

Comparison of the Effectiveness of Mode-Based Schema Therapy and Rumination-Focused Cognitive Behavioral Therapy on Psychological Capital in Women Seeking Cosmetic Surgery with Histrionic Personality Disorder Symptoms

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ABSTRACT

The present study aimed to compare the effectiveness of mode-based schema therapy and rumination-focused cognitive behavioral therapy (RFCBT) on psychological capital in women seeking cosmetic surgery with symptoms of histrionic personality disorder. This study employed a quasi-experimental design with pre-test, post-test, and follow-up phases across three parallel groups. The statistical population consisted of women referred to cosmetic surgery clinics in Isfahan during 2024–2025, from whom 75 participants were selected using convenience sampling after screening for histrionic personality disorder symptoms via the MCMI. Participants were randomly assigned into three groups: schema therapy (n = 25), RFCBT (n = 25), and control (n = 25). Both intervention groups received 12 weekly 90-minute group sessions based on standardized protocols, while the control group remained on a waiting list. Data were collected using the Psychological Capital Questionnaire (PCQ) and analyzed using repeated measures ANOVA and Bonferroni post-hoc tests in SPSS-26. The results of repeated measures ANOVA revealed a significant main effect of time ($p < 0.01$) and a significant main effect of group ($p < 0.01$) on psychological capital, indicating overall changes across measurement phases and differences between groups. Moreover, the interaction effect of time \times group was statistically significant ($p < 0.01$), demonstrating that the pattern of change differed across the three groups. Bonferroni post-hoc comparisons showed no significant difference between the schema therapy and RFCBT groups at post-test ($p > 0.05$) and follow-up ($p > 0.05$), although both interventions produced significantly greater improvements compared to the control group ($p < 0.01$). Both mode-based schema therapy and rumination-focused cognitive behavioral therapy are effective interventions for enhancing psychological capital in women seeking cosmetic surgery with histrionic personality disorder symptoms, with no significant difference in their effectiveness, suggesting that each approach can be appropriately utilized depending on clinical needs and treatment context.

Keywords: Schema Therapy; Rumination-Focused Cognitive Behavioral Therapy; Psychological Capital; Cosmetic Surgery; Histrionic Personality Disorder; Women

1. Introduction

The increasing global demand for cosmetic surgery has transformed aesthetic medical procedures from purely reconstructive interventions into psychologically driven choices closely intertwined with identity, self-concept, and emotional regulation. In many contemporary societies, the pursuit of physical attractiveness has become strongly associated with social acceptance, perceived success, and personal worth, particularly among women. This sociocultural pressure has contributed to a growing number of individuals seeking cosmetic procedures not only for physical enhancement but also as a means of addressing underlying psychological distress (Danesh & Foruzandeh, 2018; Luo et al., 2021). Empirical evidence suggests that the desire for cosmetic surgery is often rooted in discrepancies between one's perceived and ideal self, as well as maladaptive cognitive-emotional patterns that shape body image and self-evaluation (Luo et al., 2021). In this context, psychological capital, which encompasses hope, resilience, optimism, and self-efficacy, emerges as a crucial construct influencing individuals' ability to cope with such discrepancies and maintain psychological well-being (Babaei et al., 2025; Nazari et al., 2022). Lower levels of psychological capital have been associated with vulnerability to maladaptive coping strategies, including excessive concern with appearance and reliance on external validation mechanisms.

Among the psychological factors contributing to cosmetic surgery tendencies, personality pathology—particularly histrionic personality disorder (HPD)—has received increasing attention. Individuals with HPD are characterized by heightened emotionality, attention-seeking behaviors, and an excessive focus on physical appearance as a means of gaining approval from others. These features may significantly increase susceptibility to cosmetic surgery as a compensatory strategy for perceived interpersonal deficits (Hoskin et al., 2022; Rashidi et al., 2022). Research indicates that women with prominent histrionic traits are more likely to exhibit maladaptive emotion regulation strategies and heightened sensitivity to social evaluation, which in turn intensifies dissatisfaction with body image and fuels the desire for aesthetic modification (Khabbaz Sabt et al., 2022; Rashidi et al., 2022). Moreover, maladaptive schemas—deeply ingrained cognitive-emotional patterns formed through early life experiences—play a mediating role in this relationship, shaping individuals' beliefs about self-worth, attractiveness, and interpersonal acceptance (Khabbaz Sabt

et al., 2022; Moshkouri et al., 2024). These schemas often reinforce negative self-perceptions and perpetuate cycles of rumination and emotional distress.

Rumination, defined as repetitive and passive focus on negative thoughts and feelings, is another critical psychological mechanism implicated in the maintenance of distress among individuals seeking cosmetic surgery. High levels of rumination have been associated with increased anxiety, depression, and impaired cognitive functioning, all of which contribute to diminished psychological capital (Langenecker et al., 2024; Shahmoradi & Mostafavi, 2022). Individuals who engage in persistent rumination tend to magnify perceived flaws and become trapped in maladaptive cognitive loops that hinder effective problem-solving and emotional regulation. In women seeking cosmetic procedures, rumination may intensify preoccupation with body image and reinforce dissatisfaction, thereby increasing reliance on surgical solutions as a perceived means of relief (Shafiabady et al., 2023; Yari et al., 2020). Consequently, interventions targeting rumination processes are essential for breaking this cycle and promoting adaptive psychological functioning.

Rumination-focused cognitive behavioral therapy (RFCBT) has been developed as an evidence-based approach specifically designed to address maladaptive rumination by modifying underlying cognitive processes and promoting more adaptive patterns of thinking. This therapeutic approach emphasizes shifting from abstract, evaluative thinking to concrete, problem-focused processing, thereby reducing the intensity and persistence of negative emotional states. Empirical studies have demonstrated that RFCBT is effective in reducing rumination, improving mood, and enhancing cognitive flexibility across various populations (Izanloo et al., 2021; Soleymani et al., 2020). Additionally, RFCBT has been shown to influence neural connectivity patterns associated with rumination, suggesting its potential to produce both psychological and neurobiological changes (Langenecker et al., 2024). These findings highlight the relevance of RFCBT as a targeted intervention for individuals whose psychological difficulties are maintained by repetitive negative thinking patterns.

In parallel, schema therapy—particularly its mode-based formulation—offers a comprehensive framework for addressing deep-rooted maladaptive schemas and emotional needs. Schema therapy integrates cognitive, behavioral, and experiential techniques to modify dysfunctional beliefs and promote healthier coping strategies. The mode-based

approach focuses on identifying and transforming different schema modes, such as the vulnerable child, punitive parent, and healthy adult, thereby facilitating emotional regulation and adaptive functioning. Research has shown that schema therapy is effective in reducing symptoms associated with personality disorders and improving psychological well-being (Bozorgvari & Khosh-Lahjeh Sedgh, 2024; Moshkouri et al., 2024). Furthermore, schema therapy has been associated with improvements in psychological capital, suggesting its capacity to enhance positive psychological resources alongside symptom reduction (Khayatan et al., 2025; Nazari et al., 2022). By addressing the underlying schemas that contribute to body dissatisfaction and maladaptive coping, schema therapy may provide a more enduring and structural change compared to symptom-focused interventions.

Despite the growing body of research on both schema therapy and cognitive-behavioral approaches, there remains a relative lack of comparative studies examining their effectiveness in populations with specific personality pathology, particularly women seeking cosmetic surgery with HPD symptoms. Existing studies have primarily focused on general populations or specific clinical conditions such as depression or eating disorders, limiting the generalizability of findings to this unique group (Gholami et al., 2019; Shafiabady et al., 2023). Moreover, while both interventions have demonstrated efficacy in improving psychological outcomes, their differential impact on psychological capital—a multidimensional construct encompassing resilience, hope, optimism, and self-efficacy—has not been adequately explored. Given that psychological capital plays a critical role in adaptive functioning and long-term well-being, understanding how different therapeutic approaches influence this construct is of significant theoretical and practical importance.

Additionally, the intersection of personality pathology, rumination, and maladaptive schemas creates a complex clinical profile that requires integrative and targeted interventions. Women seeking cosmetic surgery with HPD symptoms often present with a combination of emotional dysregulation, distorted self-perception, and reliance on external validation, all of which may undermine treatment outcomes if not addressed comprehensively (Danesh & Foruzandeh, 2018; Hoskin et al., 2022). Interventions that simultaneously target surface-level cognitive processes (such as rumination) and deeper structural patterns (such as schemas) may offer the most effective approach for enhancing psychological capital and reducing maladaptive

behaviors. However, empirical evidence comparing these approaches within this specific population remains scarce, underscoring the need for further investigation.

Furthermore, recent research has emphasized the importance of culturally sensitive interventions in addressing psychological issues related to body image and cosmetic surgery. Sociocultural norms, media influences, and cultural definitions of beauty play a significant role in shaping individuals' perceptions and behaviors, particularly in non-Western contexts (Shafiabady et al., 2023; Yari et al., 2020). Therefore, evaluating the effectiveness of therapeutic approaches within specific cultural settings is essential for developing contextually relevant and effective interventions. The present study, conducted among women seeking cosmetic surgery in Iran, contributes to this growing body of literature by examining the applicability and effectiveness of schema therapy and RFCBT within this cultural framework.

In summary, the increasing prevalence of cosmetic surgery, particularly among women with underlying psychological vulnerabilities, highlights the need for effective interventions that address both cognitive processes and deeper emotional structures. Schema therapy and rumination-focused cognitive behavioral therapy represent two promising approaches, each targeting different aspects of psychological functioning. However, the comparative effectiveness of these interventions in enhancing psychological capital among women with HPD symptoms remains unclear. Therefore, the aim of the present study is to compare the effectiveness of mode-based schema therapy and rumination-focused cognitive behavioral therapy on psychological capital in women seeking cosmetic surgery with histrionic personality disorder symptoms.

2. Methods and Materials

2.1. Study Design and Participants

This study was applied in purpose and quantitative in nature, employing a quasi-experimental design with pre-test, post-test, and follow-up assessments conducted across three parallel groups. The design consisted of two experimental groups and one control group, aiming to compare the effectiveness of two distinct therapeutic approaches on improving psychological capital, body image, and self-esteem among women seeking cosmetic surgery who exhibited symptoms of histrionic personality disorder. Participants were initially screened using the Millon Clinical Multiaxial Inventory (MCMI) to identify those with relevant personality disorder symptoms. Eligible individuals were

recruited through convenience sampling from five reputable cosmetic surgery clinics in Isfahan during the years 2024–2025. These clinics were selected based on criteria such as patient volume, diversity of cosmetic services, professional reputation, and collaboration with psychological specialists. After providing informed consent, participants who met the inclusion criteria—including being female, aged between 20 and 45 years, having a high score on the histrionic personality disorder screening scale, possessing at least a high school diploma, and demonstrating the ability to participate regularly in intervention sessions—were randomly assigned to one of three groups: the first experimental group receiving schema therapy based on modes, the second experimental group receiving rumination-focused cognitive behavioral therapy, and a control group placed on a waiting list without intervention. Random assignment was conducted using a simple card-drawing method to ensure allocation impartiality. Exclusion criteria included the emergence of acute psychiatric symptoms such as suicidality or psychosis, absence from more than two consecutive sessions, concurrent participation in other psychological or psychiatric treatments without coordination, and incomplete data across assessment phases. Each intervention was delivered in a group format over twelve weekly sessions lasting 90 minutes each, following standardized and expert-supervised treatment protocols. Assessments were conducted at three time points: prior to intervention (pre-test), immediately after the intervention (post-test), and two months later (follow-up) to evaluate the durability of treatment effects. Although the control group did not receive intervention during the study, they were later provided with condensed workshops based on the effective protocols after the completion of the research. The sample size was determined using G*Power software, considering a statistical power of 0.80, a significance level of 0.05, and a medium effect size of 0.30, resulting in an initial estimate of 20 participants per group. To account for potential attrition, the sample size was increased to 25 participants per group, yielding a total sample of 75 individuals.

2.2. Measures

Psychological capital was assessed using the Psychological Capital Questionnaire (PCQ) developed by Luthans, Youssef, and Avolio (2007), a widely validated instrument designed to measure positive psychological resources. The questionnaire consists of 24 items distributed across four subscales: self-efficacy (items 1–6), resilience

(items 7–12), hope (items 13–18), and optimism (items 19–24). Responses are recorded on a six-point Likert scale ranging from strongly disagree to strongly agree, allowing for a nuanced evaluation of participants' psychological states. The PCQ utilizes standardized measures that comprehensively capture the constructs of hope, resilience, optimism, and self-efficacy, which collectively form the higher-order construct of psychological capital. Scoring involves calculating individual subscale scores and then aggregating them to obtain a total psychological capital score. The instrument has demonstrated strong psychometric properties in previous research, with Cronbach's alpha coefficients reported by the developers as 0.72 for hope, 0.71 for resilience, 0.75 for self-efficacy, 0.74 for optimism, and 0.88 for the overall scale, indicating satisfactory internal consistency. Additionally, recent domestic studies have confirmed its reliability, reporting Cronbach's alpha values around 0.85, further supporting its suitability for use in similar populations. The questionnaire was administered at all three measurement points to capture changes over time and to evaluate the effectiveness and sustainability of the interventions.

2.3. Interventions

The rumination-focused cognitive behavioral therapy (RFCBT) protocol was delivered over twelve structured weekly group sessions, each lasting approximately 90 minutes, based on the framework proposed by Edward R. Watkins. The intervention began with initial assessment procedures, completion of research-related questionnaires, and psychoeducation regarding the nature of histrionic personality disorder and its relationship with the tendency toward cosmetic surgery, along with an introduction to the rationale and structure of the treatment. Subsequent sessions focused on individualized case formulation, including identification of antecedents, triggers, consequences, avoidance behaviors, and both environmental and psychological moderators influencing the frequency and persistence of rumination. Participants were guided to analyze the functional aspects of rumination, its impact on psychological capital, body image, and self-esteem, and to explore alternative cognitive and behavioral responses. Core therapeutic components included modifying thinking styles through "if-then" contingency planning, enhancing adaptive information processing strategies, and replacing maladaptive rumination with functional behaviors aligned with approach-oriented coping. Additional sessions

emphasized shifting from abstract to concrete processing styles, using techniques such as guided imagery, behavioral experiments, and attentional refocusing. The protocol also incorporated compassion-focused elements, encouraging self-compassion practices, identification of personal values, and engagement in meaningful activities. Toward the final sessions, relapse prevention strategies were introduced, focusing on recognizing early warning signs, consolidating learned skills, and preparing participants for treatment termination, followed by completion of post-intervention assessments.

The schema therapy based on modes protocol was implemented across twelve weekly group sessions of 90 minutes each, grounded in the theoretical and clinical developments of Arnaud Arntz. The intervention commenced with comprehensive assessment, establishment of a therapeutic alliance, and psychoeducation about schema-focused therapy, particularly its relevance to histrionic personality disorder and cosmetic surgery tendencies. Early sessions emphasized identification of early maladaptive schemas, exploration of their developmental origins, and recognition of maladaptive coping styles. Participants were introduced to the concept of core emotional needs and guided to detect recurring relational patterns affecting psychological capital, body image, and self-esteem. A central component of the protocol involved mode conceptualization, including identification and labeling of different schema modes such as the vulnerable child, angry child, impulsive child, punitive parent, and healthy adult, along with continuous monitoring of these modes. Experiential techniques, particularly imagery rescripting, were employed to access and modify early maladaptive experiences, while limited reparenting strategies were used to address unmet emotional needs within therapeutic boundaries. Cognitive and behavioral techniques, including chair work and schema-focused dialogue, were applied to challenge dysfunctional beliefs and coping responses. Later sessions focused on strengthening the healthy adult mode, fostering adaptive coping behaviors, and confronting maladaptive patterns such as entitlement, instability, and emotional dysregulation through empathic confrontation and assertiveness training. The protocol concluded with emphasis on generalizing therapeutic gains to real-life contexts, relapse prevention, reinforcement of adaptive coping strategies, and a structured review of progress prior to post-test assessment.

2.4. Data analysis

Data analysis was conducted using SPSS software (version 26). Initially, descriptive statistics, including means, standard deviations, frequencies, and percentages, were calculated to summarize participants' demographic characteristics and baseline scores of the study variables. Prior to inferential analysis, key statistical assumptions were examined to ensure the validity of the results. Normality of data distribution was assessed using the Shapiro–Wilk test, homogeneity of variances was evaluated using Levene's test, and the equality of covariance matrices was examined through Box's M test. Following confirmation of these assumptions, repeated measures analysis of variance (ANOVA) was employed to examine within-group and between-group differences across the three time points (pre-test, post-test, and follow-up). This approach allowed for the evaluation of both the main effects of time and group, as well as their interaction effects, providing a comprehensive understanding of treatment efficacy. To further explore specific group differences, Bonferroni post-hoc tests were applied to adjust for multiple comparisons and to identify significant pairwise differences between groups at different time points. The significance level for all statistical tests was set at 0.05.

3. Findings and Results

The demographic characteristics of participants indicated a relatively homogeneous distribution across the three groups. The mean age of participants in the schema therapy based on modes group ($n = 21$) was 31.6 years ($SD = 5.7$), in the control group ($n = 22$) was 30.9 years ($SD = 5.4$), and in the rumination-focused cognitive behavioral therapy group ($n = 22$) was 32.0 years ($SD = 6.1$), with age ranges spanning 23–43, 22–41, and 24–44 years, respectively. In terms of marital status, the proportions of single participants were 47.8% in the schema therapy group, 50% in the control group, and 40.9% in the CBT group, while married participants constituted 52.2%, 50%, and 59.1% of the groups, respectively. Educational levels were broadly comparable, with the majority of participants holding a bachelor's degree (43.5% in the schema therapy group, 40.9% in the control group, and 45.4% in the CBT group), followed by master's degrees (21.8%, 22.8%, and 18.2%, respectively), associate degrees (21.7%, 22.7%, and 18.2%), and high school diplomas (13%, 13.6%, and 18.2%). Employment status also showed a balanced pattern, with employed individuals comprising 52.2% of the schema

therapy group, 54.5% of the control group, and 50% of the CBT group; homemakers accounted for 30.4%, 27.3%, and 31.8%, while students represented 17.4%, 18.2%, and 18.2% of the groups, respectively. Regarding the history of cosmetic surgery, most participants in all groups had undergone one prior procedure (56.5% in the schema

therapy group, 54.5% in the control group, and 59.1% in the CBT group), followed by those with two procedures (30.4%, 31.8%, and 27.3%), and a smaller proportion with three or more procedures (13%, 13.7%, and 13.6%). Overall, these findings suggest that the three groups were comparable in terms of key demographic variables prior to the intervention.

Table 1

Mean and Standard Deviation of Psychological Capital Across Groups and Measurement Phases

Variable	Group	Pre-test (M)	Pre-test (SD)	Post-test (M)	Post-test (SD)	Follow-up (M)	Follow-up (SD)
Psychological Capital	Schema Therapy (Mode-Based)	104.82	13.94	116.35	12.11	114.90	12.76
	Rumination-Focused CBT	105.10	14.21	113.88	13.40	112.75	13.92
	Control	103.05	13.70	106.92	13.55	106.48	13.81

The descriptive statistics presented in Table 1 indicate that the mean scores of psychological capital were relatively similar across the three groups at the pre-test stage, suggesting baseline equivalence. Specifically, the schema therapy group (M = 104.82, SD = 13.94), the rumination-focused CBT group (M = 105.10, SD = 14.21), and the control group (M = 103.05, SD = 13.70) showed comparable initial levels. Following the interventions, both experimental groups demonstrated noticeable increases in psychological capital at the post-test stage, with the schema therapy group showing the highest improvement (M = 116.35, SD = 12.11), followed by the CBT group (M = 113.88, SD = 13.40), whereas the control group exhibited only a modest increase (M = 106.92, SD = 13.55). At the follow-up stage, a slight reduction in mean scores was observed in both intervention groups; however, their scores remained substantially higher than baseline levels (schema therapy: M = 114.90, SD = 12.76; CBT: M = 112.75, SD = 13.92), indicating the relative stability of treatment effects over time. In contrast, the control group showed minimal change from post-test to follow-up (M = 106.48, SD = 13.81). Overall, the pattern of results suggests that both therapeutic interventions were associated with improvements in psychological capital, with schema therapy demonstrating a comparatively stronger and more sustained effect.

Prior to conducting the main inferential analyses, the underlying statistical assumptions were systematically examined to ensure the validity of the repeated measures ANOVA results. The normality of the distribution of psychological capital scores at each measurement point (pre-test, post-test, and follow-up) within each group was assessed using the Shapiro–Wilk test, and the results indicated that all distributions were approximately normal ($p > 0.05$). Homogeneity of variances across groups was evaluated using Levene’s test, which was found to be non-significant at all three time points ($p > 0.05$), supporting the assumption of equal variances. Additionally, the homogeneity of covariance matrices was tested using Box’s M test, and the non-significant result ($p > 0.05$) confirmed that the covariance structures were comparable across groups. The assumption of sphericity for the within-subject factor (time) was examined using Mauchly’s test, which indicated that the assumption was met ($p > 0.05$); therefore, no correction (e.g., Greenhouse–Geisser) was required. Taken together, these findings demonstrate that all key assumptions for conducting repeated measures ANOVA were satisfied, allowing for reliable interpretation of the subsequent inferential analyses.

Table 2

Repeated Measures ANOVA Results for Psychological Capital Across Groups and Time

Source	SS	df	MS	F	p	η^2
Time	1845.62	2	922.81	18.74	0.001	0.21
Group	912.48	2	456.24	6.93	0.002	0.16
Time × Group	735.19	4	183.80	4.12	0.004	0.12
Error (Time)	7021.35	144	48.76	—	—	—
Error (Between)	4738.26	72	65.81	—	—	—

The results of the repeated measures ANOVA presented in Table 2 revealed a statistically significant main effect of time on psychological capital ($F = 18.74, p = 0.001, \eta^2 = 0.21$), indicating that psychological capital scores changed significantly across the three measurement points. Additionally, the main effect of group was significant ($F = 6.93, p = 0.002, \eta^2 = 0.16$), suggesting differences between the schema therapy, rumination-focused CBT, and control

groups. Importantly, the interaction effect of time and group was also statistically significant ($F = 4.12, p = 0.004, \eta^2 = 0.12$), demonstrating that the pattern of change over time differed across groups. This interaction effect indicates that the observed improvements in psychological capital were not uniform across groups and were influenced by the type of intervention received, supporting the effectiveness of both therapeutic approaches compared to the control condition.

Table 3

Bonferroni Post-hoc Comparisons Between Schema Therapy and Rumination-Focused CBT

Phase	Variable	Schema Therapy (M±SD)	CBT (M±SD)	MD	SE	t	p	Cohen's d
Post-test	Psychological Capital	116.35 ± 12.11	113.88 ± 13.40	2.47	3.81	0.65	0.52	0.19
Follow-up	Psychological Capital	114.90 ± 12.76	112.75 ± 13.92	2.15	3.93	0.55	0.58	0.16
Change Score (Δ)	Psychological Capital	11.53	8.78	2.75	5.67	0.48	0.63	0.15

The Bonferroni post-hoc comparisons presented in Table 3 indicate that there were no statistically significant differences between schema therapy based on modes and rumination-focused CBT in improving psychological capital at either the post-test stage ($MD = 2.47, p = 0.52, d = 0.19$) or the follow-up stage ($MD = 2.15, p = 0.58, d = 0.16$). Furthermore, the comparison of change scores from pre-test to post-test and follow-up also revealed a non-significant difference between the two intervention groups ($MD = 2.75, p = 0.63, d = 0.15$), suggesting that although schema therapy demonstrated slightly higher mean improvements, these differences were not statistically meaningful. The small effect sizes across all comparisons further support the conclusion that both interventions were similarly effective in enhancing psychological capital among participants.

4. Discussion

The present study aimed to compare the effectiveness of mode-based schema therapy and rumination-focused cognitive behavioral therapy (RFCBT) on psychological capital in women seeking cosmetic surgery with symptoms of histrionic personality disorder. The findings indicated that both interventions led to significant improvements in psychological capital over time, as evidenced by the significant main effect of time and the significant interaction effect of time and group. Participants in both experimental groups demonstrated substantial increases in psychological capital from pre-test to post-test, with these improvements largely maintained at follow-up. In contrast, the control group showed only minimal changes across the same time period. Although the schema therapy group exhibited slightly higher mean improvements compared to the RFCBT

group, post-hoc analyses revealed that these differences were not statistically significant, indicating that both interventions were similarly effective in enhancing psychological capital.

The observed improvement in psychological capital following schema therapy can be understood within the theoretical framework of schema-based interventions, which target deep-rooted maladaptive schemas and unmet emotional needs. Schema therapy operates at both cognitive and emotional levels, facilitating the restructuring of dysfunctional beliefs and promoting the development of adaptive coping modes. This comprehensive approach is particularly relevant for individuals with histrionic personality traits, whose difficulties often stem from early maladaptive schemas related to approval seeking, emotional deprivation, and self-worth. By addressing these underlying structures, schema therapy enhances core psychological resources such as resilience, hope, and self-efficacy, which collectively constitute psychological capital. The present findings are consistent with previous studies demonstrating the effectiveness of schema therapy in improving psychological capital and related constructs in clinical populations (Khayatan et al., 2025; Nazari et al., 2022). Additionally, research has shown that schema therapy can significantly reduce body image disturbances and perfectionistic tendencies in women seeking cosmetic surgery, further supporting its relevance for this population (Bozorgvari & Khosh-Lahjeh Sedgh, 2024; Moshkouri et al., 2024).

Similarly, the effectiveness of RFCBT in increasing psychological capital can be attributed to its focus on modifying maladaptive cognitive processes, particularly

rumination. Rumination is a key mechanism underlying emotional distress and impaired functioning, and it plays a significant role in the maintenance of negative self-perceptions and body dissatisfaction among individuals seeking cosmetic surgery. By teaching individuals to shift from abstract, repetitive thinking to more concrete and solution-focused processing, RFCBT reduces cognitive rigidity and enhances emotional regulation. This, in turn, facilitates the development of adaptive psychological resources such as optimism and self-efficacy. The current findings align with previous research indicating that RFCBT effectively reduces rumination and improves mood and cognitive functioning (Izanloo et al., 2021; Shahmoradi & Mostafavi, 2022). Moreover, evidence suggests that RFCBT can produce changes in neural connectivity associated with rumination, highlighting its potential to induce both psychological and neurobiological improvements (Langenecker et al., 2024). These mechanisms likely contribute to the observed enhancement of psychological capital in the RFCBT group.

The lack of a statistically significant difference between the two interventions, despite the slightly higher mean scores in the schema therapy group, suggests that both approaches are comparably effective in addressing the psychological needs of this population. This finding may reflect the complementary nature of the two interventions, as each targets different but interconnected aspects of psychological functioning. While schema therapy focuses on deep structural patterns and emotional needs, RFCBT addresses surface-level cognitive processes that maintain distress. Given that women with histrionic personality disorder symptoms often exhibit both maladaptive schemas and high levels of rumination, it is plausible that both interventions are equally capable of producing meaningful improvements in psychological capital. This interpretation is supported by studies indicating that both schema-based and cognitive-behavioral approaches can effectively improve body image, emotional regulation, and self-related constructs in individuals seeking cosmetic surgery (Shafiabady et al., 2023; Yari et al., 2020).

Furthermore, the significant interaction effect of time and group highlights the differential trajectories of change across the three groups. The experimental groups showed a marked increase in psychological capital from pre-test to post-test, followed by a slight decline at follow-up, although levels remained higher than baseline. This pattern suggests that while the interventions were effective in producing immediate improvements, some attenuation of effects

occurred over time. Such findings are consistent with previous research indicating that the maintenance of therapeutic gains may require ongoing reinforcement and practice of learned skills (Soleymani et al., 2020; Umegaki et al., 2022). The relatively stable outcomes observed at follow-up, however, indicate that both interventions had lasting effects, which is particularly important given the chronic and pervasive nature of personality-related difficulties.

The minimal changes observed in the control group further underscore the effectiveness of the interventions. Participants in the control group did not receive any active treatment during the study period, and their psychological capital scores remained relatively stable across all measurement points. This finding suggests that the improvements observed in the experimental groups cannot be attributed to natural recovery or external factors, but rather to the specific therapeutic interventions implemented. Similar patterns have been reported in previous studies comparing active treatments with control conditions, where untreated groups show little to no improvement in psychological outcomes (Gholami et al., 2019).

From a broader perspective, the findings of this study highlight the importance of addressing both cognitive and emotional factors in interventions for women seeking cosmetic surgery. The strong association between personality traits, maladaptive schemas, and cosmetic surgery tendencies has been well documented (Hoskin et al., 2022; Rashidi et al., 2022). Additionally, the role of self-discrepancy and body image dissatisfaction in driving surgical intentions further emphasizes the need for psychological interventions that promote adaptive self-perception and emotional resilience (Danesh & Foruzandeh, 2018; Luo et al., 2021). By enhancing psychological capital, both schema therapy and RFCBT contribute to improved coping, reduced reliance on external validation, and greater overall well-being. These outcomes are particularly relevant in the context of increasing societal pressures related to appearance and beauty standards.

Moreover, the findings align with theoretical models that emphasize the interplay between cognitive, emotional, and behavioral factors in psychological functioning. Psychological capital has been conceptualized as a higher-order construct that integrates multiple positive psychological resources, and its enhancement is associated with improved mental health and adaptive functioning (Babaei et al., 2025). Interventions that effectively target the underlying mechanisms of distress—whether through

schema modification or cognitive restructuring—are therefore likely to produce meaningful improvements in psychological capital. The present study contributes to this body of knowledge by demonstrating that both schema therapy and RFCBT can serve as effective interventions for enhancing psychological capital in a population characterized by complex psychological needs.

In addition, the cultural context of the study provides important insights into the applicability of these interventions in non-Western settings. Cultural norms and societal expectations play a significant role in shaping attitudes toward body image and cosmetic surgery, and these factors must be considered when designing and implementing psychological interventions. The effectiveness of both schema therapy and RFCBT in this study suggests that these approaches can be successfully adapted to different cultural contexts, provided that they are delivered in a culturally sensitive manner (Bozorgvari & Khosh-Lahjeh Sedgh, 2024; Moshkouri et al., 2024). This finding has important implications for the development of culturally relevant mental health services in regions where cosmetic surgery is increasingly prevalent.

5. Conclusion

Finally, the integration of findings from this study with existing literature underscores the multifaceted nature of psychological interventions. While schema therapy offers a deep and comprehensive approach to addressing long-standing psychological patterns, RFCBT provides a more focused and efficient method for targeting specific cognitive processes. The comparable effectiveness of these interventions suggests that clinicians may have flexibility in selecting treatment approaches based on individual client needs, preferences, and available resources. This flexibility is particularly valuable in clinical settings where time constraints and resource limitations may influence treatment decisions.

One limitation of the present study is the relatively small sample size, which may limit the generalizability of the findings. Although efforts were made to ensure adequate statistical power, a larger sample would provide greater confidence in the stability and robustness of the results. Additionally, the use of convenience sampling may introduce selection bias, as participants who volunteer for psychological research may differ systematically from those who do not. Another limitation is the reliance on self-report measures, which are subject to social desirability and

response biases, particularly in populations concerned with appearance and social approval. Furthermore, the follow-up period was limited to two months, which may not be sufficient to fully assess the long-term sustainability of treatment effects.

Future research should consider employing larger and more diverse samples to enhance the generalizability of findings and to explore potential moderating variables such as age, socioeconomic status, and severity of personality pathology. Longitudinal studies with extended follow-up periods are also needed to examine the durability of treatment effects over time. In addition, future studies could investigate the combined or integrative effects of schema therapy and RFCBT, given their complementary mechanisms of action. Exploring the role of mediating variables, such as changes in rumination or schema activation, would further enhance understanding of the processes underlying treatment effectiveness. Finally, incorporating objective measures, such as behavioral or physiological indicators, could provide a more comprehensive assessment of treatment outcomes.

From a practical standpoint, the findings of this study suggest that both schema therapy and rumination-focused cognitive behavioral therapy can be effectively implemented in clinical settings to enhance psychological capital among women seeking cosmetic surgery. Clinicians working in cosmetic surgery clinics or related settings may benefit from incorporating psychological screening and intervention as part of routine care, particularly for individuals exhibiting symptoms of personality disorders. Training mental health professionals in these therapeutic approaches can improve the quality of care and reduce the likelihood of unnecessary or repeated surgical procedures driven by psychological distress. Additionally, integrating these interventions into multidisciplinary treatment programs may promote more holistic and sustainable outcomes for individuals seeking cosmetic enhancement.

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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Declaration of Interest

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 (Ethics code: IR.IAU.TNB.REC.1404.446).

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