

The Effectiveness of Rhinoplasty and Combined Rhinoplasty with Positive Psychotherapy on Rejection Sensitivity and Self-Esteem in Women Seeking Cosmetic Surgery

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Abstract

Background: The prevalence of individuals seeking cosmetic surgery necessitates a comprehensive understanding of the psychological factors influencing this decision and the potential for therapeutic interventions to enhance outcomes beyond surgical correction.

Aim: This study investigated the effectiveness of rhinoplasty alone and in conjunction with positive psychotherapy in ameliorating rejection sensitivity and improving self-esteem among women who had sought cosmetic surgery.

Methods: This clinical trial investigated 34 women seeking rhinoplasty in Ahvaz in 2023. Participants were randomly assigned to either a cosmetic surgery group (rhinoplasty alone) or a combined treatment group (rhinoplasty + positive psychology group therapy) (n=17). The positive psychology group therapy involved eight weekly, 90-minute sessions. Key measures included the Rejection Sensitivity Questionnaire (RSQ) and the Rosenberg Self-Esteem Scale (RSES). Data analysis involved Repeated Measures ANOVA in SPSS version 26.

Results: Both groups showed significant reductions in rejection sensitivity from pre-test to post-test ($P=0.002$), with slight increases at follow-up. Self-esteem significantly improved over time ($P=0.001$), with the combined treatment group demonstrating higher scores ($P=0.009$) and significant gains from pre-test to post-test ($P=0.016$) and follow-up ($P=0.001$), unlike the cosmetic surgery group ($P=0.014$ at follow-up only).

Conclusion: Rhinoplasty alone along with its combination with positive psychology group therapy significantly reduced rejection sensitivity and enhanced self-esteem among women undergoing cosmetic surgery, with the combined approach yielding superior and sustained self-esteem outcomes. While rejection sensitivity improvements were comparable across both groups, these findings underscore the value of integrating psychological interventions to optimize self-esteem benefits for cosmetic surgery candidates.

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Introduction

The human body, as a site of social, cultural, and psychological significance, has increasingly drawn attention from sociologists, psychologists, and medical professionals (1). Rapid societal shifts have prompted continuous redefinition of the body, with surgical body

modification transitioning from a stigmatized practice to a widely accepted and sought-after intervention. This transformation is driven by advancements in safer, less invasive surgical techniques, amplified media exposure, and the pursuit of youthful aesthetics and idealized

social images (2). According to the International Society of Aesthetic Plastic Surgery (ISAPS), global cosmetic procedures rose by 3.4% in 2023, totaling 34.9 million cases—a 40% increase over the past four years. Common procedures such as liposuction, breast augmentation, Botox, and hyaluronic acid injections reflect a cultural shift toward embracing aesthetic enhancements (3).

Rhinoplasty, or nasal surgery, is a prominent cosmetic procedure in certain cultural contexts, such as Iran, due to the nose's central role in facial aesthetics and its influence on perceived facial harmony, though procedures like breast and buttock augmentation may be more prevalent in Western countries (3, 4). The nose significantly shapes self-perception and social impressions, making dissatisfaction with its appearance a potent source of psychological distress (5). Individuals seeking rhinoplasty often cite concerns about nasal shape or symmetry, aiming to enhance their appearance, boost self-confidence, and improve overall life satisfaction (6). Beyond aesthetics, motivations include achieving greater social acceptance, alleviating social anxiety, and enhancing quality of life. However, while rhinoplasty frequently yields desirable physical outcomes, its psychological benefits are not guaranteed, with some individuals experiencing persistent post-operative challenges (7). This underscores the need for a deeper exploration of the psychological dimensions of cosmetic surgery. Despite the growing prevalence of rhinoplasty, research on its psychological impacts, particularly on rejection sensitivity and self-esteem, remains limited. Previous studies have primarily focused on surgical satisfaction and superficial body image improvements, often overlooking deeper psychological constructs (8, 9). Many individuals pursue cosmetic surgery due to underlying fears of rejection and low self-esteem, and neglecting these factors risks suboptimal long-term outcomes, even with successful aesthetic results. Furthermore, the potential of integrating surgical and

psychological interventions, such as positive group therapy, has been underexplored. Given the societal emphasis on appearance and the need for holistic solutions to enhance quality of life, this study sought to evaluate the efficacy of rhinoplasty alone and in combination with positive group therapy on rejection sensitivity and self-esteem among women seeking cosmetic surgery.

Methods

Design and participants

This study utilized a clinical trial design, featuring a pre-test, post-test, and follow-up assessment, alongside a control group. Our research focused on women seeking rhinoplasty in Ahvaz during 2023 who had visited various cosmetic clinics and surgical centers. From this broader population, a sample of 34 women was recruited through convenience sampling. The sample size of 17 participants per group was determined using G*Power software, based on an anticipated medium effect size ($f=0.25$), an alpha level of 0.05, and a power of 0.80, for an ANOVA with two groups and repeated measures. However, while this sample size is statistically sufficient to detect differences, it may not fully capture the sociological, psychological, or clinical significance of the outcomes, particularly given the complexity of psychological constructs like rejection sensitivity and self-esteem. Additionally, the selection process may have inadvertently favored participants more likely to report positive outcomes, potentially excluding those experiencing regret or dissatisfaction post-surgery, which could limit the generalizability of findings. These participants were randomly assigned using simple random sampling, forming two distinct groups of 17 individuals each: the cosmetic surgery group, who received rhinoplasty as their sole intervention, and the combined treatment group, who underwent rhinoplasty supplemented with positive psychology group therapy. To minimize bias, the study implemented a single-blind

procedure, ensuring that participants were unaware of their assigned group (cosmetic surgery only or combined treatment) throughout the duration of the trial.

Inclusion and exclusion criteria

Participants were female, aged 20-45, and first-time rhinoplasty applicants with at least a high school diploma. Critical screening ensured no serious psychiatric disorders (e.g., psychosis, severe bipolar disorder) via clinical interview and initial psychological assessment, and participants were not on psychoactive medications. Active, consistent group therapy attendance was mandatory for the combined treatment group. All participants provided informed consent. Exclusion criteria included incomplete questionnaires, withdrawal, developing a new psychiatric disorder requiring immediate treatment, or undergoing other cosmetic surgery or parallel psychological treatment during the study (for intervention groups).

Ethical considerations

Prior to commencing the study, ethical approval was secured from the university's Research Ethics Committee. Participants received a comprehensive briefing on study objectives, intervention details, data confidentiality, their right to withdraw, and potential risks/benefits, before providing written informed consent. To ensure anonymity, individual data remained confidential, with only aggregated statistical results reported. The control group was offered access to similar therapeutic interventions after the follow-up phase.

Procedure

Before the study began, ethical approval was secured from the university's Research Ethics Committee. All eligible female participants then provided written informed consent after a thorough briefing that covered the study's objectives, the nature of the interventions, data confidentiality, their right to withdraw, and any potential risks or benefits. Prior to any interventions, all participants completed baseline assessments, which included the

Rejection Sensitivity Questionnaire (RSQ) and the Rosenberg Self-Esteem Scale (RSES). Following baseline data collection, participants were randomly assigned to one of two groups, each consisting of 17 individuals: the cosmetic surgery group or the combined treatment group. The cosmetic surgery group exclusively underwent rhinoplasty. In contrast, the combined treatment group received rhinoplasty supplemented by eight weekly, 90-minute sessions of positive psychology group therapy, facilitated by an experienced clinical psychologist. Participants in both groups completed the same questionnaires again post-intervention and at a 3-month follow-up.

Research instruments

The Rejection Sensitivity Questionnaire

We used the RSQ, a 9-item tool developed by Downey and Feldman (21), to gauge participants' sensitivity to rejection in various social settings. Each item on the RSQ has two components. First, individuals assess the likelihood of a rejection-provoking scenario on a 6-point Likert scale, ranging from 1 ("very unlikely") to 6 ("very likely"). Second, they indicate the intensity of their emotional response (distress and anxiety) if that situation was to occur, also on a 6-point Likert scale where 1 signifies "very unconcerned" and 6 represents "very concerned." A participant's total rejection sensitivity score is derived by multiplying the scores from these two parts for each item and then calculating the average across all items; a higher score suggests greater rejection sensitivity. The RSQ's reliability has been well-established in prior research, with Farahani et al. (22) reporting a Cronbach's alpha of 0.83. Consistent with these findings, our current study found the RSQ to have excellent internal consistency, with a Cronbach's alpha of 0.85.

Rosenberg Self-Esteem Scale (RSES)

The RSES is a widely utilized 10-item instrument designed to measure global self-worth. It features an equal distribution of positively and negatively worded statements,

each rated on a 4-point Likert scale ranging from "strongly agree" to "strongly disagree." Scores on the RSES can range from 0 to 10, with higher scores indicating greater self-esteem.

Conventionally, scores exceeding 8 are considered indicative of high self-esteem, scores between 5 and 8 suggest moderate self-esteem, and scores below 5 signify low self-esteem (23).

The scale has demonstrated strong reliability in previous research; for instance, Shapurian et al. (24) reported a Cronbach's alpha of 0.84. In the current study, the RSES exhibited good internal consistency, with a Cronbach's alpha coefficient of 0.80.

Interventions

- Cosmetic surgery group

This group exclusively underwent rhinoplasty and did not receive any structured psychological intervention.

- Combined treatment group

In addition to undergoing rhinoplasty, this group participated in eight sessions of positive psychology group therapy. Each session lasted 90 minutes and was conducted once a week. The sessions were led by an experienced clinical psychologist specializing in positive psychology, strictly adhering to a predetermined treatment protocol. A summary of the positive psychology group therapy sessions is provided in Table 1.

Table 1. A summary of the positive psychology group therapy sessions

Session	Content
1	Member introductions and group rules; explanation of positive psychology's philosophy and goals; emphasis on strengths; initial assessment of individual strengths.
2	Introduction to positive emotions and their role in well-being; exercises to increase joy and contentment; mindfulness and gratitude techniques.
3	Explanation of hope and optimism; cognitive restructuring techniques to foster optimism; setting realistic goals and planning for their achievement.
4	Deeper exploration of individual strengths; practical exercises for applying strengths in daily life and interpersonal relationships.
5	Emphasis on the importance of healthy relationships; empathy and active listening exercises; strategies for improving communication with others.
6	Discussion on discovering meaning and purpose in life; activities to explore core personal values; importance of contributing to something larger than oneself.
7	Focus on self-compassion as a means to reduce self-criticism; exercises for body acceptance and appreciation (beyond mere appearance); reducing internalized rejection sensitivity.
8	Review of session learnings; emphasis on continuing positive psychology practices in daily life; developing a personal plan for maintaining and enhancing well-being after the sessions conclude.

Data analysis

We first employed descriptive statistics (means, standard deviations, frequencies, percentages) for summarization. Repeated Measures ANOVA was then used for inferential analysis, with Bonferroni post-hoc tests for pairwise comparisons between and within groups across stages. Assumptions of normality (Kolmogorov-Smirnov), homogeneity of variances (Levene's), and sphericity

(Mauchly's) were rigorously checked. All analyses adopted a statistical significance level of $p < 0.05$. Data were analyzed using SPSS version 26.

Results

The study encompassed 34 women who were seeking rhinoplasty. The cosmetic surgery group had a mean age of 30.49 years ($SD=5.25$), while the combined treatment group's mean age was 32.64 years ($SD=6.40$).

Regarding educational attainment, in the cosmetic surgery group, 23.53% (n=4) had a high school diploma, and 76.47% (n=13) possessed a college degree (bachelor's or higher). In the combined treatment group, 17.65% (n=3) had a high school diploma, and 82.35% (n=14) held a college degree. Table 2 provides the descriptive statistics for rejection sensitivity and self-esteem scores for both the cosmetic surgery and combined treatment groups across three time points: pre-test, post-test, and follow-up. For rejection sensitivity, both groups exhibited a reduction in mean scores from pre-test to post-test; specifically, the cosmetic surgery group's mean decreased

from 32.32 ± 8.01 to 23.09 ± 8.85 , while the combined treatment group's mean decreased from 34.47 ± 6.45 to 25.94 ± 7.72 . At the follow-up assessment, a marginal increase in rejection sensitivity was noted for both groups compared to post-test levels, though scores remained lower than baseline pre-test values. Concerning self-esteem, both groups demonstrated an improvement in mean scores from pre-test to post-test, with further enhancements observed at follow-up. Notably, the combined treatment group consistently reported higher mean self-esteem scores than the cosmetic surgery group during both the post-test and follow-up phases.

Table 2. Mean and standard deviation (SD) of rejection sensitivity and self-esteem scores across groups at pre-test, post-test, and follow-up

Groups	Groups	Pre-test	Post-test	Follow-up
		Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD
Rejection sensitivity	Cosmetic surgery group	32.32 ± 8.01	23.09 ± 8.85	25.06 ± 6.81
	Combined treatment group	34.47 ± 6.45	25.94 ± 7.72	28.38 ± 6.61
Self-esteem	Cosmetic surgery group	19.00 ± 8.10	22.76 ± 6.79	27.41 ± 9.59
	Combined treatment group	22.94 ± 9.14	30.76 ± 8.78	34.06 ± 4.47

Table 3 presents the outcomes of the Bonferroni post-hoc tests, detailing paired comparisons of rejection sensitivity and self-esteem across the various time points for each intervention group. For rejection sensitivity, significant reductions were observed from pre-test to post-test in both the cosmetic surgery group (Mean difference=9.24, $P=0.001$) and the combined treatment group (Mean difference=8.53, $P=0.002$). A significant decrease was also evident from pre-test to follow-up for both groups. However, the change in rejection sensitivity from post-test to follow-up did not reach statistical significance for either group. Regarding self-esteem, both groups demonstrated significant increases from pre-test to follow-up (Cosmetic surgery group: Mean difference=8.41, $P=0.014$; Combined treatment group: Mean difference=11.12,

$P=0.001$). Notably, the combined treatment group showed a significant increase in self-esteem from pre-test to post-test (Mean difference=7.82, $P=0.016$), whereas the increase in the cosmetic surgery group during this initial period was not statistically significant (Mean difference=3.76, $P=0.567$). Consistent with rejection sensitivity, the change in self-esteem from post-test to follow-up was not statistically significant for either group. Prior to conducting inferential analyses, several statistical assumptions were rigorously evaluated. Normality of the data distribution for both rejection sensitivity and self-esteem scores was assessed using the Kolmogorov-Smirnov test, confirming their suitability for parametric analyses. Homogeneity of variances across the different groups was evaluated via Levene's test, which ensured that the variance of the

dependent variables was comparable between the groups. Furthermore, sphericity was examined using Mauchly's test. In instances where sphericity was violated, such as observed in the rejection sensitivity analyses, appropriate

adjustments (e.g., Greenhouse-Geisser correction) were applied to the degrees of freedom to uphold the validity of the statistical inferences.

Table 3. Bonferroni post-hoc test for paired comparison of the rejection sensitivity and self-esteem across time series

Variables	Phase A	Phase B	Cosmetic surgery group		Combined treatment group	
			Mean difference	P	Mean difference	P
Rejection sensitivity	Pre-test	Post-test	9.24	0.001	8.53	0.002
		Follow-up	7.26	0.031	6.09	0.042
	Post-test	Follow-up	1.97	0.999	2.44	0.933
Self-esteem	Pre-test	Post-test	3.76	0.567	7.82	0.016
		Follow-up	8.41	0.014	11.12	0.001
	Post-test	Follow-up	4.65	0.320	3.30	0.672

Table 4 displays the outcomes of the repeated measures ANOVA for both rejection sensitivity and self-esteem. Regarding rejection sensitivity, a statistically significant main effect of time was identified ($F=190.33$, $P<0.001$, $\eta^2=0.86$). This indicates that rejection sensitivity significantly changed over the study's duration across both groups. However, neither the time by group interaction ($F=0.78$, $P=0.432$, $\eta^2=0.02$) nor the main effect of group ($F=1.23$, $P=0.275$, $\eta^2=0.04$) reached statistical significance for rejection sensitivity. This

suggests that the pattern of change in rejection sensitivity over time was comparable for both the cosmetic surgery and combined treatment groups. In contrast, for self-esteem, a significant main effect of time was found ($F=24.11$, $P<0.001$, $\eta^2=0.43$), as was a significant main effect of group ($F=7.84$, $P=0.009$, $\eta^2=0.197$). The time by group interaction for self-esteem, however, was not statistically significant ($F=1.07$, $P=0.350$, $\eta^2=0.03$).

Table 4. Results of repeated measures ANOVA for rejection sensitivity and self-esteem

Variable	Source	SS	df	MS	F	P	η^2
Rejection sensitivity	Time	1454.49	1.53	953.14	190.33	0.001	0.86
	Time $\times$ group	5.96	1.53	3.91	0.78	0.432	0.02
	Group	196.30	1	196.30	1.23	0.275	0.04
Self-esteem	Time	163.78	2	819.89	24.11	0.001	0.43
	Time $\times$ group	72.61	2	36.30	1.07	0.350	0.03
	Group	978.98	1	978.98	7.84	0.009	0.197

Discussion

This study examined the efficacy of rhinoplasty, both as a standalone procedure and when combined with positive psychotherapy, in reducing rejection sensitivity and enhancing self-esteem among women undergoing cosmetic surgery. It was observed that both intervention strategies yielded a substantial

impact on rejection sensitivity and self-esteem. Notably, the integrated approach, combining surgery with positive psychology, demonstrated superior outcomes specifically in enhancing self-esteem. These results align with a growing body of prior research that emphasizes the intricate relationship between physical appearance and overall psychological

health (14). The cosmetic surgery group, undergoing rhinoplasty as their sole intervention, demonstrated a significant reduction in rejection sensitivity. This finding suggests that aesthetically altering a prominent facial feature can effectively mitigate concerns associated with perceived social rejection. Such an outcome aligns with existing literature, which indicates that cosmetic surgery can alleviate appearance-related social anxieties by helping individuals align their physical appearance with societal beauty standards, thereby reducing fears of negative judgment (15). The observed improvement in rejection sensitivity likely stems from enhanced facial aesthetics, which may, in turn, foster greater confidence in social interactions as individuals perceive themselves as more congruent with prevailing cultural ideals (16). However, the slight regression in rejection sensitivity scores at follow-up suggests that surgery alone may not fully address the deeper cognitive and emotional biases associated with this trait, which are often rooted in early experiences of rejection (10). Additionally, the healing process for rhinoplasty can extend over several months, during which patients may not fully perceive aesthetic changes, potentially delaying psychological benefits and introducing variability in outcomes. Furthermore, the study did not assess post-surgical regret, which could influence rejection sensitivity. Participants experiencing regret or dissatisfaction might exhibit different psychological trajectories, potentially masking the true impact of surgery on rejection sensitivity. This highlights the need for future research to explore regret as a potential moderator of psychological outcomes.

In the cosmetic surgery group, self-esteem demonstrated a significant improvement over time, notably at the 3-month follow-up assessment. This finding suggests that merely altering a prominent facial feature, such as through rhinoplasty, can indeed enhance self-worth among women seeking cosmetic surgery.

This observation aligns with prior studies indicating that enhancements in physical appearance can contribute to a boost in self-esteem by fostering a more positive body image and eliciting favorable social feedback (8). The somewhat delayed statistical significance of these self-esteem gains may reflect the time required for participants to fully internalize their new appearance and to receive sufficient external validation, a notion consistent with research highlighting that improvements in self-esteem post-surgery often hinge upon adequate social and personal adjustment periods (17). However, the absence of immediate post-surgical improvement suggests that rhinoplasty alone may not rapidly address deeply rooted self-esteem deficits, particularly when influenced by factors beyond physical appearance. The potential for regret, not evaluated in this study, could also confound these findings, as individuals regretting their surgery might experience diminished self-esteem, offsetting gains from aesthetic improvements.

The combined treatment group, which received both rhinoplasty and an eight-week regimen of positive psychology group therapy, also experienced significant reductions in rejection sensitivity. Notably, these improvements were comparable to those observed in the cosmetic surgery group, suggesting that the psychological intervention did not confer additional benefits for this specific variable beyond the effects attributable to the surgical procedure alone. This outcome may reflect the broad focus of positive psychology therapy, which emphasizes general well-being, positive emotions, and self-compassion but may not sufficiently target the specific cognitive and emotional mechanisms underlying rejection sensitivity (10, 18). The therapy included a session on self-compassion to reduce internalized rejection, but its limited scope may not have been intensive enough to alter this stable trait significantly. Additionally, the extended healing time for rhinoplasty may have

delayed perceived aesthetic improvements, potentially limiting the therapy's ability to synergize with surgical outcomes in reducing rejection sensitivity. The lack of data on regret further complicates interpretation, as participants experiencing regret might have responded differently to therapy, potentially affecting rejection sensitivity outcomes.

The combined treatment group exhibited marked and superior improvements in self-esteem, with significant gains observed immediately post-intervention and notably sustained at the 3-month follow-up, consistently outperforming the cosmetic surgery group. This enhanced efficacy can be directly attributed to the positive psychology group therapy component, which systematically emphasized the cultivation of strengths, gratitude, optimism, and positive body acceptance (19, 20). Such a focus likely fostered a deeper and more intrinsic sense of self-worth that transcended mere physical changes. The therapy's structured activities, including exercises designed to promote self-compassion and effective goal-setting, plausibly empowered participants to constructively reframe their self-perception. This aligns well with existing research demonstrating that positive psychology interventions are effective in enhancing self-esteem by specifically targeting and bolstering internal cognitive and emotional resources (21). However, the potential for regret, not assessed in this study, could influence these outcomes, as participants dissatisfied with surgical results might experience reduced self-esteem benefits from therapy. Additionally, the prolonged healing process of rhinoplasty may delay perceived aesthetic improvements, potentially affecting the synergy between surgical and psychological interventions.

Rejection sensitivity, defined as a heightened tendency to anxiously anticipate and overreact to perceived interpersonal rejection, is a stable personality trait rooted in early experiences of rejection (10). Individuals with high rejection

sensitivity often misinterpret ambiguous social cues as evidence of rejection, leading to behaviors such as social withdrawal, avoidance, or aggression. These responses can perpetuate a cycle of actual rejection, further exacerbating interpersonal and mental health challenges. In the context of cosmetic surgery, rejection sensitivity is particularly relevant (22). Candidates for rhinoplasty may exhibit elevated rejection sensitivity, as dissatisfaction with a prominent facial feature like the nose can intensify self-consciousness and fear of social judgment (23). Such individuals may view surgery as a means to reduce perceived barriers to social acceptance (4). However, physical changes alone may not address the deep-seated psychological roots of rejection sensitivity, necessitating comprehensive therapeutic approaches to achieve lasting improvements. The current study's findings suggest that while rhinoplasty significantly reduced rejection sensitivity, the addition of positive psychology did not yield differential improvements, possibly due to the therapy's broad focus. Future interventions targeting rejection sensitivity may require more specialized techniques, such as cognitive-behavioral approaches directly addressing rejection-related cognitions.

Self-esteem, conceptualized as an individual's overall evaluation of their worth and attitude toward themselves, is a critical determinant of mental health and well-being (24-26). Encompassing both cognitive judgments (e.g., "I am competent") and emotional responses (e.g., "I feel proud"), self-esteem influences decision-making, relationships, and resilience. High self-esteem is associated with confidence, optimism, and psychological robustness, while low self-esteem can contribute to anxiety, depression, and vulnerability to criticism (27). In cosmetic surgery, low self-esteem often drives individuals to seek procedures like rhinoplasty, with the expectation that physical enhancement will translate into improved self-worth (28). However, research indicates that

while some experience a temporary boost in self-esteem post-surgery, sustained improvements require addressing underlying psychological factors (29). Positive psychology, a field focused on fostering human strengths and well-being, offers a promising framework for complementing cosmetic surgery (30).

Positive group therapy, grounded in this approach, leverages group dynamics to encourage participants to cultivate strengths, practice gratitude, and build social connections. Techniques such as optimism exercises, self-compassion practices, and strength-based activities aim to enhance psychological well-being beyond symptom reduction (31, 32).

For rhinoplasty candidates, positive group therapy can foster a healthier body image, bolster resilience against societal pressures, and reinforce self-esteem by emphasizing internal strengths rather than external appearance alone. However, these interventions may also have limitations, such as the potential for variable efficacy depending on individual psychological profiles or surgical outcomes, including regret or dissatisfaction, which could undermine therapeutic benefits.

The present study's limitations warrant careful consideration. Primarily, the small sample size of 34 participants limits the generalizability of findings, particularly when extrapolating to diverse populations or cultural contexts. The exclusive focus on female participants means that the effects of these interventions on men or non-binary individuals remain unexplored. The lack of assessment for post-surgical regret or dissatisfaction further limits the interpretation of psychological outcomes, as these factors could significantly influence rejection sensitivity and self-esteem.

Additionally, the 3-month follow-up period may not capture the long-term psychological impacts, especially given the extended healing time for rhinoplasty, which could delay perceived aesthetic improvements and affect psychological outcomes. Future research

should incorporate larger, more diverse samples, longer follow-up periods, and assessments of regret to better understand the sustained efficacy and broader applicability of these interventions.

Conclusion

The findings of this study suggest that rhinoplasty alone along with its integration with positive psychology group therapy are associated with reductions in rejection sensitivity and improvements in self-esteem among women undergoing cosmetic surgery. The combined treatment group demonstrated more pronounced and sustained self-esteem improvements, highlighting the potential benefit of incorporating psychological interventions to enhance outcomes beyond surgical correction. However, the comparable reductions in rejection sensitivity across both groups indicate that positive psychology group therapy did not provide additional benefits for this variable, possibly due to its broad focus or the influence of unassessed factors like surgical regret. These results suggest the value of integrating psychological interventions with cosmetic surgery to optimize psychological outcomes, particularly self-esteem, in specific cultural contexts like Iran. However, given the small sample size, these findings should be interpreted cautiously and considered preliminary, warranting further investigation with larger, more diverse populations and extended follow-up periods to explore the long-term implications and generalizability of these interventions.

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Conflicts of Interest

The authors declare no conflicts of interest.

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Ethics

This study received ethical approval from the Ethics Committee of the Islamic Azad University, Ahvaz Branch (Approval Code: IR.IAU.AHVAZ.REC.1402.042).

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