Original Article

Self-Efficacy in Cosmetic Surgery Applicants Compared to Nonapplicants

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Abstract

Context: The decision for cosmetic surgery (CS) can be influenced by psychological issues. Self-efficacy (SE) is one of the psychological factors affecting this decision. **Aims:** The purpose of this study was to compare SE between the CS applicants (study group) and nonapplicants (control group). **Setting and Design:** In this cross-sectional study, 65 samples were recruited for each of the study and control groups. **Materials and Methods:** The study group was selected from among the beauty centers and the control group was selected among the ordinary people who did not intend to do CS. Convenience sampling was used to select the samples of the study and control groups. The control was matched with the study group with respect to gender, age, marital status, occupation, and education. To measure SE, Sherer *et al*.'s General Self-Efficacy Scale was used. **Statistical Analysis Used:** Data were analyzed using SPSS software using descriptive and inferential statistics (Kolmogorov–Smirnov test, Chi-square test, Mann–Whitney U-test, one-way ANOVA, and independent *t*-test). **Results:** The average SE was significantly lower in the study group than the control group ($P = 0.008$). In the study group, there was a significant relationship between SE and education ($P = 0.03$). However, there was no significant relationship between SE and other demographic variables. **Conclusions:** The study group had lower SE than that of the control group. It seems that low SE can affect the decision to undergo CS. To avoid unnecessary cosmetic surgeries, the SE of applicants is suggested to be investigated before surgery.

Keywords: Compare, cosmetic surgery, self-efficacy

Introduction

Historically, cosmetic surgery (CS) was used to repair congenital malformations, but later, it was used for CS because of its esthetic effects.[1] According to the American Society of Plastic Surgeons in 2016, 1.7 million CSs were conducted in the United States, which was 3% higher than the previous statistics.[2] In Iran, CSs are also growing so that statistics show that the number of surgeries is seven times more than that of Europe, with the first rank in rhinoplasty in the world.[3] The main motive for CS is to achieve greater satisfaction with appearance and to improve psychosocial function.[4] The decision for CS is significantly influenced by psychological problems.[5] It seems that different aspects of human psyche influence important decisions, including decisions to do CS. Although psychological reasons for CS are multifactorial, the effects of variables associated with decision-making to undergo CS, such as self-efficacy (SE), should be considered while examining the motivation of applicants for CS.[6] SE is

defined as the confidence of a person in his or her success in a particular position which creates different feelings, thoughts, and functions.[7] Low SE is associated with anxiety, depression, and frustration.[8] The results of a study in Iran (2007) showed that psychological factors such as anxiety and depression caused significant differences between the two groups of CS applicants and nonapplicants.[3] Few studies have been conducted on the relationship between SE and decision for CS. Yin *et al*. showed that SE disorder was a negative mediator of decision-making in CS among young women and might require intervention before CS.[6] Hoseini Omam *et al*. investigated

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the effect of SE on the outcome of breast surgery and showed that high SE could be useful in initial social compatibility after surgery.[9] Lee *et al*. showed that the SE of patients undergoing CS was increased after surgery compared to the control group, indicating the significant effect of breast surgery on the level of SE.[10] Of course, high SE is also problematic and can lead to negligence of the negative effects of surgery.[9] As there are few studies in the field of SE and the importance of its relationship with CS, psychological studies in this field can be useful. Moreover, if there is a significant difference between the CS applicants and nonapplicants in terms of SE, it is possible to take intermediate steps for those applying for CS to prevent unnecessary CSs. Given the above discussion and due to the lack of knowledge about the relationship between the type of SE and the intention to do CS in CS applicants, the current study was conducted on the patients referring to the beauty centers of Kermanshah, a western province of Iran. The purpose of this study was to compare the SE level between the CS applicants and nonapplicants.

MATERIALS AND METHODS

Study design
This cross-sectional study was conducted in Kermanshah, Iran, in 2018.

Study question
We sought to answer the following question:

"What is the amount of SE in the study and control groups?"

Research hypothesis
1. The study group has lower SE than control group.
2. There is a significant relationship between SE and the demographic characteristics of the study and control groups.

Sample and sampling method
The samples of this study included the CS applicants and nonapplicants. The minimum sample size of each group was calculated to be 5, according to the results of Yin *et al*., with average comparison formula for two independent samples, with 95% confidence level and 90% power.[6] To achieve more valid results, 65 samples were selected for each group, study and control. The inclusion criteria for both groups included consent to participate in the study, absence of any physical damage, congenital deformations, genetic deformations, and age range of 17–60 years. Convenience sampling method was used to select the samples. The study group samples were selected from the beauty centers in Kermanshah, and those of the control group were selected from different regions of the same city from among the ordinary people who did not intend to do CS. The control group was matched with the study group with regard to gender, age, marital status, and education.

Measurement instruments
The data collection tools consisted of demographic information form and Sherer *et al*. General Self-Efficiency Scale (GSES). The demographic information form included questions about sex, age, marriage, occupation, and education. GSES was designed by Sherer *et al*.[11] The reliability of GSES has been confirmed in previous studies. In this regard, Madux (1982) and Woodruff and Cashman used the Cronbach's alpha coefficient and obtained the internal consistency of 0.86 and 0.83, respectively.[12] Chen *et al*. reported the internal consistency of GSES to be moderate to high ($\alpha = 0.76$–0.89).[13] The reliability of the Persian version of the GSES has been approved among the Iranian society ($\alpha = 0.77$).[14] GSES has 17 items of five-point Likert scale, from "I totally disagree" (Score 1) to "I totally agree" (score 5). Items 1, 3, 8, 9, 13, and 15 are scored from right to left and the rest in the opposite direction. The overall score of the questionnaire is 17–85, and a higher score is equivalent to higher SE.

Data collection
After obtaining the approval of the University's Ethics Committee, the researcher visited the beauty centers of Kermanshah City during the week and registered the CS applicants who were scheduled to undergo CS 1 week later. To select the control group, the researcher visited various areas of the same city during the week, such as parks and shopping centers, and enrolled the eligible samples. The study objectives were explained to all the samples at the beginning of the study, and if agreed, they were provided with a demographic information form and SE questionnaire. After completion, the questionnaires were collected by the researcher.

Data analysis
The 16th version of the Statistical Package for the Social Sciences (SPSS Inc., Chicago, IL, USA) was used for data analysis. The Chi-square test was used to examine the homogeneity of the two groups in terms of nominal variables such as gender, marital status, and occupation. The Mann–Whitney U-test and independent *t*-test were used to examine the homogeneity of education and age in both study and control groups, respectively. The Kolmogorov–Smirnov test was used to test the normality of SE, whose results showed a normal distribution for SE. The independent *t*-test was used to compare the mean score of SE in the study and control groups. Moreover, the independent *t*-test was used to investigate the relationship of SE with gender and marital status. The one-way ANOVA test was used to examine the relationship between SE and education, occupation, and age groups. $P < 0.05$ was considered statistically significant.

Ethical considerations
Approval was obtained from the Ethical Review Committee of Kermanshah University of Medical Sciences with the code IR.KUMS.REC.1397.720. All participants were assured of the confidentiality of data and their demographic information. Written informed consent was received from all participants.

RESULTS

The results showed that most participants in the study group were female ($n = 57$, 87.7%), single ($n = 41$, 63.1%), and employed ($n = 21$, 32.3%) and had bachelor degree ($n = 33$,

50.8%). In control group, most participants were female ($n = 55$, 84.6%), single ($n = 40$, 61.5%), and employed ($n = 27$, 41.5%) and had bachelor degree ($n = 37$, 56.9%). The mean ages of the samples in both groups were 30.18 ± 9.8 and 28.89 ± 8.6 years, respectively [Table 1]. The highest and lowest frequency of CS were related to rhinoplasty ($n = 41$, 63.3%) and hair transplantation ($n = 1$, 1.7%).

The mean SE was significantly higher in the study group (63.89 ± 9.12) than the control group (59.69 ± 8.99) ($P = 0.009$) [Figure 1].

In the study group, the highest and lowest means of SE, based on age, were reported for the age groups 48–57 years (61.33 ± 5.50) and 38–47 years (58.80 ± 14.15), respectively. The results of one-way ANOVA did not show a significant difference in the mean SE among different age groups. In the control group, the highest and lowest mean scores of SE were found for the age ranges 38–47 years (67.50 ± 7.80) and 48–60 years (53.50 ± 4.97), respectively. Based on the results of one-way ANOVA, there was no significant difference between different age groups in terms of mean SE in the control group.

In our study, the mean scores of SE in the males and females of the study group were 63.12 ± 8.79 and 59.21 ± 8.98, respectively. The results of independent t-test did not show a statistically significant difference between the males and females in this group. In the control group, the mean scores of SE in the males and females were 71.20 ± 4.34 and 62.56 ± 9.15, respectively, and the males had significantly

higher SE ($P = 0.006$). The findings showed that the mean SE was lower in the married individuals than in the single ones in the study group (57.54 ± 9.68 and 60.95 ± 8.42, respectively), which was not statistically significant. However, in the control group, the mean SE was higher in the married individuals than the single ones (65.92 ± 9.27 and 62.62 ± 8.90, respectively).

The results showed that the highest and lowest mean scores of SE were related to the self-employed samples and homemakers in the study group (62.58 ± 6.57 vs. 55.46 ± 10.63, respectively). The one-way ANOVA test did not show a significant difference in the mean SE among different occupations. In the control group, the self-employed individuals and students had the highest and lowest levels of SE, respectively (69.12 ± 7.05 vs. 59.17 ± 8.68, respectively). Based on the one-way ANOVA test, the mean SE was significantly different among different occupations ($P = 0.009$).

In the study group, those with bachelor degree and below high school diploma education had the highest and lowest mean scores of SE (61.87 ± 8.45 vs. 50.66 ± 11.43, respectively), which was statistically significant ($P = 0.038$). In the control group, the highest and lowest mean scores of SE were reported for those with Master of Science degree and under high school diploma education (69.75 ± 4.77 vs. 56.50 ± 9.19, respectively). In this group, the findings of one-way ANOVA test did not show a statistically significant difference in terms of education [Table 2].
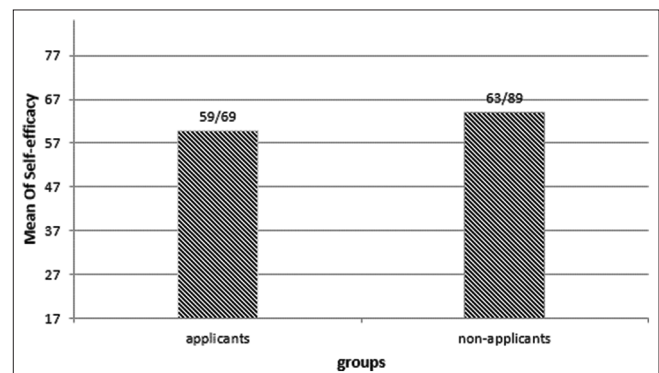
DISCUSSION

In this study, the SE rates were compared between the CS applicants and nonapplicants (study and control groups, respectively). Moreover, in each of the study and control groups, the relationship between SE and demographic characteristics was investigated. The results showed that the SE level was significantly lower in the study group than the control group. This means that the low SE can have a significant effect on the decision to do CS. Few studies have compared SE between the CS applicants and nonapplicants. In a study aimed to investigate the relationship between the psychological characteristics of young women and the desire to CS, the SE rate was compared between the applicants

Table 1: Comparison of demographic variables in study and control groups

Variables	Study group, n (%)	Control group, n (%)	P
Gender			
Female	57 (87.7)	55 (84.6)	NS†
Male	8 (12.3)	10 (15.9)	
Marital status			
Single	41 (63.1)	40 (61.4)	NS†
Married	24 (36.9)	25 (38.5)	
Job			
Self-employed	12 (18.5)	8 (12.3)	NS†
Employee	21 (32.3)	27 (41.5)	
Homemaker	13 (20)	13 (20)	
University student	16 (24.6)	16 (25.4)	
School student	3 (4.6)	1 (1.6)	
Education			
Under diploma	6 (9.2)	2 (3.1)	NS†
Diploma	18 (27.7)	18 (27.7)	
Bachelor	33 (50.8)	37 (56.9)	
Master	8 (12.3)	8 (12.3)	
Age (years)			
17-27	27 (41.5)	29 (44.6)	NS†
28-37	25 (38.5)	26 (40)	
38-47	10 (15.4)	8 (12.3)	
48-57	3 (4.6)	2 (3.1)	

†The Chi-square test. NS: Nonsignificant

Figure 1: Comparison of the mean of self-efficacy in study and control groups

Table 2: Relationship between self-efficacy and demographic characteristics in study and control groups

Variables	Self-efficacy				
	Study group			**Control group**	
	Mean (SD)	**Test results**		**Mean (SD)**	**Test results**
Gender					
Female	59.21 (8.98)	$t_{(63)}=-1.15$		62.56 (9.15)	$t_{(63)}=-2.91$
Male	63.12 (8.79)	$P=0.25$		71.20 (4.34)	$P<0.001$
Marital status					
Single	60.95 (8.42)	$t_{(63)}=1.48$		62.62 (8.00)	$t_{(63)}=-1.42$
Married	57.54 (9.68)	$P=0.14$		65.92 (9.27)	$P=0.15$
Occupation					
Self-employed	62.58 (6.57)	$F=1.54$		69.12 (7.05)	$F=4.17$
Employee	58.66 (8.42)	$P=0.20$		66.66 (6.13)	$P<0.001$
Homemaker	55.46 (10.63)			61.07 (12.53)	
University student	62.50 (9.67)			59.17 (8.68)	
School student	58.66 (4.04)			63.89 (9.12)	
Education					
Under diploma	50.66 (11.43)	$F=2.98$		56.50 (9.19)	$F=1.68$
Diploma	59.22 (7.67)	$P<0.001$		62.83 (10.76)	$P=0.17$
Bachelor	61.87 (8.45)			63.54 (8.84)	
Master	58.50 (9.01)			69.75 (4.77)	
Age (years)					
17-27	59.55 (7.99)	$F=0.07$		61.79 (9.19)	$F=2.36$
28-37	60.00 (8.23)	$P=0.97$		65.97 (8.83)	$P=0.08$
38-47	58.80 (14.15)			67.50 (7.80)	
48-57	61.33 (5.50)			53.50 (4.94)	

SD: Standard deviation

and nonapplicants. The results showed that the SE level was significantly lower in the CS applicants than the nonapplicants. In the same study, it was argued that SE disorder was a negative mediator of decision-making in CS among the young women, and these individuals might need intervention before CS.[6] The results of the present study are consistent with the results of this study. In another study, the results showed that high SE could be useful in early social compatibility after breast reconstruction surgery.[9]

In a study to investigate the relationship between psychological factors, including SE, and satisfaction with breast reconstruction surgery, the results showed that patients with higher SE were more satisfied with the surgery outcome.[15] The results of this study confirmed the relationship between SE and satisfaction with CS. In another study, the results showed that breast reconstruction surgery was effective in increasing the patients' SE.[10] In our opinion, low SE can be considered as one of the main reasons for doing CS. Therefore, using appropriate measures, such as conducting individual counseling, unnecessary CS cases can be prevented.

In the present study, there was no statistically significant relationship between SE and age groups in both groups. In the study group, the highest and lowest mean scores of SE belonged to the age groups 48–57 and 38–47 years, respectively. However, in the control group, the highest and lowest mean scores of SE were reported for the age groups 38–47 and 48–60 years, respectively. In line with the results of our study,

Mehdizadeh *et al*. also found no significant relationship between SE and age.[16] In our study in each of the study and control groups, the mean SE was higher in men than women, but this difference was significant only in the control group. In this regard, the results of a study in India showed that women had significantly higher SE than men.[17] Our results are different from the results of this study, which may be due to differences in the cultural and demographic characteristics of the participants.

In the present study, SE was higher in the married individuals than the single individuals in the study group. In the control group, however, the single individual had higher SE than the married ones. In both the study and control groups, these differences were not statistically significant. Despite performing a search in valid databases such as PubMed and Scopus, we did not find studies on the relationship between SE and marital status among the CS applicants or nonapplicants. In our view, life after marriage varies from person to person, and marriage cannot necessarily lead to a decrease or increase in SE. In the present study, the highest and lowest mean scores of SE in the study group were related to the self-employed individuals and homemakers, respectively, which was not statistically significant. In the control group, the highest and lowest of mean scores of SE were found for the self-employed participants and students, which was statistically significant. In this regard, Sherer *et al*. reported a positive correlation between SE and job position so that people with high occupational status had higher SE.[11] Gong *et al*. also argued that SE was related

to the creativity and job performance of the individuals.[18] Our results in the study group are contradictory with the findings of the previous studies. Occupation seems to be an effective factor in promoting the SE. However, further studies are needed in this area. Moreover, lack of a meaningful relationship between SE and occupation in the study group may be due to other factors.

In the current study, for the study group, the highest and lowest levels of SE were reported for those with bachelor degree and under high school diploma education, which was statistically significant. In the control group, the highest and lowest scores of SE were found for those with bachelor degree and under high school diploma education, which was not statistically significant. Zhang *et al*. reported a significantly positive correlation between SE and education.[19] The results of Tiyuri *et al*. also showed a significant relationship between SE and education, and those with higher education had higher SE.[20] Our results also showed a significant relationship between SE and education in the study group.

Our study had several limitations. Given the nature of cross-sectional studies, it is not possible to determine the causal relationship between the variables of the study. In the current study, the data were collected through self-report, which may have an impact on the accuracy of the results. Moreover, there were more women than men in our study, which is due to women's higher request for CS. Another limitation was the scarcity of similar articles on SE among the CS applicants. Last but not least, in our study, the control group participants were chosen from different regions; this might have affected our results, especially in comparison of demographic variables. However, we matched the control group with the study group in terms of age, sex, occupation, and education.

CONCLUSION

The mean score of SE in the study group was significantly lower than that of the control group. In the study group, those with a bachelor degree significantly had the highest SE. In the same group, there was no significant relationship between SE and gender, marital status, and occupation. There was a statistically significant relationship between CS and SE in terms of gender and occupation among the control group, but there was no statistically significant relationship between SE and variables such as age, education, and marital status in the same group. Considering the ever-growing CS operations in the world, further studies are suggested to be conducted in wider geographic areas. Moreover, in addition to SE, other psychological causes that may influence the decision to perform CS should be investigated.

Conflicts of interest

There are no conflicts of interest.

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