IJBMC
International Journal of Body, Mind and Culture

Volume 12, Issue 9, pp 272-284
DOI: 10.61838/ijbmc.v12i9.718

Article type:
Original Research

Effectiveness of Schema Therapy on Intolerance of Uncertainty, Guilt, and Procrastination in Individuals with Obsessive-Compulsive Personality Symptoms

Meysam. Rahimi[1], Azam. Arabi[2*]

1 Department of Psychology, Kho.C., Islamic Azad University, Khomeinishahr, Iran.
2 Department of Health Psychology, Kharazmi University, Tehran, Iran.

Corresponding author email address:
Azamarabi1@gmail.com

Article history:

Received 21 Feb 2025
Revised 14 May 2025
Accepted 24 June 2025
Published online 01 Dec 2025

How to cite this article:
Rahimi, M., & Arabi, A. (2025). Effectiveness of Schema Therapy on Intolerance of Uncertainty, Guilt, and Procrastination in Individuals with Obsessive-Compulsive Personality Symptoms. International Journal of Body, Mind and Culture, 12(9), 272–284.

ABSTRACT

Objective: This study aimed to investigate the effectiveness of schema therapy on intolerance of uncertainty, guilt, and procrastination in individuals with obsessive-compulsive personality symptoms.

Methods and Materials: This quasi-experimental study used a pretest–posttest control-group design. The statistical population consisted of individuals with obsessive-compulsive personality symptoms who were referred to counseling, psychotherapy, or psychiatric centers in Isfahan during the spring of 2025. Thirty participants were selected through convenience sampling and randomly assigned to an experimental group and a control group. Data were collected using the Intolerance of Uncertainty Questionnaire, the Guilt Inventory, and the Tuckman Procrastination Scale. The experimental group received 10 sessions of group schema therapy based on Young's schema therapy protocol, whereas the control group received no intervention. Data were analyzed using multivariate and univariate analyses of covariance in SPSS.

Findings: The results showed that schema therapy significantly reduced the components of intolerance of uncertainty, including self-referential implications ($F = 35.79$, $p = 0.001$, $\eta^2 = 0.579$) and unfairness ($F = 75.33$, $p = 0.001$, $\eta^2 = 0.743$). It also significantly reduced the components of guilt, including guilt trait ($F = 18.90$, $p = 0.001$, $\eta^2 = 0.430$), guilt state ($F = 31.62$, $p = 0.001$, $\eta^2 = 0.558$), and moral standards ($F = 58.21$, $p = 0.001$, $\eta^2 = 0.700$). However, schema therapy did not have a significant effect on procrastination ($F = 0.08$, $p = 0.782$, $\eta^2 = 0.003$).

Conclusion: Schema therapy was effective in reducing intolerance of uncertainty and guilt in individuals with obsessive-compulsive personality symptoms, but it was not effective in reducing procrastination.

Keywords: schema therapy, intolerance of uncertainty, guilt, procrastination, obsessive-compulsive personality symptoms.

Introduction

Obsessive-compulsive personality disorder, one of the most common and complex personality disorders, is recognized as a chronic condition with a prevalence ranging from 1.9% to 7.8% in the general population (Pinto et al., 2022), encompassing a wide range of behavioral and cognitive characteristics. This disorder is primarily associated with excessive preoccupation with order, detail, and perfectionism, such that affected individuals show a strong tendency to adhere to rules and schedules, even when these behaviors interfere with achieving the broader goals of activities (Pinto et al., 2022). These individuals often exhibit behaviors such as hoarding unnecessary items, extreme frugality, and resistance to others' viewpoints (Abramowitz et al., 2026). In addition, they often experience significant uncertainty, which may manifest as persistent doubt and severe worry about various aspects of life. This condition often leads to compulsive behaviors such as repeated checking or reassurance seeking, which, although intended to reduce anxiety, in practice reinforce a cycle of anxiety and compulsion (Knowles & Olatunji, 2023). Uncertainty, as a state of not knowing outcomes or consequences, plays an important role in these individuals' decision-making and is associated with difficulty accepting life's unknowns. This psychological condition is often accompanied by stress and anxiety in ambiguous situations and drives affected individuals toward avoidant or excessively controlling behaviors, which in turn have broad negative effects on various aspects of their mental health (Wheaton & Ward, 2020). Overall, these prominent characteristics not only disrupt their daily functioning but also significantly reduce their quality of life.

Individuals with obsessive-compulsive personality symptoms also typically experience profound guilt, which is closely associated with an increased tendency toward self-criticism. This self-criticism is often reinforced by perfectionistic tendencies and excessive concern about the impact of their behavior on others (Mavrogiorgou et al., 2024). Such individuals may evaluate their inner values against highly rigid standards, so that any mismatch leads to intense guilt. At the same time, these features are usually accompanied by a negative self-image and concern about others' judgments, causing obsessive-compulsive individuals to strive to absolve themselves of possible errors and shortcomings constantly. However, these efforts themselves contribute to a cycle of stress and symptom intensification (Kenny et al., 2023). On the other hand, guilt is positively associated with metacognitions and the severity of obsessive-compulsive symptoms (Melli et al., 2017). Individuals who are highly sensitive to guilt, because of metacognitive beliefs such as the importance or moral consequences of thoughts, may experience more severe symptoms. These processes create a cycle of worry, avoidance, and symptom escalation, reinforcing the sense of being unable to control one's psychological state (Tabassum et al., 2023). Furthermore, procrastination is a prominent consequence of perfectionism among individuals with obsessive-compulsive personality traits (Steinert et al., 2021). Because they set unrealistic and rigid standards for themselves, these individuals often avoid starting or postponing tasks (Wang & Chung, 2024). Excessive concern about making mistakes or failing to achieve ideal goals leaves them in a state where, instead of taking practical action, they spend a great deal of time on obsessive analysis and evaluation. These delays are usually rooted in severe anxiety about failure or fear of negative judgment by others, which gradually reinforces a cycle of procrastination and persistent stress (Soltanizadeh et al., 2023). In general, the behavioral and cognitive characteristics associated with this disorder, such as persistent concern about others' judgments, unrealistic standards, and a tendency toward excessive control, highlight the need for targeted therapeutic interventions. One effective intervention, as also noted in the review by Parvizian et al. (2022), is schema therapy.

Schema therapy is an integrative therapeutic approach that extends traditional cognitive-behavioral models by addressing early maladaptive schemas and schema modes. Its goal is to weaken these maladaptive patterns while strengthening adaptive modes (Cunningham et al., 2024). This approach is based on the principle that many psychological problems are rooted in early maladaptive schemas that are formed during childhood and adolescence and, when carried into adulthood, lead to psychological disorders (Thimm & Chang, 2022). Schema therapy not only focuses on identifying these schemas but also seeks, through

Ijbmc.org
E-ISSN: 2345-5802

cognitive, emotional, and behavioral techniques, to meet basic needs such as security, belongingness, and acceptance in a healthy way (Laious et al., 2024). Overall, research indicates that early maladaptive schemas play an important role in the intensification and chronicity of obsessive-compulsive personality symptoms. By reinforcing negative beliefs and dysfunctional behaviors, these schemas sustain the cycle of the disorder. Therefore, treatments such as schema therapy, which focus on modifying these patterns, may help reduce symptoms and improve functioning, especially in treatment-resistant patients (Moein & Farahanifar, 2024). These findings underscore the need to develop and expand targeted therapeutic interventions to reduce symptoms and improve the quality of life for affected individuals.

In general, individuals with obsessive-compulsive personality symptoms often face problems such as indecisiveness in decision-making, excessive guilt, and procrastination, all of which can markedly affect their daily functioning and interpersonal relationships. From a cognitive-behavioral perspective, these behavioral and emotional patterns may be rooted in early maladaptive schemas, that is, stable cognitive and emotional patterns formed during childhood that make the individual vulnerable to particular situations in adulthood. Schema therapy, aimed at modifying these maladaptive patterns and helping individuals develop more adaptive attitudes and ways of thinking, is considered one of the newer and more effective approaches in the treatment of personality disorders. Based on previous findings, schema therapy may play a key role in reducing indices such as excessive guilt and procrastination. It may also help individuals avoid prolonged confusion and indecisiveness when confronted with ambiguous or complex situations. In this regard, Panagiotopoulos et al. (2023) reported a significant relationship between early maladaptive schemas and Cluster C personality disorder features, including obsessive-compulsive personality disorder. They showed that intervention targeting these schemas can be effective in improving such personality symptoms (Panagiotopoulos et al., 2023). In addition, Dostal & Pilkington (2023), in examining the relationship between early maladaptive schemas and obsessive-compulsive disorder (OCD), highlighted the importance of schemas in the persistence of intrusive thoughts and repetitive rituals; their findings indicate that deeply rooted cognitive patterns formed in childhood play a major role in the severity and persistence of obsessive-compulsive symptoms. Likewise, Zhang et al. (2023), in investigating the effectiveness of schema therapy in treating personality disorders, found evidence that this approach improves patients' emotional and behavioral symptoms, potentially reducing problems such as indecisiveness, guilt, and procrastination. The primary concern motivating the present study is that, although evidence exists regarding the relationship between maladaptive schemas and symptoms of obsessive-compulsive personality disorder, most available studies have examined variables such as indecisiveness, guilt, and procrastination separately and in isolation, and have paid less attention to the integrated effects of schema therapy on these three major problems in individuals with obsessive-compulsive personality symptoms. Therefore, examining the effectiveness of schema therapy on these important variables may provide a deeper understanding of the cognitive and emotional mechanisms underlying obsessive-compulsive personality disorder and may contribute to the development of more precise and effective psychological interventions. Accordingly, the present study seeks to answer the following question: Is schema therapy effective in reducing indecisiveness, guilt, and procrastination in individuals with obsessive-compulsive personality symptoms?

Methods and Materials

Study Design

The present study was applied in nature and employed a quasi-experimental design with a pretest–posttest and a control group with random assignment to groups. In this design, after convenience sampling, participants were assigned to the experimental and control groups. Before implementing the independent variable (schema therapy), participants in both groups were assessed using pretest measures of intolerance of uncertainty, guilt, and procrastination. The experimental group was then exposed to the independent variable, while no intervention was administered to the control group. At the end of the study, the dependent variables (intolerance of uncertainty, guilt, and procrastination) were measured again in both groups using posttests.

The statistical population consisted of individuals with obsessive-compulsive personality symptoms who referred to counseling, psychotherapy, or psychiatric centers in the city of Isfahan during the spring of 2025. According to Delavar (2016), in quasi-experimental studies using pretest–posttest designs with a control group, an appropriate sample size is at least 15 participants per group. To increase statistical power and precision, 20 participants were considered for each group. The sample was selected through convenience sampling from among volunteers who met the inclusion criteria. Selection was conducted using clearly defined inclusion and exclusion criteria to ensure alignment between participants' characteristics and the study objectives. After initial selection, participants were randomly assigned to the experimental and control groups using a lottery method. This random assignment reduced bias and enhanced the generalizability of the findings.

The inclusion criteria were as follows: having at least a high school diploma as an indicator of the ability to understand and complete the research instruments; no history of comorbid psychological disorders that could influence the results; being within the age range of 18 to 55 years; and providing written informed consent to participate in the study. The exclusion criteria included having a disabling physical illness that could interfere with participation or results; presence of substance use disorders or use of psychoactive medications; unwillingness to continue participation in the study; simultaneous participation in other psychological interventions or therapy programs; incomplete responses to assessment instruments, especially pretest questionnaires; and absence from more than two intervention sessions, which would reduce adherence to the research protocol and threaten the validity of the findings.

Instruments

The Intolerance of Uncertainty Questionnaire, developed by Freeston et al. (1994), is used to assess individuals' tolerance for uncertain situations. This scale consists of 27 items and is scored on a five-point Likert scale ranging from 1 (completely false) to 5 (completely true). The questionnaire measures individuals' responses to uncertainty in life situations, with total scores ranging from 27 to 135. Freeston et al. (1994) reported satisfactory validity for the instrument. Buhr & Dugas (2006) developed and validated the English version. The correlation coefficients of this scale with the Worry Questionnaire (r = 0.60), Beck Depression Inventory (r = 0.59), and Beck Anxiety Inventory (r = 0.55) were significant at the 0.001 level. Buhr & Dugas (2006) reported a test–retest reliability coefficient of 0.74 over a five-week interval and a Cronbach's alpha of 0.94. In Iranian studies, reliability coefficients of 0.79 and 0.96 have been reported (Partovi Pirooz et al., 2022). In the present study, Cronbach's alpha for the total scale was 0.842, and for its components, self-referential implications and unfairness, the values were 0.773 and 0.751, respectively.

The Guilt Inventory: This inventory consists of 45 items measuring three components: guilt trait, guilt state, and moral standards. Responses are scored on a five-point Likert scale (Jones & Kugler, 1993). The validity and reliability of this instrument have been confirmed in previous studies (Kubany et al., 1996; Zare et al., 2019). In the present study, Cronbach's alpha for the total questionnaire was 0.889, and for its components ranged from 0.765 to 0.802, indicating very good reliability. Specifically, the Cronbach's alpha coefficients for guilt trait, guilt state, and moral standards were 0.781, 0.765, and 0.802, respectively.

Tuckman Procrastination Scale: The Tuckman procrastination scale (Tuckman, 1991) is a 16-item questionnaire designed to assess procrastination. It is based on a Likert scale, where higher scores indicate greater procrastination. For example, the response "definitely true of me" is scored as 5, and "definitely not true of me" is scored as 1, with other options scored accordingly. Items 12, 14, and 16 are reverse-scored. In a study by Fuchia (2001) of 630 university students in Louisiana, the validity coefficient was reported as 0.64 and the reliability coefficient as 0.75.

The schema therapy intervention implemented in this study was based on Young et al.'s (2007) protocol. The intervention was conducted in a group format over 10 sessions, each lasting 60 minutes. In the first session, group members became acquainted, and a safe and trust-based environment was established. The therapist explained the rules, structure, and goals of the group to facilitate active participation and healthy interaction. In the second session, the concept of schemas was introduced in detail, and participants were familiarized with different types of schemas, particularly early

maladaptive schemas, as well as the five core emotional needs.

In the third session, the focus was on identifying early maladaptive schemas in participants and explaining maladaptive coping styles, including surrender, avoidance, and overcompensation. Participants were helped to understand the relationship between their current problems and the schemas they had activated. In the fourth session, the concept of happiness as a fundamental biopsychosocial need was discussed, and the impact of maladaptive schemas on reduced happiness was examined. The fifth session focused on cognitive techniques in schema therapy, including schema validity testing, redefining supporting evidence, and empathic confrontation, to challenge core dysfunctional beliefs.

In the sixth session, participants were taught to engage in dialogue between their healthy self and schema-driven self, supported by cognitive techniques and educational cards. The seventh session introduced experiential techniques such as imagery rescripting, imaginary dialogues, and writing letters to process emotional experiences. The eighth session focused on behavioral techniques and pattern-breaking strategies, including identifying and prioritizing problematic behaviors. In the ninth session, emphasis was placed on increasing motivation for change and practicing healthy behaviors through role-playing and imagery. Finally, in the tenth session, the intervention was summarized, feedback was collected, and participants were trained to replace maladaptive schemas with adaptive ones. The sessions concluded with appreciation of participants' engagement and formal closure of the program.

Findings and Results

Table 1 presents the descriptive statistics for the research variables and their components across the control and experimental groups.

Table 1

Descriptive Statistics of Research Variables by Control and Experimental Groups

Variable	Phase	N	Control Mean	Control SD	Experimental Mean	Experimental SD
Total Intolerance of Uncertainty	Pretest	15	102.53	6.55	103.73	3.01
	Posttest	15	105.93	5.18	87.47	4.47
Self-referential Implications	Pretest	15	57.00	4.94	56.47	3.38
	Posttest	15	57.67	3.74	48.33	4.91
Unfairness	Pretest	15	45.53	3.60	47.27	2.46
	Posttest	15	48.27	3.17	39.13	1.96
Total Guilt	Pretest	15	209.27	10.23	209.13	10.13
	Posttest	15	215.13	8.56	179.33	12.92
Guilt Trait	Pretest	15	42.27	4.20	39.47	4.09
	Posttest	15	40.67	3.37	34.00	3.93
Guilt State	Pretest	15	36.13	2.61	37.47	2.53
	Posttest	15	39.80	3.75	29.80	4.21
Moral Standards	Pretest	15	85.13	4.84	85.67	5.58
	Posttest	15	87.80	3.76	68.87	7.33
Procrastination	Pretest	15	45.73	4.23	46.53	3.98
	Posttest	15	46.87	4.45	46.67	3.54

The data in Table 1 indicate that, in the control group at the total score level, the highest mean is for guilt in the posttest phase (M = 215.13), while the lowest mean is for procrastination in the pretest phase (M = 45.73). At the component level, further analysis shows that within the intolerance of uncertainty construct, the self-referential implications component has the highest mean (M = 57.67). In contrast, the unfairness component has the lowest mean (M = 48.27). In the guilt variable, the mean of the moral standards component (M = 87.80) is higher than that of guilt state (M = 39.80) and guilt trait (M = 40.67). For procrastination, only a total score is reported, which reached 46.87 in the posttest phase.

In the experimental group, at the total score level, the highest mean is for guilt in the pretest phase (M = 209.13). In contrast, the lowest mean is for intolerance of uncertainty in the posttest phase (M = 87.47). At the component level, within the intolerance of uncertainty variable, the highest mean is for self-referential implications (M = 48.33), and the lowest is for unfairness

Ijbmc.org
E-ISSN: 2345-5802

(M = 39.13). In the guilt variable, the moral standards component has the highest mean (M = 68.87), whereas the guilt state component has the lowest mean (M = 29.80). For procrastination, the total mean score in the posttest phase was 46.67.

Prior to conducting multivariate analysis of covariance (MANCOVA) and univariate ANCOVA, the assumptions of these tests were examined and confirmed. The normality of data distribution was assessed using the Kolmogorov–Smirnov and Shapiro–Wilk tests. Multivariate normality was examined using the Mahalanobis distance and the Mardia (1971) coefficient. The homogeneity of regression slopes was tested using univariate ANCOVA, and the absence of significant differences between groups at pretest was confirmed using one-way ANOVA. The adequacy of correlations among dependent variables was examined using Bartlett's test of sphericity, and linear relationships were verified through scatterplots. The homogeneity of covariance matrices was assessed using Box's M test, and homogeneity of variances was confirmed using Levene's test. All assumptions were met.

To examine the significance of mean differences among variables, multivariate tests, including Wilks' Lambda, were used. Wilks' Lambda, along with Pillai's Trace, Hotelling's Trace, and Roy's Largest Root, determines whether there is a statistically significant difference between groups in the linear combination of dependent variables (Tabachnick et al., 2007). The results are presented in Table 2.

Table 2

Multivariate Test Results for the Effect of Schema Therapy on Intolerance of Uncertainty

Test	Value	F	Hypothesis df	Error df	Sig	η^2
Pillai's Trace	0.824	58.35	2	25	0.001	0.824
Wilks' Lambda	0.176	58.35	2	25	0.001	0.824
Hotelling's Trace	4.668	58.35	2	25	0.001	0.824
Roy's Largest Root	4.668	58.35	2	25	0.001	0.824

According to Table 2, Wilks' Lambda was 0.18, and the obtained F value was 58.35. The significance level with degrees of freedom (2, 25) was less than 0.05, indicating a significant difference between the control and experimental groups in at least one component of intolerance of uncertainty ($\Lambda = 0.18$, $F(2,25) = 58.35$, $p < 0.05$, $\eta^2 = 0.82$).

Table 3

Multivariate Analysis of Variance Results for Differences in Intolerance of Uncertainty Components

Source	SS	df	MS	F	Sig	η^2
Self-referential Implications	640.597	1	640.597	35.79	0.001	0.579
Unfairness	556.703	1	556.703	75.33	0.001	0.743

The results in Table 3 show that the F values for self-referential implications and unfairness were 35.79 and 75.33, respectively. The significance levels for both components were less than 0.05, indicating that schema therapy had a significant effect on both components. Based on eta squared values, schema therapy reduced self-referential implications by 0.58 units ($F(1,26) = 35.79$, $p < 0.01$, $\eta^2 = 0.58$) and unfairness by 0.74 units ($F(1,26) = 75.33$, $p < 0.01$, $\eta^2 = 0.74$).

Table 4

Multivariate Test Results for the Effect of Schema Therapy on Guilt

Test	Value	F	Hypothesis df	Error df	Sig	η^2
Pillai's Trace	0.758	24.02	3	23	0.001	0.758
Wilks' Lambda	0.242	24.02	3	23	0.001	0.758
Hotelling's Trace	3.133	24.02	3	23	0.001	0.758
Roy's Largest Root	3.133	24.02	3	23	0.001	0.758

According to Table 4, Wilks' Lambda was 0.24, and the F-value was 24.02. The significance level with degrees of freedom (3, 23) was less than 0.05, indicating a significant difference between the control and experimental groups in at least one component of guilt ($\Lambda = 0.24$, $F(3,23) = 24.02$, $p < 0.05$, $\eta^2 = 0.76$).

Table 5

Multivariate Analysis of Variance Results for Differences in Guilt Components

Source	SS	df	MS	F	Sig	η^2
Guilt Trait	268.637	1	268.637	18.90	0.001	0.430
Guilt State	532.712	1	532.712	31.62	0.001	0.558
Moral Standards	2206.976	1	2206.976	58.21	0.001	0.700

The results in Table 5 show that the F values for guilt trait, guilt state, and moral standards were 18.90, 31.62, and 58.21, respectively. The significance levels for all components were less than 0.05, indicating that schema therapy had a significant effect on guilt components. Based on eta squared values, schema therapy reduced guilt trait by 0.43 units ($F(1,25) = 18.90$, $p < 0.01$, $\eta^2 = 0.43$), guilt state by 0.56 units ($F(1,25) = 31.62$, $p < 0.01$, $\eta^2 = 0.56$), and moral standards by 0.70 units ($F(1,25) = 58.21$, $p < 0.01$, $\eta^2 = 0.70$).

Table 6

Univariate Analysis of Variance Results for Differences in Procrastination

Source	SS	df	MS	F	Sig	η^2
Procrastination	1.218	1	1.218	0.08	0.782	0.003

The results in Table 6 indicate that the F value for procrastination was 0.08. The significance level for this variable was greater than 0.01, indicating that schema therapy was not effective in reducing procrastination in individuals with obsessive-compulsive personality symptoms.

Discussion and Conclusion

The data analysis showed that schema therapy was effective in reducing components of intolerance of uncertainty, including self-referential implications by 0.58 units and unfairness by 0.74 units. This finding is consistent with the results of studies by Dostal & Pilkington (2023); Makhdoomi et al. (2024); Nedaei et al. (2023); Panagiotopoulos et al. (2023); Peeters et al. (2025), and Zhang et al. (2023). Makhdoomi et al. (2024), in their study, showed that the implementation of schema therapy in individuals with generalized anxiety led to a significant reduction in worry and intolerance of uncertainty; the consistency of that study with the present finding lies in the fact that, in both studies, uncertainty was reduced as one of the therapeutic outcomes of schema therapy. Likewise, Nedaei et al. (2023) found that emotion schema therapy for women with depression and anxiety led to a significant reduction in intolerance of uncertainty; this aligns with the finding that, in both studies, uncertainty decreased in response to a schema-based cognitive-emotional intervention. In a related study, Peeters et al. (2025) reported that schema therapy resulted in a 33.3% reduction in obsessive-compulsive symptoms; the consistency of this finding with the present study is that the target populations of both studies consisted of individuals with obsessive personality-related symptoms, and a reduction in

Ijbmc.org
E-ISSN: 2345-5802

pathological components in response to treatment was observed in both. Näsling et al. (2024) also concluded that psychotherapy leads to a significant reduction in intolerance of uncertainty; this finding is consistent with the present finding, as uncertainty, as a cognitive-emotional construct, was influenced by therapeutic processes. Panagiotopoulos et al. (2023) showed that all early maladaptive schemas were significantly related to the features of Cluster C personality disorders, including obsessive-compulsive personality disorder; this result is consistent with the present finding because schema therapy, aimed at modifying these schemas, was able to reduce an outcome such as uncertainty in this group. In addition, Dostal & Pilkington (2023) reported a significant positive relationship between early maladaptive schemas and obsessive-compulsive disorder; therefore, intervention on these schemas may be effective in reducing manifestations such as uncertainty. Zhang et al. (2023) showed in their study that schema therapy reduces the symptoms of personality disorders and improves quality of life; this finding is consistent with the present one in that schema-based intervention played an effective role in improving the psychological functioning of individuals with maladaptive personality features, including those in the obsessive spectrum. Finally, Pasquini & Maraone (2022) found that schema therapy led to a significant reduction in the severity of obsessions in individuals with obsessive-compulsive personality disorder; this is consistent with the present finding because it shows that cognitive-emotional intervention targeting fundamental personality structures can reduce cognitive-emotional consequences such as uncertainty in this group. This body of research provides a credible empirical foundation for the present study's findings.

About the explanation of the present finding, which showed that schema therapy was effective in reducing uncertainty and its components, including self-referential implications and unfair attitudes, it may be argued that this result should be interpreted in light of the cognitive-emotional mechanisms embedded in the psychological structure of individuals with obsessive-compulsive personality symptoms, because these individuals often face a high level of intolerance of uncertainty and perceive ambiguous and indeterminate situations as a serious threat to themselves (Reizer et al., 2021). This threatening perception is usually accompanied by maladaptive cognitive patterns, in the form of early maladaptive schemas, that cause the individual to regard ambiguity and not knowing as unnatural parts of human life, instead experiencing them catastrophically and uncontrollably (Dar et al., 2017). One consequence of this condition is the formation of a specific type of self-referential thinking in which the person attributes the experience of ambiguity to personal inadequacies and inefficiency. In other words, in the component of self-referential implications and negative behavior, the person activates evaluations such as “I made a mistake” or “I do not have the necessary competence” when faced with uncertainty, which leads to negative emotional reactions such as anxiety, instability, and avoidance of the situation (Nejad et al., 2013). By identifying and restructuring these schemas, that is, the negative cognitive and emotional patterns consolidated during childhood, schema therapy enables the individual to gain a new understanding of the self, others, and unpredictable situations and to develop more adaptive and alternative mechanisms for coping with uncertainty.

Likewise, regarding unfair uncertainty, which is based on judgmental attitudes and a negative view of the world, it may be said that individuals with low tolerance for uncertainty typically regard ambiguous situations as unfair, imposed, and beyond their control. In such a state, a negative perception of the order governing the world and the justice of existence becomes fixed in the person’s mind, thereby intensifying feelings of helplessness, external blame, and a negative view of the future (Emami et al., 2022). By focusing on schemas related to mistrust, vulnerability, failure, or pessimism, schema therapy attempts to weaken these maladaptive perceptual patterns and replace them with more adaptive viewpoints. The emotional processes of this approach also guide the person toward redefining distorted cognitions and reconstructing the value system by activating healthier modes and re-experiencing emotions in a safe and supportive environment (Bach et al., 2018). Moreover, from the perspective of cognitive theory, uncertainty becomes a source of anxiety and dysfunction when the individual processes it through a negative and biased filter; this leads to exaggerated evaluation of danger, inability to tolerate tension, and impaired decision-making (Bertelson & Boons, 1960). Through cognitive interventions such as reality testing,

Ijbmc.org
E-ISSN: 2345-5802

belief restructuring, and modification of attentional biases, schema therapy can challenge these distorted processes. Overall, the effectiveness observed in this study may be understood as the result of modifying schemas closely associated with intolerance of uncertainty, negative self-referential attitudes, and unfair perceptions of ambiguity, and schema therapy appears to have successfully targeted these cognitive and emotional structures.

The other results also showed that schema therapy was effective in reducing components of guilt, including the guilt trait by 0.43 units, the guilt state by 0.56 units, and moral standards by 0.70 units. This finding is consistent with the results of studies by Ayoubi et al. (2025), Dostal & Pilkington (2023); Panagiotopoulos et al. (2023); Pasquini & Maraone (2022); Peeters et al. (2025), and Zhang et al. (2023), but it is inconsistent with the findings of Ghaffari et al. (2023). Ayoubi et al. (2025), in examining mode-based schema therapy, found that it led to a significant reduction in guilt in individuals with obsessive-compulsive disorder and that this effect was more stable at follow-up than cognitive-behavioral therapy; this finding is consistent with the present study because, in both investigations, guilt decreased as an outcome of schema-based treatment. Similarly, Peeters et al. (2025) reported a 33.3% reduction in obsessive-compulsive symptoms in response to schema therapy; since guilt is one of the common emotional components of this disorder, its reduction may also be explained within this framework. Panagiotopoulos et al. (2023) likewise showed that all early maladaptive schemas are significantly related to the features of Cluster C personality disorders, including obsessive-compulsive personality disorder; this consistency lies in the fact that guilt in this disorder is also maintained based on schemas such as unrelenting standards, subjugation, and self-criticism. In addition, Dostal & Pilkington (2023) emphasized that early maladaptive schemas are positively associated with obsessive-compulsive disorder and that modifying these structures within the framework of schema therapy can improve their emotional manifestations, including guilt. In the same line, Zhang et al. (2023) confirmed the effectiveness of schema therapy in reducing personality disorder symptoms and improving quality of life with a moderate effect size; this finding is also consistent because guilt, as one of the key constructs in self-punitive mechanisms and negative self-evaluation, improves as a result of treatment. Pasquini & Maraone (2022) also reported a significant reduction in obsessive symptoms in patients with obsessive-compulsive personality disorder following schema therapy, which is aligned with the present study in terms of both target population and therapeutic mechanism. However, the present finding is inconsistent with the results of Ghaffari et al. (2023). In that study, group schema therapy did not have a significant effect on reducing guilt or obsessive-compulsive personality symptoms. This inconsistency may be related to differences in the method of implementing the intervention, specifically group versus individual format, the severity and type of symptoms in the participants, or demographic differences such as age, gender, or cultural background. Therefore, it may be concluded that the effectiveness of schema-based treatment on guilt in personality disorders is also dependent on the background characteristics of individuals and the manner in which the intervention is implemented. This body of findings suggests that the present result has meaningful empirical support, although situational factors also play a role in the final effectiveness.

In explaining the present finding that schema therapy was effective in reducing guilt and its components, including guilt trait, guilt state, and moral standards, it may be argued that guilt, as a complex self-conscious emotion, arises when a conflict emerges between the individual's actual or imagined behavior and the internalized moral or social standards. In individuals with obsessive-compulsive personality symptoms, this feeling appears in a more intense and chronic form because a rigid and inflexible superego is constantly evaluating the person's behaviors, thoughts, and even intentions, and this causes the experience of guilt to become activated not only in real situations but also in an excessive and pervasive manner across a wide range of everyday thoughts and behaviors (Makhdoomi et al., 2024; Nedaei et al., 2023). From this perspective, schema therapy can reconstruct the cognitive and emotional mechanisms underlying chronic guilt by directly targeting early maladaptive schemas such as unrelenting standards, entitlement/grandiosity, punitiveness, or reassurance seeking (Cunningham et al., 2024). In this regard, one important component of guilt is guilt trait, which is described as the individual's stable tendency to

Ijbmc.org
E-ISSN: 2345-5802

experience guilt across different situations. In individuals with this trait, guilt is activated not only in response to actual errors but also in response to hypothetical or imagined failures. This condition is the product of internalized maladaptive value patterns, absolutist standards, and excessive self-blame (Zare et al., 2019). By challenging these stable cognitive patterns and replacing them with more adaptive schemas, schema therapy can moderate the guilt trait as a vulnerability-prone personality dimension.

The second component, guilt state, refers to guilt as a temporary experience arising in response to particular events and depends more heavily on the person's interpretation of an error experience or a violation of moral values (Zare et al., 2019). In ordinary treatments, this emotion may be overlooked or addressed only at the symptomatic level. In contrast, schema therapy focuses not only on cognitions but also on emotional reprocessing. Through techniques such as imagery dialogues, role-playing, and emotional restructuring in safe conditions, the individual can reinterpret inner guilt-laden experiences and, instead of repeatedly blaming oneself, move toward acceptance and the reconstruction of personal values (Bach et al., 2018). In addition, the component of moral standards, which includes patterns of excessive valuation and rigid sociocultural rules, is, in obsessive patients, usually accompanied by absolutist beliefs, inflexible shoulds and should-nots, and a sense of obligation to meet unrealistic expectations. These harsh standards, which often develop in childhood within interactions with authoritarian, punitive, or controlling parents, may become consolidated in the mind through schemas such as subjugation, punitiveness, and dependence/incompetence.

In such a state, the person constantly subjects the self to negative evaluation and, even in the absence of a real mistake, experiences guilt for failing to meet internal standards. By aiming to reconstruct value structures and transform inflexible standards into realistic, internalized values, schema therapy plays an important role in moderating these patterns and, in the process, can reduce the emotional burden of guilt. Overall, the effectiveness of schema therapy in reducing guilt and its components should be regarded as the result of deep modification of cognitive, emotional, and value structures rooted in early schemas and chronically active in obsessive-compulsive personalities. By activating healthier modes, strengthening effective coping strategies, and creating an emotion-focused therapeutic space, this approach provides the basis for reducing guilt and improving psychological functioning.

Finally, the other results showed that schema therapy was not effective in reducing procrastination in individuals with obsessive-compulsive personality symptoms. This finding is inconsistent with the results of studies by Sakhaie Ardakani et al. (2023). Sakhaie Ardakani et al. (2023) in a study on female students showed that implementation of a schema therapy intervention led to a significant reduction in social anxiety and procrastination in this group. A study on students at Yazd University of Medical Sciences found that group schema therapy led to a significant reduction in rumination and procrastination, and that these changes remained stable at follow-up. The inconsistency between the present finding and the results of those two studies may be due to differences in participants' demographic characteristics. In the previous studies, participants did not have prominent features of obsessive-compulsive personality disorder, and the intervention was conducted in a general population or among individuals with milder problems. In contrast, in the present study, the intervention was implemented with individuals showing obsessive-compulsive personality symptoms, who possess more rigid and inflexible cognitive structures. These characteristics may have prevented schema therapy from being sufficiently effective in reducing procrastination in this specific population. These differences suggest that the effectiveness of schema therapy on procrastination may depend on personality features and comorbid disorders.

In explaining the present finding that schema therapy was not effective in reducing procrastination in individuals with obsessive-compulsive personality symptoms, it may be argued that the complex and multidimensional nature of procrastination in this specific group plays a key role in interpreting this result. Procrastination in individuals with obsessive-compulsive personality features, unlike the common view that regards it as the result of laziness or lack of motivation, acts as a maladaptive defensive mechanism for avoiding anxiety arising from failure, negative judgment, and excessive perfectionism (Wang & Chung, 2024). In many cases, these individuals postpone starting

activities not out of indifference, but because they fear that they will not be able to complete the task in accordance with their unrealistic standards. Under such conditions, procrastination functions as a temporary strategy for anxiety regulation, but over time, it turns into a vicious cycle of avoidance, guilt, and reduced self-confidence. On the other hand, although schema therapy structurally focuses on identifying and modifying early maladaptive schemas, its effectiveness in improving procrastination may require deeper, more gradual, and in some cases longer-term interventions, because procrastination is rooted not only in schemas such as failure, subjugation, unrelenting standards, and vulnerability, but is also intertwined with long-standing behavioral habits, poor emotional regulation, and executive problems. Therefore, over the relatively limited duration of the intervention, fundamental changes in the person's functional style may not have reached a level sufficient to produce a significant reduction in procrastination. In other words, because procrastination in this group plays a role in regulating anxiety arising from perfectionism, it is likely that even after some early schemas have been moderated, the individual may still use this avoidant strategy to escape internal pressure, and thus the procrastinatory behavioral pattern persists.

Moreover, in cognitive-behavioral theories, procrastination is strongly associated with experiential avoidance, low self-efficacy, and poor motivation regulation, factors that are not directly and systematically targeted in schema therapy. From this perspective, it may be argued that to achieve a significant reduction in procrastination, complementary interventions are also needed that emphasize modifying behavioral patterns, goal-oriented planning, increasing the sense of control, and training in active coping strategies. Schema therapy alone, without behavioral techniques focused on time management, behavioral goal setting, and progress monitoring, may not sufficiently address the executive structure underlying procrastination. Ultimately, it should be emphasized that although schema therapy is effective in reducing emotions such as guilt and uncertainty, influencing complex behavioral variables such as procrastination requires more complementary, broader, and interactive approaches. The lack of effectiveness of the present intervention in reducing procrastination confirms that long-standing behavioral factors require specific focus and sustained practice, and that changing them cannot be achieved solely by modifying early cognitive structures.

Acknowledgments

The authors express their gratitude and appreciation to all participants.

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.

Funding

This research was carried out independently, with personal funding and without financial support from any governmental or private institution or organization.

Authors' Contributions

All authors equally contribute to this study.

References

Abramowitz, J. S., Abramovitch, A., McKay, D., & Draffin, A. (2026). Management of obsessive-compulsive disorder in adults. *BMJ*, *392*. https://doi.org/10.1136/bmj-2024-083443

Ayoubi[1], J., Shakerinia, I., & Zebardast, A. (2025). Research Paper Impact of Mindfulness-based Schema Therapy With and Without Self-compassion Training on Emotional Schemas, Self-actualization, and Glycemic Control in Patients With Type 2 Diabetes: A Clinical Trial. DOI:10.32598/JHRC.11.3.5

Bach, B., Lockwood, G., & Young, J. E. (2018). A new look at the schema therapy model: organization and role of early maladaptive schemas. *Cognitive behaviour therapy*, *47*(4), 328–349. https://doi.org/10.1080/16506073.2017.1410566

Bertelson, P., & Boons, J.-P. (1960). Time uncertainty and choice reaction time. *Nature*, *187*(4736), 531–532. https://doi.org/10.1038/187531a0

Buhr, K., & Dugas, M. J. (2006). Investigating the construct validity of intolerance of uncertainty and its unique relationship with worry. *Journal of anxiety disorders*, *20*(2), 222-236. https://doi.org/10.1016/j.janxdis.2004.12.004

Cunningham, A., Reid, M., Sayan, S., & Hammersley, R. (2024). Understanding the phenomenological experiences of schema therapy for those with an eating disorder. *Qualitative research in medicine & healthcare*, *8*(2), 11376. https://doi.org/10.4081/qrmh.2024.11376

Dar, K. A., Iqbal, N., & Mushtaq, A. (2017). Intolerance of uncertainty, depression, and anxiety: Examining the indirect and moderating effects of worry. *Asian journal of psychiatry*, *29*, 129–133. https://doi.org/10.1016/j.ajp.2017.04.017

Delavar, A. (2016). Research methods in psychology and educational sciences. *Tehran: Roshd*, 100–199. https://www.researchgate.net/profile/Ali-Delavar-2/3

Dostal, A. L., & Pilkington, P. D. (2023). Early maladaptive schemas and obsessive-compulsive disorder: A systematic review and meta-analysis. *Journal of Affective Disorders*, *336*, 42–51. https://doi.org/10.1016/j.jad.2023.05.053

Emami, M., Haghdoost, A. A., Yazdi-Feyzabadi, V., & Mehrolhassani, M. H. (2022). Drivers, uncertainties, and future scenarios of the Iranian health system. *BMC Health Services Research*, *22*(1), 1402. https://doi.org/10.1186/s12913-022-08774-w

Freeston, M. H., Rhéaume, J., Letarte, H., Dugas, M. J., & Ladouceur, R. (1994). Why do people worry? *Personality and individual differences*, *17*(6), 791-802. https://doi.org/10.1016/0191-8869(94)90048-5

Fuchia, L. (2001). Correlation of academic procrastination and students' grades. *Current Psychology*, *27*(2), 135-144. https://doi.org/10.1007/s12144-008-9028-8

Ghaffari, F., Ghanbari Hashemabadi, B., & Eslami, M. (2023). Comparison of the Effectiveness of Emotional and Neutral Working Memory Training on Cognitive Flexibility and Intolerance of Uncertainty in People with OCD. *Journal of Modern Psychological Researches*, *17*(68), 191-199. DOI: 10.22034/JMPR.2023.15332

Jones, W. H., & Kugler, K. (1993). Interpersonal correlates of the guilt inventory. *Journal of Personality Assessment*, *61*(2), 246-258. https://doi.org/10.1207/s15327752jpa6102_6

Kenny, N. C., Starcevic, V., & Berle, D. (2023). Associations between fear of guilt and obsessive–compulsive symptoms. *Behaviour Change*, *40*(3), 169-181. https://doi.org/10.1017/bec.2022.14

Knowles, K. A., & Olatunji, B. O. (2023). Intolerance of uncertainty as a cognitive vulnerability for obsessive-compulsive disorder: A qualitative review. *Clinical Psychology: Science and Practice*, *30*(3), 317. https://doi.org/10.1037/cps0000150

Kubany, E. S., Haynes, S. N., Abueg, F. R., Manke, F. P., Brennan, J. M., & Stahura, C. (1996). Development and validation of the trauma-related guilt inventory (TRGI). *Psychological assessment*, *8*(4), 428. https://doi.org/10.1037/1040-3590.8.4.428

Laious, R., Galanaki, E. P., Aggeli, A., Tzavara, C., Argalia, E., Bakourini, D., Koutrafouri, V., Marini, A., & Sintila, I. (2024). Evaluation of a Schema Therapy-Based Prevention Group Program for Children and Their Parents. *Journal of Evidence-Based Psychotherapies*, *24*(2), 23-52. https://doi.org/10.24193/jebp.2024.2.10

Makhdoomi, M., Abolghasemi, S., & Khane Keshi, A. (2024). The effectiveness of schema therapy on worry states and intolerance of uncertainty in patients with generalized anxiety disorder. *Journal of Psychological Science*, *23*(144), 79-95. https://doi.org/10.61186/jps.23.144.5

Mardia, K. V. (1971). The effect of nonnormality on some multivariate tests and robustness to nonnormality in the linear model. *Biometrika*, *58*(1), 105-121. https://doi.org/10.1093/biomet/58.1.105

Mavrogiorgou, P., Becker, S., & Juckel, G. (2024). Guilt and shame in patients with obsessive-compulsive disorders. *Psychopathology*, *57*(4), 286-296. https://doi.org/10.1159/000537996

Melli, G., Carraresi, C., Poli, A., Marazziti, D., & Pinto, A. (2017). The role of guilt sensitivity in OCD symptom dimensions. *Clinical psychology & psychotherapy*, *24*(5), 1079-1089. https://doi.org/10.1002/cpp.2071

Moein, M., & Farahanifar, M. (2024). The Effectiveness of schema therapy with an emphasis on schema modes on rumination and perfectionism of people with treatment-resistant obsessive-compulsive disorder. *Rooyesh-e-Ravanshenasi Journal (RRJ)*, *13*(4), 135-144.

Näsling, J., Åström, E., Jacobsson, L., & Ljungberg, J. K. (2024). Effect of psychotherapy on intolerance of uncertainty: a systematic review and meta-analysis. *Clinical psychology & psychotherapy*, *31*(4), e3026. https://doi.org/10.1002/cpp.3026

Nedaei, A., Qamari Gavi, H., Sheykholeslami, A., & Sadri Damirchi, E. (2023). The effectiveness of emotional schema therapy on the intolerance of uncertainty and the difficulty of emotion regulation in people suffering from comorbid depression and anxiety. *Shenakht Journal of Psychology and Psychiatry*, *10*(1), 103-115. https://doi.org/10.32598/shenakht.10.1.103

Nejad, A. B., Fossati, P., & Lemogne, C. (2013). Self-referential processing, rumination, and cortical midline structures in major depression. *Frontiers in human neuroscience*, *7*, 666. https://doi.org/10.3389/fnhum.2013.00666

Panagiotopoulos, A., Despoti, A., Varveri, C., Wiegand, M. C., & Lobbestael, J. (2023). The relationship between early maladaptive schemas and cluster C personality disorder traits: A systematic review and meta-analysis. *Current Psychiatry Reports*, *25*(10), 439-453. https://doi.org/10.1007/s11920-023-01439-3

Partovi Pirooz, L., Jomehori, F., Seadatee Shamir, A., & Hasani, J. (2022). Structural model of health anxiety based on intolerance of uncertainty and anxiety sensitivity with mediating the role of rumination in college students. *Journal of Adolescent and Youth Psychological Studies*, *3*(2), 278-290. https://doi.org/10.52547/jspnay.3.2.278

Parvizian, F., SHARIFI, T., & GHAZANFARI, A. (2022). Comparison of the effectiveness of schema therapy and acceptance and commitment therapy on perfectionism in patients with obsessive-compulsive personality disorder. https://www.researchgate.net/publication/385351787_Comparing_the_Effectiveness_of_Acceptance_and_Commitment_Therapy_Based_on_Compassion_and_Emotion-Oriented_Schema_Therapy_on_Perfectionism_of_Nurses_with_Obsessive-Compulsive_Personality_Traits

Pasquini, M., & Maraone, A. (2022). Schema Therapy and Obsessive-Compulsive Disorder. *Alpha Psychiatry*, *23*(4), 164. https://doi.org/10.5152/alphapsychiatry.2022.22080622

Peeters, N., van Passel, B., Hendriks, G.-J., Becker, E., & Krans, J. (2025). Schema-therapeutic exposure for treatment-resistant anxiety and obsessive-compulsive disorders: A multiple baseline case series design study. *Psychiatry Research Case Reports*, *4*(1), 100241. https://doi.org/10.1016/j.psycr.2024.100241

Pinto, A., Teller, J., & Wheaton, M. G. (2022). Obsessive-compulsive personality disorder: a review of symptomatology, impact on functioning, and treatment. *Focus*, *20*(4), 389-396. https://doi.org/10.1176/appi.focus.20220058

Reizer, A., Geffen, L., & Koslowsky, M. (2021). Life under the COVID-19 lockdown: On the relationship between intolerance of uncertainty and psychological distress. *Psychological Trauma: Theory, Research, Practice, and Policy*, *13*(4), 432. https://doi.org/10.1037/tra0001012

Sakhaie Ardakani, Z., Nikdel, F., & Taghvaei Nia, A. (2023). The Effectiveness of Schema Therapy on Rumination and Procrastination among Students. *Journal of Modern Psychological Researches*, *18*(70), 107-114. DOI: 10.22034/JMPR.2023.16527

Soltanizadeh, M., Mortazavian, S., & Latifi, Z. (2023). Predicting academic procrastination based on academic resilience, intolerance of uncertainty, positive and negative perfectionism: The mediating role of experiential avoidance. *Journal of Educational Psychology Studies*, *20*(51), 67-49. 10.22111/jeps.2023.42417.5038

Steinert, C., Heim, N., & Leichsenring, F. (2021). Procrastination, perfectionism, and other work-related mental problems: Prevalence, types, assessment, and treatment—A scoping review. *Frontiers in Psychiatry*, *12*, 736776. https://doi.org/10.3389/fpsyt.2021.736776

Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2007). *Using multivariate statistics* (Vol. 5). Pearson, Boston, MA. https://www.pearsonhighered.com/assets/preface/0/1/3/4/0134790545.pdf

Tabassum, S., Hussain, S. D., & Shafiq, S. (2023). Metacognitions and Obsessive-Compulsive Symptoms in Ocd Patients: Moderating Role of Guilt Sensitivity. *Pakistan Journal of Social Research*, *5*(02), 1037-1049. https://doi.org/10.52567/pjsr.v5i02.1216

Thimm, J. C., & Chang, M. (2022). Early maladaptive schemas and mental disorders in adulthood: A systematic review and meta-analysis. *International Journal of Cognitive Therapy*, *15*(4), 371-413. https://doi.org/10.1007/s41811-022-00149-7

Tuckman, B. W. (1991). The development and concurrent validity of the procrastination scale. *Educational and psychological measurement*, *51*(2), 473-480. https://doi.org/10.1177/0013164491512022

Wang, C.-W., & Chung, K. C. (2024). The art of procrastination. *Plastic and Reconstructive Surgery*, *153*(1), 1-5. https://doi.org/10.1097/PRS.0000000000010977

Wheaton, M. G., & Ward, H. E. (2020). Intolerance of uncertainty and obsessive-compulsive personality disorder. *Personality Disorders: Theory, Research, and Treatment*, *11*(5), 357. https://doi.org/10.1037/per0000396

Young, J. E., Klosko, J. S., & Weishaar, M. E. (2007). *Schema therapy. La terapia cognitivo-comportamentale integrata per i disturbi della personalità*. Eclipsi. https://books.google.nl/books/about/Schema_therapy_La_terapia_cognitivo_comp.html?hl=it&id=0wJDMd2XH8kC&redir_esc=y

Zare, H., Elmimanesh, N., & Torabie, S. (2019). The Study of Depression as the Antecedent of Guilt Feeling, and Anxiety as its Consequence in Divorced Women. *specialty journal of psychology and management*, *5*(1-2019), 50-55. https://sciarena.com/article/the-study-of-depression-as-the-antecedent-of-guilt-feeling-and-anxiety-as-its-consequence-in-divorced-women

Zhang, K., Hu, X., Ma, L., Xie, Q., Wang, Z., Fan, C., & Li, X. (2023). The efficacy of schema therapy for personality disorders: a systematic review and meta-analysis. *Nordic Journal of Psychiatry*, *77*(7), 641-650. https://doi.org/10.1080/08039488.2023.2228304