

Self-Worth and Self-Knowledge in Iranian Patients Seeking Cosmetic Surgery: A Comparative Study

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Abstract

Prior research has reported a psychological impairment in patients seeking cosmetic surgery. However, the role of other variables such as contingencies of self-worth and self-knowledge has been ignored. Hence, the aim of this study was to examine new psychological structures, contingencies of self-worth, and self-knowledge among patients seeking cosmetic surgery. Eighty patients (47 female and 33 male; mean age = 28.98, $SD = 8.32$; 40 seeking cosmetic surgery and 40 seeking surgical treatment) were randomly recruited from the Shahid Motahhari clinic in Shiraz, Iran. The patients completed the Contingencies of Self-Worth Scale, Integrative Self-Knowledge Scale, Subjective Vitality Scale, and Depression Anxiety Stress Scale-21. The results showed that, compared to the surgical treatment group, self-worth in patients seeking cosmetic surgery was found to depend on their appearance and the approval of others. Further, the self-knowledge in patients seeking cosmetic surgery was lower than that of patients seeking surgical treatment. In addition, there were no significant differences between the two groups in vitality, depression, anxiety, and stress. It can be concluded that patients seeking cosmetic surgery have lower self-knowledge and their self-esteem depends on their appearance and the approval of others.

Keywords

contingencies of self-worth, self-knowledge, cosmetic surgery, depression, anxiety

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Introduction

According to statistical reports published by the American Society of Plastic Surgeons (2012), 14.6 million cosmetic surgeries were conducted in the United States in 2012, of which 39% had been done over the previous five years. Further, in 2015, Americans spent more than \$13.5 billion on cosmetic surgeries (International Society of Aesthetic Plastic Surgery, 2015). In 2013, the International Society of Aesthetic Plastic Surgery reported that Iran was among the top 10 countries in the world conducting cosmetic surgeries. However, despite this increase, there has been a lack of research into why there has been an increase in seeking cosmetic surgery in Iran, despite the financial and personal costs for both the individuals and their families (Valikhani & Goodarzi, 2017).

The desire to undergo cosmetic surgery is linked to several psychopathological traits and sociological factors.

For example, research indicates that patients who undergo cosmetic surgery are more likely to have dysmorphic disorders, anxiety and depression symptoms, obsessive-compulsive disorder, phobias, different types of personality disorders, somatization disorders, thought disorders, sleep problems, and social anxiety (Collins et al., 2014;

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Dakanalis et al., 2013; Khanjani et al., 2012; Meningaud et al., 2001; Mulkens et al., 2012; Sohrabi et al., 2011). In terms of sociological factors, research suggests that individuals seeking cosmetic surgery are more likely to have friends who have undergone cosmetic surgery, used media more, and had a higher family income (Eriksen & Goering, 2011). Further, research has reported that anxiety about aging and increased exposure to television were unique predictors for seeking cosmetic surgery. Media has been found to be a strong factor regarding attitudes about cosmetic surgery (Markey & Markey, 2010; Slevec & Tiggemann, 2010). Delinsky (2005) reported that the possibility of undergoing cosmetic surgery increases with a rise in the internalization of socio-cultural attitudes about appearance. Maltby and Day (2011) indicated that an intense admiration of a celebrity can positively predict being a candidate for cosmetic surgery. In addition, research has shown that body dissatisfaction, the internalization of media messages, reports of physical-appearance teasing (Markey & Markey, 2009), media pressure, appearance conversations, and the internalization of thin ideals were correlated with women's interest in cosmetic surgery (Nerini et al., 2014).

Until now, most research has focused on the pathological factors (e.g., Collins et al., 2014) or psychological problems underlying the desire to undergo cosmetic surgery, but it has not yielded consistent results (Sarwer et al., 1998). Therefore, this study uses a non-pathological perspective to investigate the role of self-worth and self-knowledge in patients seeking cosmetic surgery.

Psychologists have long believed that self-esteem is a powerful force in people's lives. Contingent self-esteem refers to the time when people learn that their worth and lovability depend on achieving particular outcomes (Swann & Bosson, 2010). The contingencies of self-worth refer to areas in which success or failure correlates with high or low self-esteem. Therefore, while the need for high self-esteem guides most of our behaviors, it has a significant cost (Crocker, 2002). Using the Contingencies of Self-Worth Scale, Crocker et al. (2003) evaluated different sources of self-esteem among college students. These sources included academics, appearance, the approval of others, competition, family support, God's love, and virtue. These contingencies are organized into two distinct higher order factors: external and internal contingencies of self-worth (Crocker et al., 2003). The contingencies of self-worth theory suggests that the fundamental issue that predicts a certain behavior is not whether self-esteem is high or low, or conditional or unconditional; rather, it depends on certain areas upon which a person has grounded their worth. As a result, the contingency of self-worth provides self-regulation but still shows psychological vulnerability (Crocker, 2002).

People with a high contingency often try their best to succeed when there is a high chance of success. However, as a source of motivation, conditions of self-worth itself pose some significant drawbacks. When a task is difficult and failure is likely to happen, the conditions of self-worth result in feelings of stress, mental pressure, and a loss of intrinsic motivation. In these circumstances, people with high contingencies will probably withdraw from their goals and efforts. Furthermore, conditions of self-worth raise some problems for self-regulation following success (Crocker et al., 2006). The contingencies of self-worth make individuals invest more in areas that they feel are more valuable. According to Crocker et al. (2003), the contingencies of self-worth predict specific activities (how to spend your time). They found that contingencies of self-worth to appearance predicted sociability, whereas contingencies of self-worth to competition were negatively associated with sociability.

Some studies have shown that some, but not all, patients seeking cosmetic surgery generally have low self-esteem (Eriksen & Goering, 2011; Mulkens et al., 2012). Von Soest et al. (2009) found no differences in psychological processes (such as general self-esteem) between patients seeking cosmetic surgery and controls. Similarly, Ferraro et al. (2005) reported that general self-esteem does not motivate opting for cosmetic surgery. Unlike general self-esteem, it is likely that self-esteem that is dependent on specific areas can provide a better justification for why people tend to undergo cosmetic surgery. For example, Park et al. (2009) have shown that contingencies of self-worth to appearance have a significant positive correlation with the desire to undergo cosmetic surgery. In addition, the probability of undergoing cosmetic surgery in the future was found to increase with a rise in contingencies of self-worth to appearance but decrease with contingencies of self-worth to virtue (Delinsky, 2005).

Contemporary psychology has confirmed the importance of self-knowledge in psychotherapy (Ghorbani et al., 2003). Self-knowledge is a state of consciousness that assesses one's current psychological states and past experiences, and regulates one's thoughts and emotions in a healthy manner (Valikhani & Goodarzi, 2017). It is a psychological process with three important features: integrity, adaptability, and mobility. Self-knowledge is an integrated process as it strives to make experiences and attitudes of self meaningful in synthesis or in combination. Self-knowledge is adaptable because it is a self-regulatory process which promotes the well-being of the self. It is also dynamic because the self must respond to changing circumstances repeatedly. Frequent changes in circumstances suggest that self-knowledge should consist of awareness about the

present experience, which is also related to past experience (Ghorbani et al., 2003).

By definition, self-knowledge constitutes all aspects of recognition of the self. It includes self-awareness and stable representations of the self that evaluate an individual's ability to access current psychological states and process the content of current and past experiences, and separate them from each other, and assess an individual's cognitive processing of information related to his or her self (Shahmohammadi et al., 2007). This process is an adaptive and powerful effort of the self to understand experiences over time, which enables a person to adjust their thoughts and emotions through their potential understanding, recognition, and selection of optimal activities for the consequences (Asghari & Besharat, 2011).

Studies conducted on self-knowledge indicate that self-knowledge, in both Iranian and American samples, is a positive predictor of mental health and self-esteem (Ghorbani & Watson, 2005). Other studies also indicate that self-knowledge has a positive relationship with self-control, self-respect, self-esteem, self-compassion, life satisfaction, mindfulness, autonomy, competence, communication, internal religious orientation, compassion, psychological well-being, subjective vitality, self-awareness, and self-determination. Further, self-knowledge has been reported to have a negative correlation with anxiety, depression, perceived stress, impaired mental activities, rumination, repression, social anxiety, and extrinsic religious orientation (Ghorbani et al., 2008, 2011, 2012, 2014; SabzeAra Langroodi et al., 2014).

Low self-knowledge has been associated with an increased tendency to undergo cosmetic surgery (Zarandi et al., 2012). Research suggests that individuals with limited knowledge of themselves are less flexible in controlling their thoughts and emotions; have personalities which are dependent on a negative evaluation of their appearance; are prone to problems related to their body image; and are more likely to seek cosmetic surgery (Naami & Salehi, 2016). However, people with high self-knowledge also have high introspection, which can sharpen their awareness of self-knowledge and thereby make their self-evaluation more accurate (Silvia & Gendolla, 2001). Moreover, individuals with high self-knowledge tend to have an integrated *self* and an ability to integrate their negative and positive beliefs (Showers & Kling, 1996). A more accurate, fact-based image of *self* and body is associated with high self-knowledge, and acts as a barrier against the desire to undergo cosmetic surgery. In fact, mindfulness or experiential self-knowledge creates a state in the individual which reduces the automatic arousal and productivity of cognitive distortions when the environment, the body, and the individual interact

with each other. This, in turn, leads to a nonjudgmental view of body image and an emotional response which results in a reduction in the likelihood of malicious and impulsive behaviors, and an increased insight into the complexity of body-image experiences (Stewart, 2004).

While, as shown in this literature review, a large number of studies emphasize the role of psychopathology, the media, and social pressure in patients undergoing cosmetic surgery, this study uses a nonpathological perspective to investigate the role of self-worth and self-knowledge in patients seeking cosmetic surgery. It tries to explain the role of self-knowledge and self-worth in people seeking cosmetic surgery, as potential psychological factors of superfluous needs in seeking cosmetic surgery. Therefore, we believe that this study can make a considerable contribution to the literature by considering the importance of self-knowledge and self-worth among people seeking cosmetic surgery. Knowing the differences among different populations will help us to understand them better and highlight individual differences among them. By knowing the differences, we can develop effective and suitable interventions. In this study, we used a comparative method to find out which contingencies of self-worth are highlighted by people who are interested in obtaining cosmetic surgery, and whether or not they have low self-knowledge and high psychopathology compared to patients seeking surgical treatment. These differences can lead us to pay attention to these variables among individuals obtaining cosmetic surgery. This study aimed to examine contingencies of self-worth and self-knowledge structures in patients seeking cosmetic surgery in comparison with patients seeking surgical treatment (i.e., undergoing surgery to repair injuries). In addition, some studies have shown that patients seeking cosmetic and treatment surgery suffer from higher psychological distress and damage compared to the general population (Collins et al., 2014). However, taking into account the difficult conditions of patients seeking surgical treatment, we aimed to investigate whether or not there are significant differences between patients seeking cosmetic surgery and patients seeking surgical treatment in the rate of vitality, depression, anxiety, and stress.

Method

Participants

The study included 80 (47 female and 33 male) patients seeking either cosmetic surgery ($n=40$) or surgical treatment ($n=40$), with a mean age of 28.98 ($SD=8.32$), who had been referred to the Shahid Motahhari clinic in Shiraz, Iran. The patients seeking cosmetic surgery were generally undergoing surgery on

their nose, face, ears, eyebrows, eyelashes, or jaw, or were having Botox, whereas the patients seeking surgical treatment were generally needing treatment for a broken or crooked nose, their hands, neck, or hemorrhoids, a laparoscopy, sinusitis, and ear and throat problems.

Instruments

The Contingencies of Self-Worth Scale. The Contingencies of Self-Worth Scale (Crocker et al., 2003) consists of 35 items in seven areas of life, which are divided into two broad categories: (1) internal contingencies of self-worth—God's love (e.g., My self-worth is based on God's love) and virtue (e.g., Doing something I know is wrong makes me lose my self-respect)—and (2) external contingencies of self-worth—family support (e.g., Knowing that my family members love me makes me feel good about myself); appearance (e.g., When I think I look attractive, I feel good about myself); approval from others (e.g., I can't respect myself if others don't respect me); competition (e.g., I feel worthwhile when I perform better than others on a task or skill); and academic competence (e.g., My self-esteem is influenced by my academic performance)—on which people's worth is dependent. Each item in the Contingencies of Self-Worth Scale is scored on a 7-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*). In Crocker et al.'s (2003) study, which was conducted on 795 students, a retest reliability of .68 to .92 was obtained at 3 months and of .51 to .88 at 8.5 months. Each subscale had a high internal consistency with an alpha ranging from .82 to .96. This scale was validated on 502 students in Iran by SabzeAra Langroodi et al. (2014), the results of which showed that the scale had acceptable convergent and divergent validity, as well as internal consistency. In this study, the final Cronbach's alpha for the subscales of the contingencies of self-worth were .67 for family support (Items 2 and 10 removed); .70 for competition (Item 32 removed); .60 for appearance (Item 1 removed); .68 for God's love; .63 for academic competence (Item 13 removed); .66 for virtue; and .72 for others' approval. Because some of the subscales had an unacceptable Cronbach's alpha, we removed items that weakened the reliability based on the recommendation of the "scale if item deleted" method in SPSS (Robinson, 2018). Accordingly, we removed Items 2 and 10 for family support, Item 32 for competition, Item 1 for appearance, and Item 13 for academic competence.

The Integrative Self-Knowledge Scale. The Integrative Self-Knowledge Scale (Ghorbani et al., 2008) consists of 12 items (e.g., If I need to, I can reflect about myself and clearly understand the feelings and attitudes behind my

past behaviors) which are scored on a 5-point Likert scale (0 = *mostly false* to 4 = *mostly true*). Ghorbani et al. (2008) developed the scale and validated it in a study conducted on a sample of 723 Iranian and 900 American individuals. The results of the study indicated that the Integrative Self-Knowledge Scale had good internal reliability and equivalence of measurement along with incremental, discriminant, criterion, and convergent validity. A Cronbach's alpha coefficient of .78 was obtained for the scale in this study.

The Subjective Vitality Scale. The Subjective Vitality Scale (Ryan & Frederick, 1997) has seven questions which measure people's current feeling of vitality (e.g., I look forward to each new day). This scale evaluates responses on a 7-point range (1 = *completely false* to 7 = *completely true*). A high score in this scale suggests the high energy, high spirits, and, in general, high vitality of the individual. The Subjective Vitality Scale was validated in Iran by Tanhaye Reshvanloo et al. (2018); the confirmatory validity and gender invariance were confirmed, and the Cronbach's alpha and split-half coefficients for the scale were .88 and .85, respectively. A Cronbach's alpha coefficient of .84 was obtained for the scale in the present study.

The Depression Anxiety Stress Scale-21. The Depression Anxiety Stress Scale-21 (Lovibond & Lovibond, 1995) measures the three clinical symptoms of depression (e.g., I didn't experience any positive feelings), anxiety (e.g., I felt afraid for no reason), and stress (e.g., I felt restless) on a 4-point range (0 = *not at all* to 3 = *high*). In Iran, this scale has been used in many studies and has good validity and reliability (e.g., Valikhani et al., 2017). In this study, the Cronbach's alpha coefficients for the subscales of depression, anxiety, and stress were .80, .81, and .79, respectively.

Procedure

The records of individuals who had been referred to specialists in plastic surgery were examined, and interviews with the doctor of each patient were undertaken to determine the reason for their desire to undergo surgery (either cosmetic, which focuses on enhancing a patient's appearance, or therapeutic, which aims to correct functional impairments). Forty patients seeking cosmetic surgery and forty patients seeking surgical treatment were selected. The eligibility criteria for the patients seeking cosmetic surgery included a history of having cosmetic surgery or seriously intending to do so, based on the cosmetic surgeon's assessments, and being at least 15 years of age. Individuals were excluded from participation if they had a history of diagnosis of mental disorders or a physical disability, or were

illiterate. However, the individuals in the treatment control group had no history of or intention to undergo cosmetic surgery, included persons over the age of 18, had no record of mental disorders, and needed surgery for impairments based on the plastic surgeon's assessments. The selected participants were given general information and instructions. Questionnaires, translated into Farsi and based on previous studies in Iran, were completed by the participants without them being informed about the goals of the study to avoid bias in their responses. In order to comply with ethical issues in research, prior to the study, the participants were informed about the voluntary nature of their participation and the nondisclosure of their private information, and their consent was obtained to participate in the study. The procedure performed in the

research was also in accordance with the 1964 Declaration of Helsinki.

Data Analysis

Frequencies, percentages, means, and chi-square tests (χ^2) were used to compare the demographic features of the patients having cosmetic surgery with those having surgical treatment (see Table 1). The Kolmogorov-Smirnov test for normality was also performed for all of the study's variables. The results indicated that none of the variables had a significant difference, with the hypothetical normal distribution suggesting that the data were normally distributed ($p > .05$). Thereafter, to compare self-knowledge and vitality between the cosmetic surgery and surgical treatment groups, two independent t tests were performed separately (Table 2). In order to compare the extent of contingencies of self-worth and subscales of

Table 1 Frequency, Percentage and Chi-Square Tests Designed to Compare Demographic Variables Between Cosmetic Surgery and Surgical Treatment Groups

Demographic	Cosmetic surgery group ($n = 40$)		Surgical treatment group ($n = 40$)		χ^2	p
	n	%	n	%		
Gender					1.28	.182
Female	26	65.0	21	52.5		
Male	14	35.0	19	47.5		
Age					1.07	.586
15–30	30	75.0	28	70.0		
31–45	9	22.5	9	22.5		
46–60	1	2.5	3	7.5		
Economic status					4.60	.101
High	4	10.5	0	0.0		
Medium	27	71.1	29	74.4		
Low	7	18.4	10	25.6		
Education level					2.01	.734
Elementary school	0	0.0	1	2.9		
Middle school	5	14.3	3	8.6		
Diploma	9	25.7	7	20.0		
Bachelor's degree	16	45.7	19	54.3		
Master's degree and PhD	5	14.3	5	14.3		
Marital status					0.64	.283
Married	20	50.0	16	41.0		
Single	20	50.0	23	59.0		
Widowed	0	0.0	0	0.0		
Ethnic group					2.17	.538
Fars	29	78.4	27	71.1		
Turk	4	10.8	4	10.5		
Lur	4	10.8	5	13.2		
Other	0	0.0	2	5.3		
Place of residence					0.18	.468
Urban	27	87.1	30	83.3		
Rural	4	12.9	6	16.7		
Birthplace					0.20	.424
City	28	75.7	27	71.1		
Village	9	24.3	11	28.9		

Table 2 Results of Independent *t* Tests to Compare Self-Knowledge and Vitality Between Cosmetic Surgery and Surgical Treatment Groups

Measure	Cosmetic surgery group		Surgical treatment group		<i>t</i>	η_p^2	Observed power	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Self-knowledge	1.97	0.58	2.49	0.79	3.41	.13	.92	.001
Vitality	28.83	9.30	29.97	12.00	0.47	.01	.07	.637

Table 3 Results of MANOVA Tests to Compare Components of the Contingencies of Self-Worth and Clinical Symptoms Between Cosmetic Surgery and Surgical Treatment Groups

Measure	Cosmetic surgery group		Surgical treatment group		<i>F</i>	η_p^2	Observed power	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Family support	5.93	1.18	6.15	0.87	0.86	.01	.15	.355
Competition	5.57	1.01	5.93	0.76	3.13	.04	.41	.081
Appearance	4.77	1.03	3.83	1.22	13.85	.15	.95	.001
God's love	5.71	0.80	6.08	0.93	3.64	.04	.47	.060
Academic competence	5.16	0.96	5.31	1.18	0.39	.01	.09	.532
Virtue	5.29	1.01	5.68	0.97	2.94	.03	.39	.090
Approval from others	4.34	1.29	3.28	1.36	12.67	.14	.94	.001
Depression	13.84	9.18	14.77	10.20	0.18	.01	.18	.669
Anxiety	13.57	9.44	12.92	10.18	0.08	.01	.06	.768
Stress	20.17	10.27	17.71	9.71	1.21	.01	.19	.275

depression, anxiety, and stress between the two groups, a multivariate analysis of variance (MANOVA) was used separately (Table 3). In order to compare the cosmetic surgery and surgical treatment groups by considering internal (God's love and virtue) and external (family support, appearance, others' approval, competition, and academic competence) contingencies of self-worth, a MANOVA was used. A multivariate analysis of covariance (MANCOVA) was used to compare the cosmetic surgery and surgical treatment groups on internal and external contingencies of self-worth by controlling the self-knowledge variable. This was done to answer the question of whether or not, by controlling the self-knowledge variable, the difference between the two groups would change in terms of the contingencies of self-worth. We also used partial eta-squared values (η_p^2) as a measure of effect size, presenting the magnitude of the reported effects in a standardized metric (Lakens, 2013) to interpret the results. Cohen (1988) suggests that .2 be considered a small effect size, .5 a medium effect size, and .8 a large effect size. Prior to conducting the test, independent *t* test, MANOVA, and MANCOVA (e.g., the Box's *M* and Levene's tests), the assumptions were examined, which indicated no significant differences in error variance and the covariance matrix of the dependent variables between the two groups. Therefore, the

assumptions of the tests were considered. SPSS 21.0 statistical software was used for the statistical analysis in this study.

Results

The results of the chi-squared tests indicated that the cosmetic surgery and surgical treatment groups were not significantly different in terms of their demographic variables, including gender, age, economic status, education, marital status, ethnicity, place of residence and place of birth, and thereby were relatively homogeneous (see Table 1).

The results of the *t* test (assuming equal variances) showed that there was a significant difference between the two groups in the rate of self-knowledge, $t(1, 78) = 3.41$, $\eta^2 = .13$, $p < .001$, with the cosmetic surgery group having a lower integrative self-knowledge compared to the surgical treatment group. However, its effect size was .13, indicating that the magnitude of differences between the two groups in terms of their self-knowledge is small. By assuming unequal variances between the groups, $F(1, 78) = 6.70$, $p = .01$, the result of the *t* test showed that there was no significant difference between the two groups in the rate of vitality, $t(1, 78) = 0.47$, $\eta^2 = .01$, $p = .637$ (see Table 2).

Prior to the MANOVA, its assumptions were examined. The results of the Box's M, $F(28, 2.12) = 1.16$, $p = .251$, and Levene's tests did not show significant differences in error variance and the covariance matrix of the dependent variables between the two groups. Therefore, the assumption to use a MANOVA test was considered. However, the results of the fourfold MANOVA tests indicated significant differences—for example, Wilks's lambda = .71, $F(7, 72) = 4.17$, $\eta^2 = .29$, $p = .001$. This finding suggests that there is a significant difference between the two groups at least in one of the dependent variables. The test results showed that the seven contingencies of self-worth for the two groups studied only had significant differences in contingencies of self-worth to appearance, $F(1, 78) = 13.85$, $\eta^2 = .15$, $p < .001$, and the approval of others, $F(1, 78) = 12.68$, $\eta^2 = .14$, $p < .001$. The cosmetic surgery group had a significantly higher mean ($M = 4.77$, $SD = 1.03$) than the surgical treatment group ($M = 3.83$, $SD = 1.22$) in contingencies of self-worth to appearance. It also had higher scores ($M = 4.34$, $SD = 1.29$) than the surgical treatment group ($M = 3.28$, $SD = 1.36$) in contingencies of self-worth to others' approval. The effect sizes for appearance and approval of others were .15 and .14, respectively, indicating that the magnitude of differences between the two groups in terms of the two dependent variables is small (see Table 3).

The results of the fourfold MANOVA tests indicated no significant differences between the two groups in terms of depression, anxiety, and stress—for example, Wilks's lambda = .96, $F(3, 76) = 0.91$, $\eta^2 = .03$, $p = .437$. Hence, patients seeking cosmetic surgery and surgical treatment had no significant differences in any of the depression, anxiety, and stress variables (see Table 3).

In order to compare the cosmetic surgery and surgical treatment groups with regard to internal and external contingencies of self-worth, a MANOVA test was used. Prior to this test, the results of the Box's M test showed no significant difference, $F(3, 1.09) = 0.23$, $p = .872$. Similarly, the results of the Levene's test for the dependent variables of internal, $F(1, 78) = 0.50$, $p = .482$, and external, $F(1, 78) = 0.17$, $p = .678$, contingencies of self-worth were not significant. The results indicated that all of the fourfold MANOVA tests were significantly different—for example, Wilks's lambda = .82, $F(2, 77) = 8.29$, $\eta^2 = .18$, $p = .001$. The results showed that there was a significant difference between the cosmetic surgery and surgical treatment groups in internal, $F(1, 78) = 5.39$, $\eta^2 = .06$, $p = .023$, and external, $F(1, 78) = 4.36$, $\eta^2 = .04$, $p = .040$, contingencies of self-worth. This suggests that patients who undergo cosmetic surgeries have lower internal but higher external contingencies of self-worth compared to patients seeking surgical treatment. The effect sizes

for internal and external self-worth between the two groups were too small.

The results also showed that by controlling the self-knowledge variable, no significant between-group differences were observed in internal contingencies of self-worth, $F(1, 77) = 2.57$, $\eta^2 = .03$, $p = .113$. However, between-group differences still remained significant in terms of external contingencies of self-worth, $F(1, 77) = 4.45$, $\eta^2 = .05$, $p = .039$. This means that self-knowledge can reduce the difference between the cosmetic surgery and surgical treatment groups in terms of internal contingencies of self-worth. Its effect size was .05, indicating that the magnitude of differences between the two groups in terms of their external contingencies of self-worth after controlling for self-knowledge is very small.

Discussion

Overall, the aim of this study was to examine the psychological structures, contingencies of self-worth, and self-knowledge among patients seeking cosmetic surgery. We found that patients seeking cosmetic surgery considered their worth as mostly dependent on their appearance and the approval of others. This finding is consistent with the findings of other studies (e.g., Delinsky, 2005; Park et al., 2009; Tam, 2013). Although their effect sizes were small, these findings are important and can be explained from different standpoints. For example, Sarwer et al. (1998) argue that people whose self-esteem is not dependent on their appearance are less likely to undergo cosmetic surgery, regardless of their satisfaction with their body image. In contrast, people whose self-esteem depends on their appearance are more likely to seek cosmetic surgery. According to Crocker (2002), the contingencies of self-worth are associated with areas in which success or failure results in an increase or decrease in self-esteem. Because people try to maintain and increase their self-confidence, they follow situations and engage in activities which provide them with the opportunity to succeed and prevent them from failure in areas which endanger their self-worth. Accordingly, those whose self-worth depends on their appearance and the approval of others undergo activities like cosmetic surgery to strengthen their worth. However, the contingencies of self-worth also involve psychological vulnerability. Success or failure in areas in which a person is interested can lead to an increase or decrease in areas related to self-esteem; thus, vulnerability in self-worth (appearance and others' approval) indicates a high sensitivity to appearance-based rejection and thereby is associated with an increased desire for cosmetic surgery (Park et al., 2009). Crocker et al. (2003) concluded that the contingencies of self-worth

predict certain activities (e.g., how we spend our time). Therefore, it could be suggested that those with contingencies of self-worth to appearance and others' approval may modify their appearance to increase their self-worth.

Another finding of the present study was that patients seeking cosmetic surgery had lower self-knowledge compared to patients undergoing surgical treatment. This result is consistent with the results of Zarandi et al. (2012), which show that low self-knowledge predicts a tendency toward cosmetic surgery. Self-knowledge is a self-regulatory process that leads to the well-being of the *self* (Ghorbani et al., 2003); thus, it can be assumed that people with low self-knowledge may have impaired self-regulation. For these people, cosmetic surgery is a way of avoiding negative feelings. In this way, cosmetic surgery may act as a defense method against criticism. Similarly, prior studies have shown that most patients seeking cosmetic surgery have a distorted body image (Dakanalis et al., 2013; Modabber Vahed & Hamidi, 2016; Mulkens et al., 2012; Soest et al., 2009). A low self-knowledge causes people to be inflexible in their thoughts and emotions, and they cannot accept their body unconditionally; this lack of flexibility raises problems associated with their body image and negative judgments about their appearance (Naami & Salehi, 2016). In contrast, people who have high self-knowledge make more accurate self-judgments (Silvia & Gendolla, 2001) and possess an integrated *self* which can unite their negative and positive beliefs about themselves (Showers & Kling, 1996). Further, self-knowledge is an integrated process which attempts to give meaning to experiences and attitudes of self. Because it involves knowledge of the present and tries to associate it with one's past experiences (Ghorbani et al., 2003), people with high self-knowledge are interested in promoting themselves, and thus prefer time comparisons (the past versus present *self*) to social comparisons, which is one of the reasons underlying the tendency to undergo cosmetic surgery.

No significant difference was found between the cosmetic surgery and surgical treatment groups in the rate of vitality or clinical symptoms (depression, anxiety, and stress). Although several studies have found that patients seeking cosmetic surgery show mood and emotional disorders compared to the normal population (e.g., Collins et al., 2014; Mulkens et al., 2012), these results have been obtained by comparing cosmetic surgery with the normal population rather than the surgical treatment population. In fact, people seeking surgical treatment have various problems (e.g., a broken or crooked nose or hemorrhoids), which leads them to suffer from emotional disturbances. This may lead to insignificant differences between the two

groups. These results also showed that people who undergo cosmetic surgery have lower internal and higher external contingencies of self-worth. This finding is consistent with those of previous studies which indicated that external contingencies of self-worth had a direct relationship with the tendency to undergo cosmetic surgery (Park et al., 2009). The results also showed that by controlling the self-knowledge variable, the between-group differences in internal contingencies of self-worth lost their significance as opposed to the external contingencies. In fact, this result indicates that self-knowledge, as may be suggested by the word itself, performed as an intra-psychological variable as it could significantly affect internal but not external contingencies of self-worth. Accordingly, improving self-knowledge of people seeking for cosmetic surgery can lead their self-worth to the internal areas rather than on external areas, and then this in turn may lead to a lower tendency to seek cosmetic surgery and higher psychological well-being.

Limitations

This study has limitations, which should be considered when interpreting the results, as well as in future studies. We relied solely on self-report and correlational analyses. Therefore, a cause-and-effect relationship cannot be inferred from the results obtained in this study. Furthermore, as the present study was conducted only in one city in Iran, cultural factors should be taken into account, because these factors influence some variables, such as self-knowledge (Ghorbani & Watson, 2005) and contingencies of self-worth. On the other hand, the present study had a number of strengths, including a relatively large sample size and the use of a general surgery group as a comparison for the cosmetic surgery group to control for factors that may be related to surgery in general.

Conclusion

These findings have useful clinical implications for clinicians, physicians, psychologists, and therapists. In hospitals and clinics, those seeking cosmetic surgery could be screened in terms of their contingencies of self-worth and self-knowledge before undergoing surgery. If a patient has a tendency to undergo cosmetic surgery due to their dependence on contingencies of self-worth to appearance and the approval of others, or in general external contingencies of self-worth or low self-knowledge, they could be provided with counseling and psycho-educational training to shift their dependence on specific domains (appearance and others' approval) and thereby reduce their likelihood of seeking cosmetic surgery and their vulnerability to psychological

distress. Moreover, they could be encouraged to believe in their *self* unconditionally and try to promote their understanding of their self and body knowledge so that they have a less distorted and more accurate judgment of their situation and psychological status. Above all, promoting self-knowledge can create an integrated self which unites negative and positive beliefs about the self. Consequently, instead of being engaged in social comparisons, these people should engage in longitudinal comparisons between their past *self* and their present *self*, which can lead to the promotion and development of the *self* and result in satisfaction and assurance (Wilson & Ross, 2000).

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References

- American Society of Plastic Surgeons. (2012). *2012 plastic surgery statistics report*. Retrieved from <https://d2wirczt3b6wjm.cloudfront.net/News/Statistics/2012/plastic-surgery-statistics-full-report-2012.pdf>
- Asghari, M. S., & Besharat, M. A. (2011). The relation of perceived parenting with integrative self-knowledge. *Procedia-Social and Behavioral Sciences*, 30, 226–230.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Routledge.
- Collins, B., Gonzalez, D., Gaudilliere, D. K., Shrestha, P., & Girod, S. (2014). Body dysmorphic disorder and psychological distress in orthognathic surgery patients. *Journal of Oral and Maxillofacial Surgery*, 72(8), 1553–1558.
- Crocker, J. (2002). Contingencies of self-worth: Implications for self-regulation and psychological vulnerability. *Self and Identity*, 1(2), 143–149.
- Crocker, J., Brook, A. T., Niiya, Y., & Villacorta, M. (2006). The pursuit of self-esteem: Contingencies of self-worth and self-regulation. *Journal of Personality*, 74(6), 1749–1772.
- Crocker, J., Luhtanen, R. K., Cooper, M. L., & Bouvrette, A. (2003). Contingencies of self-worth in college students: Theory and measurement. *Journal of Personality and Social Psychology*, 85(5), 894–908.
- Dakanalis, A., Di Mattei, V. E., Zanetti, A. M., Clerici, M., Madeddu, F., Riva, G., Lanfranchi, L., & Baruffaldi Preis, F. (2013). Personality and body image disorders in cosmetic surgery settings: Prevalence, comorbidity and evaluation of their impact on post-operative patient's satisfaction. *European Psychiatry*, 28, 1–1.
- Delinsky, S. S. (2005). Cosmetic surgery: A common and accepted form of self-improvement? *Journal of Applied Social Psychology*, 35(10), 2012–2028.
- Eriksen, S., & Goering, S. (2011). A test of the agency hypothesis in women's cosmetic surgery usage. *Sex Roles*, 64, 888–901.
- Ferraro, G. A., Rossano, F., & D'Andrea, F. (2005). Self-perception and self-esteem of patients seeking cosmetic surgery. *Aesthetic Plastic Surgery*, 29, 184–189.
- Ghorbani, N., & Watson, P. J. (2005). Self-knowledge processes and rational and experiential information processing systems in Iran and the United States. *Developmental Psychology*, 2(5), 3–14.
- Ghorbani, N., Watson, P. J., Bing, M. N., Davison, H. K., & LeBreton, D. (2003). Two facets of self-knowledge: Cross-cultural development of measures in Iran and the United States. *Genetic, Social, and General Psychology Monographs*, 129(3), 238–268.
- Ghorbani, N., Watson, P. J., Chen, Z., & Norballa, F. (2012). Self-compassion in Iranian Muslims: Relationships with integrative self-knowledge, mental health, and religious orientation. *International Journal for the Psychology of Religion*, 22(2), 106–118.
- Ghorbani, N., Watson, P. J., Farhadi, M., & Chen, Z. (2014). A multi-process model of self-regulation: Influences of mindfulness, integrative self-knowledge and self-control in Iran. *International Journal of Psychology*, 49(2), 115–122.
- Ghorbani, N., Watson, P. J., & Hargis, M. B. (2008). Integrative self-knowledge scale: Correlations and incremental validity of a cross-cultural measure developed in Iran and the United States. *Journal of Psychology*, 142(4), 395–412.
- Ghorbani, N., Watson, P. J., Rezazadeh, Z., & Cunningham, C. J. (2011). Dialogical validity of religious measures in Iran: Relationships with integrative self-knowledge and self-control of the “perfect man” (*ensān-e kāmāl*). *Archive for the Psychology of Religion*, 33(1), 93–113.
- International Society of Aesthetic Plastic Surgery. (2013). *ISAPS international survey on aesthetic/cosmetic procedures performed in 2013*. Retrieved from <https://www.isaps.org/wp-content/uploads/2017/10/2014-ISAPS-Results-3-1.pdf>
- International Society of Aesthetic Plastic Surgery. (2015). *Quick facts: Highlights of the ISAPS 2015 statistics on cosmetic surgery*. https://www.isaps.org/wp-content/uploads/2017/10/ISAPSQuickFactsMS_V6-1-1.pdf
- Khanjani, Z., Papapour, J., & Saba, G. (2012). Comparison of psychopathology in people seeking cosmetic surgery with controls. *Pajoohandeh Journal*, 17(1), 26–31.
- Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: A practical primer for t-tests and ANOVAs. *Frontiers in Psychology*, 4, Article 863. <https://doi.org/10.3389/fpsyg.2013.00863>
- Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the depression anxiety stress scales*. Psychology Foundation of Australia.
- Maltby, J., & Day, L. (2011). Celebrity worship and incidence of elective cosmetic surgery: Evidence of a link among

- young adults. *Journal of Adolescent Health*, 49(5), 483–489.
- Markey, C. N., & Markey, P. M. (2009). Correlates of young women's interest in obtaining cosmetic surgery. *Sex Roles*, 61(3–4), 158–166.
- Markey, C. N., & Markey, P. M. (2010). A correlational and experimental examination of reality television viewing and interest in cosmetic surgery. *Body Image*, 7(2), 165–171.
- Meningaud, J.-P., Benadiba, L., Servant, J.-M., Herve, C., Bertrand, J.-C., & Pelicier, Y. (2001). Depression, anxiety and quality of life among scheduled cosmetic surgery patients: Multicentre prospective study. *Journal of Cranio-Maxillofacial Surgery*, 29(3), 177–180.
- Modabber Vahed, A. S., & Hamidi, R. (2016). A comparison study of body image of cosmetic surgery applicants with non-applicants. *Journal of Novel Applied Sciences*, 5(1), 12–16.
- Mulkens, S., Bos, A. E., Uleman, R., Muris, P., Mayer, B., & Velthuis, P. (2012). Psychopathology symptoms in a sample of female cosmetic surgery patients. *Journal of Plastic, Reconstructive and Aesthetic Surgery*, 65(3), 321–327.
- Naami, A., & Salehi, H. M. (2016). Prediction of cosmetic surgery tendency based on mindfulness, personality dimensions, perfectionism and mental health components. *International Journal of School Health*, 3(3), Article e32746. <https://doi.org/10.17795/intjsh-32746>
- Nerini, A., Matera, C., & Stefanile, C. (2014). Psychosocial predictors in consideration of cosmetic surgery among women. *Aesthetic Plastic Surgery*, 38(2), 461–466.
- Park, L. E., Calogero, R. M., Harwin, M. J., & DiRaddo, A. M. (2009). Predicting interest in cosmetic surgery: Interactive effects of appearance-based rejection sensitivity and negative appearance comments. *Body Image*, 6(3), 186–193.
- Robinson, M. A. (2018). Using multi-item psychometric scales for research and practice in human resource management. *Human Resource Management*, 57(3), 739–750.
- Ryan, R. M., & Frederick, C. (1997). On energy, personality, and health: Subjective vitality as a dynamic reflection of well-being. *Journal of Personality*, 65(3), 529–565.
- SabzeAra Langroodi, M., Sarafraz, M. R., & Ghorbani, N. (2014). The study of psychometric properties of contingencies of self-worth scale. *Journal of New Thoughts on Education*, 10(1), 122–142.
- Sarwer, D. B., Wadden, T. A., Pertschuk, M. J., & Whitaker, L. A. (1998). The psychology of cosmetic surgery: A review and reconceptualization. *Clinical Psychology Review*, 18(1), 1–22.
- Shahmohammadi, K., Ghorbani, N., & Besharat, M. A. (2007). The role of self-knowledge in stress, defensive styles, and physical health. *Developmental Psychology*, 3(10), 145–156.
- Showers, C. J., & Kling, K. C. (1996). Organization of self-knowledge: Implications for recovery from sad mood. *Journal of Personality and Social Psychology*, 70(3), 578–590.
- Silvia, P. J., & Gendolla, G. H. E. (2001). On introspection and self-perception: Does self-focused attention enable accurate self-knowledge? *Review of General Psychology*, 5(3), 241–269.
- Slevec, J., & Tiggemann, M. (2010). Attitudes toward cosmetic surgery in middle-aged women: Body image, aging anxiety, and the media. *Psychology of Women Quarterly*, 34(1), 65–74.
- Soest, T. von, Kvalem, I. L., Skolleborg, K. C., & Roald, H. E. (2009). Cosmetic surgery and the relationship between appearance satisfaction and extraversion: Testing a transactional model of personality. *Journal of Research in Personality*, 43(6), 1017–1025.
- Sohrabi, F., Aliloo, M. M., & Rasooli-Azad, M. (2011). Assessment of psychopathological profile in applicants for cosmetic surgery. *Journal of Fundamentals of Mental Health*, 13(51), 260–269.
- Stewart, T. M. (2004). Light on body image treatment: Acceptance through mindfulness. *Behavior Modification*, 28(6), 783–811.
- Swann, W. B., & Bosson, J. K. (2010). Self and identity. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of social psychology* (Vol. 1, pp. 589–603). John Wiley & Sons.
- Tam, K. P. (2013). Existential motive underlying cosmetic surgery: A terror management analysis. *Journal of Applied Social Psychology*, 43(5), 947–955.
- Tanhaye Reshvanloo, F., Keramati, R., Kareshki, H., & Torkamani, M. (2018). Factor structure and gender invariance of subjective vitality scale in students. *Applied Psychological Research Quarterly*, 9(3), 1–14.
- Valikhani, A., & Goodarzi, M. A. (2017). Contingencies of self-worth and psychological distress in Iranian patients seeking cosmetic surgery: Integrative self-knowledge as mediator. *Aesthetic Plastic Surgery*, 41(4), 955–963.
- Valikhani, A., Goodarzi, M. A., & Hashemi, R. (2017). Psychometric properties of dispositional self-regulation scale in Iranian population and predicting inhibitory/initiatory self-control on the basis of it. *Current Psychology*, 38, 154–164.
- Wilson, A. E., & Ross, M. (2000). The frequency of temporal-self and social comparisons in people's personal appraisals. *Journal of Personality and Social Psychology*, 78(5), 928–942.
- Zarandi, A., Lalansofla, F. A., & Ramezani, V. (2012). The role of self-knowledge, psychological basic needs and social support in application for cosmetic surgery. *Journal of Psychology*, 15, 369–381.