CS) candidates and multidimensional body–self relations questionnaire (MBSRQ) reference norms

	Taiwanese female CS candidates	Norwegian female CS candidates* [35] ($n = 155$)	*t*	*p* Value	Reference norms (U.S. national survey) [10] ($n = 1{,}064$)	*t*	*p* Value
Mean age	35.8 ± 11.4	37.1 ± 11.0	0.86	0.39	40.6 ± 17.2	2.53	0.012
			df = 238			df = 1147	
MBSRQ subscales							
Appearance evaluation	2.87 ± 0.54	3.16 ± 0.86	2.79	0.006	3.36 ± 0.87	5.05	<0.0001
	$n = 83$ (97.6)		df = 236			df = 1145	
Appearance orientation	3.55 ± 0.53	3.84 ± 0.61	3.40	0.001	3.91 ± 0.60	4.83	<0.0001
	$n = 68$ (80)		df = 221			df = 1130	
Body area satisfaction	2.84 ± 0.53				3.23 ± 0.74	4.28	<0.0001
	$n = 68$ (80)					df = 1130	

Values are mean standard ± deviation

df degrees of freedom, *n* number of participants that answered all items of that subscale. Figures in parentheses are percentage

* Body area satisfaction subscale of MBSRQ was not evaluated

Discussion

This is the first empirical study investigating the psychological profile of Taiwanese female CS candidates. The study indicates that CS candidates do not demonstrate greater psychopathology in terms of body image or self-esteem than matched control subjects. Self-esteem actually was significantly higher in the former. This contradicts the previous assertion that patients seek CS when self-esteem declines [15]. Ferraro et al. [16] found no difference in self esteem between patients seeking CS and the general population. Indeed, much of the recent literature indicates the psychopathology is no greater in CS patients. According to our observation, many CS candidates appear to be psychologically "normal." The fact that they seek surgery may reflect a proactive, motivated personality, and higher self-esteem may be consistent with such a psychological profile.

The CS candidates did exhibit a higher Perception of Other People's Opinion score than the control group. However, this did not correlate with appearance evaluation, orientation, or any other variable. This indicates that although CS candidates have a greater awareness of peer and parent opinions regarding their appearance, it does not influence their body image.

When CS candidates were differentiated into those with low and those with high social support, there was no difference in body image, self-esteem, or Perception of Other

Table 4 Correlations for likelihood of having cosmetic surgery and 7 variables: 3 multidimensional body–self relations questionnaire (MBSRQ) subscales, self-esteem, perception of other people's opinion scale, social support, and sex life satisfaction

	MBSRQ subscales							
	AppE	AppO	BASS	SelfEst	PerOpin	SocSup	Sexlife	Likely
AppE								
AppO	0.279*							
BASS	0.665**	0.274*						
SelfEst	0.484**	0.103	0.494**					
PerOpin	−0.010	0.215	−0.106	−0.159				
SocSup	−0.028	0.070	0.064	0.130	−0.099			
Sexlife	0.050	0.195	−0.006	−0.073	−0.202	0.214		
Likely	−0.042	−0.002	−0.413**	−0.156	0.206	0.143	0.073	

AppE appearance evaluation, *AppO* appearance orientation, *BASS* body area satisfaction, *SelfEst* self esteem, *PerOpin* perception of other people's opinion, *SocSup* social support, *Sexlife* sex life satisfaction, *Likely* likelihood of having cosmetic surgery

* $p < 0.05$, ** $p < 0.01$

Table 5 Regression analysis of the predictive model

	β estimate
Appearance evaluation	−0.28
Appearance orientation	−0.16
Body area satisfaction	−0.58*
Self-esteem	−0.23
Perception of other people's opinion	−0.10
Social support	−0.37
Sex life satisfaction	−0.35

* $p < 0.05$

People's Opinion scores. Furthermore, social support did not correlate with any other variable. Thus, it can be concluded social support does not have significant bearing on motivation for CS.

In a study by von Soest et al. [34], social acceptance was a strong predictor of CS. However, it can be argued that the two questions used to evaluate this component had poor construct validity. In contrast to this study, we specifically constructed questions to evaluate social support that did not have any negative connotation or ambiguity in interpretation.

Comparison of our data with that previously published and with reference norms indicates that Taiwanese CS candidates had significantly lower appearance evaluation and orientation than their counterparts, yet they did not differ from their own matched control subjects. This also was true for comparison with reference norms, in which all three MBSRQ subscale scores were significantly higher for the latter.

It can be hypothesized these differences are related to socioeconomic, racial, or cultural differences.

From our data, it is evident that self-esteem and appearance evaluation were correlated to a fair degree with body area satisfaction. This is consistent with previous studies of United Kingdom, Norwegian, and North American women that found self-esteem to be correlated strongly with body image evaluation [12, 34, 37].

Interestingly, although no correlation was found between self-esteem and the likelihood of having CS, there was a significant negative correlation between body area satisfaction and the latter. This was consistent with the findings of Sarwer et al. [29]. Thus, body area satisfaction and self-esteem are closely linked, but it is the former that is the motivation for CS. In contrast to previous study findings, there no correlation was found between sex life satisfaction and body image [19].

Previous findings have shown that teasing about one's appearance in childhood and adolescence predicted the motivation to undergo CS [34]. This relationship in adulthood is less clear. We did not find any correlation between the perception of other people's opinion (which contains a peer teasing subscale) and the likelihood to undergo CS.

Regression analysis showed that body area dissatisfaction was the strongest predictor for CS. This is consistent with studies of Western CS patients showing body image dissatisfaction, particularly with the body area candidates wanted to alter [2, 25].

The results of this study must be interpreted in the context of its limitations. The small sample size limits generalizability of our data. It is possible that a similar study with increased power may show previously undetected statistically significant factors.

The CS candidates evaluated in this study all were recruited from Kaohsiung, a predominantly industrial city. The socioeconomic profile of this city is different from that

of the capital Taipei, a city with more multicultural and Western influence. Individuals from Taipei seeking CS may have different motivations and a different psychological profile. The influence of sociodemographics on body image is yet to be established.

In this study, CS candidates completed questionnaires. It is possible that interview-based evaluation would have been more sensitive for detecting psychopathology [28]. Interestingly, 29 patients (34.1%) stated that they were "very likely" or "likely" to undergo CS before their surgical consultation. Our data, however, do not elaborate on the psychological profile of this subset of patients.

Despite its limitations, this study is the first in the English language literature that specifically investigated psychological and motivational factors in Asian CS candidates, and it adds to a growing body of evidence. It must be appreciated that CS patients are heterogeneous. Although their body image may be the same as that of the general population overall, there will always be some individuals with underlying a body image, self-esteem psychopathology, or personality disorder.

A greater understanding of CS patients will enhance service delivery and reduce dissatisfaction. Thus, the desires and needs of such patients are important to CS practitioners.

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