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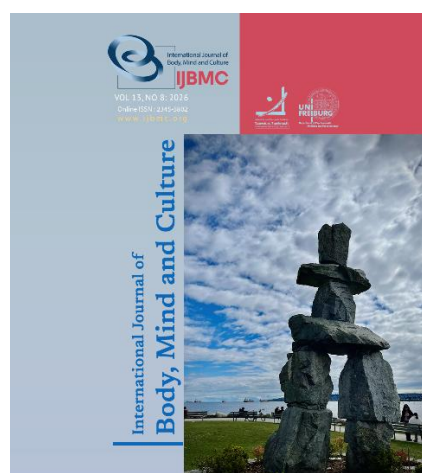
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Comparing the Effectiveness of Schema Therapy and Dialectical Behavior Therapy on Emotion Regulation in Obese Women

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ABSTRACT

Objective: This study aimed to compare the effectiveness of schema therapy and dialectical behavior therapy on emotion regulation in obese individuals.

Methods and Materials: This quasi-experimental study used a pretest-posttest design with a four-month follow-up and a control group. The sample consisted of 45 obese women with a body mass index above 30 kg/m² who were selected through purposeful sampling and randomly assigned to three groups: schema therapy, dialectical behavior therapy, and control, with 15 participants in each group. The schema therapy and dialectical behavior therapy groups each received 12 weekly 90-minute sessions, while the control group received no psychological intervention. Emotion regulation was assessed using the Emotion Regulation Questionnaire developed by Gross and John. Data were analyzed using repeated-measures analysis of variance and Bonferroni post hoc comparisons.

Findings: The results showed significant improvements in emotion regulation in both intervention groups compared with the control group. The time × group interaction was significant for cognitive reappraisal, $F = 17.30$, $p = .001$, $\eta^2 = .453$, and expressive suppression, $F = 33.10$, $p = .001$, $\eta^2 = .612$. Post hoc comparisons showed that schema therapy and dialectical behavior therapy significantly improved cognitive reappraisal compared with the control group, $MD = 4.66$ and $MD = 6.93$, respectively, both $p = .001$. For expressive suppression, the mean differences were 3.13 and 6.66, respectively, both $p = .001$.

Conclusion: Both schema therapy and dialectical behavior therapy improved emotion regulation in obese women, but dialectical behavior therapy showed greater effectiveness.

Keywords: Schema therapy, Dialectical behavior therapy, Emotion regulation, Obesity, Women.

Introduction

Obesity is a chronic and multifactorial health condition that is associated not only with metabolic and cardiovascular complications but also with psychological and behavioral difficulties. Although obesity is commonly defined through body mass index and excess body fat, its development and persistence are influenced by complex interactions among biological, environmental, cognitive, emotional, and lifestyle-related factors. In recent decades, psychological approaches to obesity have received increasing attention because many individuals with obesity experience difficulties in managing emotional distress, maintaining adaptive coping strategies, and sustaining long-term behavioral change ([Organization, 2025](#); [Zhou et al., 2025](#)).

One of the psychological factors that plays an important role in obesity is emotion regulation. Emotion regulation refers to the processes through which individuals influence which emotions they experience, when they experience them, and how they express or manage them. Adaptive emotion regulation enables individuals to identify emotional states, tolerate distress, select appropriate responses, and act in accordance with long-term goals. In contrast, difficulties in emotion regulation may lead to impulsive behaviors, avoidance, emotional eating, overeating, reduced self-control, and difficulty maintaining healthy routines ([Gratz & Roemer, 2004](#); [Gross, 1998](#)).

Emotion dysregulation is particularly relevant in individuals with obesity because eating behaviors are often connected to emotional states. Many individuals use food as a strategy to reduce anxiety, sadness, anger, loneliness, shame, or stress. Although eating may provide temporary emotional relief, it can reinforce maladaptive coping patterns and contribute to weight gain, body dissatisfaction, and further emotional distress. This cycle may become self-perpetuating: negative emotions increase the likelihood of overeating, overeating intensifies guilt and self-criticism, and these emotions again increase vulnerability to maladaptive eating behavior ([Erdem et al., 2023](#); [Van Strien, 2018](#)).

The role of emotion regulation in obesity also extends beyond eating behavior. Poor emotion regulation may reduce motivation for physical activity, increase avoidance of health-promoting behaviors, and weaken persistence in lifestyle change programs. Individuals

who have difficulty tolerating discomfort may be less able to continue dietary changes, resist cravings, cope with weight-related stigma, or manage setbacks during treatment. Therefore, improving emotion regulation may be considered an important therapeutic target in psychological interventions for obesity ([Sanchis-Sanchis et al., 2020](#); [Zimmermann & Iwanski, 2014](#)).

Schema therapy is one psychological intervention that may be effective in improving emotion regulation among individuals with obesity. Schema therapy, developed by Young and colleagues, is an integrative approach that combines cognitive-behavioral, attachment-based, experiential, psychodynamic, and emotion-focused techniques. The central assumption of schema therapy is that early maladaptive schemas—deep and persistent cognitive-emotional patterns formed when core emotional needs are not adequately met—can shape how individuals perceive themselves, others, and life events ([Young et al., 2003](#)).

In the context of obesity, maladaptive schemas may contribute to emotional vulnerability and unhealthy coping patterns. Schemas such as defectiveness/shame, emotional deprivation, failure, dependence / incompetence, vulnerability to harm, or insufficient self-control may intensify emotional distress and increase reliance on food as a coping mechanism. For example, a person with a defectiveness schema may respond to weight-related criticism with shame and emotional eating, while a person with an insufficient self-control schema may struggle to delay gratification and regulate impulses. By identifying and modifying such schemas, schema therapy may improve the individual's capacity to understand emotions, tolerate distress, and choose healthier responses ([Aloi, Rania, Carbone, de Filippis, D'Onofrio, et al., 2025](#); [Basile et al., 2019](#); [Young et al., 2003](#)).

Schema therapy may enhance emotion regulation through several mechanisms. Cognitive techniques help individuals identify and challenge schema-driven interpretations that intensify emotional distress. Experiential techniques, such as imagery rescripting and chair work, allow patients to process unmet emotional needs and reduce the power of painful emotional memories. Behavioral pattern-breaking strategies help individuals replace maladaptive coping responses with healthier behaviors. Through these processes, schema therapy may reduce emotional avoidance, shame,

impulsivity, and self-punitive responses, thereby strengthening adaptive emotion regulation (Arntz & Jacob, 2017; Farrell et al., 2014).

Dialectical behavior therapy is another intervention that directly targets emotion dysregulation. Originally developed by Linehan, DBT is based on the dialectical balance between acceptance and change and includes skills training in mindfulness, distress tolerance, emotion regulation, and interpersonal effectiveness. DBT assumes that problematic behaviors often emerge when individuals lack the skills necessary to manage intense emotions. Therefore, treatment focuses on helping individuals observe emotional experiences, tolerate distress without engaging in harmful behaviors, reduce emotional vulnerability, and respond more effectively to interpersonal and environmental stressors (Linehan, 1993; Linehan, 2025).

DBT may be especially useful for individuals with obesity because it provides practical skills for managing emotional triggers associated with overeating and unhealthy behaviors. Mindfulness skills help individuals become aware of bodily sensations, emotional urges, and eating-related thoughts without immediately acting on them. Distress tolerance skills help individuals endure discomfort without using food as a primary coping strategy. Emotion regulation skills help individuals identify emotions, reduce vulnerability to negative affect, and increase positive emotional experiences. Interpersonal effectiveness skills may also reduce relational stress, which can function as a trigger for emotional eating (Fassbinder et al., 2016; Landes et al., 2025).

Although both schema therapy and DBT may improve emotion regulation, they differ in their theoretical emphasis and mechanisms of change. Schema therapy focuses on modifying deep-rooted maladaptive schemas and long-standing emotional patterns, whereas DBT emphasizes skill acquisition, mindfulness, acceptance, and behavioral change in response to emotional distress. Schema therapy may be more effective when emotion dysregulation is strongly connected to persistent self-beliefs, shame, and early unmet emotional needs. DBT may be particularly effective when emotion dysregulation appears as impulsivity, distress intolerance, and difficulty managing emotional urges in daily life (Linehan, 2025; Young et al., 2003).

Comparing these two interventions is important because obesity is often maintained by both deep psychological patterns and immediate emotion-driven behaviors. A schema-focused approach may target the underlying emotional meanings that contribute to maladaptive eating and poor self-regulation, while a skills-based DBT approach may help individuals manage emotional triggers in real time. Understanding the relative effectiveness of these two approaches can help clinicians select interventions that better match the psychological needs of obese individuals.

Accordingly, the present study aimed to compare the effectiveness of schema therapy and dialectical behavior therapy on emotion regulation in obese individuals. It was expected that both interventions would improve emotion regulation by reducing maladaptive emotional responses and strengthening adaptive coping capacities. However, given their different therapeutic mechanisms, the magnitude and pattern of their effects on emotion regulation may differ.

Methods and Materials

Research Design

The present study used a quasi-experimental design with a pretest–posttest, four-month follow-up, and a control group.

Participants and Sampling Procedure

The statistical population consisted of obese women in 2025. The sample included 45 eligible participants who were selected through purposeful sampling and then randomly assigned to three equal groups: 15 participants in the schema therapy group, 15 participants in the dialectical behavior therapy group, and 15 participants in the control group. Obesity was determined based on a body mass index higher than 30 kg/m². Random assignment was used after participant selection to increase the comparability of the groups before the intervention.

Instruments

Emotion regulation was measured using the Emotion Regulation Questionnaire developed by Gross & John (2003). This instrument consists of 10 items and assesses two main components of emotion regulation: cognitive reappraisal and expressive suppression. Cognitive reappraisal is measured by items 1, 3, 5, 7, 8, and 10, while expressive suppression is measured by items 2, 4,

6, and 9. Responses are scored on a 7-point Likert scale ranging from 1, meaning “strongly disagree,” to 7, meaning “strongly agree.” The total score ranges from 10 to 70, with lower scores indicating poorer emotion regulation. Gross & John (2003) reported acceptable internal consistency for the two subscales, with Cronbach’s alpha coefficients of .79 for cognitive reappraisal and .73 for expressive suppression. In the present study, Cronbach’s alpha for the questionnaire was .91, indicating excellent internal consistency.

Schema Therapy Intervention

The schema therapy intervention was implemented based on the schema therapy protocol developed by Young and colleagues. The intervention consisted of 12 weekly sessions, with each session lasting 90 minutes. The sessions focused on identifying early maladaptive schemas, recognizing maladaptive coping styles, understanding the emotional and behavioral consequences of schemas, and replacing dysfunctional patterns with healthier responses. The intervention used cognitive, experiential, emotional, and behavioral techniques to help participants identify schema-driven emotional reactions and develop more adaptive ways of regulating emotions.

In the schema therapy group, participants were guided to recognize how deeply rooted beliefs and emotional patterns contributed to maladaptive responses in stressful situations. Techniques such as psychoeducation, schema identification, cognitive restructuring, imagery-based work, emotional processing, and behavioral pattern breaking were used to weaken maladaptive schema responses and strengthen healthier emotion regulation patterns.

Dialectical Behavior Therapy Intervention

The dialectical behavior therapy intervention was implemented based on Linehan’s DBT model. Similar to the schema therapy intervention, the DBT program consisted of 12 weekly sessions, each lasting 90 minutes. The intervention focused on skills training, including mindfulness, distress tolerance, emotion regulation, and interpersonal effectiveness. DBT was selected because of its direct emphasis on regulating intense emotions, reducing impulsive responses, increasing acceptance, and strengthening adaptive coping skills.

In the dialectical behavior therapy group, participants were trained to observe emotional experiences without immediate reaction, identify emotional triggers, tolerate

distress without engaging in maladaptive behaviors, and use adaptive strategies to manage negative emotional states. The intervention emphasized the balance between acceptance and change and aimed to help participants respond to emotional situations more effectively.

Procedure

After obtaining the necessary permissions and ethical approval, eligible participants were identified according to the study criteria. The study received ethical approval under the code IR.IAU.CTB.REC.1405.013. After explaining the purpose and procedure of the study, informed consent was obtained from the participants. Participants were then randomly assigned to the schema therapy, dialectical behavior therapy, or control group.

At the pretest stage, all participants completed the Emotion Regulation Questionnaire. The schema therapy group then received 12 sessions of schema therapy, and the dialectical behavior therapy group received 12 sessions of DBT. The control group did not receive any psychological intervention during the same period. After completion of the intervention sessions, all three groups completed the posttest assessment. Four months later, the follow-up assessment was conducted using the same emotion regulation measure.

Ethical Considerations

All ethical principles were observed throughout the study. Participation was voluntary, and participants were informed that they could withdraw from the study at any stage. Confidentiality of personal information was maintained, and the data were analyzed anonymously. The intervention procedures were implemented only after obtaining informed consent and ethical approval. The control group received no intervention during the study period but completed the same assessment stages as the experimental groups.

Data Analysis

Data were analyzed using descriptive and inferential statistical methods. Descriptive statistics, including mean and standard deviation, were used to summarize emotion regulation scores across the three groups and three measurement stages. Before conducting the main analyses, statistical assumptions were examined, including normality, homogeneity of variance, homogeneity of covariance matrices, homogeneity of regression slopes, and linearity. The Shapiro–Wilk test was used to assess normality, Box’s M test was used to

examine homogeneity of covariance matrices, and Levene's test was used to assess homogeneity of error variances. To examine the effectiveness of schema therapy and dialectical behavior therapy on emotion regulation, repeated-measures analysis of variance was used. Bonferroni post hoc comparisons were applied to compare changes between the pretest, posttest, and follow-up stages and to examine differences among the schema therapy, dialectical behavior therapy, and control groups. The significance level was set at .05.

Findings and Results

The study included 45 obese women who were assigned to three equal groups: schema therapy, dialectical behavior therapy, and control, with 15 participants in each group. Preliminary demographic analysis indicated that the three groups did not differ significantly in age, marital status, or educational level;

therefore, the groups were considered homogeneous at baseline. Before the main analyses, the assumptions of normality, homogeneity of variances, homogeneity of covariance matrices, and homogeneity of regression slopes were examined. The results supported the use of repeated-measures analysis and follow-up Bonferroni comparisons.

Table 1 presents the means and standard deviations of emotion regulation and its components across the three measurement stages. As shown, the three groups had relatively similar pretest scores. However, after the interventions, both experimental groups showed increased scores in cognitive reappraisal, expressive suppression, and total emotion regulation compared with the control group. The improvement was also maintained at the four-month follow-up. The descriptive pattern further showed that dialectical behavior therapy produced larger increases than schema therapy in both components of emotion regulation.

Table 1

Means and Standard Deviations of Emotion Regulation by Group and Measurement Stage

Variable	Group	Pretest M (SD)	Posttest M (SD)	Follow-up M (SD)
Cognitive reappraisal	Schema therapy	14.10 (2.55)	18.80 (4.30)	18.06 (4.16)
	Dialectical behavior therapy	13.60 (3.06)	21.10 (3.85)	20.10 (3.52)
	Control	13.20 (3.40)	14.20 (3.88)	13.06 (3.36)
Expressive suppression	Schema therapy	16.60 (4.17)	20.60 (5.09)	20.20 (5.00)
	Dialectical behavior therapy	14.80 (3.73)	24.10 (3.41)	23.40 (3.33)
	Control	17.00 (4.37)	17.40 (4.17)	17.30 (4.01)
Total emotion regulation	Schema therapy	30.70 (3.82)	39.40 (5.39)	38.30 (5.27)
	Dialectical behavior therapy	28.40 (5.22)	45.20 (5.29)	43.50 (5.19)
	Control	30.20 (6.14)	31.60 (5.98)	30.40 (5.77)

Table 2

Summary of Multivariate Tests for Posttest Emotion Regulation Scores

Multivariate Test	Value	F	p	Effect Size
Pillai's Trace	0.766	13.03	< .001	0.383
Wilks' Lambda	0.292	17.40	< .001	0.459
Hotelling's Trace	2.22	22.20	< .001	0.526
Roy's Largest Root	2.12	44.70	< .001	0.680

Table 2 presents the results of the multivariate tests for posttest emotion regulation scores. Wilks' lambda was statistically significant at the 99% confidence level ($F = 17.40$, $p < .001$). Given the significance of Wilks' lambda, the posttest emotion regulation scores were significantly affected by the independent variables,

namely schema therapy and dialectical behavior therapy. Therefore, it was necessary to determine whether each dependent variable was individually influenced by the interventions. For this purpose, multivariate analysis of covariance was conducted.

Table 3*Between-Subjects Effects of the Multivariate Analysis of Covariance on Posttest Emotion Regulation Scores*

Dependent Variable	Mean Square	df	F	p	Effect Size
Cognitive Reappraisal	0.472	4	9.35	<.001	0.313
Expressive Suppression	0.351	4	18.40	<.001	0.408

As shown in Table 3, after controlling for the effects of the pretest scores, significant differences were observed in the posttest emotion regulation scores. In other words, schema therapy and dialectical behavior therapy had significant effects on cognitive reappraisal ($F = 9.35$,

$p < .001$) and expressive suppression ($F = 18.40$, $p < .001$) at the posttest stage. Repeated-measures analysis of variance was subsequently used to examine the effectiveness and durability of the interventions over time.

Table 4*Results of Mauchly's Test of Sphericity for Emotion Regulation*

Dependent Variable	Mauchly's W	Chi-Square	df	p
Cognitive Reappraisal	0.045	127.30	2	<.001
Expressive Suppression	0.067	110.60	2	<.001

As presented in Table 4, Mauchly's test of sphericity was statistically significant for both dimensions of emotion regulation ($p < .001$). Therefore, the assumption of sphericity was violated. More specifically, the equality of the variances and the homogeneity of the covariance matrix could not be confirmed, indicating a violation of

the assumptions underlying the conventional F statistic. Consequently, the conservative Greenhouse–Geisser correction was used to evaluate the within-subject effects of the interventions. The results are presented in Table 5.

Table 5*Within-Group and Between-Group Effects on Emotion Regulation According to Time, Group, and Their Interaction*

Dependent Variable	Source of Variation	Sum of Squares	df	Mean Square	F	p	Effect Size
Cognitive Reappraisal	Time	485.60	1.02	474.70	76.50	<.001	0.646
	Group	556.90	2	278.40	8.60	<.001	0.291
	Time × Group	220.60	2.04	107.80	17.30	<.001	0.453
Expressive Suppression	Time	578.50	1.03	559.09	104.50	<.001	0.713
	Group	281.30	2	140.60	4.98	.020	0.145
	Time × Group	367.09	2.07	177.30	33.10	<.001	0.612

The results presented in Table 5 showed that the within-subject effect of time on emotion regulation was statistically significant ($p < .001$). The between-group effect of the interventions, namely schema therapy and dialectical behavior therapy, was also significant for both dimensions of emotion regulation. Moreover, the

significant time-by-group interactions indicated that changes in cognitive reappraisal and expressive suppression across the three measurement occasions differed according to group membership. Pairwise comparisons of the adjusted means across the pretest, posttest, and follow-up stages are presented in Table 6.

Table 6*Bonferroni Post Hoc Test for Examining the Durability of Treatment Effects on Emotion Regulation*

Dependent Variable	Comparison Between Stages	Mean Difference	<i>p</i>
Cognitive Reappraisal	Pretest–Posttest	0.926	< .001
	Pretest–Follow-up	0.870	< .001
	Posttest–Follow-up	–0.056	.268
Expressive Suppression	Pretest–Posttest	1.222	< .001
	Pretest–Follow-up	1.167	< .001
	Posttest–Follow-up	0.056	.268

As shown in Table 6, the mean differences between the pretest and posttest stages, reflecting the intervention effect, and between the pretest and follow-up stages, reflecting the persistence of change over time, were greater and statistically significant. In contrast, the differences between the posttest and follow-up stages were not statistically significant. These findings indicate that the effects of schema therapy and dialectical behavior therapy on emotion regulation were

maintained at the follow-up stage. However, these findings did not identify which intervention was responsible for the greater changes observed at posttest and follow-up or which treatment was more effective. Therefore, the Bonferroni post hoc test was used to compare the effectiveness of schema therapy and dialectical behavior therapy in improving emotion regulation. The results are presented in Table 7.

Table 7*Bonferroni Post Hoc Test Comparing the Effectiveness of the Treatment Methods on Emotion Regulation*

Dependent Variable	Intervention Group	Comparison Group	Mean Difference	<i>p</i>
Cognitive Reappraisal	Schema Therapy	Control	4.66*	< .001
	Dialectical Behavior Therapy	Control	6.93*	< .001
	Schema Therapy	Dialectical Behavior Therapy	3.33*	< .001
Expressive Suppression	Schema Therapy	Control	3.13*	< .001
	Dialectical Behavior Therapy	Control	6.66*	< .001
	Schema Therapy	Dialectical Behavior Therapy	3.89*	< .001

Note. An asterisk indicates a statistically significant mean difference.

According to Table 7, the mean differences between the dialectical behavior therapy group and the control group were greater than those between the schema therapy group and the control group. This finding indicates that dialectical behavior therapy was more effective than schema therapy in improving emotion regulation. Therefore, the third subsidiary hypothesis—that schema therapy and dialectical behavior therapy differ significantly in their effects on emotion regulation among women with obesity and that their effects remain stable over time—was supported.

Discussion and Conclusion

The present study aimed to compare the effectiveness of schema therapy and dialectical behavior therapy on emotion regulation in obese individuals. The findings showed that both interventions significantly improved emotion regulation compared with the control group,

and these improvements were maintained at the four-month follow-up. These results indicate that psychological interventions targeting maladaptive emotional, cognitive, and behavioral patterns can play an important role in improving emotion regulation among individuals with obesity. This finding is consistent with theoretical and empirical evidence suggesting that obesity is not merely a biomedical condition, but is also influenced by psychological processes such as emotional distress, impulsive coping, maladaptive eating patterns, and difficulty regulating negative affect (Gross, 2015; Sanchis-Sanchis et al., 2020).

The effectiveness of schema therapy in improving emotion regulation can be explained by its focus on identifying and modifying early maladaptive schemas. Schema therapy assumes that persistent emotional and behavioral difficulties are rooted in deep cognitive-emotional patterns that develop when core emotional

needs are not adequately met. In individuals with obesity, maladaptive schemas such as defectiveness/shame, emotional deprivation, failure, vulnerability to harm, and insufficient self-control may increase emotional distress and lead to maladaptive coping responses, including emotional eating, avoidance, and self-blame. By helping participants recognize these patterns and replace them with healthier responses, schema therapy may reduce emotional reactivity and improve the ability to regulate emotions (Aloi, Rania, Carbone, De Filippis, Quirino, et al., 2025; Young et al., 2003).

The improvement observed in the schema therapy group may also be attributed to the integrative nature of this intervention. Schema therapy uses cognitive, experiential, emotional, and behavioral techniques to address the deeper roots of maladaptive emotional responses. Cognitive techniques help individuals challenge schema-driven interpretations, while experiential techniques such as imagery work and chair dialogues allow patients to process painful emotional experiences. Behavioral pattern-breaking strategies also help individuals replace ineffective coping responses with more adaptive behaviors. Through these mechanisms, schema therapy can improve awareness of emotions, reduce avoidance, and increase the capacity to respond to emotional distress in a healthier way (Arntz & Jacob, 2017; Farrell et al., 2014; Young et al., 2003).

The findings also showed that dialectical behavior therapy significantly improved emotion regulation in obese individuals. This result is theoretically expected because emotion regulation is one of the central components of DBT. Dialectical behavior therapy teaches individuals to observe and describe emotional experiences, tolerate distress, reduce emotional vulnerability, and use adaptive responses instead of impulsive or avoidant behaviors. In the context of obesity, these skills may help individuals manage emotional triggers that are often associated with overeating, reduced self-control, and difficulty maintaining healthy behaviors. Therefore, DBT can be considered an appropriate intervention for individuals whose weight-related behaviors are closely connected to emotional dysregulation (Dakanalis et al., 2023; Fassbinder et al., 2016; Linehan, 1993, 2025).

The greater effectiveness of dialectical behavior therapy compared with schema therapy can be

explained by the direct and skills-based nature of DBT. While schema therapy focuses on deep-rooted psychological patterns, DBT provides practical and structured skills that can be immediately applied in emotionally challenging situations. Skills such as mindfulness, distress tolerance, emotion regulation, and interpersonal effectiveness may help individuals identify emotional states more quickly, tolerate uncomfortable feelings without resorting to maladaptive behaviors, and choose responses that are consistent with long-term goals. This emphasis on real-time emotional coping may explain why DBT produced stronger improvements in emotion regulation than schema therapy (Landes et al., 2025; Linehan, 2025).

Another possible explanation for the superiority of dialectical behavior therapy is its emphasis on the balance between acceptance and change. Individuals with obesity may experience shame, frustration, self-criticism, and repeated failure in weight-control efforts. These emotional experiences can intensify dysregulation and reduce motivation for change. DBT teaches individuals to accept their current emotional experiences without judgment while simultaneously committing to behavioral change. This dialectical stance may reduce emotional avoidance and help participants approach difficult experiences with greater awareness, tolerance, and flexibility (Fassbinder et al., 2016; Linehan, 1993).

The results are also consistent with studies indicating that emotional dysregulation is closely related to overeating and obesity-related behaviors. When individuals have difficulty identifying, accepting, or managing emotions, they may use food as a short-term strategy to reduce distress. Although this strategy may temporarily reduce negative emotions, it reinforces maladaptive coping and can contribute to weight gain and psychological distress over time. Improving emotion regulation may therefore interrupt this cycle by helping individuals tolerate negative affect and respond to emotional triggers in non-food-related ways (Casagrande et al., 2020; Favieri et al., 2021).

The maintenance of treatment effects at the four-month follow-up is clinically important. It suggests that the skills and psychological changes produced by both interventions were not limited to the immediate post-intervention period. In schema therapy, participants may have continued to use healthier coping strategies and

challenge maladaptive schema-driven responses. In dialectical behavior therapy, participants may have continued to apply mindfulness, distress tolerance, and emotion regulation skills in daily life. The absence of a significant decline from posttest to follow-up indicates that both interventions had relatively stable effects on emotion regulation.

From a clinical perspective, the findings highlight the importance of including emotion-focused psychological interventions in obesity treatment programs. Traditional obesity interventions often emphasize diet, physical activity, or medical management. Although these components are essential, they may be insufficient for individuals whose eating behavior and lifestyle difficulties are strongly influenced by emotional dysregulation. Psychological interventions such as schema therapy and DBT can complement standard obesity care by addressing emotional and cognitive mechanisms that contribute to maladaptive behaviors (Gross, 2015; Linehan, 2025; Young et al., 2003).

Overall, the findings suggest that both schema therapy and dialectical behavior therapy are effective approaches for improving emotion regulation in obese individuals, but DBT may be particularly useful when the main clinical problem is difficulty managing intense emotions, impulsive responses, and distress-related behaviors. Schema therapy may be especially helpful when emotional dysregulation is rooted in long-standing maladaptive schemas, shame, unmet emotional needs, and persistent negative beliefs about the self. Therefore, treatment selection may depend on the psychological profile of the individual and the dominant mechanisms maintaining emotional and behavioral problems.

Conclusion

The present study demonstrated that both schema therapy and dialectical behavior therapy significantly improved emotion regulation in obese individuals. The improvements were observed after treatment and remained stable at the four-month follow-up. However, dialectical behavior therapy showed greater effectiveness than schema therapy in improving emotion regulation.

These findings suggest that emotion regulation is an important therapeutic target in psychological interventions for obesity. Schema therapy may improve emotion regulation by modifying maladaptive schemas and dysfunctional coping patterns, whereas dialectical

behavior therapy may improve emotion regulation by teaching practical skills for mindfulness, distress tolerance, emotional awareness, and adaptive responding. Given the stronger effect of DBT in the present study, this intervention may be particularly recommended for obese individuals who experience emotional impulsivity, distress intolerance, and difficulty managing negative emotions.

Practical Implications

The findings have important implications for clinical practice. Psychologists, counselors, and obesity-treatment specialists should assess emotion regulation difficulties when working with obese individuals. Interventions that only focus on weight reduction may be less effective when emotional dysregulation remains untreated. DBT-based skills training can be incorporated into obesity treatment programs to help individuals manage emotional eating, tolerate distress, and respond more adaptively to negative affect. Schema therapy can also be useful for individuals whose emotional difficulties are connected to deep-seated schemas such as shame, failure, emotional deprivation, or insufficient self-control.

Limitations

Several limitations should be considered. First, the sample size was relatively small, which may limit the generalizability of the findings. Second, the sample included obese women; therefore, the results may not be generalizable to men or to individuals from other age groups and clinical backgrounds. Third, emotion regulation was assessed using a self-report questionnaire, which may be influenced by response bias. Fourth, the follow-up period was limited to four months, and longer follow-up assessments are needed to determine the long-term stability of the intervention effects.

Suggestions for Future Research

Future studies are recommended to use larger and more diverse samples, including both men and women. It would also be useful to compare schema therapy and DBT with other psychological interventions, such as cognitive-behavioral therapy, acceptance and commitment therapy, or compassion-focused therapy. Future research should examine whether improvements in emotion regulation mediate changes in eating behavior, body mass index, and health-promoting lifestyle. In addition, longer follow-up periods can clarify

whether the effects of these interventions remain stable over time.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Declaration of Helsinki, which provides guidelines for ethical research involving human participants. Ethical considerations in this study were that participation was entirely optional.

Transparency of Data

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

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Authors' Contributions

All authors equally contributed to this study.

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