Predictors of Tendency Toward Cosmetic Surgery:
Media Influences, Appearance Perfectionism and Investment

Sepideh Minoosepehr [1*], Mansooreh Nikoogoftar [2], Gholamreza Sarami Foroushani [3]

1. MA in Psychology, Islamic Azad University, UAE Branch, Dubai, U.A.E
2. Assistant Professor, Payam Nour University, Tehran, Iran.
3. Assistant Professor, Kharazmi University, Tehran, Iran.

ABSTRACT

Objective: This study aimed to examine factors influencing attitudes toward cosmetic surgery among university students. Sociocultural attitudes toward appearance, physical appearance perfectionism, and appearance investment were considered as predictors of tendency toward cosmetic surgery.

Methods: This study was a descriptive-correlative research. One stage cluster sampling was utilized to collect data of 631 students (male and female), aged between 18 and 49 years (21.83±4.09 y) of Islamic Azad university (from North, South, East, West, Medical Sciences and Dentistry branches) with different degrees and majors during the first semester of 2013-14 academic year. A 77-item questionnaire was utilized to measure sociocultural attitudes toward appearance, appearance perfectionism, appearance investment, attitudes toward cosmetic surgery, and demographic data. First a pilot study was conducted on 30 students with similar ability and background to the survey target population to obtain an assessment of the validity and reliability of the translated questionnaires in Persian. A stepwise regression analysis was utilized to address the prediction power of tendency toward cosmetic surgery.

Results: Media influences as sociocultural attitudes toward appearance, appearance investment, appearance perfectionism through two ways; worry about imperfection and hope for perfection, which were significantly correlated to attitude toward cosmetic surgery. Variables were not identical for men and women apart from worry about imperfection subscale. Furthermore, media influences, appearance investment, and worry about imperfection accounted for 27% of variance of positive attitude toward cosmetic surgery. Hope for perfection as the second subscale of appearance perfectionism has no effect on predicting tendency toward cosmetic surgery.

Conclusion: These findings suggest that a greater perfectionist tendency and psychological investment in physical appearance (among sociocultural attitudes toward appearance) predict more favorable attitudes toward cosmetic surgery.

1. Introduction

Cosmetic surgery procedures are performed at increasing rates, especially among young adults. According to statistics released by the American Society of Plastic Surgeons (ASPS), 14.6 million cosmetic plastic surgery procedures, including both minimally-invasive and surgical ones were performed in the United States in 2012, up 5% since 2011 (ASPS, 2013). Unfortunately, there is no official statistics in our country, but according to journalistic statistics, Iran has the first place regarding the number of rhinoplasty in the world. What is concerning in this issue besides the cost and risks, is an increasing appeal that might be rooted in psychosocial factors. Identification of these factors is essential to find

* Corresponding Author:
Sepideh Minoosepehr, MA
Address: Islamic Azad University, UAE Branch, Dubai, U.A.E
Tel: +98 (21) 22846966
E-mail: sep_minoosepehr@yahoo.de

the source of this high tendency toward cosmetic surgery in the name of appearance enhancement, especially among young adults.

Motivation to undergo cosmetic surgery could arise from a variety of influences. Nowadays cosmetic surgery procedures are less expensive and more available, especially in retail surgical centers. Improved socioeconomic conditions, shifting cultural standards, and globalization (because of the exposure to Western culture through media) could help normalize this procedure. It seems that unrealistic societal standards of beauty have an undeniable effect on attitudes toward appearance and cosmetic surgery (Sarwer, Magee, & Crerand, 2004).

In Tripartite Influence Model proposed by Thompson and his colleagues, peers, parents, and media have been defined as three primary influencing risk factors for the development of body image problems (Keery, Van den Berg, & Thompson, 2004), in which the influential role of the media is highlighted in the socialization of persons' physical appearance standards and expectations (Levine & Harrison, 2004; Tiggemann, 2002). The information provided by mass media (TV, magazines, and movies) are essential in learning social norms, including appearance. Social norms are beliefs about what others do, how others think, and what others approve (Cialdini, Kallgren & Reno, 1991). For social learning, i.e., to learn people behavior (Tiggemann, 2005), communication theories like 'Cultivation theory' suggest that, constant exposure to media content about beauty norms persuades people to accept almost unachievable portrayals as part of the reality (Grabe, Ward & Hyde, 2008).

According to Cultivation theory (Gerbner, Gross, Morgan, Signorielli, & Shanahan, 2002), heavy media exposure (particularly television) to certain events, values, and people gradually and often unconsciously shapes the individual's perception of social reality. Therefore, continued exposure to specific appearance or body shape in the media, which are usually faked by surgery, may modify attitudes over time, and finally viewed as an acceptable method for addressing body dissatisfaction (Slevec, & Tiggemann, 2010). Perhaps as Cash (2005) stated understanding the persons unaffected by such pervasive sociocultural forces is more difficult. Many studies focusing on unrealistic "body perfect" ideals portrayed by mass media confirm dissatisfaction with one's body, or negative body image, can be understood as one of the most reliable and significant signs of negative self-perception and tendency toward enhancement behaviors like cosmetic surgery (Cash, 2011; Farshidfar, Dastjerdi, & Shahabizadeh 2013; Grabe et al., 2008; Henderson-

King & Brooks, 2009; Markey, & Markey, 2009, 2010; Salehahmadi, & Rafie, 2012; Slevec, & Tiggemann, 2010; Swami et al., 2008, 2009; Tavassoli, & Modiri, 2012).

Nevertheless, some research findings are reflecting complex results. Levin and Harrison (2004) showed that media effects were absent after exposure to body ideal images and Brown et al., (2007) reported no effect of media exposure on the likelihood of having cosmetic surgery. These findings bold identifying vulnerability factors that make individuals more or less prone to media influences.

Body image has been described in many studies as a major determinant factor of body-shaping behaviors with possibly unhealthy consequences such as unbalanced diet regimes or cosmetic surgery (Dittmar, Halliwell & Stirling, 2009). Two basic components of body image are appearance evaluation (self-ideal discrepancies, body satisfaction/dissatisfaction) and appearance investment (the importance or cognitive-behavioral salience of one's appearance) (Cash, 2002). Individual's beliefs and cognitive generalization about one's self derived from past experiences have been described as self-schema (Markus, 1977). Body image schemas indicate one's core beliefs about the meaning and importance of appearance in one's life and self-worth. Also, it indicates that people who believe much of their self-esteem depend on their body image, may be more prone to pursue appearance-enhancement behaviors to improve their appearance (Sarwer, 2002). Slevec and Tiggemann (2010) proposed that people who are both highly dissatisfied with their bodies and highly appearance invested will be more likely to undergo cosmetic surgical procedures.

Additionally, the fact that perfectionistic trait has been established in increased disordered eating (Hewitt, Flett, & Ediger, 1995), body dysmorphic (Buhlmann, Etcoff, & Wilhelm, 2008) and excessive exercise (Hall, Hill, Appleton, & Kozub, 2009) supports the idea that perfectionists are more concerned about their physical appearance and have tendency toward cosmetic surgery (Sherry, Hewitt, Lee-Baggley, Flett, & Besser, 2004; Sherry, Lee-Baggley, Hewitt, & Flett, 2007). Perfectionists' high expectations along with intense self-criticism and fears of showing imperfection and others' negative evaluations may predispose them to invest their self-worth in an unrealistic ideal physical appearance, which could lead to dissatisfaction (Cash, 2011).

The concept of the interaction between sociocultural attitudes toward appearance as media influences, physical

Table 1. The descriptive statistics of the sample's demographic based on gender

Gender	Age			Marriage status			Previous cosmetic surgeries		
		n	%		n	%		n	%
Male	18 - 22	153	66.2	Single	213	92.2	None	216	93.5
	23 - 27	54	23.4	Married	17	7.4	Once	14	6.1
	≥ 28	24	10.4	Widow or divorced	1	0.4	Twice or more	1	0.4
	Missing	0	0						
	Total	231	100	Total	231	100	Total	231	100
Female	18 - 22	304	76	Single	361	90.3	None	330	82.5
	23 - 27	69	17.3	Married	38	9.5	Once	60	15
	≥ 28	25	6.3	Widow or divorced	1	0.3	Twice or more	10	2.5
	Missing	2	0.5						
	Total	400	100	Total	400	100	Total	400	100

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appearance perfectionism, appearance investment, and tendency toward cosmetic surgery can be enlightened by social cognitive theory. In Albert Bandura's social cognitive theory (2001), termed triadic reciprocal causation, there is a mutual interaction among society, personal factors, and individual's behavior.

This study aimed to explore any relationship between media influences, appearance perfectionism, appearance investment, and tendency toward cosmetic surgery. Also we tried to find out to what extent media influences, appearance investment, and perfectionism predict positive cosmetic surgery attitudes.

2. Methods

This study was a descriptive-correlative research. Participants were recruited from Islamic Azad University students of North, South, East, West, Central, Medical Sciences and Dentistry branches of Tehran (Iran) with different degrees during the first semester of 2013-14 academic year (N=123,000). These branches were selected due to their population and variety. According to the total sample size and each branch's population, the sample size of each branch was determined again. One - stage cluster sampling was used to select the universities in each branch. Approval of every branch's research office was obtained. Before gathering data each university administration was informed and the necessary consents were acquired. Participants were recruited by random selection. The sample included 631 students (400 women and 231 men) between 18 to 49 years old. The mean age was 21.83 y (SD = ±4.090). Two miss-

ing data were reported. The sample represented a diverse group with respect to majors and degrees. About 11.7% of cases reported one previous cosmetic surgery, 1.4% reported twice and .3% reported having more than twice previous cosmetic surgeries. The purpose of the study was explained to them and it was also clarified that 'cosmetic surgery' refers to a range of minimally invasive (e.g. Botox injections, laser skin resurfacing and hair implantation) to more invasive procedures like rhinoplasty and liposuction. All questionnaires were coded and the participants who completed and returned the questionnaires could receive a printed slip of an email address provided by the researcher to follow up the test result anonymously by sending their own code. They were also free to quit the study at any time.

Measures

Sociocultural Attitudes toward Appearance Questionnaire-3 (SATAQ-3)

Participants' perceptions of media messages about appearance issues have been assessed using 30 items in Persian translated of the Sociocultural Attitudes toward Appearance Questionnaire-3 (SATAQ3, Thompson, Van den Berg, Roehrig, Guarda, & Heinberg, 2004). It is divided into four subscales: internalization-general, internalization-athlete, information, pressures. Because of the differences between pictures represented in Iranian Islamic National TV and satellite's channels, both "TV" and "satellite" are mentioned in Persian version.

Participants were asked to check their level of agreement with each statement on five-point scale ranging

Table 2. The descriptive statistics and bivariate correlation coefficients (Pearson's r)

		PAPS				
		SATAQ	WAI	HFP	ASI	ACSS
SATAQ		1				
PAPS	WAI	0.343***	1			
	HFP	0.297***	0.285***	1		
ASI		0.485***	0.379***	0.496***	1	
ACSS		0.437***	0.309***	0.248***	0.454***	1
Mean		87.08	16.69	20.00	66.21	57.00
SD		24.315	5.021	2.594	11.245	21.635

Note. SATAQ= Sociocultural Attitudes Toward Appearance;
PAPS= Physical Appearance Perfectionism, WAI= Worry About Imperfection, HFP= Hope for Perfection; ASI= Appearance Investment; ACSS=Attitudes Toward Cosmetic Surgery. ***P< 0.001

from 1 (definitely disagree) to 5 (definitely agree). As the subscales defined a common factor and the ordinal theta of 0.960 showed a high internal reliability in this study, the total score of all 4 subscales were considered to assess overall media influences. Scores on this measure range from 30 to150, with higher scores indicating greater information, pressure and/or internalization of society's attractive ideal.

Appearance Schemas Inventory – Revised (ASI-R)

The Persian translation of the revised version of the Appearance Schemas Inventory – ASI-R (Cash, Melnyk, Hrabosky, 2004) was used to assess core beliefs and assumptions regarding the importance, meaning, and influence of the appearance in everyday life. The 20-item scale included two subscales. The first factor assessed persons' self-evaluative salience of their appearance, which reflects the extent to which individuals define or measure themselves by their physical appearance and believe to have an influential role in their social and emotional experiences. The second factor consisted of 8 items that reflect respondents' motivational salience or the extent to which they attend to their appearance and engage in appearance-management behaviors. This scale has shown validity for students, individuals with body dysmorphic disorder and individuals who are interested in cosmetic surgery (Grocholewski, Tuschen-Caffier, Margraf, & Heinrichs, 2011). Participants used a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to indicate their level of agreement with these 20 statements. Higher scores represented higher appearance investment or the greater degree of importance of one's appearance to his self-worth. The items were summed to obtain a total appearance investment

score, with possible scores ranging from 20 to 100. The ordinal theta showed a relatively high reliability (0.857)

Physical Appearance Perfectionism Scale (PAPS)

To measure perfectionism traits regarding appearance, a Persian translation of the Physical Appearance Perfectionism Scale (PAPS – Yang, & Stoeber, 2012) was used. PAPS is a brief measure consisting of 12 items with two subscales: worry about imperfection and hope for perfection. For its rating, a 5-point scale was used rated from 1 (strongly disagree) to 5 (strongly agree). The differential validity of the 2 subscales has been proved by correlation analyses. That means worry about imperfection shows a positive correlation only with the maladaptive concerns subscale, and hope for perfection only with the positive striving subscale, while the PAPS total score has positive correlations with both subscales. The two factors have also a significant and positive correlation (r = 0.20, P <0.05). Thus as it was recommended by Yang and Stoeber (2012), each subscale should be studied separately. The ordinal theta was 0.777, which showed an acceptable reliability of this scale in Persian version.

Acceptance of Cosmetic Surgery Scale (ACSS)

The Persian version of the Acceptance of Cosmetic Surgery Scale – ACSS (Henderson-King & Henderson-King, 2005) was used to assess participants' attitudes toward cosmetic surgery. The scale assessed both general attitudes and the likelihood of undergoing a cosmetic surgical procedure. The 15-item scale consisted of three 5-item subscales: intrapersonal, social, and consider. Using a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree), participants were asked to answer their level of agreement with these 15 state-

Table 3. The results of stepwise regression for predicting tendency toward cosmetic surgery

Predictors		B	Std. error	Beta	P	R²
Step 1	ASI	0.874	0.100	0.454	0.001	0.206
Step 2	ASI	0.609	0.110	0.317	0.001	0.267
	SATAQ	0.252	0.051	0.283	0.001	
Step 3	ASI	0.549	0.113	0.285	0.001	0.278
	SATAQ	0.231	0.052	0.260	0.001	
	WAI	0.482	0.236	0.112	0.042	

Dependent Variable: ACSS

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ments. The total score of three subscales was considered to assess the attitude toward cosmetic surgery. Higher scores showed more tendencies toward cosmetic surgery. The ordinal theta of this scale indicates its high reliability (0.941).

Demographic

Demographics consisted of questions referring to respondents' age, gender, marital status, major, and level. The participants also indicated the number (none, once, twice, and more than twice) of cosmetic surgeries they had in the past.

All questionnaires were translated from English to Persian. In order to achieve a reliable translation forward-backward translation was employed. First the questionnaires were translated by support from an English lecturer to Persian and then they were translated back to English independently. Second to evaluate the validity of the questionnaires the final translation has been discussed with some of the psychology faculty members of Islamic Azad University who were requested to evaluate all items on a 7-points scale for: a) scientific acceptance b) necessity and c) simplicity and clarity. The necessary changes were made to the questionnaire in line with applicable recommended feedback. Third a pilot study was conducted on 30 students of Islamic Azad University with similar ability and background to the survey target population. This is done to obtain an assessment of the validity of the questions, as well as the likely reliability of the data that will be collected. Although coefficient α is widely used to estimate reliability of questionnaires, researches indicate that coefficient α shows a negatively biased estimate of the theoretical reliability for Likert type rating response scales (Zumbo, Gadermann, & Zeisser, 2007). Thus, to assess the internal consistency reliability, Armor's reliability theta was utilized to compute the reliability of the questionnaires. Reliability theta is interpreted similar to Cronbach's α but reliability theta is normally higher than the corresponding Cronbach's α

(Zumbo, Gadermann, & Zeisser, 2007).The results indicated that all questionnaires have an acceptable (θ ≥ 0.7) reliability (0.77 - 0.96).

3. Results

Statistical analysis was carried out using SPSS 15. First, one-sample K-S test was utilized to examine the normal distribution and linear association between independent variables as the related assumption for multiple regression analysis. By endorsement of these assumptions, the regression analysis was done. The ineligible data were excluded from analysis process by using adjusted scores to conform the parametric assumptions. The demographic data of participants have been presented in table 1.

As it was shown, 86.5% of the participants reported no previous cosmetic surgery, which diminishes the impact of previous surgical experiments.

T tests indicated that women scored significantly higher on social attitudes toward appearance (t = -3.621, P< 0.001), appearance investment (t = -5.481, P < 0.001), attitude toward cosmetic surgery (t= -5.893, P < 0.001), and hope for perfection subscale (t = -3.160, P <0.01), but there was no difference in worry about imperfection subscale (t = -0.934, P >0.05) between men and women.

Pearson correlation coefficient was utilized to examine the relationship among all variables that were used in the subsequent analyses (see table 2). As it can be seen, all variables are significantly correlated.

A stepwise regression analysis was utilized to address the prediction power of tendency toward cosmetic surgery variable regarding independent variables. The results indicated that media influences, worry about imperfection as appearance perfectionism's subscale, and appearance investment could predict the tendency toward cosmetic surgery, but the second subscale of ap-

pearance perfectionism, hope for perfection, could not predict the tendency toward cosmetic surgery.

Therefore, three variables accounted for 27% of variance of tendency toward cosmetic surgery, which among them appearance investment (ASI) had the most power (20%) on predicting the tendency toward cosmetic surgery (See Table 3).

4. Discussion

This study aimed to investigate the association between media messages regarding appearance issues, appearance perfectionism, appearance investment, and attitude toward cosmetic surgery in a sample of university students (n=631) in Tehran Islamic Azad Universities. As it was expected and consistent with previous studies (e.g. Brown et. al., 2007), t tests indicated that there is a significant difference between men and women in all variables except the worry about imperfection subscale, which implies that women have more favorable attitudes toward appearance enhancement's behavior and are more induced by sociocultural and personal factors, but both men and women are worrying to show imperfection.

Pearson correlations showed that all variables are positively correlated. The result can be explained by Bandura's social cognitive theory (2001), in which sociocultural attitudes as society, perfectionism trait as personal factor, and individual's engagement in appearance enhancement behaviors have a mutual interaction. Although some previous research implied no association between media influences and tendency toward cosmetic surgery (Brown et al., 2007), our result is in line with the most studies in this area (e.g. Farshidfar 2013, Grabe, et al., 2008; Henderson-King & Brooks, 2009; Markey & Markey, 2009, 2010; Salehahmadi & Rafie, 2012; Slevec & Tiggemann, 2010; Swami et al., 2008, 2009; Tavassoli & Modiri, 2012).

According to Cultivation theory, the mass media cultivate presented values and standards in the society and, in turn, maintain and propagate them, which eventually become "norm" for its consumers. Similarly, media cultivated messages about appearance standards impact other socializing agents, like parents and peers, consequently they are transmitted and reinforced in everyday social interactions. However, because of Islamic rules in Iran, there are rigorous boundaries in using physical appearance attraction in Iran's mass media. It is worthwhile to note that many people have access to satellite channels and could be inclined to Western attitudes and culture,

which makes it difficult to clarify the role of media in this matter. In this study to assess sociocultural attitude toward appearance both national mass media and satellite channels were considered as one source that can impact attitude toward cosmetic surgery. Therefore, in future studies the differential role of these sources must be taken into consideration. On the other hand, it may not be just TV programs per se that is important. Over the last decade, other marketing of cosmetic surgery in many creative ways were provided by unprofessional and nonclinical agencies. Furthermore, medical technology provides an ever increasing number of approaches, which individuals can choose to improve their appearances. As more and more young people alter their bodies surgically, the beauty norms may begin to reflect an appearance that is almost impossible to achieve without surgery.

The results also showed significant and positive relationship between appearance perfectionism's subscales and other variables. While 'hope for perfection' as one of the appearance perfectionism subscale was positively correlated with other variables, it could not predict the tendency toward cosmetic surgery. The result indicates that each facet of perfectionism has a distinguished effect on enhancements behavior. People who worry more about imperfection and hope more for perfection invest more on their appearance, however just worrying about showing imperfection can pursue them to go under knife.

As Yang and Stoeber (2012) argued, 'Hope for perfection' shows positive correlation only with positive motivational aspects of perfectionism and positive self-perceptions, while the subscale of 'Worry About Imperfection' has negative correlation with positive self-perceptions of one's appearance and positive correlations with maladaptive aspects of perfectionism and physical appearance concerns. Thus, it seems reasonable that this facet of perfectionism has no influence on positive attitude toward cosmetic surgery. For a person with idealistic goals, viewing one's current appearance as imperfect should be a motivating force to pursue behaviors aimed at enhancing appearance. The idealized appearance promoted by mass media and the reinforcement (negatively or positively) from environment, associating with the perfectionist's high standards and worrying about showing imperfection can lead to emphasizing on the importance of appearance, which suggest that perfectionists may go to extreme lengths like cosmetic surgery as part of their need of bodily perfection. As this facet of appearance perfectionism showed no gender differences in this sample, targeting perfectionism may be of benefit in

protecting young people (both men and women) against the development of appearance dissatisfaction.

This can also be accurate for those who are highly involved in appearance investment. Based on the results, the appearance investment has a vital role in predicting positive attitudes toward cosmetic surgery. Individuals who define their self-worth by their physical appearance are more prone to engage enhancement behaviors. The research clearly indicates the important role of individuals' perception of their physical attractiveness on their general sense of self-worth and evaluation by others. Similarly, Sarwer, and Cash (2005) stated that it seems reasonable that individuals who invest more on their physical appearance would report greater interest in cosmetic procedures. Women seem to show more positive attitudetoward surgical enhancement for themselves and others, when appearance is central to self-worth. This result has been obtained while Iranian culture and societal rules claim the least value of one's appearance in individual's self-worth.

In conclusion, this research is the first study to examine determinants of the attitudes toward cosmetic surgery among university students, thus providing an important point of reference for further research. The studied variables linked personal and sociocultural factors to individuals' pursuit of cosmetic surgery. Normative developmental concerns about physical appearance issues are likely to worsen by sociocultural messages presented by the media, which obviously Iranian national mass media have no major role in it. This bolds the impact of other sociocultural factors like satellite channels that can be considered for future studies. Furthermore, investing one's self-worth on his appearance is a destructive value, which can be addressed along with perfectionist trait in educational system in early ages. Finally, by recognizing the distinction between self-worth and appearance value, the sensitivity to achieve an ideal appearance can be reduced.

This research should be interpreted with respect to some limitations. Most obviously, the data (despite their psychometric soundness) are derived from self-report measures. Second, the mean age of students was 21.8 years, which makes the results not applicable to other age groups or people without higher education. Of note, while it has been focused on a number of relevant variables regarding acceptance of cosmetic surgery, this study can benefit more by considering other subscales and more studies in order to determine the causality of tendency toward cosmetic surgery.

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