

Investigating the Effectiveness of Schema Therapy on Negative Perfectionism and Obsessive Thoughts in a Group of Patients with Obsessive-Compulsive Disorder

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ABSTRACT

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Purpose: This study aimed to examine how schema therapy can help reduce negative perfectionism and obsessive thoughts in a group of individuals diagnosed with OCD.

Methods and Materials: The current study was a quasi-experimental research project that involved a pre-test, post-test, and a follow-up phase lasting three months, with both control and experimental groups. The study focused on clients with a history of obsessive-compulsive disorder who sought treatment at psychology clinics in Tehran during the summer and fall of 2023. The sample size consisted of 32 individuals selected through purposive sampling methods. The educational program consisted of seven sessions lasting 90 minutes each, held twice a week at the research location. The research utilized the Positive and Negative Perfectionism Scale (PANPS) and the Maudsley Obsessive-Compulsive Inventory (MOCI) to measure outcomes. Data analysis was performed using SPSS version 27 software, employing descriptive statistics (mean and standard deviation), repeated measures ANCOVA, and Bonferroni and Kruskal-Wallis H post hoc tests at a P-value of 0.05.

Findings: Based on the research results, the P-value for Between-Subjects Effects showed significance between the experimental and control groups when analyzing negative perfectionism and checking variables ($p < 0.001$). Additionally, the P-value for Between-Subjects Effects was significant between the experimental and control groups for the slowness variable ($p = 0.024$). Similarly, the P-value for Between-Subjects Effects indicated significance between the experimental and control groups for the doubting variable ($p = 0.032$). However, the P-value for Between-Subjects Effects did not show significance between the experimental and control groups for the cleaning variable ($p = 0.135$).

Conclusion: The results of this study suggest that schema therapy is a beneficial method for decreasing negative perfectionism and assisting individuals with obsessive-compulsive disorder. This research can aid therapists and psychologists in enhancing treatment strategies for those with the disorder.

Keywords: *Schema Therapy, Negative Perfectionism, Obsessive Thoughts, Obsessive-Compulsive Disorder*

1. Introduction

Obsessive-compulsive disorder (OCD) is one of the most challenging and debilitating mental health disorders, characterized by intrusive, repetitive thoughts (obsessions) and ritualistic behaviors (compulsions) that significantly impair daily functioning and overall quality of life (Huang et al., 2025). It is estimated that the lifetime prevalence of OCD ranges between 1% and 3%, and a substantial proportion of individuals with this condition also experience comorbid psychiatric disorders, such as anxiety, depression, or mood disorders, compounding its clinical complexity (Klenfeldt et al., 2024). The chronicity and severity of OCD are particularly evident when intrusive thoughts become pervasive and resistant to control, compelling individuals to engage in ritualistic acts as a means to alleviate distress (Weiss et al., 2024). These ritualized patterns, although temporarily anxiety-reducing, contribute to the reinforcement of maladaptive cycles of fear and avoidance.

Early conceptualizations of OCD emphasized behavioral models, suggesting that compulsions are negatively reinforced by anxiety reduction. However, cognitive models later expanded this understanding by highlighting the role of maladaptive beliefs, appraisal biases, and meta-cognitions in sustaining obsessions and compulsions (Beheshti Mashhadi & Zare, 2024; Moghadam et al., 2014). Central to these models is the interpretation of intrusive thoughts: whereas ordinary individuals may dismiss intrusive cognitions as irrelevant, individuals with OCD appraise them as significant, threatening, or morally unacceptable, eliciting guilt and anxiety (Shams et al., 2024). This cognitive misappraisal promotes further efforts to suppress or neutralize the thought, paradoxically increasing its recurrence. Studies have confirmed that intrusive thoughts in OCD patients are more intense, distressing, and frequent than in other psychiatric or non-clinical populations (Sher et al., 2024).

Recent research also underscores the importance of contextual and neurobiological factors in understanding OCD. Findings from neuroimaging and transgenic animal models have advanced our knowledge of neural mechanisms underlying obsessions and compulsions, pointing to dysfunctions in cortico-striato-thalamo-cortical circuits and glutamatergic dysregulation (Coelho et al., 2025; Huang et

al., 2025). This has led to the exploration of glutamatergic medications as adjunctive treatments, with meta-analytic evidence showing their potential in targeting the excitatory neurotransmission abnormalities associated with OCD (Coelho et al., 2025). Meanwhile, innovative non-pharmacological interventions, such as deep brain sound stimulation, have emerged to modulate obsessive circuits through precision auditory stimulation, suggesting promising neuromodulatory directions (Dogan, 2024). Nonetheless, while neurobiological approaches continue to evolve, cognitive-emotional models remain essential for developing integrative psychotherapeutic strategies.

Among the various cognitive dimensions associated with OCD, perfectionism holds a central place. It is a personality trait involving the pursuit of flawlessness, setting of excessively high performance standards, and overly critical self-evaluation (Terry-Short et al., 1995). Perfectionism can manifest in both adaptive (positive) and maladaptive (negative) forms. Positive perfectionism relates to goal-oriented striving that fosters achievement, whereas negative perfectionism involves chronic dissatisfaction, self-blame, and fear of making mistakes (Bagheri Sheykhgafshe et al., 2022). The latter is closely linked with psychopathological symptoms such as anxiety, depression, and obsessive-compulsive tendencies (Callaghan et al., 2024; Lunn et al., 2023). Individuals exhibiting negative perfectionism often experience “not just right experiences” (NJREs), a sense of internal tension that compels them to repeat behaviors until they feel perfect or complete (Yang et al., 2024). These NJREs are not only distressing but serve as cognitive reinforcers for compulsive checking, cleaning, or ordering behaviors commonly seen in OCD.

The role of perfectionism in obsessive-compulsive pathology has been widely recognized across age groups and clinical populations. Meta-analytic evidence shows that both maladaptive perfectionism and perfectionistic concerns are significantly associated with the severity of OCD symptoms, as well as anxiety and depressive comorbidity (Callaghan et al., 2024; Lunn et al., 2023). Furthermore, research highlights that maladaptive perfectionism mediates the relationship between obsessive-compulsive symptoms and other disorders, such as orthorexia nervosa, where the quest for dietary purity mirrors obsessive control and moral rigidity (Greville-Harris et al., 2024). This suggests that perfectionism operates as a transdiagnostic process that

exacerbates rigid, repetitive cognitive styles across disorders.

The persistence of obsessive thoughts is further maintained by emotional dysregulation. Individuals with OCD often report a deficient ability to modulate anxiety and guilt associated with intrusive cognitions (Shams et al., 2024). Self-critical internal dialogues amplify distress, while deficient self-compassion contributes to repetitive rumination. Empirical research indicates that emotion dysregulation and lack of self-compassion mediate the link between maladaptive perfectionism and obsessive-compulsive behaviors (Sher et al., 2024). This supports the notion that perfectionistic schemas—rigid, conditional self-beliefs such as “I must be perfect to be accepted”—create vulnerability to obsessive symptomatology. Emotional dysregulation amplifies cognitive biases, while compulsive rituals provide temporary relief at the cost of reinforcing the underlying schema.

The natural history of OCD also reveals high chronicity and relapse rates even after pharmacological or behavioral treatment (Klenfeldt et al., 2024). This underlines the necessity for therapeutic modalities that not only target behavioral symptoms but also address the cognitive and emotional roots of perfectionism and obsessional thinking. In this regard, schema therapy has gained considerable attention as a third-wave cognitive-behavioral intervention designed to identify and modify early maladaptive schemas underlying chronic psychological problems (Young et al., 2003).

Schema therapy, developed by Jeffrey Young, integrates elements from cognitive-behavioral, experiential, interpersonal, and psychodynamic approaches to treat deeply rooted maladaptive patterns of thinking, feeling, and behavior (Young et al., 2003). It posits that early maladaptive schemas—broad, pervasive themes formed during childhood through dysfunctional experiences with caregivers—constitute the cognitive architecture of chronic disorders. These schemas shape perception, emotions, and behaviors throughout life, predisposing individuals to self-defeating cycles. In OCD, schemas such as “unrelenting standards,” “defectiveness/shame,” and “punitiveness” perpetuate perfectionistic tendencies and intrusive self-criticism (Bitaraf et al., 2010). Consequently, schema therapy aims to restructure these maladaptive schemas through cognitive, experiential, and behavioral techniques, promoting emotional healing and self-acceptance.

Schema therapy differs from traditional cognitive-behavioral therapy (CBT) by focusing not merely on

symptom reduction but on the underlying emotional and developmental roots of psychopathology. Whereas CBT challenges distorted cognitions directly, schema therapy works through reparenting, imagery rescripting, and schema mode work to modify deep-seated patterns (Young et al., 2003). This makes it particularly effective for treatment-resistant conditions such as chronic OCD and personality disorders, where conventional CBT may fail to produce sustained change.

The application of schema therapy to obsessive-compulsive symptoms has grown in recent years. Studies have demonstrated that integrating schema therapy with other therapeutic modalities can enhance psychological flexibility and reduce maladaptive behaviors (Ahanian Moghaddam et al., 2025). For example, combining schema therapy with mindfulness or cognitive-behavioral therapy improves cognitive flexibility by helping patients observe and detach from perfectionistic thoughts rather than suppressing them. This combination also enhances metacognitive awareness, reducing automatic compulsive responses (Ahanian Moghaddam et al., 2025). Similarly, the integration of schema therapy with exposure and response prevention (ERP)—a well-established behavioral treatment for OCD—has shown superior outcomes in reducing experiential avoidance and perfectionistic cognitions compared to ERP alone (Ghatreh Samani & Najafi, 2024). These results emphasize the importance of addressing both cognitive schemas and behavioral avoidance in achieving long-term recovery.

In clinical contexts, schema therapy has also been used to target perfectionism directly. Group schema therapy, for instance, has been found to significantly reduce perfectionistic attitudes in patients with obsessive-compulsive personality disorder (Khaze et al., 2024). Another trial demonstrated that schema therapy improves distress tolerance and diminishes obsessive-compulsive symptoms, suggesting that it can regulate emotional responses that sustain compulsive behaviors (Safari Dizaj & Alipanah, 2023). Additionally, contextual schema therapy has proven effective for extreme perfectionism and emotional dysregulation, showing that cognitive restructuring of schemas leads to improved self-regulation and reduced obsessive tendencies (Sohrabi et al., 2023). These findings collectively indicate that schema therapy’s integrative framework—addressing cognition, emotion, and early experiences—makes it especially suitable for disorders characterized by rigidity and control, such as OCD.

While schema therapy has demonstrated robust efficacy, complementary therapeutic developments have further enhanced the treatment landscape for OCD. Mindfulness-based interventions have been recognized as effective in fostering nonjudgmental awareness and breaking the cycle of intrusive thought suppression (Reis et al., 2024). In parallel, neuroscientific research has begun to investigate non-invasive methods such as sound-based or neuromodulatory interventions to modify brain activity associated with compulsive loops (Dogan, 2024). Moreover, the integration of pharmacotherapy targeting glutamatergic systems has opened new possibilities for modulating obsessive circuits biologically (Coelho et al., 2025). However, despite these advances, many patients continue to exhibit residual symptoms, highlighting the need for psychotherapeutic interventions that foster cognitive and emotional restructuring at a schema level—a gap that schema therapy uniquely addresses.

Negative perfectionism, as a pervasive schema, drives individuals to equate self-worth with flawless performance, creating a chronic sense of inadequacy. Such internalized self-demands often originate in early maladaptive schemas related to conditional acceptance, punitive parenting, or emotional deprivation (Bitaraf et al., 2010). In adulthood, these schemas manifest as compulsive striving, hyper-responsibility, and intolerance for uncertainty—key maintaining factors in OCD (Yang et al., 2024). The maladaptive schema “unrelenting standards” compels individuals to constantly test themselves against unrealistic ideals, resulting in exhaustion, guilt, and repetitive rituals. Empirical evidence has shown that modifying such schemas through schema therapy can lead to reductions in both perfectionism and obsessive-compulsive behaviors (Khaze et al., 2024; Safari Dizaj & Alipanah, 2023).

Furthermore, perfectionistic schemas amplify cognitive rigidity, narrowing the range of behavioral options and intensifying anxiety when perfection is unattainable (Sher et al., 2024). The persistence of such schemas explains why OCD often resists brief behavioral treatments and why relapse is common after symptom-oriented interventions (Klenfeldt et al., 2024). Schema therapy, by contrast, aims to achieve structural change in personality and cognition, resulting in more enduring improvements.

Collectively, empirical and theoretical evidence underscores the multidimensional nature of OCD, shaped by biological, cognitive, and emotional factors. Schema therapy addresses these dimensions by intervening at the level of early maladaptive schemas—cognitive-emotional patterns

formed through developmental adversity—that sustain perfectionism and intrusive thoughts. Clinical trials across different populations have consistently demonstrated schema therapy’s effectiveness in enhancing self-efficacy, reducing burnout, and improving adaptive functioning (Bagheri Sheykhangafshe et al., 2022). Moreover, schema therapy’s group format has been shown to be particularly beneficial for patients who internalize perfectionistic standards, as group dynamics allow corrective emotional experiences and interpersonal feedback that challenge maladaptive beliefs (Khaze et al., 2024).

The growing body of evidence also suggests that schema therapy’s focus on experiential change differentiates it from traditional CBT, enabling patients to process deeply rooted emotional memories through techniques like imagery rescripting and mode dialogues (Young et al., 2003). These experiential components are vital in addressing the emotional underpinnings of OCD—fear, guilt, and shame—which perpetuate obsessive rituals. Integrating these therapeutic techniques with mindfulness elements may further enhance self-awareness and tolerance for distress, supporting findings from combined schema-mindfulness approaches (Ahanian Moghaddam et al., 2025; Reis et al., 2024).

Despite extensive evidence supporting the effectiveness of schema therapy for various psychological disorders, its application to OCD—particularly in addressing perfectionism and intrusive thoughts—remains underexplored. Traditional treatments such as CBT with ERP, though effective for many, often leave residual perfectionistic schemas unaddressed, resulting in relapse or partial remission (Ghatreh Samani & Najafi, 2024). Moreover, the interplay between maladaptive perfectionism, intrusive thoughts, and obsessive behaviors necessitates an integrated therapeutic framework that targets the cognitive-emotional roots rather than surface manifestations (Beheshti Mashhadi & Zare, 2024; Sohrabi et al., 2023). Addressing this gap can contribute to refining the psychological treatment of OCD and improving long-term outcomes.

Given the prevalence of maladaptive perfectionism among individuals with OCD and the promising results of schema-based interventions, further investigation into their combined relationship is crucial. Schema therapy’s focus on modifying early maladaptive schemas, emotional regulation, and perfectionistic standards offers a comprehensive approach that aligns with contemporary understandings of OCD as a disorder of both cognition and emotion (Weiss et al., 2024; Young et al., 2003).

Accordingly, the present study aims to investigate the effectiveness of schema therapy in reducing negative perfectionism and obsessive thoughts among individuals diagnosed with obsessive-compulsive disorder.

2. Methods and Materials

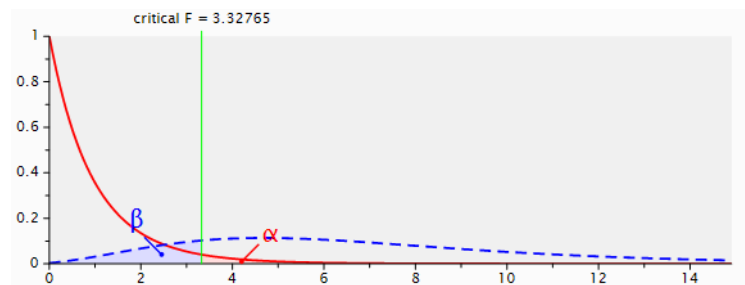
2.1. Study Design and Participants

The current research was an applied and quasi-experimental study with pre-test-post-test and follow-up phases lasting three months, involving both control and experimental groups. The statistical population of the study

included all patients with a history of obsessive-compulsive disorder who had sought treatment at psychology clinics in Tehran during the summer and fall of 2023. The statistical sample consisted of 32 patients (16 in the experimental group and 16 in the control group) selected through purposive sampling and random assignment using coin tossing. The adequacy of the sample size was determined using G*Power software with parameters set at $\alpha=0.05$, effect size=0.35, power test=0.80, and Number of groups=2 (Kang, 2021). According to this calculation, the sample size was determined to be 32 patients.

Figure 1

*Sample size calculation with G*Power software*



The study's inclusion criteria consisted of being at least twenty years old, providing informed consent for participation in the research, possessing adequate understanding to engage in the study, being associated with one of the psychology and counseling centers in Tehran under study, maintaining a clinical file, and having been diagnosed with obsessive-compulsive disorder for over a year. Exclusion criteria, on the other hand, included having any physical condition that hindered participation, failing to respond to more than five items on questionnaires, enrolling in similar educational programs within two months before or during the study, missing more than one in-person educational session, and having a history of taking psychiatric medications resulting in withdrawal from the study. The research methodology started with obtaining the necessary approvals from the researcher's university, followed by visiting psychology and counseling clinics that specialized in obsessive-compulsive and behavioral disorders. These clinics were chosen based on the ease of facilitating the training. Following that, an announcement was made on social media for people with these conditions, along with a physical notice posted in the clinic. Participants who showed interest were carefully chosen for initial

interviews once they met the criteria for the study. From all the individuals who were screened and interviewed, a total of 35 subjects were selected. The interviews took place in person at the counseling clinic offices, where the researchers explained the study's objectives and ethical guidelines to the participants and answered any questions they had. The screening was performed at this stage, eliminating those who did not meet the entry requirements, such as lacking the time or capacity to attend training sessions. Some participants also opted out of the study during this phase.

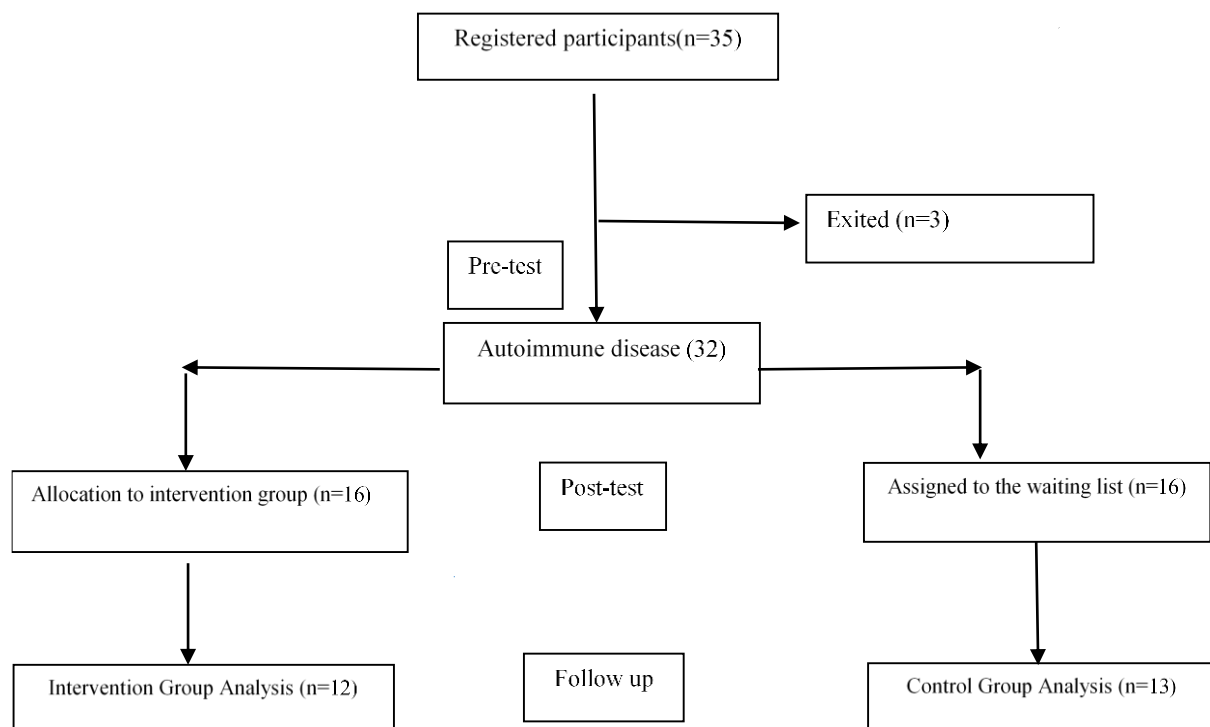
The researchers ultimately chose 32 individuals. Subsequently, a pre-test was administered to the participants using the research instrument. Data was collected from the pre-test phase involving the 32 individuals, following which they were randomly assigned to groups using the coin toss randomization method and were prepared to undergo training. The experimental group attended two sessions per week, each lasting 90 minutes, for a total of seven sessions. In contrast, the control group did not receive any form of intervention. The control group had contact with the experimenter but did not receive targeted therapy. The training and implementation of interventions took place in one of the designated offices within the clinic premises for

holding training workshops. During the final intervention session, the experimental group completed the research questionnaires (post-test phase) and then answered the same questionnaires again three months later (follow-up phase). The control group also underwent all the necessary measurement procedures. The flow chart depicting the CONSORT guidelines is displayed in Figure 2. To comply

with ethical guidelines, the control group received two additional training sessions following the completion of the study. Four individuals from the experimental group and three from the control group dropped out of the study, resulting in the removal of their data. Ethical considerations for this study included obtaining informed consent from participants and ensuring confidentiality of information.

Figure 2

The Flow Diagram of the Study



2.2. Measures

Positive and Negative Perfectionism Scale (PANPS):

Terry-Short and colleagues developed a self-report questionnaire in 1995 to measure individuals' degree of perfectionism in both positive and negative aspects (Terry-Short et al., 1995). The questionnaire consists of 40 items, with 20 questions focusing on positive perfectionism and 20 on negative perfectionism. Participants select one of five options for each item, indicating the level of their perfectionism. The researchers only focused on the negative aspects of perfectionism while conducting this study. Responses are rated on a five-point Likert scale, ranging from "not at all" to "severe," with scores ranging from 1 to 5. Each question carries its score, and the total score falls between 20 and 100, with higher scores reflecting higher

levels of negative perfectionism. An Iranian research found that Cronbach's alpha coefficient for this scale was 0.83 (Bitaraf et al., 2010). The researcher of this study found Cronbach's alpha coefficient for the negative perfectionism dimension to be 0.75.

Maudsley Obsessive-Compulsive Inventory (MOCI):

Hodgson and Rachman created a self-report questionnaire in 1977 to evaluate obsessive-compulsive problems in individuals (Hodgson & Rachman, 1977). The questionnaire consists of 30 items measured on a 2-point Likert scale (yes or no). It includes four sub-scores for checking (questions 2, 6, 8, 14, 15, 20, 22, 26, and 28), cleaning (1, 4, 5, 9, 13, 17, 19, 21, 24, 26, and 27), slowness (2, 4, 8, 16, 23, 25, and 29), and doubting (questions 3, 7, 10, 11, 12, 18, and 30). In a study conducted in Iran, Cronbach's alpha coefficients for

checking, cleaning, slowness, and doubting were 0.78, 0.76, 0.71, and 0.80 respectively (Moghadam et al., 2014)s.

2.3. Intervention

The intervention protocol consisted of seven 90-minute schema therapy sessions, conducted twice weekly based on the framework of Young et al. (2003). The first session focused on building rapport, establishing therapeutic goals, clarifying treatment rationale, discussing group norms (confidentiality, respect), and identifying each client's experiences of negative perfectionism and obsessive thoughts. The second session involved examining factual evidence from past and present life experiences to confirm or refute maladaptive schemas and comparing these with healthy schema alternatives. The third session emphasized cognitive restructuring, teaching participants to test the accuracy of their schemas, reinterpret reinforcing evidence, and evaluate the costs and benefits of existing coping strategies. In the fourth session, clients practiced experiential techniques such as imagery and simulated dialogue to improve communication with the rational self and address challenging situations that trigger obsessive thinking. The fifth session explored interpersonal patterns and perfectionistic behaviors in relationships, using role-play, letter-writing, and behavioral assignments to strengthen healthier modes of interaction. The sixth session targeted the analysis of maladaptive behavioral patterns related to obsession, helping participants identify barriers to change and develop effective strategies to replace dysfunctional rituals with adaptive behaviors. Finally, the seventh session reviewed the previous content, reinforced motivation for

continued change, and consolidated learned cognitive and behavioral techniques through rehearsal, imagery, and role-playing, concluding with post-treatment assessment (Young et al., 2003).

2.4. Data Analysis

In this research, descriptive statistics, including mean and standard deviation, and research hypotheses were analyzed using SPSS statistical software version 27. Kruskal-Wallis H and repeated measures analysis of covariance tests were conducted at a P-value of 0.05. The normal distribution was assessed using the Kolmogorov-Smirnov test, and the homogeneity of variances was evaluated using the Levene test. Additionally, means were compared using the Bonferroni post hoc test.

3. Findings and Results

Data was collected from subjects at three distinct periods: pre-test, post-test, and the follow-up period. These participants belonged to either the experimental group or the control group. Initially, the researcher analyzed the demographic characteristics of the individuals involved. The participants were then categorized according to their gender - either male or female. The outcomes of the Kruskal Wallis Test indicated no significant variation among participants in terms of demographic factors ($P > 0.05$). As a result, we can conclude that both groups had comparable demographic characteristics. Moreover, the investigator examined the mean and standard deviation of the variables in the research groups, as shown in Table 1.

Table 1

Description of Research Variables

Variable	TIME	Groups	N	M	SD	Min	Max	Skewness	Kurtosis
Negative Perfectionism	Pre-test	Experimental Group	12	60.917	2.843	57	65	0.243	-1.442
		Control	13	62.154	2.882	57	65	-0.601	-1.107
	Post-test	Experimental Group	12	56.917	0.793	56	58	0.161	-1.261
		Control	13	60.923	2.722	57	65	0.242	-1.233
	Follow up	Experimental Group	12	55.250	1.138	54	57	0.305	-1.265
		Control	13	60.615	1.758	57	63	-0.825	-0.001
Checking	Pre-test	Experimental Group	12	6.250	0.965	4	7	-1.319	1.408
		Control	13	5.846	1.068	4	7	-0.617	-0.607
	Post-test	Experimental Group	12	4.750	0.754	4	6	0.478	-0.868
		Control	13	6.000	1.155	4	7	-0.768	-0.825
	Follow up	Experimental Group	12	4.500	0.674	4	6	1.068	0.352
		Control	13	6.308	1.109	4	7	-1.588	1.405
Cleaning	Pre-test	Experimental Group	12	7.000	1.651	4	9	-0.581	-0.856
		Control	13	7.000	1.581	4	9	-0.598	-0.618

Slowness	Post-test	Experimental Group	12	5.833	1.403	4	8	0.351	-1.097
		Control	13	7.000	1.581	4	9	-0.598	-0.618
	Follow up	Experimental Group	12	6.417	1.564	4	9	0.185	-1.144
		Control	13	6.615	1.446	4	8	-0.565	-1.218
	Pre-test	Experimental Group	12	4.583	0.669	4	6	0.735	-0.190
		Control	13	4.538	0.660	4	6	0.863	-0.025
	Post-test	Experimental Group	12	4.250	0.866	3	6	0.441	0.234
		Control	13	4.615	0.650	4	6	0.572	-0.332
	Follow up	Experimental Group	12	3.750	0.622	3	5	0.170	-0.091
		Control	13	4.462	0.519	4	5	0.175	-2.364
	Pre-test	Experimental Group	12	4.583	0.669	4	6	0.735	-0.190
		Control	13	4.692	0.751	4	6	0.611	-0.776
Doubting	Post-test	Experimental Group	12	4.250	0.622	3	5	-0.170	-0.091
		Control	13	4.846	0.801	4	6	0.307	-1.282
	Follow up	Experimental Group	12	4.250	0.622	3	5	-0.170	-0.091
		Control	13	4.615	0.650	4	6	0.572	-0.332

Table 1 displays the mean and standard deviation of the participant's scores on the research measures. This table illustrates that the mean for negative perfectionism in the experimental and control groups during the pre-test phase was not significantly different. However, the mean for negative perfectionism scores in the experimental group decreased compared to the control group during the post-test and follow-up phases, with no changes observed in the control group. The mean for the checking variable in both groups during the pre-test phase was not significantly different, but decreased in the experimental group compared to the control group during the post-test and follow-up

phases, with no changes observed in the control group. In the same way, there was no significant difference in the mean for the slowness variable between both groups during the pre-test phase, but it decreased in the experimental group compared to the control group during the follow-up phase. The mean for cleaning and doubting variables in both groups during the pre-test, post-test, and follow-up phases did not differ significantly. The researcher conducted the Levene test, which confirmed the assumption. Nonetheless, there was an exception in the case of the negative perfectionism variable, prompting the researcher to perform the Welch test and examine the findings.

Table 2

Test for Equality of Variances (Levene's)

Variable		F	df1	df2	p
Negative Perfectionism	Post-test	14.721	1	23	< .001
	Follow up	1.288	1	23	0.268
Checking	Post-test	0.158	1	23	0.695
	Follow up	0.377	1	23	0.545
Cleaning	Post-test	9.445×10 ⁻⁴	1	23	0.976
	Follow up	0.083	1	23	0.776
Slowness	Post-test	0.367	1	23	0.551
	Follow up	0.095	1	23	0.761
Doubting	Post-test	1.999	1	23	0.171
	Follow up	0.027	1	23	0.870

The researcher analyzed the outcomes of the repeated measures analysis of the covariance test in Table 3.

Table 3

Covariance Analysis Test

Variable	Source	SS	MS	F	P-value	Eta Squared
Within Subjects Effects	TIME	10.492	10.492	3.487	0.075	0.137

Negative Perfectionism		TIME * Pre-test	9.527	9.527	3.167	0.089	0.126
		TIME * Group	2.770	2.770	0.921	0.348	0.040
		Residuals	66.191	3.009			
	Between Subjects Effects	Pre-test	0.850	0.850	0.265	0.612	0.012
		Group	267.404	267.404	83.329	< .001	0.791
Checking	Within Subjects Effects	TIME	0.368	0.368	0.668	0.422	0.029
		TIME * Pre-test	0.398	0.398	0.723	0.404	0.032
		TIME * Group	1.193	1.193	2.167	0.155	0.090
	Between Subjects Effects	Residuals	12.112	0.551			
		Pre-test	3.075	3.075	2.559	0.124	0.104
		Group	24.360	24.360	20.274	< .001	0.480
	Within Subjects Effects	TIME	2.823	2.823	1.341	0.259	0.057
		TIME * Pre-test	2.700	2.700	1.283	0.270	0.055
		TIME * Group	2.923	2.923	1.389	0.251	0.059
	Between Subjects Effects	Residuals	46.297	2.104			
		Pre-test	1.633	1.633	0.678	0.419	0.030
		Group	5.817	5.817	2.413	0.135	0.099
	Within Subjects Effects	TIME	0.023	0.023	0.071	0.792	0.003
		TIME * Pre-test	0.100	0.100	0.303	0.588	0.014
		TIME * Group	0.360	0.360	1.093	0.307	0.047
	Between Subjects Effects	Residuals	7.246	0.329			
		Pre-test	0.117	0.117	0.192	0.665	0.009
		Group	3.568	3.568	5.883	0.024	0.211
	Within Subjects Effects	TIME	0.475	0.475	1.348	0.258	0.058
		TIME * Pre-test	0.405	0.405	1.150	0.295	0.050
		TIME * Group	0.209	0.209	0.593	0.450	0.026
	Between Subjects Effects	Residuals	7.749	0.352			
		Pre-test	2.980	2.980	6.470	0.019	0.227
		Group	2.421	2.421	5.256	0.032	0.193

According to the analysis of covariance results presented in Table 3, the P-value for Between-Subjects Effects comparing the experimental and control groups showed significance ($p < 0.001$) for negative perfectionism and checking variables. This indicated a significant difference between the research groups while controlling for the effects of the pre-test stage. The P-value for Between-Subjects Effects comparing the experimental and control groups was significant ($p = 0.024$) for the slowness variable, indicating a significant difference between the research groups while

considering the impact of the pre-test stage. Additionally, the P-value for Between-Subjects Effects comparing the experimental and control groups was significant ($p = 0.032$) for the doubting variable, revealing a significant difference between the research groups while controlling for the effects of the pre-test stage. However, the P-value for Between-Subjects Effects comparing the experimental and control groups was not significant ($p = 0.135$) for the cleaning variable. Table 4 further explored the paired groups as part of the analysis.

Table 4

Post Hoc Comparisons

Variable	Time	Group(I)	Group(J)	MD	Std. Error	P-value
Negative Perfectionism	Post-test	Experimental Group	Control	-4.262*	0.820	< .001
	Follow up	Experimental Group	Control	-5.228*	0.612	< .001
Checking	Post-test	Experimental Group	Control	-1.111*	0.384	0.008
	Follow up	Experimental Group	Control	-1.742*	0.381	< .001
Slowness	Post-test	Experimental Group	Control	-0.365	0.312	0.254
	Follow up	Experimental Group	Control	-0.705*	0.230	0.006
Doubting	Post-test	Experimental Group	Control	-0.572	0.288	0.060
	Follow up	Experimental Group	Control	-0.312	0.219	0.168

According to Table 4, negative perfectionism showed a significant difference between the experimental and control groups in the post-test and follow-up stages ($P < 0.001$). The decrease in negative perfectionism over time in the individuals from the experimental group compared to the control group confirms the effectiveness of the intervention method. The variable checking also demonstrated a significant difference between the experimental and control groups in the post-test and follow-up stages ($P < 0.01$). The decrease in checking levels over time in individuals from the experimental group compared to the control group confirms the effectiveness of the intervention method. Slowness displayed a significant difference between the experimental and control groups only in the follow-up stage ($P = 0.0060$). The decrease in slowness levels during the follow-up phase in individuals from the experimental group compared to the control group confirms the effectiveness of the intervention method. The variable Doubting did not show a difference between the experimental and control groups in the research stages because the researcher utilized the Bonferroni method, which found no difference between the groups due to increased rigor.

4. Discussion and Conclusion

The present study sought to investigate the effectiveness of schema therapy in reducing negative perfectionism and obsessive thoughts among individuals with obsessive-compulsive disorder (OCD). The results indicated significant improvements in the experimental group compared to the control group across several variables, particularly negative perfectionism, checking, slowness, and doubting dimensions, while no significant differences were found for cleaning behaviors. These findings affirm that schema therapy can meaningfully reduce maladaptive perfectionism and associated obsessive-compulsive symptoms, supporting the growing body of literature on schema-based interventions for OCD and related disorders (Khaze et al., 2024; Safari Dizaj & Alipanah, 2023; Sohrabi et al., 2023).

The reduction of negative perfectionism following schema therapy sessions suggests that modifying maladaptive cognitive and emotional schemas can effectively alter rigid perfectionistic beliefs that perpetuate obsessive-compulsive cycles. As conceptualized by Young's model, early maladaptive schemas such as *unrelenting standards*, *defectiveness/shame*, and

punitiveness contribute to self-imposed expectations of flawlessness and intolerance of imperfection (Young et al., 2003). The current findings align with the results of (Khaze et al., 2024), who found that group schema therapy significantly reduced perfectionism levels among patients with obsessive-compulsive personality disorder. Similarly, (Safari Dizaj & Alipanah, 2023) reported that schema therapy led to improved distress tolerance and decreased obsessive-compulsive symptoms, reinforcing the notion that schema modification helps patients develop healthier cognitive frameworks.

Negative perfectionism is not merely a personality trait but a cognitive schema driven by conditional self-worth and fear of failure. Research has consistently shown its strong relationship with anxiety, depression, and obsessive-compulsive symptoms (Callaghan et al., 2024; Lunn et al., 2023). The present study's results indicate that targeting perfectionistic schemas—through schema cognitive restructuring and experiential techniques—facilitates cognitive flexibility and reduces the obsessive need for control. This is consistent with (Sher et al., 2024), who demonstrated that maladaptive perfectionism predicts obsessive-compulsive behaviors through emotion dysregulation and low self-compassion. Schema therapy's integrative methods, including imagery rescripting and mode dialogues, likely disrupted the self-critical inner voice and restructured maladaptive self-schemas, allowing participants to internalize more balanced, compassionate self-evaluations.

The significant decrease in checking, slowness, and doubting behaviors among participants suggests that schema therapy may indirectly alleviate behavioral compulsions by transforming the cognitive-emotional foundations sustaining them. These results corroborate (Ghatreh Samani & Najafi, 2024), who demonstrated that schema therapy combined with exposure and response prevention (ERP) reduced experiential avoidance and perfectionism more effectively than ERP alone. Moreover, (Ahanian Moghaddam et al., 2025) found that integrating schema therapy with mindfulness or cognitive-behavioral therapy enhanced psychological flexibility—a mechanism that could explain the current findings. By addressing the emotional roots of anxiety and self-criticism, participants became more capable of tolerating discomfort and uncertainty, thereby reducing compulsive reassurance-seeking and doubt-driven rituals.

The absence of significant change in cleaning behaviors may reflect the complexity and rigidity of certain

compulsive subtypes. Cleaning compulsions are often reinforced by contamination fears and disgust responses that may require specific exposure-based interventions to achieve measurable change (Yang et al., 2024). This finding underscores that while schema therapy effectively targets cognitive-emotional structures underlying perfectionism and generalized compulsivity, some symptom dimensions may require behavioral components such as ERP for optimal results. Indeed, (Reis et al., 2024) emphasized that mindfulness and exposure techniques, when combined with schema work, enhance the acceptance of intrusive thoughts, leading to more generalized improvement across obsessive symptom clusters.

The observed decline in negative perfectionism aligns closely with a growing body of research emphasizing the reciprocal link between perfectionism and OCD. Meta-analyses confirm that perfectionistic concerns—such as fear of mistakes and doubts about actions—are significantly correlated with the severity of OCD symptoms (Callaghan et al., 2024; Lunn et al., 2023). The results of this study extend these findings by demonstrating that modifying maladaptive perfectionistic schemas through schema therapy not only reduces perfectionism but also alleviates obsessive symptoms rooted in such cognitive distortions. The improvement in the “checking” and “doubting” dimensions mirrors findings from (Beheshti Mashhadi & Zare, 2024), who showed that cognitive appraisal and emotional responses mediate the relationship between intrusive thoughts and obsessive behaviors. Schema therapy’s focus on reinterpreting cognitive appraisals could thus explain the observed decline in these domains.

From a neurobiological standpoint, OCD has been linked to dysregulation in glutamatergic neurotransmission and cortico-striatal-thalamo-cortical (CSTC) circuitry (Huang et al., 2025). While schema therapy primarily functions at a cognitive-emotional level, these results indirectly support the biopsychosocial model, indicating that cognitive interventions can modulate neurocognitive pathways associated with compulsive behavior. The integrative framework of schema therapy—by fostering emotional reprocessing—may normalize overactivity in neural circuits involved in error monitoring and self-criticism. As (Coelho et al., 2025) reported in their meta-analysis, pharmacological approaches targeting glutamatergic systems yield therapeutic benefits, but psychotherapeutic interventions like schema therapy can complement such neurochemical regulation through top-down cognitive modulation.

The finding that schema therapy effectively reduced slowness and checking behaviors also reflects the therapy’s ability to address obsessive indecision and excessive doubt. As demonstrated by (Yang et al., 2024), individuals with OCD frequently report “not just right experiences” (NJREs) that trigger prolonged checking or hesitation. Schema therapy’s experiential reparenting and emotional validation may help patients tolerate these feelings without resorting to rituals. Furthermore, schema therapy directly confronts the maladaptive belief that mistakes equate to personal failure—a core element of perfectionism (Terry-Short et al., 1995). Through repeated cognitive and behavioral experiments, participants in this study likely developed new learning that errors do not diminish self-worth, reducing the anxiety-driven need to recheck or repeat actions.

Another notable aspect of this study is the consistency of findings with contextual and acceptance-based interventions. (Sohrabi et al., 2023) demonstrated that contextual schema therapy, which integrates acceptance and commitment components, improved emotion regulation and reduced perfectionistic distress. Likewise, (Reis et al., 2024) emphasized that mindfulness practices enhance the efficacy of schema interventions by fostering awareness of intrusive thoughts without engagement. These studies support the present finding that schema therapy, even when implemented in a group format, can yield significant improvements by helping patients disengage from self-critical schemas and adopt adaptive emotional responses.

The mechanisms through which schema therapy exerts its effects appear multifaceted. First, schema restructuring provides cognitive flexibility by challenging rigid perfectionistic beliefs. This mechanism aligns with (Ahanian Moghaddam et al., 2025), who highlighted the enhancement of psychological flexibility following schema-based interventions. Second, the experiential elements—such as imagery rescripting—enable patients to revisit early maladaptive memories and emotionally “rewrite” them, reducing the influence of punitive or shame-based schemas. Third, schema therapy promotes self-compassion, directly countering the maladaptive self-criticism inherent in negative perfectionism (Sher et al., 2024). These interrelated processes culminate in reduced anxiety, fewer intrusive thoughts, and decreased reliance on compulsive rituals for emotional relief.

The improvement in the “doubting” dimension indicates that schema therapy may strengthen self-trust by addressing schemas of defectiveness and incompetence. This parallels findings from (Ghatreh Samani & Najafi, 2024), who

observed reductions in experiential avoidance among OCD patients following schema-based ERP interventions. Moreover, schema therapy's emphasis on reparenting techniques fosters emotional validation, allowing patients to internalize a supportive inner voice that mitigates chronic uncertainty and guilt. By restoring self-efficacy and reducing cognitive rigidity, patients gain a more balanced perception of their abilities and actions, lessening the obsessive need for verification and reassurance.

In broader clinical terms, the study corroborates previous evidence that schema therapy is an effective modality for treatment-resistant or chronic OCD cases. While traditional cognitive-behavioral therapy (CBT) and pharmacotherapy remain first-line treatments, many patients continue to experience residual symptoms or relapse (Klenfeldt et al., 2024). Schema therapy's capacity to address core maladaptive schemas underlying obsessive cognition may explain its superior long-term outcomes. As (Bagheri Sheykhangafshe et al., 2022) demonstrated, schema-focused interventions not only reduce maladaptive perfectionism but also improve self-efficacy and burnout resilience, suggesting transdiagnostic benefits across emotional disorders. Therefore, integrating schema therapy into OCD treatment frameworks may enhance psychological resilience, emotional regulation, and self-acceptance—domains often neglected in traditional behavioral protocols.

Furthermore, recent theoretical advancements highlight the contextual role of environment and situational triggers in exacerbating obsessions (Weiss et al., 2024). The narrative review by Weiss and colleagues emphasized that contextual factors—such as interpersonal stress and evaluative environments—amplify obsessive symptom expression. Schema therapy's attention to relational patterns and unmet emotional needs provides a means to modify how patients interpret and respond to such contexts, contributing to sustainable change. Additionally, as (Dogan, 2024) and (Huang et al., 2025) point out, emerging neuromodulatory and neurobiological insights should be viewed as complementary rather than competing with schema-based psychological interventions, both contributing to a more comprehensive understanding of OCD's etiology and treatment.

Finally, the findings underscore schema therapy's alignment with holistic therapeutic paradigms that integrate cognitive, emotional, behavioral, and neurobiological perspectives. By targeting both the “software” of maladaptive cognition and the “hardware” of neural functioning, schema therapy offers a dual-level mechanism

for change. This multidimensional impact is essential for a complex disorder such as OCD, where symptom persistence is fueled by interactions between belief systems, emotional dysregulation, and neural hyperactivity (Coelho et al., 2025; Huang et al., 2025).

Despite the study's significant findings, several limitations must be acknowledged. The small sample size limits the generalizability of results and may reduce statistical power in detecting subtler effects across symptom subtypes. Additionally, all participants were drawn from psychological clinics in Tehran, restricting cultural and socioeconomic diversity. Future replications should involve larger and more heterogeneous samples to improve external validity. Another limitation concerns the absence of a long-term follow-up beyond three months; OCD is a chronic disorder, and relapse often occurs after extended periods. Incorporating six- or twelve-month follow-ups would clarify the durability of schema therapy effects. Furthermore, reliance on self-report measures such as the PANPS and MOCI may introduce bias through self-perception or demand characteristics. Including clinician-rated or neurocognitive assessments could provide more objective validation. Finally, the group format, while efficient, may have introduced interpersonal influences—such as peer comparison or social desirability—that confounded individual therapeutic outcomes.

Future studies should explore the comparative effectiveness of schema therapy against or in combination with other evidence-based modalities, such as mindfulness-based cognitive therapy, acceptance and commitment therapy, or exposure and response prevention. Longitudinal designs could examine how schema modification impacts relapse prevention over multiple years. Moreover, integrating neurobiological measures—such as fMRI or EEG—would allow researchers to investigate changes in neural circuitry corresponding to schema restructuring. Given the emerging role of perfectionism as a transdiagnostic construct, future work could extend schema therapy's application to other disorders characterized by rigid cognitive control, including eating disorders, generalized anxiety, and depression. Finally, qualitative studies examining patients' subjective experiences of schema change could deepen understanding of the emotional transformation processes underlying symptom reduction.

Clinically, schema therapy should be considered a complementary treatment for OCD, particularly in cases where perfectionism and emotional rigidity are dominant. Practitioners are encouraged to integrate experiential

techniques such as imagery rescripting and mode dialogues to address underlying emotional needs that perpetuate compulsive cycles. Group schema therapy can be employed to foster social support and corrective emotional experiences, especially for clients struggling with shame and self-criticism. Training therapists in schema conceptualization and combining it with behavioral exposure can enhance treatment personalization. Finally, implementing schema therapy in community and clinical settings could expand access to holistic, evidence-based care for OCD patients resistant to standard interventions.

Authors' Contributions

All authors significantly contributed to this study.

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

In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the study and participated in the research with informed consent.

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