


# The Effectiveness of Compassion-focused Therapy on Integrative self-knowledge, Self-destructive behaviors and Fatigue in Drug Users

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## ABSTRACT

**Objective:** The purpose of this study was to examine the efficacy of compassion-focused therapy in addressing psychological coherence, self-destructive behavior, and fatigue among drug users.

**Methods and Materials:** The present study was semi-randomized in terms of its purpose, application, and research method, with a pre-test, post-test, and follow-up design with a control group. Among the addicts referred to the Paris addiction treatment center in Tehran in 2021, 30 people which was included in the study were selected and replaced randomly (by lottery) in the experimental group (15 people) and the control group (15 people). The experimental group received compassion-focused therapy during eight sessions, and the control group did not receive therapy. To collect data, the short form of Antonoski's psychological coherence scale (SOC-13), the self-destruction questionnaire of Sanson et al. (SHI), and the fatigue questionnaire of Smets et al. (MFI) were used.

**Findings:** The results of the research showed that between the scores of psychological coherence, self-destruction, and fatigue in the treatment group focused on compassion and the control group in the post-test, there was a significant difference in follow-up ( $p < 0.05$ ). Therefore, is effective in increasing psychological coherence and reducing self-destruction and fatigue in drug users.

**Conclusion:** As mentioned, the results indicate that compassion -focused therapy is effective for enhancing psychological cohesion, reducing self-destructive tendencies, and addressing fatigue among substance abusers. Additionally, based on the effect size analysis, it was determined that this treatment has a particularly significant impact on psychological cohesion and self-destructive behavior. Therefore, its utilization is strongly recommended for clinical psychologists and psychotherapists aiming to enhance psychological coherence and decrease self-destructive tendencies in individuals with substance use issues.

**Keywords:** *Compassion-focused therapy , Psychological coherence, Self-destructiveness, Fatigue, Substance abusers*

## 1. Introduction

Drug addiction refers to a maladaptive dependence on substances that causes significant impairment or distress. The results of most research at the level of different countries indicate that the amount of drug consumption in different societies is increasing (Angelis, 2015). According to the World Drug Report of the United Nations Office on Drugs and Crime, in 2020, an estimated 275 million people took drugs. In addition, more than 36 million will suffer from drug use disorders. Between 2010 and 2019, the number of drug users increased by 22 percent, partly due to an increase in the global population. Based on demographic changes, the existing picture shows that by 2030, the number of people using drugs in the world will grow by 11% (<https://wdr.unodc.org/2021>). Relapse is one of the significant aspects of addiction that occurs after abstinence and during preventative efforts. Usually, a relapsed person shows signs of change in their thoughts, attitudes, emotions, and actions (Moe et al., 2022).

Substance abuse brings destructive effects in various fields, which can be physical effects (increasing the risk of heart, respiratory, liver and nervous diseases, lowering the body's immune system and eye problems and memory loss, negative effects on mental health, anxiety, depression, sleep disorders, irritation and anger), negative effects on a person's behaviour and personality (increase in violence and physical and psychological risks, increase in driving risks and negative effects on family and social relationships), economic effects (decrease in work performance and productivity, increasing the number of people leaving work and unemployment, increasing the costs of treatment and health, and reducing the quality of life) (Ballestar-Tarín et al., 2022).

Drug abuse has psychological effects, including reducing integrative self-knowledge. Psychological integration refers to a person's effort to integrate his experience in the past, present, and future to compromise and improve himself (Ghorbani et al., 2010). So that a person can consider his world understandable, meaningful, and controllable. It also enables a person to show more resistance to tense and stressful life situations (Nilsson et al., 2010). People with weak cohesion are more likely to use drugs. (Eriksson, 2022).

Substance abuse causes self-destructive behaviour. Self-destructive behaviour is an intentional fatal or non-fatal action that a person knowingly undertakes, knowing that it is dangerous and has harmful results for himself, his family,

the people around him, and even society in the broadest sense of the word. It suffers from destructive results (Liu et al., 2023). Self-injurious behaviour is defined as behaviours that result from injury, physical or psychological harm, or violent behaviour towards oneself. Self-destructive habits may cause illness but also affect physical and mental health. Controlling these self-destructive behaviours is particularly difficult because they are relatively outside the scope of medicine and traditional treatments and are not accompanied by unpleasant signs and symptoms in the initial stages. As a result, they are not taken into account much, except in advanced stages (Huisman et al., 2018).

Another variable that is higher in substance use disorder patients than in normal people is fatigue (Attarian, 2015). Aminoff (2013) theory proposes that fatigue is a mental feeling of weakness, lack of energy, and exhaustion (Aminoff, 2013). Symptoms such as the need for adequate rest, sleepiness, feeling weak, decreased stamina and functional capacity, decreased muscle strength, decreased concentration, mental conflict, verbal mistakes, difficulty choosing the right words when speaking, memory problems, lack of interest in daily tasks, the problem of being tired, and the difficulty of starting work are expressions of a person's fatigue (Aminoff, 2013). Excessive fatigue seriously affects and limits people's daily activities. At least two-thirds of substance abusers experience fatigue. These data confirm that fatigue causes physical disability; however, fatigue seems to have independent psychological and cognitive dimensions (Tian & Hong, 2012). In general, excessive fatigue in these people, muscle weakness, behavioural problems, and disability caused by this disorder can cause depression, reduced daily functioning, and reduced quality of life (Davoodi et al., 2019).

The addiction to drugs is a recurrent and chronic mental disorder characterized by severe motivational disorders and a loss of control over one's behavior. Addiction and substance abuse have many underlying factors in the fields of attitude, environment, and society. Therefore, there is a need to provide serious and effective solutions for the treatment of people who are involved in drug abuse (Bagheri & Tagvaei, 2017). To enhance the capacity for mental cohesion, address self-destruction tendencies, and alleviate fatigue in individuals with substance use disorder, diverse methods have been proposed. One of the most effective strategies in the realm of mental health for these individuals is the treatment approach grounded in self-compassion. Compassion-based therapy involves a compassionate relationship with the self and helps people change by

creating care, paying new attention to the self, and suggesting compassionate internal processes. These changes can be interpreted as a kind of physiological-psychological and neurological treatment and as a mediating factor leading to an increase in the cognitive functions of the elderly (Gilbert, 2014). Compassion-based treatment is one of the treatment methods derived from the third wave of psychotherapy that is effective in improving physical and psychological characteristics (Grodin et al., 2019). Compassion means being aware of existing suffering and adopting a soothing and compassionate stance towards oneself when things go wrong (Baker et al., 2019). A self-compassionate attitude as a coping strategy helps people establish a close bond between themselves and others and overcome their fear and anxiety (Ehret et al., 2018). Compassion-based therapy includes the components of self-kindness versus self-judgement (self-understanding instead of criticism and a kind of compassion and support for one's own shortcomings and inadequacies), human sharing versus isolation (recognition that all humans are imperfect and make mistakes), and mindfulness versus excessive assimilation (a balanced and clear awareness of present experiences that causes the painful aspects of an event to be neither ignored nor repeatedly occupied by the mind) (Au et al., 2017). Consequently, in compassion-based treatment of painful emotions and uncomfortable things are not avoided, but the person approaches them with kindness and understanding. As a result, negative emotions turn into more positive emotions, which gives the person the opportunity to understand the situation more accurately and choose effective actions to change himself or the situation (Bell et al., 2020; Krieger et al., 2019).

Drug abuse, as one of the most pressing challenges of society, becomes more and more of a problem every day. This has serious effects on society's health and well-being and causes profound changes in individual behaviour and personality. The importance of this issue cannot be overstated. Due to the high prevalence of drug abuse, this issue has been considered one of the most critical and vital issues at the global and national levels. For this reason, many efforts are being made worldwide to prevent drug abuse consequences and to treat people who are susceptible to these substances. Due to drug abuse's severe effects on society's health and well-being, this issue urgently needs attention and action. For this reason, it is necessary to reduce its damage. Reviewing the background of the research indicates that we are facing a research gap in the field of compassion-focused therapy's effectiveness on

psychological coherence, self-destruction, and fatigue in drug users. Compassion-focused therapy can reduce the complications of the disease, pains and psychosis of the patient and increase the patient's quality of life. This will surely allow you to respect yourself and your feelings and seek your health forever. Considering that people need compassion and love, compassion-focused therapy can be used as an important issue in the treatment of diseases and pains. Therefore, the current research seeks to answer the question, "Is compassion-focused therapy effective in reducing psychological coherence, self-destruction, and fatigue in drug users?"

## 2. Methods and Materials

### 2.1. Study Design and Participants

The present study was semi-experimental in terms of its purpose, application, and in terms of its research method, with a pre-test, post-test and one-month follow-up with a control group. The statistical population of this research included all substance abusers referred to the Pariz addiction treatment center in Tehran in 2021. The statistical sample included 30 individuals with addiction, who were purposefully selected and subsequently randomly assigned to both the experimental group (15 subjects) and the control group (15 subjects). There were 50 samples of volunteers participating in the research, and the researcher selected 30 people as the indicators of entering the research during the meeting and screening. The sample size based on the size of the sample in the research studies of Borm, G. F., Fransen, J., & Lemmens (2007) and Cohen (1992) at a confidence level of 0.95, and the power of the test was 0.70 15 subjects were determined for each group (Borm et al., 2007; Cohen, 1992). In order to choose the sample, first, by referring to the Paris addiction treatment center in Tehran, people with substance abuse were identified, and taking into account their consent and informed consent to participate in the research, 30 of them were purposely identified (Obtaining a low score in the psychological coherence questionnaire, and obtaining a high score in the self-destruction questionnaire and obtaining points), then the volunteered people were randomly replaced in each group. The criteria for entering the research were: 1) a diagnosis of substance abuse; 2) a diploma level of education; 3) an age range of 20–50 years; and 4) not participating in workshops and psychotherapy courses at the same time. The criteria for leaving the study were: 1) having severe mental disorders (Anxiety disorders, obsessive-compulsive disorder, Depression,

Bipolar disorder); (2) taking antipsychotic drugs; and (3) missing more than two sessions. The screening was done by a psychiatrist at Pierz Clinic. In addition to the entry indicators, the screening tools were research questionnaires. After selecting the sample, the members of the experimental group were given compassion-focused therapy, while the members of the control group were not given any intervention or treatment. Compassion-focused therapy interventions were implemented in eight sessions based on the following treatment protocol.

## 2.2. Measures

The Short Form of the Sense of Coherence (SOC-13) Questionnaire Antonovsky (1993) wrote this form (Antonovsky, 1993). The questionnaire consists of 13 questions with seven options. The minimum score is 13 and the maximum score is 91. The scoring method is based on the Likert scale. It also has three subscales: comprehensibility, manageability, and meaningfulness (Antonovsky, 1993). In Iran, Mohammadzadeh et al. (2010) translated and analysed the questionnaire with 375 male and female students. Cronbach's alpha for males was 0.75 and for females was 0.78 (Mahammadzadeh et al., 2010). The concurrent validity of this scale with the psychological hardness 45-item scale was 0.54. Moreover, the total scorecard Cronbach's alpha coefficient was 0.66. The researchers also examined the validity of the questionnaire, the relationship between the comprehension, manageability, and meaningfulness subscales, and the total score of the questionnaire. The following results were obtained: 0.86, 0.81, and 0.76, indicating that the scale is both reliable and valid (Mahammadzadeh et al., 2010).

*Self-harm inventory Questionnaire (SHI)*: Sansone et al. (1998) are the authors of this questionnaire (Sansone et al., 1998). This is a 22-question questionnaire answered with yes or no. The minimum score is 0 and the maximum score is 22. In this questionnaire, behaviours done intentionally for self-harm are evaluated, such as abusing drugs or substances or alcohol, self-harm, causing physical harm to oneself, and losing a job on purpose. The reliability of this questionnaire was calculated by Sanson et al. (1998) using Cronbach's alpha of 0.84 (Sansone et al., 1998). In the study of Tahbaz Hosseinzadeh, Ghorbani, and Naboi (2013), who compared the personality tendencies of self-destruction and self-coherence in multiple sclerosis and healthy patients, the Cronbach's alpha of this scale was 0.74 (Tahbaz Hosseinzadeh et al., 2011).

*Multidimensional Ftigue Inventory Questionnaire (MFI)* Smets et al. (1996): The Fatigue Questionnaire provides a deeper and more accurate understanding of fatigue by evaluating five dimensions. This questionnaire was prepared and adjusted for the first time by Smets et al. The study was published in 1996 and can be used with patients and healthy people. It contains 20 items that are evaluated on a 5-point Likert scale. The minimum score is 20 and the maximum score is 100. This questionnaire includes four subscales: general fatigue, physical fatigue, decreased activity, and mental fatigue. Points can be calculated from 1 to 5 for each item. A higher score indicates more fatigue. The questionnaire's validity and reliability were evaluated in different demographic groups. Confirmatory factor analysis showed that the questions in each dimension describe the same dimension, and the questionnaire has an excellent internal consistency. The Cronbach's alpha coefficient in Shamsh's study was greater than 80%.s (2014) study for general, physical, and mental fatigue, and greater than 65% for reduced activity and motivation.

The compassion-focused therapy protocol was adapted based on the model of Gilbert (2014) which was designed during 8 sessions of 90 minutes in 8 consecutive weeks (Gilbert, 2014). The sessions were conducted by the researcher, who has completed compassion-focused therapy courses and has a certificate in this field, at the Paris clinic for two months under the supervision of a supervisor and consultant.

## 2.3. Intervention

The intervention followed an eight-session compassion-based treatment protocol adapted from Gilbert's (2014) training programme, designed for individuals with substance use disorders. In the first session, participants were introduced to the operational definitions of psychological coherence, self-destruction, compassion, and lack of compassion toward themselves and others. The second session focused on the core concepts of total compassion—recognizing suffering, cultivating kindness, reasoning kindly, evaluating kind behaviour, and addressing suffering—while enabling each client to assess their compassion toward self and others. The third session emphasized the universality of human suffering from birth, incorporating mindfulness training with physical and breathing exercises. In the fourth session, clients learned strategies for enduring and overcoming failures and hardships, managing emotions, and acknowledging that



others also have flaws and difficulties. The fifth session aimed to help participants identify critical areas of their lives, recognize anxiety-inducing situations, prepare for them in advance, and build distress tolerance. The sixth session explored the qualities of a compassionate person, introduced key life paths, and taught the first healing skill of kindness. The seventh session deepened this learning by focusing on the second healing skill of compassion and fostering kindness as a healing capacity. Finally, the eighth session addressed sensory experience and compassionate failure as additional healing skills, reviewed and applied learned exercises, and concluded with a post-intervention assessment.

#### 2.4. Data analysis

Data analysis was done using SPSS version 24 software and variance analysis with repeated measurements.

**Table 1**

*Mean and standard deviation of research variables at three stages of measurement*

Variable	Group	Pre-test		Post-test		Follow up	
		Mean	SD	Mean	SD	Mean	SD
Psychological coherence	Compassion therapy	16.90	2.50	28.27	3.65	26.47	4.15
	Control	17.22	2.87	17.20	2.02	17.40	2.04
Self-destruction	Compassion therapy	8.15	1.76	14.67	1.54	15.93	1.98
	Control	17.93	0.636	17.78	0.584	17.69	0.611
Fatigue	Compassion therapy	67.60	4.17	55.60	3.65	55.86	2.04
	Control	67.92	3.13	66.54	2.02	67.13	3.19

According to Table 1, there is a difference between the mean of psychological coherence and its dimensions at the three stages of the test. This difference is between the post-test and follow-up stages and the pre-test stage in the experimental therapy group.

Levine's test of homogeneity of variances was used for the homogeneity of variances among groups. Based on Levin's variance test, the post-test scores of perceptions of psychological coherence ( $F = 1.75$ ,  $P < 0.05$ ), self-destructiveness ( $F = 0.13$ ,  $P < 0.05$ ) and fatigue ( $F = 1.19$ ,  $P < 0.05$ ) ( $P < 0.05$ ) is similar in the experimental and control groups. The Shapiro-Wilk test showed that the distribution

### 3. Findings and Results

The frequency distribution of participants in the research according to the studied groups revealed that in the compassion-focused therapy group, the average age was  $31.10 \pm 0.27$  and in the control group, it was  $33.5 \pm 0.47$ . In the compassion-focused therapy group, 6 people (40%) had a diploma, 6 people (40%) had a bachelor's degree, and 3 people (20%) had a master's degree. In the control group, 7 people (46.66%) had a diploma, and 8 people (54.34%) had a bachelor's degree. The results of the independent t test showed that the studied groups are homogeneous based on age ( $t = 0.70$ ,  $P = 0.74$ ). The results of the chi-square test or  $\chi^2$  test showed that the members of the studied groups are homogeneous based on their level of education ( $P < 0.05$ ,  $\chi^2 = 0.50$ ).

of psychological coherence scores ( $Z = 0.13$ ,  $P < 0.05$ ), self-destructiveness ( $Z = 0.14$ ,  $P < 0.05$ ) and fatigue ( $Z = 0.16$ ,  $P < 0.05$ ) is normal.

Mauchly's Test of Sphericity (Mauchly's Test of Sphericity) = 0.66, approx.  $X^2 = 17.03$ ,  $P = 0.000$ ), self-destructiveness (W (Mauchly's Test of Sphericity) = 0.43, approx.  $X^2 = 5.52$ ,  $P = 0.000$ ), and fatigue (W (Mauchly's Test of Sphericity) = 0.62, approx.  $X^2 = 19.62$ ,  $P = 0.000$ ). This result indicates that the condition of equality of variance and covariance matrices and the assumption of sphericity are not valid for the mentioned variables; therefore, the Greenhouse-Geisser correction was used.

**Table 2**

*The results of the analysis of variance with repeated measurements (within subjects and between groups) in the variables of psychological cohesion, self-destruction and fatigue.*

Variable	Variables	Source	Sum of squares	Degrees of freedom	Average of squares	F	Significance level	Eta squared ( $\eta^2$ )
Psychological coherence	In-group effect	Level	1169.64	1.44	807.25	381.80	0.005	0.58
		Level $\times$ Group	617.68	2.89	213.15	100.81	0.005	0.50
		Error	738.63	60.63	12.18			
	Intergroup effect	Width from origin	62597.40	1	62597.40	2266.71	0.001	0.98
		Group	1209.73	2	604.86	21.90	0.001	0.51
		Error	856.71	42	20.369			
Self-destruction	In-group effect	Level	606.10	1.49	406.08	142.33	0.005	0.60
		Level $\times$ Group	277.71	2.98	93.03	32.60	0.005	0.51
		Error	738.63	60.63	12.18			
	Intergroup effect	Width from origin	20807.23	1	20807.23	3892.85	0.001	0.98
		Group	529.61	2	264.80	49.54	0.001	0.52
		Error	224.48	42	5.34			
Fatigue	In-group effect	Level	2050.13	1.77	1155.33	140.28	0.005	0.70
		Level $\times$ Group	948.08	3.54	267.14	32.43	0.005	0.59
		Error	613.77	74.52	8.23			
	Intergroup effect	Width from origin	498681.66	1	498681.66	3209.96	0.001	0.98
		Group	3444.44	2	1722.22	11.08	0.001	0.39
		Error	6524.88	42	155.35			

Table 2 shows that the intra-group effect of psychological cohesion, self-destruction, and fatigue in the pre-test, post-test, and follow-up stages is significant. That is, the scores of the participants in the psychosocial coherence variables in the experimental group increased from the pre-test stages to the follow-up, and the scores for self-destruction and fatigue decreased. The results of repeated intergroup effects show that there is a significant difference between the experiment and control groups in psychological cohesion, self-destruction, and fatigue ( $P < 0.05$ ). In other words, the psychological cohesion in the experimental group has increased compared to the control group. In addition, the amount of self-destruction and fatigue has decreased.

#### 4. Discussion and Conclusion

The results of the research showed that compassion-based therapy is significantly effective in reducing psychological coherence, self-destruction, and fatigue in drug users. In other words, people who participated in compassion-based therapy sessions increased their psychological coherence and decreased their self-destructive behaviours and fatigue. A study has not addressed this issue in detail. However, in terms of the effectiveness of compassion-centered therapy

on the psychological coherence of self-destructive behaviours and fatigue, it is in line with the prior studies (Khorsavi, 2018; Riahi nia & Safari, 2020; Shams et al., 2021).

Explaining this finding, compassion-focused therapy helps people have more emotional flexibility and get rid of dysfunctional thoughts and behaviours. In other words, compassion helps people feel a connection between themselves and others and overcome distress. People with high self-compassion have less distress. Therefore, they feel more satisfied in their lives, are more likely to receive positive influences, and tend to evaluate situations from a positive perspective. In other words, people who have higher compassion when experiencing unpleasant events, especially experiences that involve social evaluation and comparison, experience fewer negative emotions through the normalization of the experience (human commonality component). Also, mindfulness in compassion-based therapy helps a person prevent pessimistic thoughts (Neff, 2009). Since most negative emotions are caused by distressing thoughts that arise after unpleasant experiences. Therefore, it can be said that mindfulness leads to a decrease in psychological coherence by increasing it. They have

negative emotions (Neff, 2011). Therefore, self-compassion is a powerful human force that is considered kindness, gentleness, a feeling of inner connection, and helps people find hope when facing difficulties in life. Also, a compassionate mind with adaptive coping skills helps maintain optimistic expectations about the future. In this context, Smith et al. (2014) showed that a positive view of the future is the most significant benefit of self-compassion, and the intervention of self-compassion is effective in improving people's internal coherence regarding their abilities when facing challenging situations, perhaps because of this (Smeets et al., 2014). The reason is that this training reduces self-judgement, which analyzes competence perception. Finally, reality therapy, by focusing on acceptance of responsibility and increasing internal control, increases psychological coherence in people. Compassion-focused therapy can also help people experience greater psychological coherence by improving themselves and developing self-acceptance. Therefore, both treatments are effective ways to increase psychological coherence.

On the other hand, the results showed that compassion-based treatment is effective against addict self-destruction. In order to explain this finding, we must first understand the occurrence of self-destructive behaviour and why a specific behaviour is performed at a specific time under a specific consequence by a specific person. This key point refers to the functional role of self-injurious behaviours, a crucial aspect of which, according to Lloyd-Richardson et al. (2007), is an intra-individual function, which acts in two ways: negative self-reinforcement and positive self-reinforcement. They believe that self-destructive behaviours may be in the form of automatic negative reinforcement to stop or prevent undesirable emotional and cognitive states (getting rid of failures, reducing emotional pain, expressing anger towards others, reducing tension, or positive reinforcement). Auto, which refers to self-destructive behaviour used to create internal states, acts.

Self-compassion, on the other hand, requires thoughtful awareness of our negative thoughts and emotions so that they are close to balance and peace. When we think, we are willing to experience the reality of the present moment away from judgement, avoidance, and suppression (Bishop, 2009). Most of the time, people get so lost in the process of solving their problems that they don't stop to realize how difficult it is for them at the moment. Taking our bad reactions into account when judging ourselves means that we are too closely associated with them; we are not fully involved in and affected by them. As opposed to believing

that our thoughts and feelings contribute to us believing that we are not worthy, we should recognize that the story of inadequacy is merely thoughts and feelings to allow us to hide our doubts and be content with our worthless selves (Neff, 2009). Therapy based on self-compassion draws people's attention to two basic aspects of their daily experiences: trying to get closer to people and meaningful life values, and trying to get away from annoying thoughts and feelings. In other words, self-compassion, by examining the life story of recognizing values and moving on the path of values, leads to the promotion of psychological flexibility and, subsequently, the reduction of self-destructive behaviours in people suffering from substance abuse.

Another result of the research is the effect of compassion-based therapy on fatigue. Fatigue has a multi-dimensional and multi-casual structure and includes persistent and permanent mental feelings of exhaustion, weakness, and lack of energy, which leads to a decrease in functional capacities. Fatigue has a multi-dimensional and multi-casual structure and includes stable and permanent mental feelings of exhaustion, weakness, and lack of energy. These feelings contribute to a decrease in functional capacities and, to a large extent, to emotional problems, inability to manage emotions, and emotional ataxia in people. Teaching the compassionate mind is a major part of compassion-focused therapy. This process has two main goals: the first is to help clients develop their relaxation system and use it to regulate their motivational systems and emotional states (e.g., fear, anger, or disgust). The second goal is to use a range of techniques to help people develop a compassionate motivational system. This will increase their capacities to offer compassion to others, receive compassion from others, and practice self-compassion. Teaching self-compassion in the process of compassion-focused therapy for subjects has led to intelligent growth and the ability to moderate unpleasant emotions, the ability to engage and properly communicate with a negative emotion in an appropriate manner, and the ability to wisely control emotions by moderating emotions. Negativity and the increase in pleasant emotions contribute to the improvement of the cognitive interpretations of the emotions. This leads to the increase in distress tolerance, and finally the improvement of fatigue feelings.

## 5. Limitations & Suggestions

Teaching self-compassion in the treatment process can contribute to emotional coherence, adaptation of new

compromising behaviours, evaluation of positive and negative emotions, and overall improvement of fatigue. Finally, according to the effect of this treatment in the post-examination and follow-up phases, it is suggested to use this treatment method to reduce the psychological problems and injuries of drug users in addiction treatment camps and clinics as an intervention method. It is also suggested to use this treatment method in combination with other psychological interventions to be more effective in future research. The current research was conducted on substance abusers in Tehran, so the generalization of the results to other cultures and cities is limited.

### Authors' Contributions

Fatemeh Alijani played a crucial role in shaping the research design, collecting data, and administering the schema therapy intervention. Somayeh Bagshomal brought expertise in research methodology and data analysis to the study. Mohammad Ghamari assisted in data collection and overall research coordination. Jafar Pouyamanesh contributed to data analysis and its interpretation

### Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

### Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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### Declaration of Interest

The authors report no conflict of interest.

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### Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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