ORIGINAL ARTICLE

Psychiatry and Clinical Psychopharmacology 2025;35(3):304-310
DOI: 10.5152/pcp.2025.241063

Psychological and Sociodemographic Insights into Self-Esteem and Social Media Influence Among Rhinoplasty Candidates

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ABSTRACT

Background: Rhinoplasty, performed for aesthetic and functional purposes, is among the most common cosmetic procedures worldwide. While previous studies have investigated the impact of social media and self-esteem on cosmetic surgery motivations, comparisons between aesthetic and functional rhinoplasty candidates remain limited. This study evaluates the sociodemographic, psychological, and behavioral profiles of these groups, focusing on social media use and self-esteem.

Methods: This cross-sectional study included 103 rhinoplasty candidates divided into 2 groups based on their primary motivation: functional (Group 1) or aesthetic (Group 2). Data were collected using a Sociodemographic Data Form, the Rosenberg Self-Esteem Scale (RSES), and the Bergen Social Media Addiction Scale (BSMAS). Statistical analyses included chi-square, Fisher's exact test, and Mann-Whitney U-tests.

Results: Most participants (70.9%) sought rhinoplasty for aesthetic reasons. The median age of Group 2 (23.0) was significantly lower than that of Group 1 (29.5) ($P < .001$). Females and single individuals were more likely to seek aesthetic rhinoplasty ($P < .001$). Social media use, particularly Instagram, was significantly higher in Group 2; 53.4% spent over 3 hours daily on social media, compared to 10% in Group 1 ($P < .001$). Group 1 showed higher self-esteem scores than Group 2 (34.0 vs. 31.0, $P < .001$).

Conclusion: Aesthetic rhinoplasty is associated with a younger age, female gender, lower self-esteem, and greater social media use. These findings emphasize the need for preoperative assessments addressing psychological vulnerabilities and social media influences to improve patient satisfaction and outcomes.

ARTICLE HISTORY

Received: December 17, 2024
Revision Requested: January 28, 2025
Last Revision Received: March 9, 2025
Accepted: May 12, 2025
Publication Date: June 25, 2025

INTRODUCTION

Rhinoplasty is a widely sought-after surgical procedure, performed for both aesthetic and functional purposes.[1] Globally, it ranks among the top 5 most commonly performed cosmetic surgeries, accounting for approximately 10% of all cosmetic surgeries annually.[2] The procedure addresses aesthetic concerns often stemming from personal dissatisfaction with facial appearance, as well as functional indications related to medical conditions such as breathing difficulties. Beyond these physical reasons, psychological and social factors influencing individuals' decisions to undergo rhinoplasty have become a growing focus in contemporary research, particularly given the influence of modern societal dynamics.[3]

The pervasive use of social media has transformed self-perception and body image, introducing new dimensions to how individuals evaluate their appearance.[4] Time spent on these platforms and interactions with curated images can significantly affect self-esteem, potentially driving decisions to seek cosmetic procedures. Previous studies have highlighted that individuals with lower self-esteem are more likely to consider aesthetic surgeries, including rhinoplasty, as a way to enhance their self-perception and confidence.[5] This relationship is further amplified by the role of social media, where exposure to idealized images can exacerbate self-esteem issues.[6]

To better understand the impact of factors such as social media influence and self-esteem on rhinoplasty candidates, this study investigates the sociodemographic and psychological profiles of these individuals. While extensive research has explored the role of social media in shaping motivations for cosmetic surgery,[6] studies that compare these influences in aesthetic versus functional rhinoplasty

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Cite this article as: Gürü M, Ceylan BT. Psychological and sociodemographic insights into self-esteem and social media influence among rhinoplasty candidates. *Psychiatry Clin Psychopharmacol*. 2025;35(3):304-310.

populations remain limited. Participants are categorized based on their primary motivation for surgery: whether aesthetic or functional. Understanding these motivations provides valuable insights into the psychological and social factors shaping patients' choices. This knowledge can help healthcare professionals tailor preoperative counseling, manage patient expectations, and identify the need for appropriate psychiatric consultations, ultimately enhancing satisfaction and surgical outcomes.

MATERIAL AND METHODS

Ethical Approval, Study Design, and Participants

Ethical approval for the study was obtained from Gazi University on December 19, 2023 (Decision No: E-77082166-604.01.02-830014 Date: December 19, 2023). Patients scheduled for rhinoplasty surgery were included after providing written informed consent, following a detailed explanation of the study. Exclusion criteria encompassed individuals with diagnoses of body dysmorphic disorder, substance use disorder, psychotic disorders, or mental retardation, as well as those unable to complete the scales due to illiteracy. Patients who had undergone revision rhinoplasty were also excluded.

In total, 113 individuals were initially invited to participate in the study. However, 10 individuals were excluded for the following reasons: 3 individuals were scheduled for revision rhinoplasty, 5 individuals declined to participate and did not wish to complete the scales, and 2 individuals were excluded due to incomplete responses. As a result, the final study sample consisted of 103 participants. This ensured that all included individuals met the study criteria and provided complete data for analysis.

To ensure a standardized assessment of the exclusion criteria, all participants were evaluated by a psychiatrist rather than relying solely on self-reports. This approach allowed for a more objective determination of mental health conditions and ensured that individuals meeting the exclusion criteria were appropriately identified. Following these psychiatric evaluations, no participants were diagnosed with a psychopathology that would contraindicate surgery.

Sociodemographic data, including age, education level, occupation, history of previous psychiatric treatments, social media platforms used, and daily usage times, were collected using a Sociodemographic Data Form. All scales were completed before surgery to assess preoperative psychological and behavioral characteristics.

Self-esteem levels were evaluated with the Rosenberg Self-Esteem Scale (RSES), while social media dependency was assessed using the Bergen Social Media Addiction Scale (BSMAS).

Scales and Calculating the Scores

Sociodemographic Data Form: Prepared by the researchers after reviewing the literature, this form includes questions about the patients' age, gender, marital status, occupation, education level, smoking and alcohol habits, medical history, monthly family income, reasons for the planned surgery, social media usage, and previous psychiatric treatments.

Rosenberg Self-Esteem Scale: The RSES is the most widely used scale for assessing self-esteem. It consists of 10 items rated on a 4-point Likert scale, ranging from "strongly disagree" to "strongly agree," with scores assigned from 1 to 4. The total score ranges from 10 to 40, where scores below 21 indicate low self-esteem, and higher scores reflect higher self-esteem. Developed by Morris Rosenberg in 1965, the scale's Turkish validity and reliability were established by Çuhadaroğlu.[7,8]

The RSES demonstrates a Guttman scale coefficient of reproducibility of 0.92, indicating excellent internal consistency. Additionally, test-retest reliability over a 2-week period shows correlations of 0.85 and 0.88, demonstrating its high stability.[9] In the present study, the reliability of the RSES was also assessed, yielding a Cronbach's alpha coefficient of 0.84, further supporting its internal consistency.

Bergen Social Media Addiction Scale: The BSMAS, originally developed by Andreassen et al,[10]was adapted into Turkish by Demirci.[11] This scale evaluates social media usage experiences over the past year and consists of 6 items reflecting core addiction criteria: salience, mood modification, tolerance, withdrawal, conflict, and relapse. Each item is rated on a 5-point Likert scale ranging from 1 (very rarely) to 5 (very often). In the original study, the BSMAS demonstrated good internal consistency, with a Cronbach's alpha coefficient of 0.88. In the present study, the Cronbach's alpha coefficient was found to be 0.90, further supporting the scale's reliability.

Statistical Analysis

Statistical analyses were conducted using SPSS version 25 (IBM SPSS Corp.; Armonk, NY, USA) . Demographic data were presented as frequencies (n) and percentages (%).

MAIN POINTS

- Significant sociodemographic and psychological differences exist between aesthetic and functional rhinoplasty candidates, including age, gender, marital status, income levels, and whether they are students.
- Social media use, especially Instagram, plays a critical role in influencing aesthetic rhinoplasty decisions, with higher usage and addiction scores observed in this group.
- Patients seeking aesthetic rhinoplasty exhibit lower self-esteem levels compared to those pursuing functional rhinoplasty, emphasizing the need for psychological assessments.
- The study highlights the importance of preoperative evaluations addressing social media influences and psychological vulnerabilities to enhance patient satisfaction and surgical outcomes.

The Shapiro-Wilk test was used to assess the normality of data distribution. Since the data did not follow a normal distribution, nonparametric tests were applied. Categorical variables were analyzed using the chi-square test and Fisher's exact test, whereas the Mann–Whitney *U*-test was employed for comparisons between 2 independent groups. The alpha error level was set at 0.05.

RESULTS

Demographic Characteristics

The study included 103 participants with a median age of 24.0 (minimum: 18.0-maximum: 48.0) years. The majority were female (68.9%), and most were single (74.8%). Regarding professional status, 30.1% were students, followed by 23.3% who were unoccupied. The remaining 46.6% of participants were employed in various professions, including self-employment, skilled labor, and service industries (such as cashiers, workers, and security personnel), and professional occupations (such as engineers, teachers, nurses, and soldiers). Educational levels were predominantly university graduates (58.3%), with 39.8% having completed high school. A small percentage had only primary school education or higher degrees (1.0% each).

Lifestyle and Health Information

Cigarette use was reported by 44.7% of participants, while none reported alcohol abuse. Only 2.9% had chronic diseases, specifically hypertension.

Economic and Social Media Data

The majority of participants (73.8%) reported a monthly household income below the poverty threshold in Turkey, while 26.2% earned above this level. Instagram was the most commonly used social media platform (89.3%), with 40.8% spending more than 3 hours daily on social media.

Psychiatric and Motivational Profiles

Most participants had no psychiatric diagnosis (79.6%), but 10.7% reported depressive disorders, 7.8% anxiety disorders, and 1.9% social phobia. About 20.4% had received psychiatric treatment in the past. The BSMAS median (minimum: 6.0-maximum: 26.0) score was 18.0, and the RSES median score was 32.0 (minimum: 20.0-maximum: 40.0).

The majority of participants underwent surgery for aesthetic reasons (70.9%), while 29.1% cited functional indications as their primary motivation.

The demographic, socioeconomic, and psychological characteristics of patients seeking rhinoplasty for functional or aesthetic reasons were compared. Two groups were formed based on their primary motivations for rhinoplasty: patients evaluated by an otorhinolaryngologist and determined to require functional rhinoplasty due to conditions such as nasal septum deviation, concha hypertrophy, traumatic deformities, etc., were included in Group 1. Patients identified as candidates for rhinoplasty primarily for aesthetic purposes were assigned to Group 2. The data for these variables are presented in Table 1. Statistically significant differences were observed between the groups for several variables, including gender, marital status, monthly household income, social media usage, and time spent on social media ($P < .001$)

The median age, BSMAS, and RSES scores of the groups are presented in Table 2. A statistically significant difference was observed between the groups for all these variables ($P < .001$)

DISCUSSION

This study highlights the sociodemographic, psychological, and behavioral factors influencing individuals' decisions to undergo rhinoplasty, particularly emphasizing the role of social media and self-esteem. The findings contribute to a deeper understanding of the psychosocial determinants of rhinoplasty decisions, providing valuable insights for both clinicians and researchers into tailoring patient consultations and interventions.

Among these differences, age emerges as a significant determinant. The median age of patients in Group 2 (23.0), who predominantly pursued aesthetic rhinoplasty, was statistically significantly lower than that of patients in Group 1 (29.5), where functional motivations prevailed ($P < .001$). This result demonstrates that aesthetic concerns related to rhinoplasty are particularly prominent among younger individuals. Studies examining patients undergoing aesthetic rhinoplasty have consistently found that the most common age group is between 18 and 30 years.[6,12] The authors' findings not only confirm these trends but also emphasize the importance of addressing age-specific motivations and expectations during preoperative evaluations, ensuring that both aesthetic and functional goals are clearly understood and managed. Conversely, decisions for functional rhinoplasty are primarily driven by concerns related to breathing difficulties. The higher median age of Group 1 may have been influenced by the inclusion of 4 patients over 30 years old, who sought functional rhinoplasty due to nasal trauma, thereby contributing to the increased average age in this group.

This study revealed that gender and marital status significantly influenced the decision to seek rhinoplasty, with females and single individuals being more likely to pursue aesthetic procedures. These findings align with previous studies, which emphasize the impact of societal pressures and beauty standards that disproportionately affect women and younger, unmarried individuals, shaping their motivations for undergoing such procedures.[13] These results highlight the importance of considering

Table 1. Characteristics of Patients Undergoing Rhinoplasty: Functional vs. Aesthetic Motivations

		Group 1		Group 2		*P*
		n	%	n	%	
Gender	Female	10[a]	33.3[a]	61[b]	83.6[b]	<.001*
	Male	20	66.7	12	16.4	
Marital status	Single	15[a]	50.0[a]	62[b]	84.9[b]	<.001*
	Married	15	50.0	11	15.1	
Education	Primary school	0	0.0	1	1.4	.041
	High school	8	26.7	33	45.2	
	University	21	70.0	39	53.4	
	Master's/PhD	1	3.3	0	0.0	
Cigarette	Yes	14	46.7	32	43.8	.830
	No	16	53.3	41	56.2	
Monthly household income	Below the poverty line	13[a]	43.3[a]	63[b]	86.3[b]	<.001
	Above the poverty line	17	56.7	10	13.7	
Most used social media app	Instagram	20[a]	66.7[a]	72[b]	98.6[b]	<.001
	Facebook	2	6.7	0	0.0	
	Twitter	4	13.3	0	0.0	
	No social media usage	4	13.3	1	1.4	
Time spent on social media	0-1 hour	17	56.7	4	5.5	<.001
	1-3 hours	10	33.3	30	41.1	
	More than 3 hours	3[a]	10.0[a]	39[b]	53.4[b]	
Psychiatric diagnosis (if any)	No	29	96.7	53	72.6	.006
	Depressive disorder	1	3.3	10	13.7	
	Generalized anxiety disorder	0	0.0	8	11.0	
	Social phobia	0	0.0	2	2.7	
Psychiatric treatment (if any)	No	29	96.7	53	72.6	.006*
	Yes	1	3.3	20	27.4	
Occupational status	Student	5	16.7	26	35.6	<.001*
	Unoccupied	3	10.0	21	28.8	
	Employed	22	73.3	26	35.6	

*Fisher's exact test.
[a,b]Post hoc analyses identified statistically significant differences between groups, indicated by different notations (a, b). Values with different letters in the same row represent a statistically significant difference between the groups ($P < .001$).

societal influences and gender expectations during patient evaluations to ensure a more empathetic clinical approach.

Economic factors significantly influence access to rhinoplasty procedures. The authors' findings show that a significant proportion of individuals in Group 2 had household incomes below the poverty threshold, suggesting that the absence of additional fees for aesthetic rhinoplasty in the authors' university hospital increases accessibility for lower-income individuals. Additionally, nearly one-third of participants were students, a demographic that typically has limited financial resources. The high proportion of students and low-income individuals in Group 2 suggests that the affordability of procedures in a university hospital setting may influence their decision to undergo surgery. Financial accessibility, combined with increased exposure to social media and societal beauty standards, may contribute to their motivation for aesthetic rhinoplasty. These findings highlight the role of both economic and social factors in shaping surgical decisions. However, in non-public hospitals where such fees are required, these findings may differ. These insights call for the development of equitable healthcare policies that address financial barriers to elective procedures, ensuring that cosmetic

Table 2. Comparison of Age, Social Media Addiction, and Self-Esteem Between Groups*

	Group 1		Group 2		*P*
	Median	Min-max	Median	Min-Max	
Age	29.5	18.0-47.0	23.0	18.0-48.0	<.001
BSMAS	11.0	6.0-21.0	19.0	6.0-26.0	<.001
RSES	34.0	29.0-40.0	31.0	20.0-40.0	<.001

min: minimum; max: maximum. BSMAS, Bergen Social Media Addiction Scale; RSES, Rosenberg Self-Esteem Scale. *Mann–Whitney *U*-test.

surgery is not disproportionately accessible only to higher-income populations.

In addition to sociodemographic factors, modern platforms like social media play a significant role in shaping motivations for seeking aesthetic rhinoplasty. In this study, 98.6% of individuals in Group 2, who sought rhinoplasty for aesthetic purposes, identified Instagram as their most frequently used social media platform. Additionally, 53.4% of participants in this group reported using social media for more than 3 hours per day, compared to only 10% in Group 1. The average scores on the BSMAS were also significantly higher in Group 2, highlighting their greater engagement with social media, especially Instagram. These findings align with recent research, which demonstrated that Instagram activities focused on self and celebrity images are significantly associated with acceptance of cosmetic surgery, both directly and indirectly, through appearance comparisons and body dissatisfaction.[14] Similarly, a systematic review in 2024 reported that prolonged social media use contributes to body image dissatisfaction and an increased interest in cosmetic surgery.[15] Another study highlighted that this effect is particularly pronounced among individuals who frequently share photos and engage heavily on these platforms.[16] By establishing the link between social media engagement and aesthetic motivations, this study underscores the potential influence of digital platforms on body image perceptions and cosmetic surgery decisions. Understanding these patterns can guide mental health professionals and surgeons in developing targeted preoperative counseling strategies that address the psychological vulnerabilities exacerbated by social media use, ultimately enhancing patient satisfaction and outcomes. Moreover, these insights may help identify individuals at risk of pursuing unnecessary cosmetic procedures influenced by unrealistic social media-driven expectations, potentially preventing avoidable surgical interventions.

Nevertheless, this study did not find a significant difference between the groups regarding a history of psychiatric diagnosis or treatment. However, as the physicians evaluating these patients, the authors routinely refer those with a prior psychiatric diagnosis or current psychological complaints to the psychiatry department before performing rhinoplasty. This practice enables the exclusion of conditions such as body dysmorphic disorder and social appearance anxiety, which could negatively influence postoperative satisfaction. Supporting this approach, a 2024 study highlighted that incorporating psychological evaluations before cosmetic rhinoplasty allows clinicians to identify underlying psychological issues that might impact surgical outcomes.[17] By providing appropriate support and care, potential risks can be mitigated, and positive results enhanced. Thus, as highlighted in previous studies,[18] the psychological state of the patient plays a critical role in improving patient satisfaction and ensuring psychological well-being, particularly among individuals seeking rhinoplasty for aesthetic purposes.

This study also revealed that patients in Group 1 had significantly higher self-esteem levels compared to those in Group 2, as measured by the RSES (33.70 vs. 30.40; $P < .001$). This observation aligns with existing literature, which indicates that individuals seeking aesthetic rhinoplasty often exhibit lower self-esteem compared to those pursuing functional rhinoplasty. For instance, a study by Chowdhury et al[19] assessed self-esteem in patients undergoing aesthetic versus functional rhinoplasty using the RSES. The results demonstrated that the aesthetic group had significantly lower preoperative self-esteem scores than the functional group. Moreover, the aesthetic group showed a notable improvement in self-esteem 6 months postoperatively, whereas the functional group did not exhibit a significant change. Similarly, Naraghi and Atari[20] conducted a case-control study comparing self-esteem levels between aesthetic and functional rhinoplasty patients. Their findings indicated that the aesthetic group had significantly lower self-esteem preoperatively compared to the functional group. These results suggest that integrating self-esteem assessments into preoperative evaluations can help identify patients who may benefit from additional psychological support, ultimately reducing dissatisfaction and improving outcomes.

Additionally, it is important to consider that the authors' sample had a higher proportion of women and younger individuals in Group 2, which may have influenced the observed self-esteem differences. Research indicates that self-esteem tends to increase with age from adolescence to middle adulthood, and males often report higher self-esteem than females.[21] Thus, the lower self-esteem observed in Group 2 could be partially explained by the demographic characteristics of this group, specifically the younger age and higher proportion of female patients. In conclusion, the lower self-esteem levels in patients seeking aesthetic rhinoplasty may be influenced by both the psychological impact of nasal appearance dissatisfaction and demographic factors such as younger age and female gender. By addressing these factors through a multidisciplinary and patient-centered approach, clinicians can better manage patient expectations, enhance satisfaction, and optimize overall outcomes.

A major strength of this study lies in its comprehensive approach to patient evaluation. Patients were assessed by both a psychiatrist and an otorhinolaryngologist, ensuring a thorough and multidisciplinary assessment. Additionally, the inclusion of both aesthetic and functional rhinoplasty groups allows for a nuanced comparison of the psychosocial profiles of these populations.

This study has some limitations. The sample size of patients undergoing functional rhinoplasty was smaller than that of those undergoing aesthetic rhinoplasty, which may affect the generalizability of the findings.

Additionally, the study was conducted in a single university hospital, and economic factors influencing access to rhinoplasty may vary in different healthcare settings or regions. Furthermore, to better evaluate the effects of social media and self-esteem, groups with more balanced distributions of gender and age would have provided stronger insights.

This study highlights the significant influence of self-esteem levels and social media use on rhinoplasty motivations, particularly among younger individuals seeking aesthetic procedures. The authors' findings underscore the importance of a multidisciplinary approach that involves collaboration between otorhinolaryngologists and mental health professionals in preoperative evaluations.

Given the strong association between lower self-esteem and aesthetic rhinoplasty preferences, a structured psychological evaluation may be beneficial in preoperative assessments to help identify individuals with unrealistic expectations or underlying psychological distress. Integrating mental health professionals into the evaluation process could provide patients with personalized counseling and support, helping them develop a more realistic perception of surgical outcomes and improving overall satisfaction. Additionally, raising awareness about the impact of social media on body image and cosmetic surgery decisions could empower patients to make more informed and psychologically grounded choices.

By adopting a collaborative, patient-centered approach, healthcare providers can enhance patient satisfaction, reduce postoperative regret, and ensure that rhinoplasty serves both aesthetic and psychological well-being. Future research should further explore the long-term psychological impacts of this approach and develop standardized screening protocols to optimize surgical outcomes.

Data Availability Statement: The data that support the findings of this study are available upon request from the corresponding author.

Ethics Committee Approval: This study was approved by the Ethics Committee of GaziUniversity (Approval No: E-77082166-604.01.02-830014, Date: December 19, 2023).

Informed Consent: Written informed consent was obtained from the patients who agreed to take part in the study.

Peer-review: Externally peer reviewed.

Author Contributions: Concept – M.G., B.T.C.; Design – M.G., B.T.C.; Supervision – M.G., B.T.C.; Resources – M.G., B.T.C.; Materials – M.G., B.T.C.; Data Collection and/or Processing – M.G., B.T.C.; Analysis and/or Interpretation – M.G., B.T.C.; Literature Search – M.G., B.T.C.; Writing – M.G., B.T.C.; Critical Review – M.G., B.T.C.

Declaration of Interests: The authors have no conflict of interest to declare.

Funding: The authors declared that this study has received no financial support.

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