

Effectiveness of Problem Solving Training on Happiness and Rational Coping Style of Addicts to Methamphetamine

Makvandi Leila¹, Fatemeh Forouhar², Biuok Tajeri^{3*}, Soraya Asiri Sorkhei⁴, Parivash Nazari⁵, Roya Shater jalali⁶

Abstract

Objective: Depressive mood along with boredom and unhappiness is one of the main consequences of addiction treatment and investigating the reduction strategies is of absolute and sheer necessity. The present research aims to investigate the effectiveness of the problem-solving training programs on the happiness and coping styles of individuals suffering from drug abuse.

Method: In a semi-experimental study, the addicted individuals with a low rate of happiness (N=36) were selected through multi-cluster stratified random sampling and assigned to the experimental and control groups. Both groups were measured by Oxford Happiness Inventory and Coping Styles Questionnaire and the experimental group underwent problem-solving skills training.

Results: the results of covariance analysis indicated that the happiness level (Eta square= 0.24) and rational style (Eta square= 0.31) of the experimental group has increased and there is a between-group difference in the three stages of intervention at the significant level of 99%. Also, there was a positive significant relationship between rational coping style (0.57) and the increase in happiness in subjects. Increased rates of happiness and rational coping skills were observed in the experimental group.

Conclusion: It can be concluded that the more the individual uses a rational coping style, the more their happiness is. Problem Solving Training led to increasing happiness and rational coping style for addicts of methamphetamine.

Keywords: Happiness, Problem Solving Training, Coping Styles, Addicts, Methamphetamine.

Introduction

Happy people see themselves as positive people who can control their life events. Being happy or unhappy has historically been associated with dismal human mood and is one of the prime characteristics of an efficient coping style in facing individuals who are on the verge of abstinence and problematic issues. Theorists of needs and theorists of acting on happiness argue that mental well-being changes

with the changes in life's conditions. Individuals experience positive well-being when they pursue their goals or are involved in their favorite activities. Other theorists propose that there is an element of stability in individuals' well-being that cannot be explained by their stability in life. These theorists claim that mental well-being is strongly influenced by consistent personality preparations (Argyle, 2020). Researchers define unhappiness as a set of negative affect (unhappy mood, anxiety, and emotions) and a kind of cognitive appraisal of life. They also propose that depression is associated with addiction and negative affect leads to a conditional desire toward drug abuse and the risk of relapse through evoking the negative affect and drug abuse (Nezu, Nezu &

1. MA in general Psychology, Rasht, Iran
2. MA in general Psychology, Karaj, Iran
3. Psychology department, Karaj Branch, Islamic Azad University, Karaj, Iran
4. MA in Clinical Psychology, Karaj, Iran
5. MA in general Psychology, Karaj, Iran
6. MA in Personality Psychology, Tehran, Iran
* Corresponding Author: Biuok Tajeri, Email: btajeri@yahoo.com

D’Zurilla, 2019). On the other hand, drug abuse and negative affect act as emotional avoidance. Conditional association between the negative affect and drug abuse can lead to drug abuse for the avoidance of negative emotions. Another reason for the increase of relapse as a consequence of negative emotions is the activation of cognitions that are related to the drugs and the negative effects on the memory network (Niknam, Madahi & SHafiabadi, 2018). The activation effect of the signs of negative affect depends on the drug-related cognitions and the individual’s temper. Nowadays, it is believed that designing specific programs for being happy increases happiness, and happiness is the product of mental health, not its goal (Beygi, Shirazi & Pasandide, 2019).

The related studies on coping and happiness indicate that happy individuals have adjusting and helpful thoughts and behaviors. They have a clear viewpoint toward issues and solve the problems directly. There is a negative relationship between addiction and problem-solving. Research indicates that addicts have a lower degree of problem-solving ability (Parker, Taylor, Easterbrook, Schell & Wood, 2018). Problem-solving deficiencies are found to be related to various defects in cognitive functions including addiction, depression, marital conflicts, and weakness in parental skills (Bellack & Hersen (2015). Samimi (2018) believes that problem-solving skills, relying on logical principles, make us successful in solving problems, reducing stress, and bringing happiness and vitality. Problem-solving has had a significant effect on increasing the therapeutic success of addicted adolescents (Frank et al., 2018) and the treatment of depressive disorder caused by drug abuse among methadone-dependent addicts (Rosen et al., 2016).

The addiction period ends in several tragedies such as divorce, losing the custody of children, and losing a job. The drug abusers experience a kind of depression and their treatment is needed and pharmaceutical therapy in the therapeutic program

of abusers is of crucial necessity. The efficacy of skills training has been approved in the treatment and prevention of relapse. The cognitive-behavioral training techniques can be of great benefit in the treatment of addiction (Tajeri, Anousheh, Asadi, Bahadoran, Shaban, et al., 2020). One of these technics is problem-solving training. Vidrine et al. (2011) examined the effect of motivational problem-solving therapy (MAPS) on quitting addicts and reported that this method increased the rate of drug avoidance and reduced the likelihood of risky behaviors. Another study also found that problem-solving skills can reduce psychiatric symptoms like depression in substance abusers. As depression gradually decreases and patients’ cognitions change, patients learn how to deal with life events and stress (Tajeri et al., 2020).

Falahan, Mahmoodnia, Ghaedy, and Zarghami (2020) reported that Problem-solving training has important implications for coping with depression, suicide attempts, addiction, obesity, and alcoholism. This set of techniques decreases the self-concentration without any active cognitive response (confirmatory appraisal, conceptual processing and analysis, and effort to control and repression) and increases the flexibility and bias of attention in dealing with the situations. Low happiness is closely related to the occurrence of mental disorders and social harm in addicts, so the program is used to reduce mental disorders and social harm and prevention. Therefore, this model can be applied to reduce psychological disorders, social harm, and prevention. Providing an opportunity for addicts to realize their pathology and enabling them for making a brighter horizon for themselves will inevitably improve their happiness degree as well as overall performance (Tajeri et al., 2020). Different therapeutic models and strategies have a great role in the decrease of negative affect and one of the most principal models in this realm was cognitive behavioral therapy, one of which is problem-solving skills training. Studies have indicated that mastery over specific skills

of problem-solving has a strong relationship with happiness (Farid Marandi, Kakabaraee & Hosseini, 2020).

The results of the research by Mohammadi and Sahebi (2001) who investigated and compared problem-solving styles of depressed and normal individuals indicated that there is a significant difference between depressed and normal individuals in problem-solving styles and depressed individuals employed ineffective problem-solving methods in problematic situations. It has been shown that problem-solving has a great positive impact on the increase of therapy success among addicted adolescents and the treatment of depression resulting from drug abuse among the addicted people being treated by methadone (cited in Askari, Jomehri, Tajeri & Bermas, 2017).

Skills training causes individuals to solve conflicts with their peers constructively. Their skill of impulse and stimulation inhibition increase and the increase of rational coping skills decrease their tendency to abuse drug and prevents their relapse. There is a negative relationship between addiction and problem-solving and findings indicate that addicted individuals have lower levels of problem-solving skills (Parker et al., 2018). Becker-Weidman et al., (2010) studied social problem-solving in adolescents being treated for depression and found that avoidant and impulsive problem-solving styles predict depression, while negative and positive problem orientations have a mediating role in the effectiveness of the therapeutic intervention. Problem-solving skills training and its impact on the increase of happiness makes the addicted people be able to perceive their pathology and map out a purposeful and clear horizon (Tajeri et al., 2020).

The happiness of patients with substance abuse seems to be affected by their stressful conditions, which can be improved by training in stress management, training problem-solving skills, and training effective coping styles. One of the important goals of research on coping styles among patients

is to determine what kind of coping strategies in the addicted population are associated with better adaptation (Christensen, Benotsch, Wiebe & Lawton, 2019). In other words, the relationship of a particular type of coping to predict patient cohesion depends on the particular type of stressful situation that has involved the person. It has been found that rational coping has positive impacts on patients who think they have more control over their stressful situations, and emotional coping has positive impacts on patients who think they have less control over stressful situations (Felton & Revenson, 2018). A study revealed that teaching problem-solving skills, decision-making, and stress management are effective in reducing alcohol consumption and substance use. They also increase appropriate social behaviors and reduce negative and destructive behaviors. These types of training have been effective in other behaviors such as reducing violence, delinquency, and suicide (Errecart, Walberg & Ross, 2019). Other studies have shown a positive impact of training problem-solving skills on reducing substance use, improving the quality of life, and improving effective coping strategies in coping with stressful problems and conditions (Johnson, Cohan, Davial, Lawrence, et al., 2018). One study found that teaching life skills reduces symptoms of depression, social problems, and mental preoccupation with illness and death in patients, but it has little effect on feeling guilty, self-esteem, and happiness in terms of emotional response (Malouff, Thorsteinsson & Schutte (2017). Problem-solving training helps to increase happiness and improvement of general performance. Hence, given the research gap in different clinical populations, the present research aimed to study the effectiveness of problem-solving training on happiness and rational coping style of addicts of Methamphetamine.

Method

This study is applied in terms of purpose and is a semi-experimental study with a pre-test-post-test

and a control group in terms of collecting data. Covariance and variance analysis with repeated measurement and the Bonn Ferry test was conducted to compare the difference in happiness between experimental and control groups.

The statistical population included all under-treatment addicts of Karaj city in 2015. The multistage cluster sampling method was used to select subjects. First, among all addiction treatment centers of Karaj city under the supervision of the "Professional Association of addiction treatment centers" in three geographical districts, two centers were selected. Then, among 600 addicts, 36 individuals were selected and assigned to experimental and control groups randomly. The inclusion criteria were an age range of 25-40 years, minimum education, no reception of psychological treatment since diagnosis, lack of acute or chronic medical diseases, no severe mental illnesses (e.g., psychotic disorders), and no psychotropic medications or substance abuse. The absence of more than two sessions in treatment sessions and the occurrence of major stresses due to unpredicted accidents were considered the exclusion criteria.

Measures

Oxford Happiness Inventory: Oxford Happiness Inventory is designed by Hills and Argyle (2002) and assesses the following psychological constructs with 29 items: self-image, life satisfaction, mental preparation, eagerness, aesthetic feeling, self-efficacy, and hope. The subjects are asked to indicate the degree to which they agree with each of the statements on a 6-point Likert scale (from strongly disagree to strongly agree). Reliability of this questionnaire via re-test method with a 4-weeks interval was computed at 0.78 which was meaningful at ($p < 0.001$). Cronbach's alpha for the total index of OHI was 0.84 in the test and 0.87 in the retest stage, which was acceptable. The total index of OHI had a high correlation with all 5 factors (N, E, O, A, C) of the NEO personality test. In addition, factor analysis extracted 7 factors from OHI which expanded 0.33

of the variance of questions. Besides, second-order factor analysis showed that OHI can be considered as a one-dimensional construct to measure happiness degree ((cited by Tajeri et al., 2020). Cronbach's alpha coefficient of happiness equaled 0.761 in the present study.

Coping styles questionnaire (CSQ): This questionnaire is a 60-item paper and pencil questionnaire which was developed by Rajer, Jarois, and Samarian (1993). This questionnaire was designed on four scales (a rational scale with 16 items, an emotional scale with 16 items, an avoidance scale with 13 items, and a detached scale with 16 items). The internal consistency of Cronbach alpha coefficients for four rational, detached, emotional, and avoidance scales were .853, .897, .735, and .69, respectively. The test-retest reliability coefficient (test, re-test method) for four rational, detached, emotional, and avoidance scales were .801, .794, .766, .701, respectively. In order to evaluate the concurrent validity of the questionnaire, Rajer, Jarois, and Najjarian used ECQ. Results indicated that there is a significant and positive relationship between mental rumination, emotional inhibition, emotional control, and emotional avoidance, which has been explained as the concurrent validity of the coping strategies questionnaire (cited in Beygi, Shirazi & Pasandide, 2013). This test has a high face and content validity and the Cronbach alpha of this test was reported to be 0.812 (Rim, 2019). Therefore, the validity of the test proved that this questionnaire can be used in research and diagnostic works. Cronbach's alpha coefficient of coping styles equaled 0.734 in the present study.

Problem-solving Package: The problem-solving skills training course in this research, which included five 2-hour sessions, was designed with two general goals: 1. creating insight toward happiness in an expanded context, like daily problems, and 2. helping individuals (participants) find a structural approach to a) recognize and define problems, and b) solve these recognized problems (Mahdavi,

Mohammadkhani & Hahtami, 2017).

Problem-solving sessions

First session: Greeting and giving some examples of hard situations in life and problem with making decisions, stating goals, encouraging involvement, and justifying and rationalizing problem-solving skills. Oxford Happiness Questionnaire was distributed.

Second session: reviewing the previous session and describing the first stage of problem-solving (getting a problem-solving attitude); after a positive approach and assurance of the problem acceptance, the second stage (the exact definition of the problem) was explained by offering several examples.

Third session: Examining each of the suggested solutions in the brainstorming activity, justifying the useful solution and examining them for the participants, and explaining them to subjects. In this stage, they set accessible goals for solving their problems.

Fourth session: Reviewing the effects of selected solutions for solving problems. To select the best solution, the degree of the potential success of each solution, and their effects on the living environment were discussed.

Fifth session: Evaluation: the effects of performing the selected solution were examined. If they were useful, the problem-solving cycle was finished; nevertheless, it would be continued till the elimination of the stress in the situation. It was explained that after the selection of the solution(s), the stages to reach that solution should be determined, several programs should be designed, and the time and list of activities going to be performed should be recognized stage by stage. The post-test via OHI was conducted in this stage (Mahdavi, Golestani, Aghaie, Hemmati, Hajhoseini, Lavasani, Yegane & Ghorbaninia, 2019).

Procedure

To perform the package of problem-solving skills training, the time and place of holding the sessions were determined by the participants' cooperation.

During the training period, no participant was absent and all of them filled out OHI. The collected data from the individuals were kept completely confidential and the participants signed written consents. Performance of training problem-solving skills was done in several stages. Below a summary of the stages is mentioned.

- Oxford Happiness Inventory and Coping styles questionnaire were performed on all the 600 under-treatment addicts and those whose scores were lower than average were recognized.
- 36 addicts with lower-than-average scores in OHI were selected and assigned randomly to the experimental and control groups.
- The subjects of the experimental group received 5 sessions of training in problem-solving skills (each session lasted for 120 minutes).
- Both the experimental and control groups participated in the post-test.
- To follow up the effect of training problem-solving skills (following up on the consistency of intervention effect), the addicts of the experimental group filled up OHI and CSQ again after three months.

Ethical statement

Informed consent forms were given to the participants and all necessary information, including the aims, confidentiality, and non-disclosure of participants' information, were provided to them. It was explained that if clients were reluctant to continue, they could stop taking part in the study at any time. It was also explained that after the end of the study, the results would be revealed to the participants.

Results

In this research, 31% of respondents were 25-29 years old, 30% were 30-34, and 29% were 35-39; 63% of respondents were men and 37% were women. Moreover, 38% of respondents had 3-5 years of disease background, 39% had 6-8 years, and 23% had more than eight years of disease background. The mean and standard deviation of

Table 1: Mean and standard deviation of happiness & coping styles in two groups

Variable	Pretest				Post-Test				Follow-Up			
	Experimental		Control		Experimental		Control		Experimental		Control	
	M	Q	M	Q	M	Q	M	Q	M	Q	M	Q
Happiness	33.85	4.02	34.72	3.37	39.39	6.78	32.31	3.55	41.40	4.53	34.35	3.22
Rational	43.48	7.90	42.42	7.90	48.11	5.05	41.92	6.06	38.40	5.27	40.40	6.18
emotional	40.35	8.50	38.64	6.50	36.36	4.16	37.28	6.03	36.36	5.63	36.83	6.26
avoidance	32.61	5.51	31.61	4.51	26.79	5.32	30.15	4.07	27.17	6.21	28.53	4.12
detached	38.43	3.93	37.79	5.61	40.16	4.69	36.43	5.11	41.72	6.04	34.93	5.59

happiness and coping styles scores in interventions stages of the experimental and control groups are provided in Table 1.

According to Table 1, the happiness means score in the experimental group was 41.40, while it is 34.35 in the control group. Moreover, data indicated

intervention has led to changes in the experimental group and 0.24 of the total change has been the result of the intervention. To analyze the means' difference, the repeated measure was used three times by the variance analysis test.

Based on the findings in the table above, the observed F is bigger than the value of the table at

Table 2. Results of covariance analysis on the dependent variable of happiness

Source of Changes	Sum of Squares	Df	F	Sig.	Power of Test	Eta
Between-Group Factor	319.22	1	69.21	.03	.65	.24
	319.22	1	69.21	.03	.65	.24
	319.22	1	69.21	.03	.65	.24
	319.22	1	69.21	.03	.65	.24
	319.22	1	69.21	.03	.65	.24

that the scores of rational and detached styles increased during the Intervention. Also, the scores of avoidance and emotional styles increased during the Intervention

Regarding the significance level that was equal to .03 and the effect of the pretest that was controlled through the covariance test, it can be concluded that problem-solving skills training was significantly effective. Moreover, regarding the Eta square (0.24), it can be concluded that the experimental

the significance level of 0.001. Therefore, the null hypothesis is rejected and it can be concluded with 99% of confidence that there is a significant difference between the means. The test was used to show the difference between the means of the experimental groups three times of measurement. Results indicated that there is a significant difference between the means of the experimental group in different steps of intervention. Moreover, Bonferroni's correction for the t-test was equal to

Table 3: Results of variance analysis with repeated measure of happiness

Source of Changes	Sum of Squares	Mean of Squares	F	Level of Sig.
Between Groups	3291.21	197.68		
Within Groups	5500.36	98.73		
Therapy Effect	4276.11	1289.32	74.84	.001

0.008. Considering the smaller degree of obtained P, the difference between the means is significant. The happiness of the experimental group increased after the intervention and problem-solving skills training was found effective in the increase of participants' level of happiness; therefore, the hypothesis is confirmed. Subsequently, the effect of problem-

Discussion and Conclusion

The level of happiness of addicts in the experimental group increased after the intervention. That is problem-solving skills training is effective in the increase of subjects' level of happiness, and therefore, the hypothesis is confirmed. Different

Table 4: Results of covariance analysis of rational coping style

Source of Changes	Sum of Squares	DF	F	Sig.	Eta	Power of Test
Between-Group	418.53	1	47.38	.01	.31	.70

solving analysis was used for the comparison of the scores of skills training on the rational coping style of subjects in three posttests. The steps of measurement were analyzed.

The significant level in rational style is equal to 0.01 and the intervention led to some changes smaller than α . Moreover, by controlling the group and considering that %31 of the changes were the result of the effect of the pretest through the covariance test, it can be

studies shed light on the effectiveness of different interventions in happiness. Addiction can influence interpersonal relationships and decrease social support. Being vulnerable to addiction is influenced by coping skills, mood, emotional conditions, and exiting social supports. It seems that training problem-solving skills causes people to connect to an experienced and expert supporter, which provides the necessary support in coping with problems,

Table 5:Results of variance analysis with repeated measurement of rational coping style index

Source of Changes	Sum of Squares	Mean of Squares	F	Sig.
Between groups	3291.21	197.68		
Within Groups	550.36	98.73		
Therapy Effect	4276.11	1289.32	74.84	.001
Residual Error	953.53	16.67		
Total Sum	14021.21			

concluded that problem-solving skills training has been effective in rational problem-solving style.

Based on the findings of the table, the higher rate of F is significant at 0.001 and there is a significant difference between the compared means. A T-test was used to show the difference between the means of the experimental groups in three times measurements. Moreover, the Bonferroni's correction for the t-test is equal to 0.008. Regarding the smaller degree of obtained P, the difference between means is significant. Rational coping of the experimental group increased after the problem skills training.

especially drug abuse to solve their problems. Also, this training makes the person act authoritatively in dealing with others with more confidence and deal effectively and rationally with the irrational demands of others (Tajeri et al., 2020).

Also, effective instruction is especially important to establish healthy and constructive relationships with people whose emotional, informational, and instrumental support can help them cope effectively with problems. Participating in life skills workshops in non-addictive places provides people with the opportunity to connect with other substance abusers,

and other strategies help people cope with the temptation to use drugs and learn how to avoid drug relapse; they also are encouraged to communicate with each other outside of the training sessions by providing multidimensional support to each other to stay in the abstinence (Botvin & Kantor, 2017). The features with which the addicted individuals are involved in different conditions of life (expectations, fears, skills, and hopes) influence the level of mental pressure, general mood (boredom, hopelessness, and depression), and coping level. The purpose of problem-solving training is to teach the subjects to think properly about the issues. The findings of this research indicate the importance of employing problem-solving strategies as educable skills in the increased happiness and decrease of depression as the result of drug abstinence (Kafi Hernashki, Ahadi & Tajeri, 2020).

Investigation of the hypotheses indicated that using problem-solving skills training leads to increased happiness and rational coping styles in subjects. This finding is in line with the results of other studies by Tajeri et al., (2020), Wenzel, Weichold, and Silbereisen (2019), Jaffee and D'Zurilla (2019). Therefore, these strategies can be used to provide addicts with happiness. To determine the most desirable style of coping, it is necessary to assess the situation. It should be considered that having a negative affect and depressed mood as a strong internal stimulating factor can give rise to the temptation to take drugs. Moreover, most of the patients complain of such feelings and express that they took drugs to combat or eliminate their depressed mood and helplessness. Moreover, negative affects including undesirable affects such as depression are one of the main reasons for patients' relapse.

Employing healthy coping skills is of considerable benefit in the prevention and treatment. Training these skills is a great tool in controlling internal stimulants. Gradually, individuals learn how to cope with negative events and stressful factors. Researchers, such as Sandler, Kim-Bae, and MacKinnon (2020),

Beygi, Shirazi, and Pasandide (2019), Rychtarik, McGillicuddy, and Neil (2016), came to the same conclusion and found that avoidant coping is associated with higher levels of psychological symptoms, negative effects, and depression. One of the reasons for selecting an emotional or avoidant strategy is that the individuals have not fully and precisely identified the problem. Problem-solving aims to increase the individual's skills in identifying the problem. Moreover, emotional and avoidant behaviors stem from the individual's inability in finding different strategies. Problem-solving skills training lets the individuals solve the problems instead of avoiding or ignoring them (Beygi, Shirazi & Pasandide, 2019). Employing inefficient coping strategies is a threatening factor to health and is associated with negative emotions such as anxiety and depression. Finally, it leads to avoidance and withdrawal from dealing with the problems (Mohammadi Nik, Nasehi, Tajeri, Hassani Abharian & Kraskian, 2020). Based on this, this method can be proposed as an effective intervention by experts in addiction treatment.

Coping refers to a person's attempt to adjust to emotional stressors. Depending on the situation, it can be harmful or constructive. It seems that people under methadone maintenance treatment can manage their emotions based on their main problem of avoiding drugs effectively by emotional disclosure in the form of workshops and relying on support resources within groups (including information and emotional support) and learning effective coping techniques to cope with stress (Wenzel, Weichold & Silbereisen, 2019). Based on these results, it seems that proper and continuous training in problem-solving skills can improve the level of mental health, the quality of life, and effective techniques to cope with stress, including substance abuse. It seems that turning to negative behaviors such as substance abuse in people is related to their level of knowledge and basic information about problem-solving skills. These people suffer from emotional

and communication problems, non-familiarity with problem-solving skills, inability in using effective communication techniques, and the lack of effective situation-dependent coping strategies, and they compensate for their weakness in their relationships by turning to substances. Since they do not consider coping strategies appropriate and do not have the art and ability to make correct and timely decisions to solve problems, they easily give up behaviorally and psychologically. Therefore, it seems that teaching problem-solving skills to people, especially addicts who have experienced various harms in life is a good way to rehabilitate and improve the quality of life of these people.

The research had some limitations including a lack of training package based on the scientific research about problem-solving of addicted individuals under treatment, dissimilarity of subjects' psychometric properties, and research sample (self-reported addicted individuals), who cannot be a representative sample of all the addicted individuals. It is hoped that using more precise sampling methods can eliminate this shortcoming in further related studies. It is suggested that using these skills be taught well in each session and the clients are asked to exercise these skills and generalize them to other environments to develop novel and healthy problem-solving styles with the emphasis on doing exercises. New tools should be developed to assess the development of problem-solving in different drug-dependent groups. Training packages should be designed based on the most recent scientific methods to enhance problem-solving skills and the related styles regarding different addicted groups, particularly stimulant drugs. It is better to provide for more cooperation and freedom of action in the therapeutic centers to provide individuals with such training.

Conflict of interest and acknowledgments

The authors claim that there is no conflict of interest in the extant study. The authors would like to thank the participants who cooperated in the research.

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