

## Comparing the Effectiveness of Compassion-Focused Therapy and Metacognitive Psychotherapy on Body Shame in Women Seeking Cosmetic Surgery

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### ABSTRACT

**Objective:** This study aimed to compare the effectiveness of compassion-focused therapy (CFT) and metacognitive psychotherapy (MCT) in reducing body shame among women seeking cosmetic surgery.

**Methods and Materials:** This quasi-experimental study employed a three-group pretest–posttest design with a follow-up assessment and a control group. The statistical population consisted of women seeking cosmetic surgery who attended plastic surgery clinics and hospitals in Tehran during the summer and autumn of 2023. Using purposive sampling and predefined inclusion and exclusion criteria, 45 eligible participants were recruited and randomly assigned to a compassion-focused therapy group (n = 15), a metacognitive psychotherapy group (n = 15), or a control group (n = 15). Participants in all three groups completed the Body Image Shame Scale developed by Duarte et al. at the pretest, posttest, and follow-up assessments. The intervention groups received their respective therapeutic protocols, whereas the control group received no psychological intervention during the study period. Data were analyzed using repeated-measures analysis of variance in SPSS version 26 to examine within-group changes over time and between-group differences in body shame.

**Findings:** Repeated-measures analysis of variance indicated a significant effect of time on body shame and a significant time-by-group interaction, demonstrating that changes in body shame differed across the three groups. Both compassion-focused therapy and metacognitive psychotherapy produced significantly greater reductions in body shame from pretest to posttest and follow-up compared with the control condition. Furthermore, pairwise comparisons showed that the reduction in body shame was significantly greater in the compassion-focused therapy group than in the metacognitive psychotherapy group, indicating a comparatively stronger therapeutic effect of compassion-focused therapy.

**Conclusion:** Both compassion-focused therapy and metacognitive psychotherapy appear effective for reducing body shame in women seeking cosmetic surgery; however, compassion-focused therapy may provide greater improvement and can be considered a particularly relevant psychological intervention for this population.

**Keywords:** Body shame; Compassion-focused therapy; Cosmetic surgery; Metacognitive psychotherapy; Women seeking cosmetic surgery.

## 1. Introduction

Body image is a multidimensional psychological construct that encompasses individuals' perceptions, evaluations, thoughts, emotions, and behaviors related to their physical appearance. It is shaped not only by objective bodily characteristics but also by interpersonal feedback, sociocultural standards, media exposure, internalized ideals of attractiveness, and personal beliefs about the social meaning of appearance. Consequently, body image is not a fixed representation of the body but a dynamic psychological experience that may vary across situations, relationships, and social contexts (Cash, 2017; Waring & Kelly, 2020). In contemporary societies, physical appearance has increasingly become associated with social desirability, interpersonal acceptance, self-worth, occupational opportunities, and perceived personal success. These associations may be particularly salient among women, who are often exposed to more stringent appearance-related expectations and greater pressure to conform to socially valued beauty standards. The expansion of visual media, social networking platforms, and image-based forms of social comparison has intensified these pressures by increasing exposure to idealized and often digitally modified representations of appearance. Such processes can heighten awareness of perceived physical shortcomings and contribute to dissatisfaction with body shape, facial features, weight, and overall attractiveness (Di Gesto et al., 2022; Kim, 2022; Menon, 2023).

Cosmetic surgery has become one of the most visible behavioral responses to dissatisfaction with physical appearance. Although the decision to undergo cosmetic procedures may be influenced by medical, social, cultural, and personal considerations, psychological variables play a substantial role in shaping willingness to seek aesthetic modification. Research has shown that dissatisfaction with appearance, frequent appearance comparison, heightened investment in physical attractiveness, and concerns about social evaluation are associated with greater acceptance of cosmetic surgery (Di Gesto et al., 2022; Gillen & Markey, 2021; Ibrahim Mohammed & Ibrahim, 2023). The psychological meaning of cosmetic surgery is therefore not limited to alteration of bodily features; for some individuals, surgery is perceived as a means of reducing self-consciousness, improving social confidence, decreasing perceived discrepancies between the actual and ideal body, or obtaining relief from appearance-related distress.

However, when dissatisfaction is rooted in rigid negative self-evaluations, shame, repetitive self-focused attention, or distorted interpretations of others' judgments, physical alteration alone may not fully resolve the underlying psychological distress. In such cases, body-related concerns may persist, shift to other physical features, or continue to influence emotional functioning even after cosmetic procedures.

Among the psychological constructs associated with negative body image, body shame is particularly important because it involves more than simple dissatisfaction with appearance. Shame is a self-conscious emotion characterized by a global negative evaluation of the self and a sense of being defective, inadequate, inferior, or unacceptable. When shame is organized around physical appearance, individuals may experience their bodies as sources of personal inadequacy and may anticipate rejection, criticism, ridicule, or devaluation by others. Body image shame has been conceptualized as a multifaceted construct that includes both internalized and externalized dimensions. Internalized body shame involves self-directed criticism, feelings of inferiority, and negative self-judgments based on appearance, whereas externalized body shame refers to the perception that others view one's body negatively or critically (Duarte et al., 2015). This distinction is clinically meaningful because women may simultaneously experience harsh self-evaluation and heightened sensitivity to how they believe others perceive their appearance. In cosmetic surgery populations, these processes may contribute to strong motivations for appearance modification and may also increase vulnerability to psychological distress before and after surgery.

The clinical relevance of body shame is further supported by research linking it with maladaptive body-image behaviors, avoidance, disordered eating, low self-esteem, and emotional distress. Body shame can influence how individuals monitor, conceal, compare, and evaluate their bodies and can reinforce patterns of withdrawal from social or intimate situations in which the body may be exposed to evaluation. In women, discrepancies between perceived and ideal appearance have been associated with maladaptive coping strategies, with self-compassion and body shame functioning as important psychological mechanisms in this relationship (Mansouri Nik et al., 2018). Similarly, research suggests that body-image experiences can vary according to interpersonal context, indicating that perceived acceptance or criticism within specific relationships may intensify or

reduce body-related distress (Waring & Kelly, 2020). These findings highlight the interpersonal and self-evaluative nature of body shame and suggest that effective interventions should address not only beliefs about appearance but also the emotional processes through which individuals relate to perceived bodily imperfections.

Body shame appears especially relevant among women considering cosmetic surgery because acceptance of cosmetic procedures is frequently associated with body dissatisfaction and appearance-based comparison. Studies have shown that women who engage more frequently in appearance comparison or appearance-focused activities on image-based social media platforms report greater dissatisfaction with their bodies and greater acceptance of cosmetic surgery (Di Gesto et al., 2022). Likewise, women's interest in cosmetic surgery has been associated with body-image concerns and weight-management behaviors, suggesting that cosmetic intervention may sometimes be understood within a broader pattern of dissatisfaction and efforts to control or modify physical appearance (Gillen & Markey, 2021). Sociopsychological influences on cosmetic surgery acceptance may also differ according to prior cosmetic surgery experience, which indicates that motivations and beliefs surrounding surgery are heterogeneous rather than uniform (Kim, 2022). Broader cultural analyses have additionally emphasized that global beauty standards are increasingly shaped by commercial, racialized, and transnational ideals, creating powerful normative pressures regarding what bodies and faces should look like (Menon, 2023). Therefore, body shame in women seeking cosmetic surgery should be considered within a complex interaction of individual cognition, emotional vulnerability, social evaluation, and cultural standards.

Self-compassion has emerged as an important protective factor in relation to body dissatisfaction and shame. Self-compassion involves responding to one's distress with warmth, understanding, nonjudgment, and recognition of common humanity rather than with harsh self-criticism or avoidance. Higher levels of self-compassion have been associated with lower body dissatisfaction and lower acceptance of cosmetic surgery among young women, suggesting that a more compassionate self-relational style may weaken the perceived need to change the body in order to achieve self-worth or social acceptance (Nerini et al., 2019). Research has also shown that self-compassion may mediate the association between body discrepancy and maladaptive body-image coping strategies, while body shame represents a pathway through which appearance

discrepancy contributes to psychological difficulties (Mansouri Nik et al., 2018). In addition, self-compassion has been linked to healthier emotional processing in individuals experiencing weight-related concerns, suggesting that compassionate self-responding may reduce maladaptive attempts to regulate distress through dysfunctional behavioral patterns (Babakhannlou et al., 2020).

These observations provide a theoretical basis for compassion-focused therapy as an intervention for body shame. Compassion-focused therapy was developed to address difficulties involving shame, self-criticism, threat sensitivity, and impaired capacities for self-soothing. The model emphasizes the development of compassionate motivation and skills through training in compassionate attention, imagery, reasoning, behavior, and emotional responding (Gilbert, 2022). From this perspective, individuals with high body shame may be dominated by threat-based processing in which appearance-related cues are interpreted as signals of rejection, inferiority, or social danger. Compassion-focused therapy seeks to reduce this threat orientation by strengthening soothing and affiliative emotional systems and by replacing punitive self-evaluation with a more balanced, caring, and supportive response to perceived imperfections. This approach may be particularly useful for women seeking cosmetic surgery because body shame often includes both internal self-criticism and fear of negative evaluation by others.

Empirical findings support the potential usefulness of compassion-based approaches for shame and body-image problems. A systematic review of compassion-based interventions among individuals struggling with body-weight shame found evidence that such interventions can reduce shame and improve psychological adjustment, although methodological heterogeneity across studies remains an important consideration (Carter et al., 2023). Research on fears of compassion has further shown that difficulty receiving or expressing compassion is associated with greater body-image shame and disordered eating, suggesting that impaired compassion processes may contribute directly to the maintenance of appearance-related distress (Dias et al., 2020). More recent work has also emphasized self-compassion as a clinically relevant approach for reducing shame by decreasing self-criticism and increasing adaptive emotional regulation (Cepni et al., 2024). In clinical populations, acceptance- and compassion-based treatments have shown promise for addressing shame in body dysmorphic disorder, a condition characterized by severe preoccupation with perceived appearance defects

(Linde et al., 2023). Within Iranian clinical research, compassion-focused interventions have also been associated with improvements in internalized shame and self-esteem among individuals with visible appearance-related conditions such as vitiligo, further supporting their potential application to body-related shame (Salamat Varjovi et al., 2023).

A second therapeutic approach with potential relevance to body shame is metacognitive psychotherapy. Metacognitive models focus not only on the content of thoughts but also on beliefs about thinking itself, including beliefs concerning the usefulness, danger, uncontrollability, or credibility of repetitive cognitive processes. Metacognitive psychotherapy aims to identify and modify dysfunctional patterns such as perseverative thinking, excessive self-focused attention, worry, rumination, biased interpretation, and inflexible belief maintenance (Moritz et al., 2019). In the context of body shame, these processes may include repetitive monitoring of perceived flaws, persistent comparison with others, overinterpretation of social cues as evidence of negative evaluation, and excessive confidence in appearance-related assumptions. Thus, metacognitive intervention may reduce body shame by helping individuals disengage from maladaptive cognitive processing and by weakening the perceived validity and importance of appearance-related thoughts.

Evidence from related psychological conditions suggests that metacognitive therapy can influence cognitive and emotional processes relevant to body shame. In individuals with obsessive-compulsive symptoms, metacognitive therapy has been shown to reduce intolerance of uncertainty, a factor that may contribute to repetitive checking and doubt (Ahangar et al., 2020). Among students with social anxiety disorder, metacognitive therapy has been associated with reductions in rumination, perceived worry, and intolerance of uncertainty, indicating that the approach may be effective in decreasing repetitive negative thinking and maladaptive beliefs about internal experiences (Selgi & Hosseini, 2021). These effects may be relevant to women with body shame because appearance-related distress frequently involves rumination about physical defects and uncertainty about how others perceive them. Moreover, studies of obese women have reported associations between metacognitive beliefs, emotion-regulation strategies, and positive or negative body image, suggesting that metacognitive processes may differentiate women with more adaptive body-image experiences from those with more negative perceptions of their bodies (Nejati et al., 2017).

Direct evidence also supports the application of metacognitive interventions to body-image concerns. Metacognitive therapy has been found to reduce body-image concern, anxiety, and depression in patients with psoriasis, suggesting that modifying dysfunctional beliefs about thoughts may reduce distress associated with visible or perceived physical characteristics (Azad et al., 2021). More recently, metacognitive therapy has been examined in body dysmorphic disorder, with findings from a consecutive case series indicating potential improvements in symptoms associated with excessive appearance preoccupation and maladaptive metacognitive processing (Haseeth et al., 2025). Because body dysmorphic symptoms and body shame share processes such as excessive self-focused attention, repetitive appearance evaluation, and fear of negative judgment, these findings provide a rationale for examining whether metacognitive psychotherapy can reduce body shame in women considering cosmetic surgery.

Despite these encouraging findings, compassion-focused therapy and metacognitive psychotherapy are grounded in different therapeutic mechanisms. Compassion-focused therapy primarily targets shame, self-criticism, threat sensitivity, and deficits in affiliative self-regulation, whereas metacognitive psychotherapy primarily targets dysfunctional beliefs about cognition, repetitive negative thinking, attentional biases, and inflexible cognitive processing. This distinction is clinically important because body shame contains both affective and cognitive components. The affective component involves feelings of inferiority, exposure, and self-rejection, while the cognitive component may involve persistent evaluation of appearance, perceived scrutiny by others, and repetitive negative interpretation. It is therefore plausible that both interventions could be effective but may differ in magnitude depending on which mechanisms are more central to the maintenance of body shame.

The need for comparative research is further supported by the psychological complexity of cosmetic surgery populations. Studies suggest that decisions regarding cosmetic procedures are influenced by a combination of body dissatisfaction, social comparison, internalized beauty ideals, emotional distress, and expectations about psychological or interpersonal benefits following surgery (Di Gesto et al., 2022; Ibrahim Mohammed & Ibrahim, 2023). However, cosmetic surgery itself does not necessarily address underlying patterns of shame, self-criticism, or maladaptive cognitive regulation. Women seeking such procedures may therefore benefit from psychological

interventions that directly target the emotional and cognitive mechanisms associated with body-related distress. The Persian version of the Body Image Shame Scale has demonstrated adequate psychometric properties among individuals attending cosmetic surgery clinics, providing a culturally relevant instrument for evaluating body shame in this population (Khanjani et al., 2020). This also creates a methodological basis for examining changes in body shame following targeted psychological interventions in Iranian women seeking cosmetic surgery.

Accordingly, the present study aimed to compare the effectiveness of compassion-focused therapy and metacognitive psychotherapy in reducing body shame among women seeking cosmetic surgery.

## 2. Methods and Materials

### 2.1. Study design and Participant

The present study employed a quasi-experimental design with three parallel groups, including two intervention groups and one control group, and used pretest, posttest, and six-month follow-up assessments. The statistical population consisted of women seeking cosmetic surgery who referred to cosmetic and plastic surgery specialists in clinics and hospitals in Tehran during the summer and autumn of 2023. A total of 45 eligible women were selected through purposive sampling based on the predefined inclusion and exclusion criteria and the methodological consideration that 15 participants per group would provide an adequate sample size for the intended repeated-measures comparison. After enrollment and completion of the baseline assessment, the participants were randomly allocated to the compassion-focused therapy group, the metacognitive psychotherapy group, or the control group, with 15 participants assigned to each group. The inclusion criteria consisted of informed and voluntary willingness to participate in the study, female sex, age between 20 and 40 years, and an expressed intention to undergo cosmetic surgery. The exclusion criteria included voluntary withdrawal from the study, absence from more than two treatment sessions, simultaneous participation in another psychological or psychotherapeutic intervention, failure to complete therapeutic assignments, the presence of physiological or medical problems affecting the body area for which surgery was sought such that the procedure was not exclusively cosmetic, current use of psychiatric medications, and a self-reported history of psychiatric disorders. Following coordination with the managers of selected cosmetic clinics and hospitals in Tehran, potential

participants were informed about the study through telephone contact and notices posted at the participating centers. Women who expressed interest were screened according to the eligibility criteria, provided informed consent, and completed the pretest measures before random allocation. The two experimental groups subsequently received their respective interventions, whereas the control group received no psychological intervention during the study period. The posttest was administered immediately after completion of the intervention programs, and the follow-up assessment was conducted six months after the final treatment session to evaluate the maintenance of treatment effects.

### 2.2. Measures

Body shame was assessed using the Body Image Shame Scale developed by Duarte et al. (2015). The instrument consists of 14 items designed to measure shame associated with perceptions and evaluations of physical appearance and comprises two dimensions: externalized body shame and internalized body shame. Externalized body shame reflects the extent to which individuals believe that others negatively evaluate, criticize, or judge them because of their physical appearance, whereas internalized body shame represents negative self-evaluations, feelings of inferiority, and self-directed shame arising from dissatisfaction with one's body or appearance. Items are rated on a five-point Likert-type scale ranging from 0, indicating never, to 4, indicating almost always, with higher scores representing greater body-image shame. Scores may be calculated for the total scale as well as for the two subscales, and the mean score ranges from 0 to 4. In the original validation study, the scale demonstrated satisfactory construct and discriminant validity, acceptable temporal stability over an approximately four-week interval, and excellent internal consistency, with a Cronbach's alpha coefficient of 0.96 for the total scale. Evidence regarding the psychometric adequacy of the instrument has also been reported in Iranian samples. Khanjani et al. (2020) confirmed the two-factor structure of the scale and reported acceptable internal consistency coefficients of 0.85 for the total score, 0.79 for internalized body shame, and 0.82 for externalized body shame. In the present study, the Body Image Shame Scale was administered to participants in all three groups at the pretest, posttest, and six-month follow-up stages to assess changes in body shame across time and treatment conditions.

### 2.3. Interventions

Participants assigned to the compassion-focused therapy group received an eight-session intervention based on Gilbert's compassion-focused therapy framework, with one 90-minute group session conducted each week. The first session focused on establishing the therapeutic relationship, familiarizing participants with the structure and objectives of the program, clarifying confidentiality and other group rules, administering the pretest, and introducing the concepts of compassion, self-compassion, and compassion toward others. Vulnerability to stress, meta-emotional responses, and factors contributing to psychological symptoms were also discussed. The second session introduced common sources of human suffering, such as social comparison, rigid expectations, perceived failure, and interpersonal difficulties, and explained the major emotional regulation systems and their role in reactions to distress. The third session addressed the functioning of the nervous system through the distinction between the old and new brain and explained how interactions between evolved emotional systems and higher-order cognitive processes may contribute to emotional difficulties and impair the capacity for compassionate responding. The fourth session introduced two central components of compassion, namely engagement with suffering without avoidance and the motivation to alleviate suffering, and presented the core attributes and components associated with self-compassion. The fifth session focused on identifying the characteristics of a compassionate person, including wisdom, responsibility, warmth, courage, and sensitivity to suffering, and encouraged participants to develop a personalized compassionate identity. The sixth session concentrated on the acquisition and practice of compassion-related skills, including compassionate reasoning, attention, behavior, emotional responding, sensory awareness, and imagery. Participants practiced applying these skills to personally relevant situations involving body dissatisfaction and shame. The seventh session addressed compassion-based strategies for tolerating distress and introduced kind and supportive behavioral responses such as soothing, allowing difficult emotional experiences, creating adaptive structure, and approaching challenges rather than avoiding them. The eighth and final session included training in compassionate letter writing and the empty-chair technique, review and practical rehearsal of previously learned skills, discussion of strategies for maintaining the acquired skills in everyday life, consolidation of the therapeutic material, and

administration of the posttest. Participants were encouraged throughout the program to practice the techniques between sessions and to apply compassionate responding to body-related thoughts, emotions, and interpersonal experiences.

Participants allocated to the metacognitive psychotherapy group received eight weekly 90-minute sessions based on the metacognitive intervention framework described by Moritz et al. The first session included administration of the pretest, orientation to the intervention, explanation of the rationale underlying metacognitive treatment, and discussion of attributional processes, particularly tendencies toward extreme or externally focused causal explanations. Participants were encouraged to consider alternative and more balanced interpretations of events and to examine the evidence supporting their conclusions. The second session focused on the tendency to jump to conclusions and highlighted the risks associated with making decisions on the basis of insufficient or unconfirmed evidence. Through structured exercises, participants practiced delaying judgments, gathering additional information, and recognizing the possibility of error in rapid decision-making. The third session concentrated on belief flexibility and the tendency to maintain initial impressions despite contradictory or incomplete evidence, with exercises designed to encourage reconsideration of strongly held assumptions and to reduce premature certainty. The fourth session addressed empathy and theory-of-mind processes, including the recognition of basic emotions, interpretation of facial expressions, gestures, language, and other social cues, and awareness that assumptions about other people's thoughts or emotional states may be inaccurate. Participants were also encouraged to distinguish between observable evidence and interpretations based on incomplete information. The fifth session focused on memory processes and overconfidence in recollection, with exercises designed to demonstrate that human memory is reconstructive and subject to error. The sixth session addressed self-esteem, mood, negative cognitive schemas, and ineffective coping responses, with particular emphasis on identifying dysfunctional thinking styles associated with negative self-evaluation and replacing distorted interpretations with more realistic and adaptive alternatives. Participants were encouraged to reduce excessive attention to perceived personal deficiencies and to practice more balanced self-appraisal. The seventh session further developed self-esteem by distinguishing internal and external sources of self-worth, examining the relationship between low self-esteem and selective attention to weaknesses, and practicing strategies

for recognizing personal strengths and reducing persistent negative self-focus. The eighth session was devoted to monitoring therapeutic progress, reviewing the techniques and assignments introduced throughout the intervention, resolving difficulties encountered in applying the strategies, obtaining participant feedback, reinforcing continued independent use of the learned methods, and administering the posttest. Between-session practice was encouraged throughout the intervention to facilitate generalization of metacognitive skills to body-related beliefs, self-evaluations, and social situations associated with shame.

#### 2.4. Data Analysis

Statistical analyses were performed using SPSS version 26. Descriptive statistics were initially calculated to summarize the study variables across the compassion-focused therapy, metacognitive psychotherapy, and control groups at the pretest, posttest, and six-month follow-up stages. To evaluate the effects of the interventions on body shame over time and to compare the pattern of change among the three study groups, repeated-measures analysis of variance was employed. In this model, measurement time, consisting of pretest, posttest, and follow-up assessments, was treated as the within-subject factor, whereas study group was entered as the between-subject factor. The analysis was used to examine the main effect of time, the main effect of group, and particularly the time-by-group interaction, which represented differential changes in body shame across the treatment conditions. Prior to conducting the main inferential analysis, the relevant statistical assumptions for repeated-measures analysis of variance were examined, including the distribution of the dependent variable, homogeneity of variances, and the sphericity assumption. When the sphericity assumption was violated, an appropriate

correction to the degrees of freedom was applied. Following a significant overall effect or interaction, pairwise comparisons were conducted to determine differences between the two active treatment conditions and the control group and to compare the relative effectiveness of compassion-focused therapy and metacognitive psychotherapy. Statistical significance was evaluated at the conventional alpha level of 0.05.

### 3. Findings and Results

A total of 48 women seeking cosmetic surgery participated in the study and were assigned to the compassion-focused therapy group ( $n = 16$ ), metacognitive psychotherapy group ( $n = 15$ ), and control group ( $n = 17$ ). The mean age of participants was  $30.50 \pm 5.29$  years in the compassion-focused therapy group,  $31.20 \pm 5.57$  years in the metacognitive psychotherapy group, and  $31.76 \pm 5.25$  years in the control group. With respect to marital status, the compassion-focused therapy group included 10 single women, 5 married women, and 1 woman separated from her spouse; the metacognitive psychotherapy group included 8 single women, 4 married women, and 3 women separated from their spouses; and the control group included 9 single women, 6 married women, and 2 women separated from their spouses. Regarding educational level, in the compassion-focused therapy group, 3 participants had less than a high-school diploma, 7 had a high-school diploma, and 6 had education beyond a high-school diploma. In the metacognitive psychotherapy group, 5 participants had less than a high-school diploma, 4 had a high-school diploma, and 6 had education beyond a high-school diploma. In the control group, 4 participants had less than a high-school diploma, 7 had a high-school diploma, and 6 had education beyond a high-school diploma.

**Table 1**

*Means and Standard Deviations of Body-Shame Components and Total Score Across the Three Assessment Stages*

| Variable           | Group                       | Pretest, Mean $\pm$ SD | Posttest, Mean $\pm$ SD | Follow-up, Mean $\pm$ SD |
|--------------------|-----------------------------|------------------------|-------------------------|--------------------------|
| Externalized shame | Compassion-focused therapy  | 21.06 $\pm$ 4.25       | 15.00 $\pm$ 2.99        | 16.37 $\pm$ 2.58         |
|                    | Metacognitive psychotherapy | 22.93 $\pm$ 4.30       | 17.20 $\pm$ 2.96        | 18.20 $\pm$ 3.51         |
|                    | Control                     | 21.65 $\pm$ 3.64       | 22.61 $\pm$ 3.31        | 23.12 $\pm$ 4.03         |
| Internalized shame | Compassion-focused therapy  | 16.43 $\pm$ 3.12       | 11.00 $\pm$ 1.79        | 11.44 $\pm$ 2.16         |
|                    | Metacognitive psychotherapy | 16.80 $\pm$ 3.19       | 13.93 $\pm$ 2.31        | 14.87 $\pm$ 2.35         |
|                    | Control                     | 17.82 $\pm$ 2.67       | 17.18 $\pm$ 2.74        | 16.88 $\pm$ 2.52         |
| Total body shame   | Compassion-focused therapy  | 37.50 $\pm$ 6.38       | 26.00 $\pm$ 5.40        | 27.81 $\pm$ 4.37         |
|                    | Metacognitive psychotherapy | 39.73 $\pm$ 6.16       | 31.13 $\pm$ 5.07        | 33.07 $\pm$ 4.59         |
|                    | Control                     | 39.47 $\pm$ 5.71       | 39.82 $\pm$ 6.51        | 40.00 $\pm$ 5.38         |

As shown in Table 1, mean scores for externalized shame, internalized shame, and total body shame decreased from pretest to posttest in both intervention groups, and these reductions were largely maintained at the six-month follow-up. In the compassion-focused therapy group, the mean total body-shame score decreased from  $37.50 \pm 6.38$  at pretest to  $26.00 \pm 5.40$  at posttest and remained relatively low at follow-up ( $27.81 \pm 4.37$ ). A similar, although smaller, pattern was observed in the metacognitive psychotherapy group, in which the mean total score declined from  $39.73 \pm 6.16$  at pretest to  $31.13 \pm 5.07$  at posttest and was  $33.07 \pm 4.59$  at follow-up. In contrast, the control group showed no meaningful reduction in total body shame across the three assessments, with mean scores of  $39.47 \pm 5.71$ ,  $39.82 \pm 6.51$ , and  $40.00 \pm 5.38$  at pretest, posttest, and follow-up, respectively. Similar patterns were observed for both externalized and internalized body shame.

Prior to conducting the inferential analyses, the assumptions underlying repeated-measures analysis of variance were examined. The Shapiro–Wilk test indicated

that none of the distributions of externalized shame, internalized shame, or total body-shame scores were significantly different from normal across the three groups and three measurement occasions, with all  $p$  values exceeding 0.05. Levene's tests were also nonsignificant across assessment stages, indicating that the assumption of homogeneity of error variances was satisfied. Box's  $M$  tests were nonsignificant for externalized shame ( $M = 6.98$ ,  $F = 0.52$ ,  $p = 0.903$ ), internalized shame ( $M = 21.39$ ,  $F = 1.61$ ,  $p = 0.082$ ), and total body shame ( $M = 8.80$ ,  $F = 0.66$ ,  $p = 0.790$ ), supporting the homogeneity of covariance matrices across groups. Mauchly's test of sphericity was nonsignificant for externalized shame ( $W = 0.960$ ,  $\chi^2 = 1.78$ ,  $p = 0.411$ ) and total body shame ( $W = 0.881$ ,  $\chi^2 = 5.58$ ,  $p = 0.061$ ), indicating that the sphericity assumption was met for these variables. However, Mauchly's test was significant for internalized shame ( $W = 0.849$ ,  $\chi^2 = 7.17$ ,  $p = 0.028$ ); therefore, the Greenhouse–Geisser correction was applied to the corresponding repeated-measures analysis.

**Table 2**

*Repeated-Measures Analysis of Variance for Body-Shame Components and Total Score*

| Variable           | Effect              | Sum of Squares | Error Sum of Squares | F     | p      | Partial $\eta^2$ |
|--------------------|---------------------|----------------|----------------------|-------|--------|------------------|
| Externalized shame | Group               | 627.43         | 624.46               | 22.61 | <0.001 | 0.501            |
|                    | Time                | 168.11         | 582.30               | 12.99 | <0.001 | 0.224            |
|                    | Group $\times$ Time | 316.75         | 1079.49              | 6.60  | <0.001 | 0.227            |
| Internalized shame | Group               | 464.85         | 535.71               | 19.52 | <0.001 | 0.465            |
|                    | Time                | 164.92         | 212.94               | 34.85 | <0.001 | 0.436            |
|                    | Group $\times$ Time | 115.71         | 359.94               | 7.23  | <0.001 | 0.243            |
| Total body shame   | Group               | 2162.26        | 1853.30              | 26.25 | <0.001 | 0.538            |
|                    | Time                | 667.05         | 860.52               | 34.83 | <0.001 | 0.436            |
|                    | Group $\times$ Time | 735.96         | 2379.44              | 6.96  | <0.001 | 0.236            |

The repeated-measures analysis of variance presented in Table 2 revealed statistically significant main effects of group and time as well as significant group  $\times$  time interaction effects for all study outcomes. For externalized shame, the main effect of group was significant,  $F = 22.61$ ,  $p < 0.001$ , partial  $\eta^2 = 0.501$ , as was the main effect of time,  $F = 12.99$ ,  $p < 0.001$ , partial  $\eta^2 = 0.224$ . The group  $\times$  time interaction was also significant,  $F = 6.60$ ,  $p < 0.001$ , partial  $\eta^2 = 0.227$ , indicating that changes in externalized shame over time differed significantly among the three groups. For internalized shame, significant effects were found for group,

$F = 19.52$ ,  $p < 0.001$ , partial  $\eta^2 = 0.465$ , time,  $F = 34.85$ ,  $p < 0.001$ , partial  $\eta^2 = 0.436$ , and the group  $\times$  time interaction,  $F = 7.23$ ,  $p < 0.001$ , partial  $\eta^2 = 0.243$ . Likewise, for total body shame, the main effect of group was significant,  $F = 26.25$ ,  $p < 0.001$ , partial  $\eta^2 = 0.538$ , the main effect of time was significant,  $F = 34.83$ ,  $p < 0.001$ , partial  $\eta^2 = 0.436$ , and the group  $\times$  time interaction was significant,  $F = 6.96$ ,  $p < 0.001$ , partial  $\eta^2 = 0.236$ . These interaction effects demonstrate that the temporal pattern of change in body shame differed significantly across the compassion-focused therapy, metacognitive psychotherapy, and control conditions.

**Table 3**

*Bonferroni Post Hoc Pairwise Comparisons for Body-Shame Components and Total Score*

| Variable           | Comparison 1                | Comparison 2                | Mean Difference | SE   | p      |
|--------------------|-----------------------------|-----------------------------|-----------------|------|--------|
| Externalized shame | Pretest                     | Posttest                    | 3.60            | 0.75 | <0.001 |
|                    | Pretest                     | Follow-up                   | 2.65            | 0.74 | 0.002  |
|                    | Posttest                    | Follow-up                   | -0.95           | 0.63 | 0.425  |
| Internalized shame | Pretest                     | Posttest                    | 2.98            | 0.45 | <0.001 |
|                    | Pretest                     | Follow-up                   | 2.63            | 0.45 | <0.001 |
|                    | Posttest                    | Follow-up                   | -0.36           | 0.32 | 0.803  |
| Total body shame   | Pretest                     | Posttest                    | 6.58            | 1.21 | <0.001 |
|                    | Pretest                     | Follow-up                   | 5.28            | 0.89 | <0.001 |
|                    | Posttest                    | Follow-up                   | -1.31           | 1.03 | 0.632  |
| Externalized shame | Compassion-focused therapy  | Metacognitive psychotherapy | -1.97           | 0.77 | 0.044  |
|                    | Compassion-focused therapy  | Control                     | -4.99           | 0.75 | <0.001 |
|                    | Metacognitive psychotherapy | Control                     | -3.03           | 0.76 | <0.001 |
| Internalized shame | Compassion-focused therapy  | Metacognitive psychotherapy | -2.24           | 0.72 | 0.009  |
|                    | Compassion-focused therapy  | Control                     | -4.34           | 0.69 | <0.001 |
|                    | Metacognitive psychotherapy | Control                     | -2.09           | 0.71 | 0.014  |
| Total body shame   | Compassion-focused therapy  | Metacognitive psychotherapy | -4.21           | 1.33 | 0.008  |
|                    | Compassion-focused therapy  | Control                     | -9.33           | 1.29 | <0.001 |
|                    | Metacognitive psychotherapy | Control                     | -5.12           | 1.31 | <0.001 |

As shown in Table 3, Bonferroni-adjusted comparisons across measurement occasions indicated significant reductions from pretest to posttest and from pretest to follow-up for externalized shame, internalized shame, and total body shame. Specifically, the pretest-to-posttest differences were significant for externalized shame (mean difference = 3.60,  $p < 0.001$ ), internalized shame (mean difference = 2.98,  $p < 0.001$ ), and total body shame (mean difference = 6.58,  $p < 0.001$ ). Significant differences were likewise observed between pretest and follow-up for externalized shame (mean difference = 2.65,  $p = 0.002$ ), internalized shame (mean difference = 2.63,  $p < 0.001$ ), and total body shame (mean difference = 5.28,  $p < 0.001$ ). In contrast, none of the posttest-to-follow-up comparisons were statistically significant, indicating that the improvements observed immediately after treatment were generally maintained over the six-month follow-up period. Pairwise group comparisons further showed that both active interventions differed significantly from the control condition on all three outcomes. Moreover, compassion-focused therapy produced significantly lower scores than metacognitive psychotherapy for externalized shame (mean difference = -1.97,  $p = 0.044$ ), internalized shame (mean difference = -2.24,  $p = 0.009$ ), and total body shame (mean difference = -4.21,  $p = 0.008$ ). Thus, although both interventions were effective in reducing body shame, the magnitude of reduction was significantly greater following compassion-focused therapy than following metacognitive psychotherapy.

#### 4. Discussion

The present study compared the effectiveness of compassion-focused therapy and metacognitive psychotherapy in reducing body shame among women seeking cosmetic surgery. The findings showed that both interventions significantly reduced externalized body shame, internalized body shame, and total body-shame scores compared with the control condition. The significant group  $\times$  time interaction observed for all three outcomes indicated that the pattern of change across pretest, posttest, and follow-up assessments differed across the compassion-focused therapy, metacognitive psychotherapy, and control groups. In both intervention groups, reductions observed at posttest remained evident at the six-month follow-up, whereas no meaningful improvement occurred in the control group. The absence of significant differences between posttest and follow-up further suggested that the therapeutic gains were relatively stable over time. Importantly, the comparative analyses demonstrated that compassion-focused therapy produced significantly greater reductions than metacognitive psychotherapy in externalized shame, internalized shame, and total body shame. Thus, although both approaches were effective, compassion-focused therapy showed a stronger effect on the body-shame outcomes assessed in the present study.

The finding that compassion-focused therapy significantly reduced body shame is consistent with theoretical and empirical literature emphasizing the central

role of compassion in addressing shame, self-criticism, and negative body evaluation. Compassion-focused therapy was specifically developed to help individuals who experience elevated shame, harsh self-judgment, and threat-focused emotional processing by cultivating more compassionate ways of relating to the self and to distressing internal experiences (Gilbert, 2022). Body shame can be understood as a particularly intense form of self-conscious distress in which individuals experience their physical appearance as evidence of personal deficiency while simultaneously anticipating criticism or rejection from others (Duarte et al., 2015). From this perspective, the reduction in both internalized and externalized body shame found in the present study may reflect changes in how participants interpreted and emotionally responded to perceived bodily flaws. Rather than automatically responding to appearance concerns through self-condemnation, participants may have developed greater ability to recognize distress, tolerate feelings of imperfection, and adopt a more supportive and less punitive stance toward themselves.

The present findings are also compatible with research indicating that compassion-based interventions can alleviate body-related shame. A systematic review of compassion-based interventions among individuals struggling with body-weight shame concluded that compassion-oriented approaches have considerable potential for decreasing shame and improving psychological well-being (Carter et al., 2023). Similarly, recent work has emphasized self-compassion as a useful mechanism for addressing shame by reducing self-criticism, increasing emotional acceptance, and fostering a more balanced interpretation of personal shortcomings (Cepni et al., 2024). In individuals with body-image difficulties, fears of compassion have been associated with higher body-image shame and maladaptive eating-related outcomes, implying that difficulty receiving or directing compassion toward the self may intensify body-related distress (Dias et al., 2020). Therefore, increasing participants' capacity for compassionate responding may have reduced the emotional intensity of shame and weakened the tendency to interpret appearance-related concerns as evidence of global personal inadequacy.

The findings also correspond with research demonstrating the importance of self-compassion in the relationship between perceived body discrepancy and maladaptive body-image responses. Previous evidence has suggested that self-compassion is associated with lower levels of maladaptive body-image coping and that body shame plays a central role in translating perceived

discrepancies between actual and desired appearance into psychological distress (Mansouri Nik et al., 2018). Likewise, self-compassion has been negatively associated with body dissatisfaction and acceptance of cosmetic surgery among young women, suggesting that women who respond more compassionately to themselves may be less likely to base their self-worth on conformity to idealized standards of physical appearance (Nerini et al., 2019). The effect observed in the present study may therefore have resulted partly from weakening participants' rigid attachment to appearance-based standards and reducing the degree to which perceived discrepancies between actual and ideal appearance were experienced as shameful or threatening.

The effectiveness of compassion-focused therapy may also be explained by the highly interpersonal nature of body shame. Externalized body shame involves the belief that other people are critically evaluating one's body, whereas internalized shame concerns negative self-evaluation based on physical appearance (Duarte et al., 2015). Body-image experiences may shift depending on social and relational contexts, and individuals can experience their bodies differently across relationships in which they feel accepted, compared, criticized, or exposed (Waring & Kelly, 2020). Compassion-focused therapy directly addresses threat sensitivity, social safeness, and fears of rejection by developing affiliative emotional experiences and compassionate imagery. Such processes may have enabled participants to reduce hypervigilance toward the presumed judgments of others while also decreasing internal self-criticism. This dual effect may explain why both externalized and internalized body shame improved following treatment.

The present result is also consistent with findings from appearance-related clinical conditions. Acceptance- and compassion-based interventions targeting shame have produced encouraging outcomes among individuals with body dysmorphic disorder, a condition characterized by preoccupation with perceived physical defects and pronounced appearance-related distress (Linde et al., 2023). Compassion-focused therapy has similarly been associated with improvements in internalized shame and self-esteem among individuals with vitiligo, whose visible physical differences may expose them to heightened self-consciousness and concerns about social evaluation (Salamat Varjovi et al., 2023). Although women seeking cosmetic surgery cannot be equated with individuals diagnosed with body dysmorphic disorder or dermatological conditions, these populations share several relevant

processes, including appearance-focused attention, sensitivity to perceived defects, self-criticism, and fears of negative evaluation. The present findings extend this literature by indicating that compassion-focused therapy may also be effective among women seeking elective appearance modification.

The effectiveness of metacognitive psychotherapy observed in the present study is also theoretically coherent. Metacognitive psychotherapy emphasizes dysfunctional beliefs about thinking processes, repetitive negative thinking, cognitive inflexibility, and overinvestment in internal mental events (Moritz et al., 2019). Women who experience body shame may repeatedly monitor perceived physical defects, engage in appearance-related rumination, compare themselves with others, and treat negative thoughts about their bodies as accurate reflections of reality. Such cognitive processes may strengthen both internalized and externalized shame. By helping individuals examine how they respond to thoughts rather than simply challenging the literal content of those thoughts, metacognitive psychotherapy may reduce the persistence and credibility of appearance-related cognitions. This may enable individuals to disengage from repetitive analysis of perceived flaws and to reduce excessive concern about the judgments of others.

The findings concerning metacognitive psychotherapy align with previous evidence from related clinical and psychological problems. Metacognitive therapy has been shown to reduce intolerance of uncertainty in individuals with obsessive-compulsive symptoms (Ahangar et al., 2020) and to reduce rumination, worry, and intolerance of uncertainty among individuals with social anxiety (Selgi & Hosseini, 2021). These processes are relevant to body shame because women concerned about appearance may repeatedly question whether they look acceptable, whether others are noticing perceived imperfections, or whether appearance-related social interactions will result in rejection. The reduction of repetitive thinking and uncertainty-focused cognition may therefore have contributed to the decreases in body shame observed in the metacognitive psychotherapy group.

Evidence specifically related to body image also supports this interpretation. Metacognitive beliefs and emotion-regulation strategies have been found to differ according to body-image orientation among obese women, indicating that metacognitive processes may be closely related to how individuals evaluate and regulate appearance-related experiences (Nejati et al., 2017). In addition, metacognitive therapy has been reported to reduce body-image concerns,

anxiety, and depression in patients with psoriasis (Azad et al., 2021). More directly, recent research examining metacognitive therapy for body dysmorphic disorder has provided preliminary evidence that modifying metacognitive processes may reduce maladaptive appearance preoccupation (Haseth et al., 2025). The present findings therefore add to a growing body of evidence suggesting that metacognitive interventions may be clinically useful when distress is maintained by repetitive self-focused attention, inflexible interpretations, and overconfidence in negative beliefs concerning appearance.

The maintenance of treatment effects at the six-month follow-up is another important finding. Neither externalized shame, internalized shame, nor total body shame showed significant deterioration from posttest to follow-up in the intervention groups. This suggests that the skills acquired during both interventions may have remained sufficiently accessible to influence participants' subsequent responses to body-related thoughts and emotions. In compassion-focused therapy, repeated practice of compassionate imagery, compassionate reasoning, soothing, and compassionate self-responding may create a more enduring alternative to habitual self-criticism. In metacognitive psychotherapy, learning to identify cognitive biases, reconsider interpretations, and reduce excessive engagement with repetitive thoughts may similarly provide skills that continue beyond formal treatment. The persistence of gains is clinically meaningful in cosmetic-surgery-seeking populations because these women may remain exposed to appearance-related social comparison, beauty standards, and interpersonal evaluation after treatment.

The broader context of cosmetic surgery may also help explain why psychological interventions were effective. Decisions to undergo cosmetic procedures are influenced by a range of psychological factors, including body dissatisfaction, social comparison, anxiety about appearance, and perceived social benefits of enhanced attractiveness (Ibrahim Mohammed & Ibrahim, 2023). Women with greater interest in cosmetic surgery have been shown to differ in body-image concerns and weight-management behaviors (Gillen & Markey, 2021), while sociopsychological influences on cosmetic surgery acceptance vary according to prior experience with cosmetic procedures (Kim, 2022). Engagement with image-based social media, appearance comparison, and body dissatisfaction has likewise been associated with greater acceptance of cosmetic surgery (Di Gesto et al., 2022). These findings indicate that cosmetic surgery decisions may

occur within a wider network of psychological and social pressures rather than reflecting purely aesthetic preferences. By targeting the cognitive and emotional mechanisms embedded within this network, both compassion-focused therapy and metacognitive psychotherapy may reduce the shame that accompanies perceived failure to meet appearance standards.

The stronger effect of compassion-focused therapy compared with metacognitive psychotherapy is particularly noteworthy. One possible explanation is that body shame is fundamentally an affective and self-relational problem rather than solely a problem of dysfunctional cognition. Although metacognitive psychotherapy may effectively reduce repetitive negative thinking and rigid beliefs, compassion-focused therapy directly targets the emotional experience of shame, self-criticism, social threat, and perceived inferiority. Because body shame includes painful evaluations of the self as defective and fears that others will perceive and reject those defects, an intervention specifically designed to regulate shame-based threat systems may exert a more direct effect. Compassion-focused therapy may therefore have addressed both the emotional distress attached to perceived bodily shortcomings and the social-evaluative fear underlying externalized shame.

This interpretation is also supported by the established role of compassion in body-image functioning. Research has shown that self-compassion is associated with lower body dissatisfaction and reduced acceptance of cosmetic surgery (Nerini et al., 2019). Compassionate responding may allow individuals to recognize that dissatisfaction and vulnerability are common human experiences rather than evidence of personal failure. This shift may weaken appearance-based conditional self-worth and reduce the belief that physical alteration is necessary to achieve acceptance. Furthermore, self-compassion may improve emotional processing in individuals experiencing weight- and body-related difficulties, thereby reducing reliance on maladaptive responses to negative emotions (Babakhannlou et al., 2020). The greater reduction observed following compassion-focused therapy may therefore reflect its simultaneous influence on self-criticism, emotional processing, social threat, and self-worth.

Cultural forces may also contribute to the clinical importance of compassion in women seeking cosmetic surgery. Standards of beauty are socially constructed and increasingly circulated across national boundaries, media systems, and consumer cultures, producing powerful ideals concerning facial features, body shape, youthfulness, and

femininity (Menon, 2023). When these ideals are internalized, perceived deviation may be interpreted not simply as aesthetic difference but as personal inadequacy. Women who repeatedly compare themselves with idealized appearance standards may experience heightened dissatisfaction and shame, particularly when they believe physical attractiveness determines interpersonal or social value. A compassionate framework may counter these pressures by helping individuals separate personal worth from conformity to narrow appearance ideals and by encouraging a less judgmental relationship with perceived imperfections.

The significant reduction in externalized shame in both intervention groups also warrants attention. Women seeking cosmetic surgery may be especially sensitive to how they believe they are seen by others, particularly in contexts in which appearance is strongly emphasized. Psychological factors linked with cosmetic surgery acceptance include concerns about social evaluation and expectations that appearance modification will improve interpersonal outcomes (Ibrahim Mohammed & Ibrahim, 2023). Image-based social comparison may further strengthen the belief that others continually evaluate appearance against idealized standards (Di Gesto et al., 2022). Compassion-focused therapy may reduce this sensitivity by strengthening feelings of social safety, whereas metacognitive psychotherapy may reduce it by challenging excessive confidence in assumptions about others' judgments. The improvement in externalized shame across both interventions may therefore have arisen through different but complementary mechanisms.

The significant reduction in internalized shame similarly suggests that both treatments altered participants' relationship with negative self-evaluations. The Persian version of the Body Image Shame Scale has demonstrated that internalized and externalized body shame are distinguishable but related dimensions among individuals attending cosmetic surgery clinics, supporting the relevance of both domains in this population (Khanjani et al., 2020). The reduction in internalized shame may indicate that participants became less likely to interpret dissatisfaction with appearance as evidence of personal inferiority. This is especially relevant because body dissatisfaction may otherwise become fused with global judgments about competence, desirability, and worth. Compassion-focused therapy may have reduced this fusion through self-kindness and emotional soothing, whereas metacognitive

psychotherapy may have reduced it by decreasing the credibility assigned to repetitive negative thoughts.

## 5. Conclusion

Overall, the present findings suggest that body shame among women seeking cosmetic surgery is responsive to structured psychological intervention and should not be viewed only as a by-product of physical appearance dissatisfaction. Both compassion-focused therapy and metacognitive psychotherapy produced significant and sustained improvement, but compassion-focused therapy demonstrated a comparatively stronger effect across externalized shame, internalized shame, and total body shame. These findings are consistent with theoretical models emphasizing shame, self-criticism, repetitive negative cognition, social comparison, and metacognitive processing as important mechanisms in body-image distress. They also suggest that psychological care for women considering cosmetic procedures may benefit from addressing the meanings attached to appearance rather than focusing exclusively on the physical characteristics that individuals wish to change.

## 6. Limitations and Suggestions

The present study had several limitations. The sample consisted only of women seeking cosmetic surgery in clinics and hospitals in Tehran, which restricts the generalizability of the findings to women in other geographical, cultural, or clinical settings and to men seeking cosmetic procedures. The sample size was relatively small, and participants were selected purposively, which may have increased the possibility of selection bias. The study relied primarily on self-report measures, which may be influenced by social desirability, response tendencies, or participants' interpretations of questionnaire items. The control group did not receive an active comparison intervention, making it difficult to separate intervention-specific effects from nonspecific therapeutic factors such as attention, group participation, and expectation of improvement. In addition, although a six-month follow-up was conducted, longer-term maintenance of treatment effects remains uncertain. The study also focused specifically on body shame and did not simultaneously assess potentially relevant outcomes such as body dissatisfaction, self-compassion, appearance-related rumination, social comparison, self-esteem, anxiety, depressive symptoms, or actual decisions regarding cosmetic surgery.

Future research should replicate these findings using larger and more diverse samples drawn from multiple clinical centers and different geographical regions. Studies involving both women and men would help determine whether the observed treatment effects vary according to sex or gender-related appearance expectations. Randomized controlled trials using active comparison groups would provide stronger evidence regarding the specific efficacy of each intervention. Future studies could also examine whether changes in self-compassion, self-criticism, rumination, metacognitive beliefs, social comparison, or perceived social judgment mediate reductions in body shame. Comparative studies could investigate whether treatment effectiveness differs according to type of cosmetic procedure, previous history of cosmetic surgery, baseline severity of body-image disturbance, or presence of body dysmorphic symptoms. Longer follow-up periods would also be valuable for determining the durability of therapeutic effects and whether treatment influences subsequent cosmetic surgery decisions, satisfaction with surgical outcomes, or psychological adjustment after surgery.

From a practical perspective, the findings support the integration of brief psychological screening and intervention into cosmetic surgery services. Cosmetic surgeons, psychologists, and counselors working with individuals requesting aesthetic procedures may benefit from assessing body shame and related emotional difficulties before surgery, particularly when clients show intense self-criticism, preoccupation with perceived defects, or strong fear of others' judgments. Compassion-focused therapy may be especially useful when shame and harsh self-evaluation are prominent, whereas metacognitive psychotherapy may be appropriate when repetitive negative thinking, excessive self-focused attention, and rigid beliefs about appearance are dominant. Psychological interventions could be offered before surgery as part of multidisciplinary care to help clients clarify motivations, develop more adaptive emotion-regulation strategies, and establish realistic expectations regarding the psychological effects of cosmetic procedures. Integrating such interventions into routine clinical practice may improve psychological preparedness and reduce the likelihood that cosmetic surgery is used as the sole strategy for resolving deeply rooted body-related distress.

## Authors' Contributions

Authors equally contributed to this article.

## Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

## Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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The authors report no conflict of interest.

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## Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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