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The differences between tattooed and non-tattooed individuals in body image coping strategies and attitudes toward cosmetic surgery: a cross sectional study

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ABSTRACT

Objectives: This study aims to compare tattooed and non-tattooed individuals in terms of their attitude toward cosmetic surgery in multiple motivational sources. Also, the differences across groups are examined by use of three different body image coping strategies

Methods: Participants were 108 tattooed and 202 non tattooed individuals. Respondents were 267 females and 43 males from Turkey in a private university. Their age ranged between 18 to 29, and the mean age is 21.

Results: The analysis indicated that tattooed individuals had a more positive attitude toward any cosmetic surgery application. Also, there is a difference in appearance fixation coping strategy between two groups. Tattooed individuals preferred to use appearance fixation to cope with their body image. However, the effect size of this difference was negligible to small.

Conclusions: These results suggest that tattooed and non- tattooed individuals differ remarkably in cosmetic surgery attitude. Having tattoos has an effect on cosmetic surgery motivational sources. Tattooed individuals are more motivated and look positive toward cosmetic surgery interventions than non-tattooed individuals. Also, tattooed individuals use more appearance fixation coping strategy.

Keywords: Body image, coping strategies, cosmetic surgery, cosmetic surgery acceptance, tattoos

Body image is a concept that expresses individuals' perceptions and attitudes towards their own bodies and an important domain of interpersonal functionality [1]. Individuals' satisfaction with their body manifests a sign of positive body image whereas negative body image relies on dissatisfaction from their body image [2]. Individuals with a positive body image value, appreciate and love their body and therefore avoid potentially harmful and permanent procedures [3]. Therefore, positive body image is expected to decrease the interest in aesthetic surgery.

Body-oriented interventions and body modifications are one of the most common ways for individuals to express themselves, create identity and the self. Body modifications; tattoos, piercings, stamping the body, cutting the body, is a term used to cover a wide variety of practices such as implant placement, and even actions such as dieting are included in this con-

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cept [4]. Transforming or modifying the body in the desired way is a common practice in all cultures. One of the most common interventions to make changes on the body is to get a tattoo.

Tattoos, which are one of the body ornaments and modifications, differ from temporary body ornaments [5] with their permanence and become a part of the individual's personality that needs to be understood. Historically, getting a tattoo has been associated with people experiencing difficulties, traumas, or great victories, but the way tattoos are perceived has changed over time [6]. While tattoos were once more common among outgroups, tattoos are now preferred by all levels of socioeconomic or different cultural groups [5, 7]. Although tattooing has become widespread in a wide range of groups, academic interest in the psychosocial aspects of tattooing has remained rather limited [8].

According to Le Breton [9], a tattoo is like a screen on which an imagined identity is projected. With symbols, shapes, forms, letters embroidered on the body people's predisposition to a certain type of music, literature, and life culture is revealed. Atkinson stated that tattoos are "indicating a contextual and negotiated identity" [10]. Tattoos are thought to represent both a powerful form of nonverbal communication [11] and symbolic communication [12]. Tattoos are also defined as individuals' attempts to establish control over their own bodies [13].

Although studies on tattoos and their psychological effects have increased rapidly in recent years, [14] discovered the lack of this literature on the relationship between body image and tattoos. The study found that both women and men reported significant reductions in body dissatisfaction and concerns about their appearance immediately after getting a tattoo [15]. In addition, participants in this study reported significant improvements in body appreciation three weeks after getting a tattoo. These results have been interpreted as tattoos can create a more positive effect in the short term to correct the body perception of individuals. The positive change in body perception can be thought of as individuals using tattoos as a way of coping with their body images. Additionally, It is thought that making permanent changes to the body may increase their willingness to accept cosmetic surgery. Based on the studies supporting that tattooing positively affects body image, it is thought that getting a tattoo may be related to a strategy that individuals prefer to use in coping with body dissatisfaction. In this line, the current study compares tattooed and non-tattooed individuals in terms of their attitude toward cosmetic surgery in multiple motivational sources and preferred body image coping strategies.

Individuals develop various cognitive and behavioral strategies to adapt to or cope with thoughts, feelings and situations that cause stress in body image [16]. When individuals are exposed to stressful stimuli or events related to body image, individuals use three coping strategies [17]. Firstly, the avoidance coping strategy is defined as an attempt to avoid threats to one's body image, thoughts and feelings [18]. For example, individuals who use this strategy avoid looking at themselves in the mirror or confronting themselves. Secondly, appearance fixing coping strategy can be seen as an effort to change the person's appearance by hiding or correcting a perceived physical defect. People who use this strategy can spend a lot of time changing and correcting something about their appearance. Third, and finally, a positive rational acceptance strategy involves mental and behavioral activities that emphasize accepting one's bodily experience. For example, someone might change their focus by reminding themselves that they have other important qualities as well.

Cosmetic surgery describes procedures applied to change the visible shape of the body without any disease, injury, deformation or hereditary condition that can be a factor in improving quality of life [19]. Since the main purpose of aesthetic interventions is to correct a patient's defects, it is optional and includes interventions that are not medically necessary [20]. There are a wide variety of applications and techniques for this purpose. One of the most frequently researched and correlated psychological variables in cosmetic surgery is low body satisfaction [21]. Individuals who have low levels of body satisfaction, more likely show interest in cosmetic surgery operations [19]. Similarly, getting a tattoo is one of the processes in which individuals make permanent changes in their bodies without any necessity. Therefore, there could be e several different motivators behind getting a tattoo. People getting a tattoo and cosmetic surgery may have similar tendencies to make lasting changes and interventions to the body.

Body image coping strategies might affect the peo-

ple's view of aesthetic interventions. The study showed that fixation appearance coping strategy positively correlated with surgical aesthetic intervention [22]. It would be valuable to understand the individuals' motivation and body image coping strategy behind the decisions before making permanent changes in their body. In this study, it was aimed to compare attitudes toward cosmetic surgery and body coping strategies between the tattooed and non-tattooed individuals.

METHODS

Personal Information Questionnaire

This form includes demographic questions such as gender, age, education, as well as participants were asked to indicate whether or not they were tattooed.

Acceptance of Cosmetic Surgery Scale (ACSS)

Henderson-King's [23] 15 item scale was used to measure individuals' acceptance of cosmetic surgery in general, and also underlying motivational reasons for having it done. It consists of three factors; intrapersonal, social and consider. The personal factor includes the personal evaluations of individuals about their appearance; social factor interests the opinions affirming aesthetic surgery regarding the individuals' feeling better in their social relationships and social environments are evaluated. Participants responded to each item on a scale from 1 (disagree strongly) to 7 (agree strongly). High scores indicate a more positive attitude towards cosmetic surgery. In the original study, it was reported that Cronbach Alpha coefficients ranged between .84 and .92. The Turkish validity and reliability study of this scale was conducted by Karaca *et al*. [24] and the total internal consistency coefficient was found to be Cronbach's alpha .92. Also, for interpersonal is .81 for, for social .86 , and for thoughts .90 Cronbach's alpha coefficient was reported. The Cronbach's alpha coefficient for this study is .93 for total score, .91 for intrapersonal; .84 for social; .90 for consider factor.

Body Image Coping Strategies Inventory (BICSI)

Body Image Coping Strategies Scale was developed to measure how individuals manage their body image threats or difficulties by Cash *et al*. [18]. It consists of 29 items and three body-image coping factors as positive rational acceptance, appearance fixing, and avoidance. Cronbach's alpha coefficient ranged between.74 and .91.of the factors. In the Turkish version validity and reliability study was carried out by Doğan *et al*. [25]. The three factor structure confirmed and reliability of the factors ranged .81 and .84. Cronbach's alpha coefficient for positive logical acceptance factor is .86, appearance fixation is .90, and avoidance is .83.

Participants

Respondents (n = 310) were 267 females (86.1%) and 43 males (13.9%) studying in the associate, undergraduate and master programs of the faculty of humanities and social sciences and arts and sciences of Doğuş University in Istanbul. Their age ranged from 18 to 29, and the mean age in this sample was 21. Participants were reached by a convenience sampling method. The questionnaire form was sent to 500 people in total, but 310 of these people participated in the study. The rate of participation in the research is 62%. The majority of participants were undergraduate students (73%), the rest of associate degree (24%), and master students (3%). The tattooed and non-tattooed groups compared in the sample of the study are equivalent in demographic terms such as age and educational status. Inclusion criteria for the study was being willing and motivated to participate in the study, being between 18-25 ages, continuing education in the educational institutions where the study was conducted. Exclusion criteria were determined for this study as having a p congenital physical anomaly, having undergone plastic surgery due to trauma or illness, having undergone or are considering cosmetic surgery simultaneously for functional and health purposes, having severe medical illness (e.g., cerebral palsy), persons with psychiatric disorders that may affect their ability to make decisions (e.g., psychotic disorders, bipolar disorder, body dysmorphic disorder, eating disorders). Exclusion criteria were chosen among common causes and related factors known to increase the tendency to cosmetic surgery. Demographic characteristics of the participants were presented in Table 1.

Procedure

Participants were informed of the purpose of the research and voluntary nature of their participation via online form. The study was complied with the decla-

Table 1. Demographic characteristics

	Frequency	%
Gender		
Male	43	14
Female	267	86
Marital status		
Single	306	98,7
Married	4	1,3
Education level		
Associate degree	9	23,9
Undergraduate	74	73,2
Master	227	2,9
Department		
Psychology	144	46,5
Child development	62	20
Interior architecture	52	16.7
Engineering	20	6.5
Banking and finance	15	4.8
Physiotherapy	10	3.2
Nutrition and dietetics	7	2.3

ration of Helsinki. Answering all the questions in the study on average 20 minutes lasted. Ethical permission to conduct the study was granted by the Doğuş University Ethics Committee (Decision No: E-42435178-050.06.04). Data collection process lasted two months, from March to April 2021.

Statistical Analysis

Data were analyzed by using SPSS 22.0 statistics programme, an independent t-test and multivariate analysis of variance analyses was conducted to test hypotheses.

RESULTS

Tattoo status

Overall, 108 (34.8 %) respondents reported having tattoos and 202 (65.3 %) people reported that they had no tattoos in the total sample of 310.

Preliminary between-group comparisons

We first examined differences in key demographics between tattooed and non-tattooed individuals. An independent t-test showed that there is no significant differences in age $t(308) = 1.62$, $p = .107$, sex $t(308) = -.68$, $p = 0.50$, between tattooed and non-tattooed individuals.

Between-group comparison

Multivariate analysis of variance (MANOVA) test was conducted to compare body image coping strategies and attitudes toward cosmetic surgery in tattooed and non-tattooed individuals. The three subdimensions of body image coping strategy and three motivational factors of cosmetic surgery acceptance of were entered as dependent variables, being tattooed versus non-tattooed was entered as the independent variable. First of all, the assumptions of MANOVA analysis, normal distribution, collinearity and homogeneity of variances were examined [26]. The normality analysis showed that skewness and kurtosis values ranged between -2 +2 values, so data were distributed normally [27]. The result of Levene's test revealed that dependent variables are equal between tattoo and non-tattoo groups, p-values greater than 0.05. Also, results of Box's M test showed covariance matrices are equal, $p > 0.05$. Thus, data has m*et al*l of the assumptions.

The results of analysis showed that the omnibus MANOVA effect was significant, $F(7,302) = 4.02$, $p < 0.0001$; Wilk's $\lambda = 0.96$, , $\eta p\ 2 = 0.09$. Descriptive statistics, along with the results of the univariate ANOVA are reported in Table 2.

As seen, results of the analysis indicated that tattooed individuals (mean: 35.25 ± 7.53) compared to non-tattooed individuals (mean: 33.36 ± 7.91), $t(308) = 2.03$, $p = 0.04$) showed high scores on appearance fixing body coping strategy. Although the difference between the group means was relatively small, these results suggest that having tattoos increases usage of appearance fixing body coping strategy. As predicted, the result of the analysis showed that there are no significant differences in positive rational acceptance, $t(308) = -.03$, $p = 0.97$. and avoid strategies, $t(308) = 1.79$, $p = 0.09$ between tattooed and non-tattooed individuals.

Cosmetic surgery acceptance scores showed a significant difference between two groups. Specifically, tattooed individuals (mean: 28.64 ± 9.69) have significantly higher scores in intrapersonal sub-dimen-

Table 2. Descriptive statistics for tattooed and non-tattooed participants and the results of multivariate analysis of variance

Variable	Tattoo status				Main effect of tattoo status		
	Tattooed (n = 108)		Non- tattooed (n = 202)		*F*	*p value*	η_p^2
	Mean	Standart deviation	Mean	Standart deviation			
Positive rational acceptance	22.417	0.468	22.436	0.342	0.001	0.974	0.000
Appearance fixing	35.250	0.749	33.366	0.547	4.125	**0.043***	0.013
Avoidance	15.917	0.475	14.866	0.347	3.185	0.075	0.010
Intrapersonal	28.639	0.926	24.144	0.677	15.353	**< 0.001****	0.047
Social	12.435	0.660	10.777	0.482	4.117	**0.043***	0.013
Consider	22.528	0.859	17.733	0.628	20.320	**< 0.001****	0.062

M = mean, SD = , *$p < 0.05$, **$p < 0.01$

sion than non tattooed individuals (mean: 24.14 ± 9.59), t (308) = 3.92, $p < 0.01$. Similarly, for consider sub-dimension of cosmetic surgery acceptance showed significantly higher scores tattooed individuals (mean: 22.53 ± 8.39) than on non-tattooed individuals (mean: 17.73 ± 9.20), t (308) = 4.51, $p < 0.01$. Tattooed individuals (mean: 12.44 ± 6.49) have significantly higher scores on social sub-dimension than non-tattooed individuals (mean: 10.78 ± 7,05), t (308) = 2.03, $p = 0.04$. These findings revealed that having tattoos has an effect on cosmetic surgery motivational sources. Tattooed individuals are more motivated and look positive toward cosmetic surgery interventions than non-tattooed individuals.

DISCUSSION

The purpose of the study was to compare tattooed and non-tattooed individuals in terms of their attitude toward cosmetic surgery in multiple motivational sources. Also, the differences across groups are examined by use of three different body image coping strategies which are appearance fixing, positive rational acceptance, and avoidance. The results showed that tattooed individuals use significantly higher appearance fixing body coping strategy than with non-tattooed. Appearance fixing body coping style reduces intrusive or unwanted ideas toward the body through aesthetic surgery [28]. Tattooing is classified as a type of appearance-related risky behaviors that contain potential health risks that people do to improve their appearance [29]. Earlier findings were consistent with these results, in a study of conducted by Italian adolescent girls showed that interest in tattoos and piercings are associated with greater interest in cosmetic surgery [30]. These findings may indicate that tattooed individuals are more prone to body-oriented changes to create desired self with permanent body changes like tattoos. Similarly, Armstrong *et al*. [28] found that getting tattoos is a way to make an impression on others and draw attention to specific areas of their body. The positive rational acceptance strategy was found to be associated with a more positive body image, a higher quality of life and self-esteem, and it was found that individuals using these strategies were less likely to define themselves according to their physical appearance [31]. Also, Pajor *et al*. [32] found no differences in self-esteem and life satisfaction between people with body modifications and those without such modifications. In line with all, these current findings support nonsignificant relationships between two groups in terms of positive rational acceptance strategy. On the contrary, earlier studies revealed the positive correlation between the number of body modifications and negative attitudes towards one's

own body [33], in this study two groups were not differentiated. Discrepancy in previous findings can be explained by methodological differences. As a last, the difference between two groups based on avoidance strategy is not significant. It can be thought that people with tattoos do not experience stress to cause avoidance in the current situation. Furthermore, another study showed that tattooed individuals have a positive effect on their body perceptions in the medium and long term [15], it supports our findings. The motivational sources to cosmetic surgery differs across two groups. People with tattoos are affected more by intrapersonal and consider reasons to accept permanent changes in their body. These motivators can be directly related to self-oriented benefits and improve self regard, general well being by making those lasting changes. Current analysis revealed that social factor which measures whether an individual would prefer cosmetic surgery for social reasons is relatively small effect size. This result may be interpreted as self-oriented evaluation is more important for tattooed individuals rather than others' evaluations and thoughts. The sample of this study consists of young adults. It is defined as a period in which individuals in this age period focus on themselves and self-oriented beliefs [34]. These findings can be explained by the characteristics of young adulthood.

Limitations

The fact that the sample of the study consisted of university students and a female-dominated sample limits the generalizability of the results. It may be recommended for future studies to test the same study in different age groups and in samples with equal gender distribution. Also, the effect sizes of between-group differences were small in some cases. Although these results are consistent with previous studies, it may also stem from inequality of numbers of people with tattoos and non-tattos. For future studies, examination of both quantity and quality of tattoos are also suggested. Another limitation of the study is that the participants were evaluated with self-report scales whether they had any psychiatric diagnosis or not. The fact that the psychometric characteristics of the participants before or after tattooing were not measured is also one of the limitations of the study due to the nature of this study. Despite the stated limitations, the current study provides a significant contribution to our understanding of the psychological dimensions that explain the motivation to get tattoos, and its relation to body image coping strategies, and preference for aesthetic interventions.

CONCLUSION

The findings of the study showed that tattooed individuals use more appearance fixing style to cope with their body image than non tattooed individuals. Also, tattooed and non- tattooed individuals differ significantly in attitudes toward cosmetic surgery. Tattooed individuals are more accepting of cosmetic surgery and look more positively to making permanent changes in their body than non-tattooed individuals.

Authors' Contribution

Study Conception: YK, ET; Study Design: ET, YK; Supervision: YK, ET; Funding: ET, YK; Materials: YK, ET; Data Collection and/or Processing: ET; Statistical Analysis and/or Data Interpretation: YK, Literature Review: ET, YK; Manuscript Preparation: ET, YK and Critical Review: ET, YK.

Informed consent

Informed consent was presented to each individual before participating in the study. All of them declared voluntary participation.

Conflict of interest

The authors disclosed no conflict of interest during the preparation or publication of this manuscript.

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