

Comparing the effectiveness of compassion-based therapy and reality therapy on psychological coherence, self-sabotage, and fatigue in drug abusers

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Abstract

Aim: This study aims to compare the effectiveness of compassion-based therapy and reality therapy on psychological coherence, self-destruction, and fatigue in drug users.

Methods: The present study was semi experimental in terms of its purpose, application, and research method. It utilized a pre-test, post-test, and follow-up design with a control group. Among the addicts referred to the Pariz addiction treatment center in Tehran in 1400, 45 individuals were randomly selected through a lottery and assigned to two experimental groups and one control group. The first experimental group received 8 sessions of reality therapy combined with compassion-based therapy, while the second experimental group received 8 sessions of reality therapy alone. Data collection involved the use of Antonoski's Psychological Coherence Scale (1993) in its short form, Sanson et al.'s Self-Destruction Questionnaire (1998), and Smets et al.'s Fatigue Questionnaire (1996). Data analysis was performed using SPSS version 24 software and repeated measurements analysis of variance (ANOVA).

Finding: The results of the research demonstrated that both compassion-based therapy and reality therapy significantly contributed to the improvement of psychological coherence, reduction of self-destruction behaviors, and alleviation of fatigue in substance abusers. In other words, individuals who participated in either compassion-based therapy or reality therapy experienced increased psychological coherence and decreased tendencies towards self-harm and fatigue. However, no significant difference was found between the two therapy groups in terms of their impact on the studied variables.

Conclusion: Based on the research findings, it is recommended that clinical psychologists and psychotherapists consider utilizing reality therapy as an effective approach to enhance psychological coherence and mitigate self-destruction behaviors and fatigue in individuals struggling with substance abuse. Implementing reality therapy in therapeutic interventions can be valuable in promoting positive outcomes and overall well-being among these individuals.

Keywords: Therapy based on compassion, reality therapy, psychological coherence, self-destruction, fatigue, drug abusers.

Introduction

Drug addiction refers to a maladaptive dependence on substances that leads to significant impairment or distress (Diagnostic and Statistical Manual of Mental Disorders, 2013). Research conducted in various countries consistently indicates a rising trend in drug consumption within different societies (Angelis, 2015). Substance abuse has destructive effects across multiple domains, including physical consequences such as an increased risk of heart, respiratory, liver, and nervous diseases, compromised immune system, eye problems, and memory loss. It also has negative effects on mental health, contributing to conditions such as anxiety, depression, sleep disorders, irritability, and anger. Furthermore, substance abuse adversely impacts a person's behavior and personality, resulting in an escalation of violence, physical and psychological risks, heightened driving hazards, and strained family and social relationships. Economically, substance abuse contributes to decreased work performance and productivity, an increase in individuals leaving employment or experiencing unemployment, elevated treatment and healthcare costs, and a diminished quality of life (Balstar-Tarin et al., 2022; Nordholm et al., 2023).

Drug abuse has psychological effects, one of which is the reduction of integrative self-knowledge. Integrative self-knowledge refers to an individual's endeavor to integrate their past, present, and future experiences to foster personal growth and improvement (Ghorbani, Cunningham, and Watson, 2010). It plays a crucial role in perceiving the world as understandable, meaningful, and controllable. Moreover, it enhances an individual's resilience in facing tense and stressful life situations (Nilsson et al., 2010). Conversely, individuals with weak psychological coherence are more susceptible to drug use (Eriksson, 2022). The research conducted by Hajlou, Ahmadi, and Gharibzadeh (2020) yielded results indicating a negative and significant relationship between consumption craving and psychological coherence.

One of the consequences of substance abuse is self-harm behavior. Self-harm behavior refers to engaging in activities or actions that are knowingly dangerous and yield harmful results, often resulting in direct or indirect harm to oneself, family members, others in the immediate vicinity, and even society as a whole (Ranzcep, 2014). Self-injurious behavior encompasses actions that lead to physical or psychological harm or violence directed towards oneself (Sansone & Nunn, 2008). These self-harm habits can have a detrimental impact on both physical and mental health. Managing and controlling these self-harm behaviors can be particularly challenging because they often fall outside the realm of traditional medical treatments and lack obvious signs and symptoms in the early stages. Consequently, they are frequently overlooked or disregarded, except when they reach an advanced stage (Simeon and Hollander, 2017).

Fatigue is another variable that tends to be higher in individuals with substance use disorder compared to those without (Attarian, 2014). According to Aminoff's theory (2013), fatigue is described as a mental sensation characterized by weakness, a lack of energy, and overall exhaustion. Fatigue manifests through various symptoms, including the need for sufficient rest, excessive sleepiness, feelings of weakness, reduced stamina and functional capacity, decreased muscle strength, difficulty concentrating, mental conflicts, verbal errors, challenges in selecting appropriate words during speech, memory

problems, diminished interest in daily tasks, difficulty initiating work, and a general sense of tiredness. These expressions collectively represent the experience of fatigue in individuals (Aminaf, 2013, Bradli, 2010; quoted by Davoudi et al., 2019).

Drug addiction is a recurring and chronic mental disorder characterized by severe motivational conditions and a loss of behavioral control. The underlying factors of addiction and substance abuse encompass attitudes, environmental influences, and societal factors. Consequently, it is imperative to provide robust and effective solutions for the treatment of individuals struggling with drug addiction (Bagheri and Taqvai, 2017). In the field of addiction treatment, both pharmaceutical and non-pharmacological interventions have been employed to reduce addiction and mitigate its negative consequences. These interventions include cognitive and behavioral therapy (Sadaqtzadeh et al., 2017), schema therapy (Nakhei Shahmahmoud, 2019), meaning therapy (Niknam et al., 2017), mindfulness-based approaches (Salimi Kia et al., 2019), and cognitive rehabilitation (Mam Sharifi et al., 2020). However, upon reviewing the existing literature, it was discovered that the effectiveness of compassion-based therapy and reality therapy in enhancing psychological coherence, reducing self-sabotage behaviors, and alleviating fatigue in individuals with drug addiction had not been thoroughly examined. Therefore, this study aimed to investigate the effectiveness of these two treatment modalities.

Compassion-based therapy involves cultivating a compassionate relationship with oneself and facilitates personal transformation by fostering self-care, redirecting attention towards oneself, and promoting compassionate internal processes. These changes can be seen as a form of physiological-psychological and neurological treatment that contributes to improvements in cognitive functions among older individuals (Gilbert, 2014). Compassion-based treatment is derived from the third wave of psychotherapy and has been shown to enhance both physical and psychological well-being (Grodin et al., 2019). Compassion, in this context, refers to acknowledging the presence of suffering and adopting a caring and compassionate attitude towards oneself when faced with difficulties or setbacks (Baker et al., 2019). Cultivating a self-compassionate attitude as a coping strategy helps individuals establish a strong connection with themselves and others, enabling them to overcome fear and anxiety (Irat et al., 2018). The components of compassion-based therapy include self-kindness versus self-judgment (developing self-understanding rather than self-criticism and fostering compassion and support for one's own shortcomings and inadequacies), common humanity versus isolation (recognizing that all humans are imperfect and make mistakes), and mindfulness versus over-identification (cultivating balanced and clear awareness of present experiences, which allows for acknowledging and processing painful aspects without getting caught up in them) (Ayo et al., 2017). Compassion-based therapy does not seek to avoid or suppress negative emotions or uncomfortable experiences; instead, it encourages approaching them with kindness and compassion. As a result, negative emotions can transform into more positive emotions, providing individuals with a clearer understanding of the situation and the ability to choose effective actions to bring about personal change or modify the situation (Kreiger et al., 2019; Bell et al., 2020). Research conducted by Khosravi (2017) has indicated the positive impact of self-compassion-focused treatment

on the mental health of individuals with substance use disorders. Previous studies reviewed by Shams, Pashang, and Sadaqat (2014) and Riahi Nia and Safari (2019) also support the effectiveness of self-compassion training in enhancing distress tolerance, self-control, attachment style, and social adjustment among individuals with a history of drug use.

Reality therapy, developed by Glaser, is a widely used therapeutic approach that focuses on defining behavioral rules and strategies to achieve satisfaction, happiness, and success in life. It emphasizes important concepts such as control, responsibility, and choice, which significantly influence individuals' coping strategies. Reality therapy is rooted in choice theory, which posits that our actions are behaviors and that behaviors are choices. According to this theory, we have the ability to choose our own behaviors and are responsible for our own lives, actions, and emotions. Glaser identifies four components of behavior: performance, thinking, feeling, and physiology. Among these components, we have direct control over two - performance and thinking - while our influence over feeling and physiology is more indirect. The choice theory places particular emphasis on the components of performance and thinking (Wubbolding, 2013 and Wubbolding, 2017).

Various studies conducted around the world have demonstrated the effectiveness of reality therapy in addressing a range of variables. For instance, it has been shown to reduce depression in adults (Bhargava, 2013), improve flexibility (Sadat Bari et al., 2013), reduce Internet addiction, and enhance students' self-esteem (Kim, 2008, as cited by Barabadi and Heydarnia, 2019). Additionally, reality therapy has been found to increase psychological well-being (Arafi and Ganjouri, 2017) and foster hope among patients (Abdollahi et al., 2021). However, despite its demonstrated efficacy in these areas, the use of reality therapy specifically for addressing psychological coherence, self-sabotage, and fatigue in individuals with substance abuse issues has not been extensively explored. Drug abuse is a pressing societal challenge that continues to grow in prevalence, posing significant consequences for public health and well-being, and causing profound changes in individuals' behavior and personality. The high prevalence of drug abuse has prompted global and national efforts to address its consequences and provide treatment for those affected. The detrimental effects of drug abuse on society's health and well-being necessitate immediate attention and action to mitigate its impact. However, upon reviewing existing literature, it becomes apparent that there is a research gap regarding the effectiveness of compassion-based therapy and reality therapy in addressing psychological coherence, self-sabotage, and fatigue among individuals struggling with drug abuse. Consequently, the present study aims to fill this gap by investigating the effectiveness of compassion-based therapy and reality therapy on psychological coherence, self-sabotage, and fatigue in drug abusers, while also examining potential differences in their effectiveness.

Methods

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 addicts referred to the Pariz addiction treatment center in Tehran in 2021. The statistical sample consisted of 45 addicts who were selected targeted and randomly assigned to the experimental groups (15 subjects) and the control group (15 subjects). There were 60 samples of volunteers participating in the research, and the researcher selected 45 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., Franssen, 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. 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, 45 of them were purposely identified (Obtaining a rating lower than 30 in the psychological coherence questionnaire (indicating low psychological coherence), and obtaining a rating higher than 7 in the self-destruction questionnaire (indicating high self-destruction) and obtaining a score above the average of 30 in the above questionnaire), 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; 2) taking antipsychotic drugs; and 3) missing more than two sessions. The screening was done by a psychiatrist at Pariz 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.

Research instruments

The Short Form of the Sense of Coherence (SOC-13) Questionnaire Antonovsky (1993) wrote this form. 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. The concurrent validity of this scale with the psychological hardiness 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. 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. 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.

Multidimensional Fatigue 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 (Smets et al., 1996). 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.

Treatment protocol

Compassion-based treatment sessions, according to the program that was made before the sessions and using the theoretical foundations of Gilbert's (2009) compassion-based treatment by the researchers at the Pariz addiction treatment center in Tehran, were presented in 8 sessions (one session per week for 90 minutes) to the subjects of the experimental groups, and the control group did not receive any training. Table 1 summarizes training sessions. Treatment by therapists specializing in therapy and compassion therapy who provided the necessary expertise and experience in these two method.

Table 1. Summary of the content of compassion-based treatment sessions on psychological coherence, self-sabotage and fatigue in drug abusers.

Session	Goals	The content of the session	Homework
1	Establishing general communication between members and teaching compassion	Getting to know the general principles of compassion-based therapy and distinguishing compassion from self-pity, mindfulness training, and physical and breathing exercises	Breathing exercise
2	Familiarity with brain systems and their functions	Examining and reviewing the assignment of the first session, teaching the three emotional regulation systems and how they interact, defining self-criticism and its causes, and teaching empathy	Examining and identifying self-critic thoughts and behavior
3	Acquaintance with Mushfiq people's characteristics	Familiarity with the characteristics of compassionate people—compassion for others, compassion for oneself, training to cultivate a sense of human commonality against self-destructive feelings and shame, and training for Compassion	Incorporating compassion-based components into daily activities
4	Identification and application of exercises to cultivate a compassionate mind	Encouraging subjects to self-identify and examine their personality as compassionate or non-compassionate with regard to educational topics, identification, and application of exercises to cultivate the compassionate mind, the value of compassion, empathy, and sympathy towards oneself and others	Identifying and applying compassion components
5	Teaching styles and methods of expressing compassion	Teaching the styles and methods of expressing compassion (verbal compassion, practical compassion, cross-sectional compassion, continuous compassion) and applying these methods in daily life and for parents, friends, teachers, and acquaintances	Applying these methods of expressing compassion in everyday life and for parents, friends, and acquaintances
6	Teaching skills based on compassion	Teaching compassion skills to the participants in the fields of compassionate attention, compassionate reasoning, compassionate behavior, compassionate imagery, compassionate feeling and behavior, and playing the role of a person in the three dimensions of self-criticism, self-criticism, and self-compassionate with the Gestalt empty chair technique Finding the tone and tone of voice of the self-critical and self-centered person during the internal conversation and its similarity with the conversation pattern of important people in life	Recording the internal dialogues of self-criticism and self-pity
7	Expanding and refining compassion	Training and application of compassionate mind exercises (forgiveness, non-judgmental acceptance, influenza metaphor training, and tolerance training), training to accept upcoming issues and changes, and training to endure	Practice writing compassionate letters

		difficult and challenging conditions due to the changeable nature of life and facing various challenges Learning to write compassionate letters to yourself and others	
8	Teaching obstacles to compassion	Filling the weekly table of critical thoughts, compassionate thoughts, and compassionate behavior Finding compassionate colors, places, and music that can be components of compassionate imagery, working on the fear of self-compassion, and the obstacles to cultivating it	Record and note self-pity in daily challenges

The reality therapy treatment sessions, which were conducted by the researcher at the Paris Addiction Treatment Center in Tehran, comprised of 8 sessions (one session per week) with a duration of 90 minutes each. These sessions were compiled based on a pre-designed program and utilized the theoretical foundations of Glaser's (2008) reality therapy treatment. They were presented to the subjects of the experimental groups, and the control group did not receive training. The training sessions are summarized in Table 2.

Table 2. Summary of the content of reality therapy sessions on psychological coherence, self-sabotage and fatigue in drug abusers

Session	Goals	Content
First	Creating basic communication and understanding the principles of reality therapy	Familiarizing the members with each other, explaining the rules and regulations and how to do the work, and providing explanations about the principles of reality therapy and choice theory
Second	Introducing general behavior and knowing its components	Examining the concept of general behavior and introducing its components in the form of an allegory of the behavior machine, which is the front wheels of thinking and action and the rear wheels of feeling and physiology, People have direct control over the front wheels and indirect control over the rear wheels. discussing stress and perfectionism in the mind and how a person can control the above elements, emphasizing that actions and thoughts can be controlled and chosen. Familiarity with basic needs
Third	Emphasis on responsibility, commitment and freedom	Acquainting people with how to accept responsibility for their behavior, as well as the necessity of being responsible and committed to the assigned responsibilities in life, and how to avoid responsibility as the cause of many problems Explanation of the concept of freedom of choice in behavior.
Fourth	Changing behavior and thoughts	Strengthening positive behaviors and eliminating disruptive behaviors, gaining awareness and preparation for the principles of behavior change, changing irrational thoughts, changing distorted beliefs, and changing negative behaviors such as anxiety and depression, reducing psychological pressure caused by change by talking about feelings
Fifth	Familiarizing the members with how to solve problems	Choosing the best way to achieve basic needs and increasing optimal choices to solve problems, using the brainstorming method to solve problems

Sixth	Acquaintance of members with the world of quality and value judgment towards their behavior	Awareness of abilities, realism about the surrounding world, teaching the concept of a qualitative world, and value judgment of members about their current behavior
Seventh	Behavior change	Implementing plans about oneself and responsibilities and helping to accept conditions
Eighth	Summary and Conclusion	Emphasizing maintaining a positive vision and changing negative perceptions and behavior, emphasizing the commitment to maintaining change, emphasizing that the process of change is the result of a choice that leads to the improvement of the psychological state, discussing and reviewing the achievements of members from participating in treatment sessions

In this research, ethical considerations, including scientific honesty and trustworthiness, obtaining informed consent from the participants, respecting the subjects' right to remain anonymous, and maintaining confidentiality of their information, were taken into account. Data analysis was conducted using SPSS version 24 software, and variance analysis with repeated measurements was performed.

Results

The frequency distribution of participants in the research, categorized by the studied groups, revealed that the average age in the compassion therapy group was 31.10 ± 0.27 , in the reality therapy group it was 29.11 ± 0.15 , and in the control group it was 33.5 ± 0.47 . In the compassion therapy group, 6 individuals (40%) held a diploma, 6 individuals (40%) had a master's degree, and 3 individuals (20%) had a bachelor's degree. In the reality therapy group, 9 individuals (60%) had a bachelor's degree, 4 individuals (26.27%) had a master's degree, and 2 individuals (13.33%) held a diploma. In the control group, 7 individuals (46.66%) had a bachelor's degree, and 8 individuals (54%) held a diploma. The results of the one-way analysis of variance test indicated that the age of participants in the studied groups was homogeneous ($F = 0.70$, $P = 0.74$). Furthermore, the results of the chi-square test showed that the level of education among the studied groups was homogeneous ($P < 0.05$, $\chi^2=0.50$).

Table 3. Mean and standard deviation of research variables in three stages of measurement

Variable	Group	Pretest		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
	Reality therapy	18.40	2.66	27.00	3.56	26.33	2.94
	Control	17.33	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
	Reality therapy	9.40	1.68	14.93	1.38	15.34	1.64
	Control	17.93	0.636	17.78	0.584	17.69	0.611

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Fatigue	Compassion therapy	67.60	4.17	55.60	3.65	55.86	2.04
	Reality therapy	63.60	4.18	50.93	3.33	51.13	2.47
	Control	67.92	3.13	66.54	2.02	67.13	3.19

According to Table 3, there is a difference between the mean of psychological coherence, self-harmlessness, and fatigue in 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. The homogeneity of variances among groups was assessed using Levine's test. Based on Levine's variance test, the post-test scores of perceptions of psychological coherence ($F = 1.75, P < 0.05$), self-harmlessness ($F = 0.13, P < 0.05$), and fatigue ($F = 1.19, P < 0.05$) were found to be similar between the experimental and control groups ($P < 0.05$). The Shapiro-Wilk test indicated that the distribution of psychological coherence scores ($Z = 0.13, P < 0.05$), self-harmlessness ($Z = 0.14, P < 0.05$), and fatigue ($Z = 0.16, P < 0.05 / 0 < P$) were not normally distributed. Mauchly's Test of Sphericity showed violations of the assumption of sphericity for psychological coherence ($W(\text{Mauchly's Test of Sphericity}) = 0.66, \text{Approx. } X^2 = 17.03, P = 0.000$), self-harmlessness ($W(\text{Mauchly's Test of Sphericity}) = 0.43, \text{Approx. } X^2 = 5.52, P = 0.000$), and fatigue ($W(\text{Mauchly's Test of Sphericity}) = 0.62, \text{Approx. } X^2 = 19.62, P = 0.000$). Thus, the condition of equality of variance/covariance matrices and the assumption of sphericity were not valid for the mentioned variables. As a result, the Greenhouse-Geisser correction was employed.

Table 4. 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	D.F	Average of squares	F	Significance level	Eta squared (η^2)
Psychological coherence	In-group effect	Stage	1169.64	1.44	807.25	381.80	0.005	0.58
		Stage × 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	Stage	606.10	1.49	406.08	142.33	0.005	0.60
		Stage × 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	Stage	2050.13	1.77	1155.33	140.28	0.005	0.70
		Stage × 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 4 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. In other words, the psychological coherence variables in the experimental group increased from pre-test to follow-up, while self-destruction and fatigue decreased. The results of the repeated measures intergroup effects revealed a significant difference between the study groups and control group in psychological cohesion, self-destruction, and fatigue ($P < 0.05$). Specifically, the experimental group exhibited increased psychological cohesion compared to the control group, accompanied by a decrease in self-destruction and fatigue. To further analyze the pairwise means comparison, Bonferroni's test was employed.

Table 5. The results of the Benferni test to compare the variable mean of the variables of psychological coherence, self-destruction and fatigue in the studied groups.

Variable	Group I	Group J	Post-test		Follow up	
			Difference in mean (I-J)	P	Difference in mean (I-J)	P
Psychological coherence	Compassion therapy	Reality therapy	-3.53	0.9	-3.73	0.9
		Control	-22.86	0.000	-21.80	0.000
Self-destruction	Reality therapy	Control group	-19.33	0.000		0.000
	Compassion therapy	Reality therapy	-2.76	0.9	-2.41	0.9
		Control	-19.17	0.000	-22.61	0.000
Reality therapy	Control group	-17.11	0.000	-20.93	0.000	
Fatigue	Compassion therapy	Reality therapy	4.66	0.29	4.66	0.30
		Control	-11.93	0.000	-11.33	0.000
	Reality therapy	Control group	-16.60	0.000	-16.00	0.000

As Table 5 shows, the variables of psychological coherence, self-destruction, and fatigue in the experimental groups of reality therapy and self-compassion had no significant difference in the post-test and follow-up stages. ($P > 0.05$). However, there was no

significant difference between the experimental groups of compassion therapy and reality therapy, as well as the control group, in the post-test and follow-up stages regarding the variables of psychological coherence, self-destruction, and fatigue ($P > 0.05$). In other words, both intervention methods were found to be effective in improving coherence, self-destruction, and fatigue in the studied sample.

Discussion

This study aimed to compare the effectiveness of compassion-centered therapy and reality therapy in improving psychological coherence, self-destruction, and fatigue among individuals with substance abuse issues. The results of the research indicated that both compassion-based therapy and reality therapy were significantly effective in enhancing emotional coherence, reducing self-destruction behaviors, and alleviating fatigue among substance abusers. In other words, participants who underwent compassion-based therapy and reality therapy experienced increased psychological coherence while exhibiting decreased self-harm behaviors and fatigue. The findings align with the works of Khosravi (2017), Shams, Pashang, and Sadaqat (2014), and Riahinia and Safari (2019) concerning the effectiveness of compassion-based therapy in improving psychological coherence, reducing self-harm behaviors, and mitigating fatigue.

In explaining the effectiveness of compassion therapy and reality therapy in improving psychological coherence, it can be observed that both methods resulted in enhanced psychological coherence, reduced self-destruction tendencies, and alleviated fatigue using their respective techniques and approaches. In compassion therapy, the significant benefit of self-compassion lies in fostering a positive outlook on the future, wherein compassion-based interventions effectively boost individuals' optimism and belief in their abilities when confronting challenging situations. Training and exercises aimed at cultivating self-compassion have shown efficacy in improving various forms of disorders (Baldwin et al., 2020). Compassion-focused therapy guides individuals to embrace and show compassion towards their own painful emotions rather than avoiding or repressing them. This process allows individuals to acknowledge and extend compassion to their experiences, thereby shifting their relationship with self-evaluation. Rather than solely focusing on altering individuals' "self-evaluation," the emphasis is placed on transforming their relationship with it (Fateh Zadeh et al., 2016). On the other hand, reality therapy provides individuals with a method for effectively managing their lives, taking responsibility for emotional issues, and fostering positive emotions. This is accomplished by discerning right from wrong and recognizing fundamental human needs in life. Consequently, their behavior is shifted from ineffective to efficient, empowering them with constructive choices, proper evaluation, and increased internal control (Elahinejad et al., 2017). Through this process, individuals learn the significance of their opinions, experience the joy of thoughtful interactions, and overcome the fear of expressing themselves due to fear of rejection. These factors contribute to the fulfillment of their needs and ultimately promote psychological well-being (Bradley, 2014). By emphasizing facing reality, assuming responsibility, recognizing basic needs, making moral judgments regarding behavior, focusing on the present moment, fostering internal control, and attaining a sense of achievement and identity, reality therapy encourages the development

of psychological coherence. The present study has attempted to teach adolescents that their behaviors are choices made from within themselves. The individual holds the sole control over their actions, thoughts, and to a large extent, their emotions, and thus wields the power to shape their own life (Wubbolding, 2017). Accordingly, it is expected that the utilization of these techniques in the current study has contributed to the enhancement of psychological coherence.

In explaining the effectiveness of compassion therapy and reality therapy in reducing self-destruction and fatigue, it is important to consider the role of self-compassion. Self-compassion requires a mindful awareness of our negative thoughts and emotions, allowing us to approach them with balance and inner peace. By being present and accepting the reality of the present moment, without judgment, avoidance, or suppression, we can cultivate self-compassion (Bishop, 2009). Often, people become so absorbed in solving their problems that they fail to acknowledge the difficulty they are experiencing in the present moment. Identifying too strongly with our negative thoughts and emotions involves an excessive identification with our problems. Rather than getting caught up and overwhelmed by our negative reactions, we can recognize that our thoughts and emotions are just thoughts and emotions. This realization helps us detach from our self-image rooted in negativity and unworthiness (Neff, 2009). Therapy based on self-compassion directs individuals' attention towards two fundamental aspects of their lived experiences: moving towards valued relationships and important life values, and moving away from distressing thoughts and emotions. Through exploring their life narrative, recognizing their values, and aligning their actions with their values, self-compassion therapy promotes psychological flexibility and consequently reduces self-destructive behaviors and feelings of fatigue among individuals struggling with substance abuse. Reality therapy, on the other hand, aims to help individuals adopt a choice theory or internal control psychology rather than external control psychology. According to choice theory, it is believed that individuals alone have the power to make choices for themselves, and no one can do so without their permission. Humans have the capacity to choose effective and appropriate ways to attain pleasure, power, freedom, love, and belonging, and to improve their circumstances. Reality therapy emphasizes facing reality, taking responsibility, recognizing basic needs, making moral judgments about behavior, focusing on the present moment, internalizing control, and ultimately achieving a sense of successful identity (Rizzo et al., 2023). In the cases examined in this study, participants were taught that their behavior is a result of their own choices, and that they have complete control over their actions. This approach proved to be effective in reducing self-destructive behaviors and fatigue among the subjects. In this study, the principles and techniques of Glasser's reality therapy (2006) were utilized to develop a method that empowers individuals to effectively manage their lives and take responsibility for emotional problems. By recognizing right from wrong and identifying human needs, positive feelings are cultivated. Through this process, individuals were able to shift their behavior from ineffective to efficient, make constructive choices, and evaluate issues properly. These changes resulted in increased internal control, leading to a reduction in self-destructive behaviors and fatigue. The findings of this research should be interpreted with caution due to the specific population studied, namely individuals suffering from

drug abuse in Tehran. Generalizing the results to other cultures, cities, and elderly individuals with severe cognitive impairment may not be appropriate.

Conclusion

Considering the positive effects observed in the post-test stage and follow-up, it is recommended to incorporate this treatment method as an intervention in addiction treatment centers and clinics to address the psychological issues and self-destructive behaviors of drug users. Furthermore, future research could explore the effectiveness of combining this treatment method with other psychological interventions, with the aim of enhancing overall effectiveness. By incorporating multiple approaches, it is possible to achieve more comprehensive and robust outcomes. It is important to conduct further studies to examine the efficacy of this treatment method in diverse populations and settings, as well as to explore its potential benefits when used in conjunction with other therapeutic approaches. This will contribute to the development of more effective and tailored interventions for individuals struggling with drug abuse and related psychological challenges.

Disclosure Statements

The authors declared no conflict of interest.

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