IJBMC
International Journal of Body, Mind and Culture

Volume 5, Issue 12, pp 21-27
DOI: 10.22122/ijbmc.v11i6.516

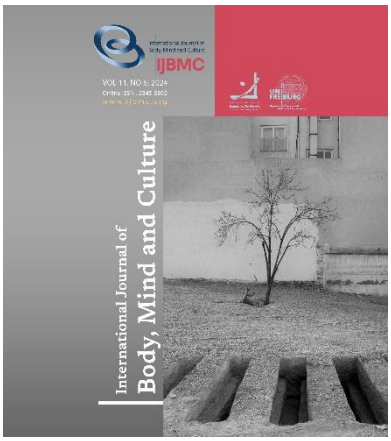
Article type:
Original Research

Evaluating Character and Temperament Traits in Rhinoplasty Applicants

Ali. Talaei[1], Maryam. Dayani[2*], Parisa. Barouti[3], Sahar. Omidvar Tehrani[4]

1 Professor of Psychiatry, Psychiatry and Behavioral Sciences Research Center, Mashhad University of Medical Sciences (MUMS), Mashhad, Iran.
2 Medical Doctor, Volunteer researcher Psychiatry and Behavioral Sciences Research Center, Mashhad University of Medical Sciences, Mashhad, Iran.
3 Medical Doctor, Psychiatry resident at Mashhad University of Medical Sciences (MUMS), Mashhad, Iran.
4 Medical Doctor, Psychiatry resident at Mashhad University of Medical Sciences (MUMS), Mashhad, Iran.

Corresponding author email address:
maryam.diani@icloud.com



Article history:

Received 7 May 2023
Revised 8 Agust 2023
Accepted 9 September 2023
Published online 24 December 2024

How to cite this article:
Talaei, A., Dayani, M., Barouti, P., & Omidvar Tehrani, S. (2024). Evaluating Character and Temperament Traits in Rhinoplasty Applicants. International Journal of Body, Mind and Culture, 11(6), 21-27.

ABSTRACT

Objective: Rhinoplasty is a frequent plastic surgery which has been dramatically increasing In Iran. Some reports presenting the role of the character in making decisions for cosmetic surgeries. Therefore, the present study was aimed to assess the relationship between the character and temperament traits with rhinoplasty surgery in Mashhad, northeast of Iran.

Methods and Materials: In the present descriptive cross-sectional study, 286 participants, consisting of 186 elective cosmetic rhinoplasty applicants and 100 control subjects, were included based on the convenience sampling. Demographic information was collected and all participants completed the TCI-125 questionnaire (C. Robert Cloninger, 1994). Data were illustrated by parametric and non-parametric comparisons and crosstab test, using SPSS V 16.

Findings: The temperaments of novelty seeking (p<0.001) and harm avoidance (p<0.001) were significantly higher in rhinoplasty subjects than in the control group. Moreover, the characters of cooperativeness (p=0.002) and self-directedness (p<0.001) were significantly lower in cases than in controls. Categorization based on sex indicated similar results. However, males presented differences just in harm avoidance and self-directedness.

Conclusion: Evaluating character and temperament traits in rhinoplasty applicants will be so helpful in identifying and predicting good candidates for such cosmetic surgery. Selecting the ideal patients could not only reduce the costs imposed on families and society, but also enhance the satisfaction of the patients and the surgeons.

Keywords: Rhinoplasty, Personality, Temperament, Character.

Introduction

Rhinoplasty surgery is ranked the first commonplace aesthetic plastic surgery globally. It is estimated that 134,766 rhinoplasty surgeries (2.75%, 180 per 100,000 population) are annually performed in Iran, and its incidence is growing every year (American Society of Plastic Surgeon, 2021; Sari et al., 1970). There is some evidence reporting that only 10 percent of the surgeries have been performed to correct impaired function and aberrant appearance and the rest just have been done to look more beautiful (Ambro & Wright, 2008).

Furthermore, the American Society of Plastic Surgeons (ASPS) has reported that 352,555 nose reshaping have been done in America during 2020, and the total expenditure was $1,932,980,274 (American Society of Plastic Surgeon, 2021).

Some approved factors to choose rhinoplasty are female gender, socioeconomic state, media advertising, single marital state, a negative body image, personality disorders and spiritual health (Ahmadi, 2024; Alikhah et al., 2023; Baykal et al., 2015; Esmalian Khamseh & Nodargahfard, 2020; Fava & Ruini, 2003; Khajeddin & Izadi Mazidi, 2013; Loron et al., 2018; Mehdi Abadi, 2023; Niya et al., 2018; Soheylizad et al., 2020; Vahidi et al., 2022). Moreover, recent data have indicated that psychological reasons are leading people to do cosmetic surgeries. The purpose of these patients is not only physical changes but also psycho-social reasons, meaning having hope for positive physical changes and improvement in social or emotional issues persuade them to do cosmetic procedures (Adams, 2010; Bijan & Behzadipour, 2022; Seyed Alitabar & Goli, 2024). However, there is limited information about patients' mental health statutes seeking aesthetic surgeries. Depression, anxiety disorder and psychosis and personality disorders like histrionic, paranoid and schizoid are contraindications for cosmetic surgeries (Felix et al., 2014; Zojaji et al., 2007). Screening clients help identify suitable candidates for the surgery to prevent postoperative complications and unsatisfying and reduce financial burdens imposed on families and society (Heidarzadeh et al., 2019; Loron et al., 2018; Pecorari et al., 2010).

Temperament and Character Inventory (TCI), conducted by Dr Cloninger, divides the personality into three main parts, including temperament, character and psycho and assesses four temperament's and three character's dimensions and prove personality abnormalities and disorders (Cloninger et al., 1993). According to a study in 2018, the most common personality disorders in Bo NTA applicants was narcissistic and histrionic (Loron et al., 2018). Also, it has indicated that obsession is the most and antisocial is the least personality issues in patients seeking rhinoplasty (Zojaji et al., 2007) despite another research showing rhinoplasty candidates had higher levels of body dysmorphic disorder (Baykal et al., 2015; Sanatjou et al., 2023).

Previous studies indicated the prominent role of mental health issues and personality dimensions on the decision for undergoing plastic surgery. However, there is little evidence on personality traits in rhinoplasty applicants. Therefore, this study was conducted to evaluate the relationship between character and temperament traits with the rhinoplasty and compare it between the applicants referred to rhinoplasty surgeons in Mashhad, northwest Iran, and a control group.

Methods and Materials

Study Design and Participants

In a cross-sectional study, seven dimensions of temperament and character of patients who were seeking rhinoplasty were evaluated and compared with the control group. Based on cooperativeness means reported in a previous study (Sharif et al., 2016) on patients referred to cosmetic nasal surgeon in Shiraz Hospitals, the minimum sample size with a power of 80% was 107 individuals in each group. A total of 286 subjects, including 186 elective applicants for rhinoplasty and 100 control individuals, were enrolled in this study. Cases were people referred to the general and private hospitals in Mashhad, Iran, for rhinoplasty during June 2016 and June 2020. Inclusion criteria included individuals who have not had major stressors in the past six months, were not given psycho-therapy during the study, candidates referred to cosmetic clinics for rhinoplasty or having a plan for rhinoplasty and accepted to participate. The Control group were individuals who did not undergo cosmetic surgery and did not intend to have one. Age, gender, marital status, and education level were considered as the baseline characteristics. The study protocol was approved by the Ethics Committee of Mashhad University of Medical Sciences, Iran, with the ethical approval number IR.MUMS.REC.1394.121 .Also, written informed consent was obtained from all participants before the study.

Data Collection Tools

The **Temperament and Character Inventory (TCI)**, which was conducted by Cloninger in 1994, is a self-reported 240-item questionnaire that measures seven dimensions of temperament and character. In this study, TCI-125 was used which is shortened version of the

Ijbmc.org
E-ISSN: 2345-5802

original survey. The test assesses four temperament dimensions of harm avoidance (HA), novelty seeking (NS), reward dependence (RD), and persistence (PS) based on Cloninger unified psychobiological theory of personality. Moreover, it also evaluates three characters dimensions of self-directedness (SD), cooperativeness (CO), and self-transcendence (ST). Each item is rated with a two-point scale: "True" or "False". The validity and reliability of the questionnaire were confirmed by Kaviani and Poornaseh (2005) in a study on 1212 residents of Tehran, Iran. Reliability coefficient was obtained for each dimension using test-retest (NS= o.86; HA= 0.88; RD=0.73; P=0.79; CO=0. 86; SD=0.90; ST=0. 86) and its validity was confirmed using criterion validity (Kaviani, 2005).

Data analysis

Depending on the assessment of the normality test, the normally distributed continuous variables were examined using an independent sample t-test, and the Mann-Whitney U test was used to compare non-normally distributed variables between the two groups. The categorical variables were compared appropriately with the chi-square or Fisher's exact tests. Data were analyzed using SPSS v16 (IBM, USA), and a P-value less than 0.05 was considered significant.

Findings and Results

The study population characteristics have been summarized in Table 1. Rhinoplasty subjects were significantly younger than the control groups (p<0.001). Moreover, the rate of females was higher in rhinoplasty than in the control group (p=0.045). There was a significant difference in education level between the two groups as the rate of academic education was higher in controls (p=0.026). Single people were also more in the rhinoplasty group (p<0.001).

Table 1

The characteristics of the study population in rhinoplasty subjects and controls

Characteristics		Rhinoplasty	Controls	P-value
Age		27.82±6.88	39.28±12.14	<0.001
Sex	Male	45 (24.6%)	32 (34.4%)	0.045
	Female	138 (75.4%)	61 (65.6%)	
Education	Non-academic	27 (17.2%)	8 (8.0%)	0.026
	Academic	130 (82.8%)	92 (92.0%)	
Marital status	Single	65 (42.5%)	72 (72.0%)	<0.001
	Married	88 (57.5%)	28 (28.0%)	

Evaluation of seven dimensions scores indicated similar values of CO, P, RD, SD and ST in the two groups. However, CO, HA, NS and SD were significantly different between rhinoplasty subjects and controls. The score of HA and NS was higher, and CO and SD were lower in rhinoplasty candidates than controls. Categorization based on sex indicated that CO, HA, NS and SD were significantly different between groups in females; however, males indicated a significant difference in HA and SD. Results have been shown in Table 2.

Table 2

Comparing TCI scores in seven dimensions between rhinoplasty subjects and controls

Characteristics	Rhinoplasty	Controls	P-value
CO	17.08±4.30	18.70±3.83	0.002
HA	9.27±4.13	7.33±4.50	<0.001
NS	9.61±3.47	7.29±3.48	<0.001
P	3.01±1.38	2.91±1.43	0.566
RD	8.88±2.60	8.51±2.43	0.246
SD	13.17±5.33	15.61±5.68	<0.001
ST	9.25±3.28	9.44±3.17	0.641
Male			
CO	19.20±2.98	16.84±4.22	0.435
HA	10.16±3.98	7.00±4.66	0.002

NS	8.93±2.93	8.16±3.41	0.288
P	3.07±1.25	3.13±1.24	0.840
RD	8.40±2.68	8.09±2.59	0.618
SD	11.91±4.78	14.50±6.02	0.039
ST	9.93±3.11	8.91±3.20	0.162
Female			
CO	17.39±4.63	19.59±3.36	0.001
HA	9.03±4.18	7.46±4.47	0.018
NS	9.90±3.62	6.61±3.19	<0.001
P	3.01±1.41	2.87±1.50	0.532
RD	9.13±2.49	8.75±2.20	0.310
SD	13.52±5.49	16.23±5.34	0.001
ST	9.04±3.34	9.82±3.17	0.123

Investigating the rate of normal, low and high values of TCI dimensions between the two groups represented a significant difference in HA, NS and SD dimensions between the two groups of rhinoplasty subjects and controls in total subjects as well as females. However, males indicated a difference in HA and SD. Results have been shown in Table 3.

Table 3

Comparing TCI status in seven dimensions between rhinoplasty subjects and controls

Characteristics		Total			Male			Female		
		Rhinoplasty	Controls	P-value	Rhinoplasty	Controls	P-value	Rhinoplasty	Controls	P-value
CO	Normal	55 (30.1%)	23(23.0%)	0.239	22 (48.9%)	11 (34.4%)	0.138	33 (23.9%)	11 (18.1%)	0.147
	Low	10 (5.4%)	3 (3.0%)		0 (0.0%)	2 (6.3%)		10 (7.3%)	1 (1.6%)	
	High	120 (64.5%)	74 (74.0%)		23 (51.1%)	19 (59.4%)		95 (68.8%)	49 (80.3%)	
HA	Normal	105 (56.5%)	37 (37.0%)	<0.001	25 (55.6%)	10 (31.3%)	0.010	78 (56.5%)	23 (37.7%)	0.005
	Low	49 (26.3%)	52 (52.0%)		9 (20.0%)	17 (53.1%)		39 (28.3%)	32 (52.5%)	
	High	32 (17.2%)	11 (11.0%)		11 (24.4%)	5 (15.6%)		21 (15.2%)	6 (9.8%)	
NS	Normal	120 (64.5%)	51 (51.0%)	0.001	29 (64.4%)	20 (62.5%))	0.845	89 (64.5%)	29 (47.5%)	<0.001
	Low	45 (24.2%)	45 (45.0%)		12 (26.7%)	10 (31.3%)		32 (23.2%)	32 (52.5%)	
	High	21 (11.3%)	4 (4.0%)		4 (8.9%)	2 (6.3%)		17 (12.3%)	0 (0.0%)	
P	Normal	65 (34.9%)	43 (43.0%)	0.366	17 (37.8%)	16 (50.0%)	0.436	47 (34.1%)	27 (44.3%)	0.329
	Low	34 (18.3%)	18 (18.0%)		6 (13.3%)	2 (6.3%)		27 (19.6%)	12 (19.7%)	
	High	87 (46.8%)	39 (39.0%)		22 (48.9%)	14 (43.8%)		64 (46.4%)	22 (36.1%)	
RD	Normal	100 (53.9%)	54 (54.0%)	0.980	20 (44.4%)	17 (53.1%)	0.664	79 (57.2%)	34 (55.7%)	0.764
	Low	20 (10.8%)	10 (10.0%)		8 (17.8%)	6 (18.8%)		10 (7.2%)	3 (4.9%)	
	High	66 (36.0%)	36 (36.0%)		17 (37.8%)	9 (28.1%)		49 (35.5%)	24 (39.3%)	
SD	Normal	99 (53.2%)	38 (38.0%)	<0.001	28 (62.2%)	15 (46.9%)	0.046	69 (50.0%)	21 (34.3%)	0.001
	Low	39 (21.0%)	12 (12.0%)		12 (26.7%)	6 (18.8%)		27 (19.6%)	5 (8.2%)	
	High	48 (25.8%)	50 (50.0%)		5 (11.1%)	11 (34.4%)		42 (30.4%)	35 (57.4%)	
ST	Normal	68 (36.6%)	28 (28.0%)	0.329	12 (26.7%)	8 (25.0%)	0.639	54 (39.1%)	17 (27.9%)	0.175
	Low	25 (13.4%)	14 (14.0%)		5 (11.1%)	6 (18.8%)		20 (14.5%)	7 (11.5%)	
	High	93 (50.0%)	58 (58.0%)		28 (62.2%)	18 (56.3%)		64 (46.4%)	37 (60.7%)	

Discussion and Conclusion

Cosmetic surgery, especially rhinoplasty, has become a hectic trend which its rate is increasing fast, around the world, especially in Iran. However, there has not been a standard approach to evaluate the applicants and find the proper candidate who really benefits from rhinoplasty. Therefore, this study was aimed to identify out more detailed information about rhinoplasty applicants' personality traits by TCI-125 and predisposing factors to making a decision for a rhinoplasty. Our finding indicated that rhinoplasty group had higher values in Harm avoidance (HA) and Novelty seeking (NS) versus the control group. However, CO and SD were lower in rhinoplasty applicants than in the control group. Based on sex categorization, female rhinoplasty applicants were higher in HA and NS and lower in SD and CO than the female controls. Also, male rhinoplasty applicants had higher HA and lower SD versus the male control group. Moreover, results revealed that most of participant in case group were

female, single and having lower mean age despite control group which is similar to recent studies (Loghmani et al., 2017; Marziyeh et al., 2012; Saeed et al., 2021; Soheylizad et al., 2020).

Novelty-seeking, as temperament traits, is defined as an enhanced interest in response to unknown new stimuli and experiences which could lead to rewards or inventions. A high score in novelty-seeking displays high impulsiveness, exploratory excitability, extravagance, and disorderliness actions (Sadock & Sadock, 2000). An elevated level of NS in both male and female rhinoplasty applicants could be explained using a higher tendency to get bored of everything easily that causes applicants to find changing their appearance with cosmetic surgery as a temporary solution, just to make a difference in their mood. A study conducted on body image, self-esteem, temperament and character traits of patients who applied for aesthetic rhinoplasty found a higher NS level than the controls (Gurok et al., 2019). Another study considering the relationship between the aesthetic rhinoplasty and temperament, character and body dysmorphic disorders showed that the patient who represented an elevated score of NS had high impulsivity and were more obsessed with their physical appearance (Pecorari et al., 2010) that was similar to other investigations (Sharif et al., 2016).

Harm avoidance is characterized by being excessively anticipatory worry, pessimistic, shyness, fear of uncertainty, doubtful, and simply becoming tired. Individuals with higher HA feel uncomfortable in a public situation and worry about others criticism (Zarandi et al., 2012). Therefore, they may undergo cosmetic surgery to gain social acceptance by obtaining more facial beautifulness (Aliehyaii et al., 2013). Although these groups are pessimistic and have problems making decisions, it might be a considerable issue. It shows how a surgical procedure, like rhinoplasty, which is a high-risk by nature could become oversimplified because of many reasons. Therefore, even fearful and cautious individuals ignore probable minor and major risks and apply for them with no worry (Loghmani et al., 2017). The present study revealed that rhinoplasty applicants had elevated levels of HA, which was in the same line with previous investigations conducted by Sharif (Sharif et al., 2016) Sarwer DB and Haghshenas (Haghshenas, 2014; Sarwer et al., 2005). However, our finding was inconsistent with the Gurkan Gurok report from turkey (Gurok et al., 2019). These different results may be due to the difference in the sample size.

Cooperativeness is one of the three subdimensions of character in Cloninger's bio-psycho-socio-spiritual model of personality. This trait indicates how a person could get along with others based on principles. Therefore, a higher cooperativeness score indicates a more patient, empathic, helpful, benevolent and principled individual. In contrast, low levels represent being self-centred regardless of other's emotions and rules, having a poor interpersonal function, prejudice, hostile, revengeful, and unfair action (Cloninger, 1987; TEMPERAMENT & CLONINGER'IN, 2003). In the current study, cooperativeness scores were significantly lower in the rhinoplasty group. This observation could be interpreted that they were engaged with themselves and focused just on the personal pieces of stuff; therefore, it might be possible that physical appearance becomes more noticed. This finding is not mentioned in recent studies, which might be shown social condition causes individuals to become more selfish gradually.

Self-directedness refers to the ability to regulate and adapt behavior to the demands of a situation to achieve personally chosen goals and values (Cloninger et al., 1993). A low value of SD is associated with Irresponsible, Purposeless, Helpless, Poor Self-acceptance and Poor impulse control (Cloninger, 2000). People with low self-directedness could suffer from poor self-acceptance and limit their relationships due to a lack of social skills (Salahian, 2019). Also, they might face lacking goals for life or feel life has no meaning. Therefore, invest in external and material purposes like facial beauty (Esmalian Khamseh & Nodargahfard, 2020). This finding was consistent with other researches (Gurok et al., 2019; Turhan-Haktanır et al., 2010).

Although recent studies have assessed the personality of cosmetic procedures by different questionnaires like TCI, TCI-125 and MCMI-III, still there is limited evidence in this field. It seems necessary to evaluate various tests to confirm their competence for screening cosmetic applicants' personality and select the most befitting subjects, as MCMI-III is set for inpatient cases and have little diagnostic efficacy with a non-clinical population (Millon). There is a need for accomplishing extended studies in various communications by a specific questionnaire to obtain more accurate information to

Ijbmc.org
E-ISSN: 2345-5802

conduct a Meta-analyze and provide a helpful guideline for cosmetic candidate screening.

Based on the present study, there are some differences in character and trait of rhinoplasty applicants in comparison with people who do not tend to cosmetic surgery. However, these findings should be confirmed in large scale, well-designed case-control studies in different communities that applied cosmetic surgeries. In conclusion, it would be essential to present a general approach in terms of assessment of general mental health and personality profile for cosmetic rhinoplasty applicants, in order to acquire a clear insight about applicants who have a desire to go under cosmetic surgery. It will irradiate that which individual could take real advantages of rhinoplasty and which one is not a suitable candidate for surgery and could get help from proper psychologic consult in order to solve backgrounds issues pushing them to choose rhinoplasty as a solution.

Acknowledgments

We would like to express our appreciation and gratitude to all those who cooperated in carrying out this study. Specifically, we would also like to thank Mashhad University of Medical Sciences to support the project.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. The study protocol was approved by the Ethics Committee of Mashhad University of Medical Sciences, Iran, with the ethical approval number IR.MUMS.REC.1394.121.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This work was based on the doctorate thesis of Dr. Parisa Barouti, and was financially supported by Mashhad University of Medical Sciences under the grant number 930724. The authors thank all participants in this research.

Authors' Contributions

All authors equally contributed to this study.

References

Adams, J. (2010). Motivational narratives and assessments of the body after cosmetic surgery. *Qualitative Health Research*, *20*(6), 755-767.

Ahmadi, A. (2024). Predictors of Impulsiveness: The Roles of Sleep Quality and Body Image Dissatisfaction in Physically Disabled Adolescent Girls. *Psychological Research in Individuals with Exceptional Needs*, *2*(2), 28-35. https://journals.kmanpub.com/index.php/prien/article/view/3343

Aliehyaii, F., Latifi, A., & Bakhtiary, M. (2013). An epidemiological study of the reasons for tendency to undergo rhinoplasty in Tehran. *Teb va Tazkieh*, *22*, 9-16.

Alikhah, S., Akbari, B., & Abolghasemi, A. (2023). The effectiveness of acceptance and commitment approach on quality of life and body image in patients with skin disorders by modulating emotional reactivity. *Journal of Adolescent and Youth Psychological Studies (JAYPS)*, *4*(7), 88-97. https://doi.org/10.61838/kman.jayps.4.7.10

Ambro, B. T., & Wright, R. J. (2008). Psychological considerations in revision rhinoplasty. *Facial Plast Surg*, *24*(3), 288-292. https://doi.org/10.1055/s-0028-1083083

American Society of Plastic Surgeon. (2021). https://www.plasticsurgery.org/documents/News/Statistics/2020/plastic-surgery-statistics-full-report-2020.pdf

Baykal, B., Erdim, I., Ozbay, I., Oghan, F., Oncu, F., Erdogdu, Z., & Kayhan, F. T. (2015). Evaluation of Relationship Between Body Dysmorphic Disorder and Self-Esteem in Rhinoplasty Candidates. *J Craniofac Surg*, *26*(8), 2339-2341. https://doi.org/10.1097/scs.0000000000002082

Bijan, S., & Behzadipour, S. (2022). One-year Follow-up of Body Image Changes and Sexual Satisfaction in Women Undergoing Cosmetic Breast Surgery. *International Journal of Body, Mind and Culture*, *9*(1), 1-10. https://doi.org/10.22122/ijbmc.v9i1.363

Cloninger, C. R. (1987). A systematic method for clinical description and classification of personality variants: A proposal. *Archives of General Psychiatry*, *44*(6), 573-588.

Cloninger, C. R. (2000). A practical way to diagnosis personality disorder: a proposal. *Journal of personality disorders*, *14*(2), 99-108.

Cloninger, C. R., Svrakic, D. M., & Przybeck, T. R. (1993). A psychobiological model of temperament and character. *Arch Gen Psychiatry*, *50*(12), 975-990. https://doi.org/10.1001/archpsyc.1993.01820240059008

Esmalian Khamseh, L., & Nodargahfard, M. (2020). The Effect of Cosmetic Surgery on Sexual Self-Esteem: Attitudes toward Body Image and Well-Being in Married Women [Original Article]. *World Journal of Plastic Surgery*, *9*(2), 153-159. https://doi.org/10.29252/wjps.9.2.153

Fava, G. A., & Ruini, C. (2003). Development and characteristics of a well-being enhancing psychotherapeutic strategy: Well-

being therapy. *Journal of Behavior Therapy and Experimental Psychiatry*, *34*(1), 45-63.

Felix, G. A. A., de Brito, M. J. A., Nahas, F. X., Tavares, H., Cordás, T. A., Dini, G. M., & Ferreira, L. M. (2014). Patients with mild to moderate body dysmorphic disorder may benefit from rhinoplasty. *Journal of Plastic, Reconstructive & Aesthetic Surgery*, *67*(5), 646-654.

Gurok, M. G., Kılıç, F., Sağlam, S., Göçer Gürok, N., Kuloğlu, M. M., & Yıldırım, A. M. (2019). Patients without psychopathology applying for aesthetic rhinoplasty may display elevated harm avoidance and reduced self-directedness: a cross-sectional, case–control study. *Psychiatry and Clinical Psychopharmacology*, *29*(4), 715-721. https://doi.org/10.1080/24750573.2019.1605666

Haghshenas, H. (2014). Personality psychology. *Shiraz (Iran): Shiraz University of Medical Sciences*, 167-168.

Heidarzadeh, A., Shahmohammadipour, P., Azzizadeh Forouzi, M., Dehghan, M., & Khorasani, Z. (2019). Body Image, Self-Esteem, and Psychological Problems Among Applicants and Non-applicants of Cosmetic Surgery [Research]. *Practice in Clinical Psychology*, *7*(1), 33-42. https://doi.org/10.32598/jpcp.7.1.33

Kaviani, H. (2005). Validation of temperament and character inventory (TCI) in iranian sample: Normative data. *Tehran University of Medical Sciences Journal*, *63*(2), 89-98.

Khajeddin, N., & Izadi Mazidi, S. (2013). The relationship between body image and request and tendency toward rhinoplasty in female students. *Jundishapur Scientific Medical Journal*, *11*(6), 665-673.

Loghmani, S., Loghmani, S., Baghi, H., Hoghoughi, M. A., & Dalvi, F. (2017). Demographic Characteristics of Patients Undergoing Rhinoplasty: A Single Center Two-Time-Period Comparison [Original Article]. *WORLD JOURNAL OF PLASTIC SURGERY*, *6*(3), 275-279. http://wjps.ir/article-1-309-en.html

Loron, A. M., Ghaffari, A., & Poursafargholi, N. (2018). Personality Disorders among Individuals Seeking Cosmetic Botulinum Toxin Type A (BoNTA) Injection, a Cross-Sectional Study. *The Eurasian journal of medicine*, *50*(3), 164-167. https://doi.org/10.5152/eurasianjmed.2018.17373

Marziyeh, N., Mohammad, F., Ali, K., Narges, F., & Ali, M. (2012). Comparison Of Perfectionism In People Who Have Cosmetic Rhinoplasty Surgery And Control Group In Yasouj City. *Payavard Salamat*, *6*(1).

Mehdi Abadi, P. (2023). Exploring the Role of Family Relationships in Shaping Body Image Perceptions. *KMAN Counseling & Psychology Nexus*, *1*(2), 17-23. https://doi.org/10.61838/kman.psychnexus.1.2.4

Millon, T., Millon, C., Davis, R. D., and Grossman, S. D. (2006). . *MCMI-III Manual, 3 Edn*.

Niya, N. M., Kazemi, M., Abazari, F., & Ahmadi, F. (2018). Personal motivations of Iranian men and women in making decision to do face cosmetic surgery: A qualitative study. *Electronic Journal of General Medicine*, *15*(3), 8.

Pecorari, G., Gramaglia, C., Garzaro, M., Abbate-Daga, G., Cavallo, G. P., Giordano, C., & Fassino, S. (2010). Self-esteem and personality in subjects with and without body dysmorphic disorder traits undergoing cosmetic rhinoplasty: preliminary data. *J Plast Reconstr Aesthet Surg*, *63*(3), 493-498. https://doi.org/10.1016/j.bjps.2008.11.070

Sadock, B. J., & Sadock, V. A. (2000). *Kaplan & Sadock's comprehensive textbook of psychiatry, Vols. 1-2*. lippincott Williams & Wilkins publishers.

Saeed, K., Khan, F. A., Khan, I., & Farid, A. (2021). Psychology Behind Aesthetic Rhinoplasty – Introducing the term "SIFON". *Journal of Craniofacial Surgery*, *32*(6), 2152-2154. https://doi.org/10.1097/scs.0000000000007496

Salahian, A. (2019). Comparison of Mental Health and Self-Image between the Applicants and Non-Applicants of Cosmetic Surgery [Orginal Article]. *Journal of Research and Health*, *9*(7), 686-691. https://doi.org/10.32598/jrh.1407.1

Sanatjou, S., Bakhshipour Roudsari, A., Hashemi Nosrat Abad, T., & Mahmoudalilou, M. (2023). Structural Relationships between brain- behavior systems and Cloninger Temperament and Character model with Tetrad dark sides of personality. *Journal of Adolescent and Youth Psychological Studies (JAYPS)*, *4*(9), 79-88. https://doi.org/10.61838/kman.jayps.4.9.9

Sari, A. A., Babashahy, S., Olyaeimanesh, A., & Rashidian, A. (1970). Estimating the Frequency and Rate of First 50 Common Types of Invasive Procedures in Iran Healthcare System. *Iranian Journal of Public Health*, *41*(10). https://ijph.tums.ac.ir/index.php/ijph/article/view/2502

Sarwer, D. B., Cash, T. F., Magee, L., Williams, E. F., Thompson, J. K., Roehrig, M., Tantleff-Dunn, S., Agliata, A. K., Wilfley, D. E., & Amidon, A. D. (2005). Female college students and cosmetic surgery: An investigation of experiences, attitudes, and body image. *Plastic and Reconstructive Surgery*, *115*(3), 931-938.

Seyed Alitabar, S. H., & Goli, F. (2024). Exploring the Predictive Role of Body Image and Rumination on Somatic Symptom Severity: A Quantitative Analysis. *International Journal of Body, Mind and Culture*, *11*(3), 193-200. https://doi.org/10.22122/ijbmc.v11i3.689

Sharif, F., Anooshehpoor, B., Mani, A., Zarshenas, L., Zare, N., & Haghighatian, A. (2016). Comparison of the Temperament and Character of Patients Referred to Cosmetic Nasal Surgeon in Shiraz Hospitals, 2015. *Int J Community Based Nurs Midwifery*, *4*(2), 137-147.

Soheylizad, M., Mohammadi, Y., Ezati, E., & Moeini, B. (2020). How Is the Relationship of Spiritual Health and Body Image with the Desire for Aesthetic Surgery among Students? *World J Plast Surg*, *9*(2), 219-227. https://doi.org/10.29252/wjps.9.2.225

TEMPERAMENT, A. P. M. O., & CLONINGER'IN, P. M. H. V. K. (2003). Psychobiological model of temperament and character: TCI. Yeni Symposium,

Turhan-Haktanır, N., Geçici, Ö., Emül, H. M., Aşık, A., Demir, Y., & Özbulut, Ö. (2010). Temperament and character traits of women admitted for breast reduction and comparison with body perception. *Aesthetic Plastic Surgery*, *34*(3), 359-364.

Vahidi, S., Namvar, H., & Aghayousefi, A. (2022). Predicting Happiness Based on Neuroticism and Self-Differentiation with the Mediating Role of Body Image and Optimism in Obese Men and Women. *Journal of Applied Family Therapy*(3). https://doi.org/10.61838/kman.aftj.3.3.14

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*(4), 369-381.

Zojaji, R., Javanbakht, M., Ghanadan, A., Hosien, H., & Sadeghi, H. (2007). High Prevalence of Personality Abnormalities in Patients Seeking Rhinoplasty. *Otolaryngology–Head and Neck Surgery*, *137*(1), 83-87. https://doi.org/10.1016/j.otohns.2007.02.027