Research Paper: The effectiveness of schema therapy on reducing neuroticism

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Abstract

Objective: Studies have shown that neuroticism is one of the personality traits associated with negative psychological consequences. This research was conducted with the aim of investigating the effectiveness of schema therapy on reducing neuroticism.

Methods: The current research is a quasi-experimental type with a pre-test-post-test design and a control group. The research population was the patients referred to Shariati Hospital in Tehran in 2021, and 22 of them who had obtained a high score in the neuroticism subscale were selected by purposive sampling method and randomly assigned into two experimental (n = 11) and control (n = 11) groups. Both groups completed the neuroticism subscale of the NEO Five-Factor Inventory-3 (NEO-FFI-3) in the pre-test and post-test phases. The experimental group was subjected to the schema therapy for 10 weekly sessions, but no intervention was performed on the experimental group during this period. The analysis of the collected data was done with analysis of covariance and SPSS-18 software.

Results: The obtained findings showed that schema therapy was able to significantly reduce the level of neuroticism in the experimental group compared to the control group (P < 0.001).

Conclusion: According to the findings, it can be concluded that schema therapy is effective in reducing neuroticism and can be used in treatment centers in this regard.

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1. Introduction

Sigmund Freud divided patients into two categories: neurotic and psychotic (Trichet, 2011). Neurotic patients were those who were struggling with their unpleasant impulses and memories, and used unhealthy defense mechanisms to deal with them, and suffered a decrease in performance. Psychotic patients, however, had lost their connection with reality and the possibility of psychoanalysis was not available for them (Trichet, 2011). The words neurotic and neuroticism were used to categorize mental patients for a long time. But gradually, with the introduction of 5 big personality factors (Costa & McCree, 1992), neuroticism was considered as a personality trait. People who score high in this personality trait are those who experience emotional instability. They are highly vulnerable to negative emotions and their ability to regulate emotions is low. Therefore, they are highly susceptible to mental disorders (Kim et al., 2023).

Therefore, it seems that working on this personality trait can help people to increase their psychological health. Although the treatment of personality disorders is considered as the most difficult type of psychotherapy (Dixon-Gordon et al., 2011; Simonsen, & Simonsen, 2014), but in the last few decades, with the introduction of schema therapy by Jeffrey Young, it has been shown that this treatment can be effective in improving the characteristics and personality disorders (Jacob & Arntz, 2013).

In schema therapy, it is assumed that the psychological needs of people in childhood, if they are not properly satisfied, can lead to the formation of cognitive structures that are called early maladaptive schemas. Early maladaptive schemas do not only include negative cognitions, but also include emotions, bodily sensations, and behaviors, and can cause people to use coping styles based on avoidance, surrender, or extreme compensation in dealing with challenging situations (van Dijk et al., 2023). Young et al. (2003) introduce 18 maladaptive schemas. For example, a person with a failure schema may avoid situations where people with superior scores are present, or conversely, verbally and behaviorally, he may seek to show his achievements excessively. He can also surrender to this temptation and constantly go after plans and plans in which the possibility of failure is more than success.

The therapist seeks to make the patient aware of his schemas and reduce their destructive effects in different situations by using cognitive, behavioral and experiential techniques. Until now, various researches have confirmed the effectiveness of schema therapy in connection with various mental disorders (Bamelis et al., 2014; Hawke & Provencher, 2011; Sohrabi et al., 2023).

According to the stated material, the researcher in the present study intends to examine the effectiveness of schema therapy on the personality trait of neuroticism.

2. Methods

2.1. Statistical Population, Sample, and Sampling Method

The current research is semi-experimental with a pre-test-post-test design and a control group. The research population was the patients referred to Shariati Hospital in Tehran in 2021, 22 of them who had obtained a high score in the neuroticism subscale (higher than 36 on the neuroticism subscale) were selected by purposive sampling method and randomly assigned into two experimental (n = 11) and control (n = 11) groups. Having reading and writing literacy and consent to participate in the study were among the criteria of entering the research and suffering from chronic medical diseases and psychiatric disorders (based on a clinical interview according to DSM-5 criteria) and not participating in all schema therapy sessions were among the exclusion criteria. Both groups completed the neuroticism subscale of the NEO Five-Factor Inventory-3 (NEO-FFI-3) in the pre-test and post-test phases. The experimental group was subjected to the schema therapy for 10 weekly sessions, but no intervention was performed on the experimental group during this period.

2.2. Instrument

NEO Five-Factor Inventory-3 (NEO-FFI-3): This inventory was created by Costa and McCree (1989) and has 60 items that measures five personality traits of openness to experience, conscientiousness, extroversion, agreeableness and neuroticism. 12 items are provided to measure each characteristic. It is scored from completely disagree (0) to completely successful (4) and a higher score indicates having more of each feature. McCrae & Costa (2007) confirmed the factor structure of the scale and reported internal consistency of its components above 0.80. Haqshenas (1999) confirmed the factor structure of this scale in Iran and reported its internal consistency from 0.77 to 0.86. In this research, the neuroticism subscale was used, and its cut-off point was considered to be a score of 36 or more in this subscale.

Schema therapy: Schema therapy was conducted based on the principles proposed in Schema Therapy book of Young et al. (2003) and during ten weekly sessions and each session lasted for 1 hour by a licensed therapist from Iran's psychology and counseling system. The patients' schemas were first assessed and cognitive, behavioral and experiential techniques were used to work on the early maladaptive schemas. Table 1 shows the sessions and the content of each session.

Table 1

Schema Therapy sessions

Sessions	Content of each session
First session	Filling out the therapeutic contract sheet and clinical interview
Second session	Getting to know schema therapy concepts such as early maladaptive schemas and coping styles
Third session	Filling out the Young schema questionnaire
Fourth session	Discuss the results of the Young schema questionnaire and performing the mental imagery technique to meaning of maladaptive schemas
Fifth session	Understanding schemas and their developmental roots and providing assignments and feedback
Sixth session	Implementation of cognitive techniques to evaluate schema validity and providing assignments and feedback
Seventh session	Evaluation of advantages and disadvantages of confrontation style and empty chair technique and providing assignments and feedback
Eighth session	Implementation of experimental techniques of imaginary conversation and writing letters to parents and providing assignments and feedback
ninth session	Behavioral pattern breaking training using the technique of preparing a list of specific behaviors as the subject of change and providing assignments and feedback
tenth session	Examining the exercises and performing the post-test

2.3. Procedure

First, consent was obtained from all participants. Ethical issues such as privacy protection and consent to withdraw from the research were observed. In the pre-test, NEO Five-Factor Inventory-3 (NEO-FFI-3) was performed on both groups. After finishing the treatment sessions for the experimental group, both groups answered this questionnaire again. All participants of the experimental group participated in the treatment sessions. Data analysis was done using covariance analysis and SPSS-26 software

3. Results

The mean and standard deviation of the age of the subjects in the experimental group were 38.41 and 3.17 and in the control group were 40.25 and 3.15. The mean and standard deviation of the neuroticism are presented in Table 2.

Table 2

The mean and standard deviation of the neuroticism

	Experiment phase	Neuroticism
Experimental group	Pre-test	43.18±3.10
	Post-test	20.71±1.15
Control group	Pre-test	44.02±0.87
	Post-test	46.94±0.43

As can be seen in Table 2, the mean of neuroticism in the experimental group decreased in the post-test, but increased in the control group. The normality of the data distribution was checked with the Kolmogorov-Smirnov test and the homogeneity of variances was checked with the Levene's test, which is presented in Table 3.

Table 3

Checking the normality of data distribution and homogeneity of variances

	Neuroticism	F	P	
Kolmogorov-Smirnov test	Pre-test	1.14	0.84	
	Post-test	0.32	1.97	
Levene's test		F	df_1/df_2	p
		1.35	1/20	0.44

The non-significance of the Kolmogorov-Smirnov test and Levene's test shows that the data distribution is normal and the condition of homogeneity of variances is established. The results of covariance analysis are presented in Table 4.

Table 4

Results of covariance analysis of metacognitive strategies training on rumination and worry

variable	Source of changes	Sum of squares	df	Mean squares	F	P
Neuroticism	Pre-test	1295.72	1	1295.72	34.71	0.001
	group	673.17	1	673.17	22.34	0.001
	error	281.90	20	132.07		
	total	57499.22	22			

According to Table 4, the schema therapy has been able to significantly reduce neuroticism in the experimental group compared to the control group.

4. Discussion

This research was conducted with the aim of investigating the effectiveness of schema therapy on neuroticism. The findings showed that 10 schema therapy sessions were able to significantly reduce the amount of neuroticism in the experimental group compared to the control group.

This finding is in line with other researches that have shown the effectiveness of schema therapy on personality disorders and characteristics (Bamelis et al., 2014; Jacob & Arntz, 2013; Koppers et al., 2023; Wibbelink et al., 2023; Zhang et al., 2023).

In explaining this finding, it can be stated that schema therapy is an approach derived from different therapeutic theories (Young et al., 2003). This therapeutic approach, using various therapeutic techniques and with brakes on different cognitive, emotional and behavioral dimensions, can have an effect on deep psychological structures. For example, in the empty chair technique, the subjects sit down to talk with one of their parents and in this way express their inner feelings to their father or mother and answer their questions instead of him. Or in the imagery technique, the subjects place themselves in one of their childhood memories, where the therapist enters as a third person and shows the correct and mature behavior to the subject instead of the parent's misbehavior (limited re-parenting). . Also, with the help of cognitive techniques, the incorrect and illogical beliefs of the subjects were challenged and the evidences for and against those beliefs were examined in a conversation between the subject and the therapist. All these techniques have shown to be fruitful and are associated with successful results for schema therapy.

The subjects of this study scored high in the personality trait of neuroticism and this shows that they are emotionally prone to negative emotions such as anger, fear and sadness and experience low emotional stability. Experiential techniques in schema therapy are presented with the aim of facing emotions and regulating them. Earlier, the effectiveness of schema therapy on improving emotion regulation has been shown (Hassas et al., 2023; Rahimi & Bazazian, 2023).

The lack of pairing of people in the two experimental and control groups may have caused some intervening variables to have an effect on the results. It is suggested that future researches remove this research limitation and examine other groups as well. Also, comparing therapeutic approaches can provide more comprehensive information regarding their effectiveness on personality traits.

5. Conclusion

The findings showed that schema therapy is effective in reducing neuroticism. Therefore, medical centers can use this treatment to reduce this important personality trait in suffering from mental disorders.

Conflicts of Interest

No conflict of interest has been reported.

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