The effectiveness of Resilience training on quality of life, self-efficacy, and problem-solving skills in substance-dependent adolescents

Mona. Fathalikhani[1], Mohammad Reza. Sherbafchi*[2], Kobra. Hajalizadeh[3]

1. Department of Health Psychology, Kish International Branch, Islamic Azad University, Kish Island, Iran
2. ***Corresponding author:** Assistant Professor of Psychiatry, Psychosomatic Research Center, Isfahan University of Medical Sciences, Isfahan, Iran
3. Associate Professor, Department of Psychology, Bandar Abbas Branch, Islamic Azad University, Bandar Abbas, Iran

ARTICLE INFORMATION	*ABSTRACT*
Article type Original research Pages: 144-151 **Corresponding Author's Info** Email: sharbafchi@yahoo.com **Article history:** Received: 2022/05/06 Revised: 2022/06/05 Accepted: 2022/11/01 Published online: 2023/06/26 **Keywords:** *Drug-dependent, Quality of life, Self-efficacy, Problem-solving, resilience.*	**Background and Aim:** Substance abuse in adolescents is considered one of the most serious problems leading to various physical, social, and educational damages and consequences. This study aimed to improve the effectiveness of resilience training on quality of life, self-efficacy, and problem-solving skills in drug-dependent adolescents. **Methods:** The present study was one of the applied and quasi-experimental designs of pre-test-post-test with the control group. This study's statistical population included all male adolescents referred to Tehran welfare organizations for addiction treatment between November and February 2020. The statistical sample consisted of 30 adolescents (15-19 years old) addicted in Tehran who were selected from among the patients for treatment based on screening the change stage. After screening, 30 subjects who were consented to participate in the treatment group were randomly assigned to the two groups. This study's data were collected using the world health organization quality of life questionnaire, self-efficacy questionnaire, problem-solving skill questionnaire. Data were analyzed by MANCOVA using SPSS.22 software. **Results:** The results showed that resilience training was effective on quality of life (P<0.001), self-efficacy (P<0.001), and problem-solving skills (P<0.001) in substance-dependent adolescents. **Conclusion:** It can be concluded that resilience training affects the quality of life, self-efficacy, and problem-solving skills in substance-dependent adolescents.

Introduction

Teenagers and young people in every country play a central role in all-round development in terms of social mobility and growth. In order to achieve the goals of development and progress of the country, it is very important to identify the issues and problems ahead (Aria et al., 2017). In this regard, the identification of adolescents at risk of drug abuse should be one of the main concerns of the guardians of education. Abuse of substances is a multifaceted phenomenon that affects all the basic elements of society, so fighting against it requires the use of all available capacities; The fight against drug abuse is based on three methods: 1- Dealing with the supply, 2- Treating addicts, 3- Reducing the demand in the healthy population. Due to the high costs and problems of the first two methods in the country, the method of performing prevention activities to reduce demand is the most appropriate method (Ding et al., 2017). In terms of health, an average of 5 million people in the world die every year due to drug use. About 42 million people get AIDS due to drug abuse. In this way, drug addiction and abuse should be considered as one of the most obvious biological-psycho-social problems that can easily weaken the foundation of individual, family, social and cultural life of a person and society and expose it to collapse. Despite the numerous personal and social harmful effects of drug abuse, it is natural that this problem is one of the priorities of research in the field of mental health of communities in the framework of recognition, prevention and timely treatment of drug abuse (Keosin et al., 2018). This issue is more important among teenagers and young people; First of all, this segment of the country's population is actually the main capital of the society in the production of science and technology, and secondly, in terms of human resources, it is considered one of the fundamental foundations of progress and empowerment of any society. Therefore, it is natural that addiction inflicts the greatest damage on societies in the area of wasting young, active, efficient and mostly educated forces (Wang et al., 2018).

The education system's only focus on increasing the scientific level of students in the past years caused people to not be able to establish proper communication with the society despite having sufficient scientific knowledge and not to acquire the necessary abilities to face the problems of life. (Chiang & Li, 2016). This has made them vulnerable in facing the issues and problems of daily life and caused many health problems, mental, emotional and social disorders. Many of these people are not able to use what they have learned. They do not have the necessary abilities to solve their problems and are not able to make correct decisions about their personal and social problems (Griffin & Goyez, 2014). The ability to solve problems is one of the factors that moderate the effects of negative events in life and refers to the attitude, skills and abilities that enable a person to choose an effective and adaptive solution to any of life's problems (Fatollahzadeh et al, 2017). Problem solving is the skill of identifying a problem and taking steps to solve it, a systematic process that focuses on problem analysis. Problem solving skill is one of decision making and critical thinking skills (Surya & Piotri, 2017).

Self-efficacy is another variable that is related to the attitude towards substance use and includes the individual's judgments about his abilities, capacities and capabilities to perform certain tasks. In Bandura's system, self-efficacy refers to feelings of competence, sufficiency, and ability to cope with life (Keo, Walker, Schroeder, & Billand, 2014). If a person has positive feedback about a behavior and expects its approval from others, if he feels that the behavior is beyond his ability and control, he will not perform that action. Robinson and Walsh (1994) showed that adolescents who have continuously avoided addictive substances had better and more efficient coping strategies than others. Dolan et al. (2008) and Tat et al. (2008) showed that poor self-efficacy provides the context for substance abuse in students. In a research, McLaren et al. investigated the issues related to alcohol consumption, depression, impulsivity, avoidant coping and social support from friends and found that alcohol consumption was one of the predictors of poor self-efficacy in consuming people.

Suffering from substance abuse imposes many personal and social conditions on the affected person. Among these changes is making major changes in the quality of life of these people. Quality of life is a broad concept that includes all aspects of life, including health (Pontis, Eszabo and Griffiths, 2015). This term is also used in various political, social and economic fields. It is often used in medical studies and

according to most experts, it includes physical, physiological, social, physical and conceptual dimensions (Kumar, Kroen, and Lalu, 2014). Quality of life literally means how to live. However, its meaning is unique to everyone and differs from others. The World Health Organization has provided a comprehensive definition of quality of life. Quality of life is a person's understanding of his current situation according to the culture and value system in which he lives and the relationship of these perceptions with the goals, expectations, standards and priorities of the person (Novak et al., 2016).

Today, in advanced countries, there are various educational programs to prevent and change the attitudes of teenagers. One of the training programs is resilience training. Resilience is one of the concepts that has recently been proposed in the field of prevention of addiction and other mental disorders (Zamirinejad et al., 2014). Resilience is a person's ability to face a harmful event. In other words, it means to endure a considerable problem that not only a person is able to overcome that problem, but also becomes stronger because of that problem. In addition, resilience raises a new framework in the field of addiction prevention (Miller et al., 2014). In this new framework, it is important to know environmental protective factors, which can be used as a shield against the harmful effects of hazardous factors. These resilient factors make a person use the existing capacities in difficult situations and despite the risk factors to achieve success and growth in life. In addition, it makes them take advantage of these challenges and tests as a hypothesis to empower themselves (Magtibi et al., 2017). Therefore, on the one hand, addiction and the problems caused by it are one of the most important problems of the world and Iran, especially during adolescence. On the other hand, due to the few studies that have been done in this field. In the addiction prevention approach, identification and promotion of protective factors such as resilience, identification and reduction of risk factors are very important. Also, this training can be an important factor in preventing the person from getting infected and the resistance of the susceptible person in the field of addiction with the final change in the person's attitude. On the other hand, taking into account the fact that no study has been done on the topic

discussed in the current research, the existence of many gaps in the research literature of this field makes it necessary to conduct more studies; For this purpose, the current research tries to answer this question, is resilience training effective on quality of life, self-efficacy and problem-solving skills in substance-dependent adolescents?

Method

The present research was of applied and quasi-experimental designs of pre-test-post-test type with control group. The statistical population in the current study includes all male teenagers who self-reported to addiction treatment centres of the Tehran Welfare Organization between November and February 2019. The statistical sample of the research included 45 teenagers (15 to 19 years old) drug addicts in Tehran, who were selected for treatment based on the stage of change screening. After the screening stage, 45 people who agreed to participate in the treatment group were randomly replaced in three groups (two experimental groups and one control group). It should be noted that the number of research samples based on an effect size of 0.25, alpha of 0.05 and power of 0.80 in three groups; 15 people were obtained for each group.

Materials

1. World Health Organization Quality of Life Questionnaire: The World Health Organization Quality of Life Questionnaire is a 26-question questionnaire that measures a person's overall quality of life. This scale was created in 1996 by a group of experts of the World Health Organization and by adjusting the items of the 100-question form of this questionnaire. This questionnaire has 4 subscales and a total score. These subscales are: physical health, mental health, social relationships, health of the surrounding environment and a general score. First, a raw score is obtained for each subscale and it is converted into standard scores between (0) and (100) through a formula. A higher score indicates a higher quality of life. The results of the validity and reliability of this questionnaire on 1167 people showed that the reliability of the test for the subscales of physical health was 0.77, mental health was 0.77, social relations was 0.75, and environmental health was 0.84. (Najati et al., 2011). The reliability of this questionnaire in this research was reported using Cronbach's alpha of 0.79 for physical

health, 0.75 for mental health, 0.78 for social relations, and 0.77 for environmental health.

2. Self-efficacy questionnaire: The general self-efficacy questionnaire is adapted from Schwartz, Jer and Salem (1983). This questionnaire contains 10 statements based on a 4-point Likert scale: Not at all correct = 1, Hardly correct = 2, Almost correct = 3, Completely correct = 4. Each person's score on the rating scale is equal to the sum of their scores on all questions. The range of scores for this test is in the range of 1 to 40. The internal consistency of the general self-efficacy questionnaire based on Cronbach's alpha reliability is between 75% and 90%. The reliability of this questionnaire in this research was reported using Cronbach's alpha of 0.77.

3. Problem Solving Questionnaire: The problem solving questionnaire was prepared by Hipner and Peterson (1982) to measure the respondent's understanding of problem solving behaviors. They proposed three subscales in the problem solving questionnaire, which are: confidence in problem solving with 11 items, tendency-avoidance style with 16 items, and personal restraint with 5 items. This questionnaire has 32 items and is designed to measure how people react to their daily problems. The method of scoring and interpretation of this questionnaire is based on 6 levels of Likert scale (from 1-completely agree to 6-completely disagree). To prevent bias in answering, 15 statements with negative expression are given (scored in reverse). The total score of the questionnaire is obtained from the sum of the scores of all answers, the total range of which is 32 to 192. The retest validity of the total score of the questionnaire in the interval of two weeks was reported in the range

of 0.83 to 0.89, which indicates that the problem solving questionnaire is a reliable tool for measuring problem solving ability. The reliability of this questionnaire in this research was reported using Cronbach's alpha of 0.79.

Implementation

The ethical considerations of the present study were as follows: 1- All participants received verbal information about the study and participated in the study if they wished and with informed consent. 2- Subjects were assured that all information is confidential and will be used for research purposes. 3- In order to respect privacy, the names and surnames of the participants were not recorded. 4- To ensure the work process, all questionnaires were implemented by the researcher himself. In the present study, the mean, standard deviation, correlation and normality of the distribution of the research variables were investigated using descriptive statistics. In order to analyze the data and answer the research questions, the structural equation modelling method is used, which after confirmatory factor analysis - in the measurement model part - in the structural equation model part, the existing causal relationships between the variables are examined. In the part of the structural function model, the intensity of the causal relationships (direct, indirect and total) between the underlying variables and the amount of variance explained in the whole model is determined. SPSS and Amos version 21 software were used for this purpose.

Results

The average (standard deviation) age in the resilience training group is 17.20 (1.39) and the control group is 17 (1.81).

Table 1. Central indices and dispersion of research variables in two experimental and control groups							
Variable	Group	Pre-test		Post-test		Follow-up	
		Mean	SD	Mean	SD	Mean	SD
Problem solving	Exp.	82/88	10/02	88/56	11/89	89/56	11/90
	Control	83/25	10/44	84/19	10/40	84	10/63
Quality of Life	Exp.	101/19	8/10	112/88	8/82	112/38	8/87
	Control	117/12	11/67	117	11/79	117	11/81
Self-efficacy	Exp.	12/38	2/77	14/50	3/01	14/50	3/10
	Control	11/75	2/11	11/94	2/04	12	2/06

Multivariate covariance analysis was used to check the significance of the difference between the quality of life score, self-efficacy and problem solving skills in the two experimental

and control groups. Before performing the analysis of covariance test, the results of M-box and Levene's tests were checked in order to comply with the assumptions. Since Box's M

test was not significant for any of the research variables (Box's M = 21.95; df = 20; p < 0.05), therefore, the condition of homogeneity of variance-covariance matrices has been correctly met. Also, the non-significance of any of the variables in Levene's test shows that the condition of equality of variances between groups has been met and the error variance of the dependent variable has been equal in all groups.

Table 2. Results of multivariate analysis of covariance							
Effect	Test	Value	F	Df freedom	Df error	Sig	Eta^2
Group	Piilai's Trace	1/18	19/79	6	82	0/0001	0/59
	Wilks' Lambda	0/06	38/97	6	80	0/0001	0/74
	Hotteling's Effect	10/57	68/71	6	78	0/0001	0/84
	Roy's Largest Root	10/19	139/36	3	41	0/0001	0/91

As can be seen in Table 2, the significance levels of all tests are significant at the 0.001 level, indicating that there is a significant difference between the two resilience training groups and the control group in terms of research variables. Wilks's lambda test with a value equal to 0.06 and F = 38.97 test shows a significant difference between the two resilience training groups and the control group (p<0.0001).

Table 3. Multivariate covariance analysis to compare pre-test and post-test in experimental and control groups.						
Source	Variable	SS	df	MS	F	Sig	Eta^2
Group	Quality of life	11/31	1	11/31	39/42	0/0001	0/65
	Self-efficacy	349/29	1	349/29	136/80	0/0001	0/86
	Problem-solving skill	666/73	1	666/73	71/59	0/0001	0/77

The results of Table 3 show that for the quality of life variable (39.42) at the 0.0001 level, self-efficacy (136.80) at the 0.0001 level; And problem solving skill (71.59) is significant at 0.0001 level.

Conclusion

The results of the present study showed that resilience training has an impact on the quality of life of substance-dependent adolescents. The results of this research were consistent with the research of Hosseini Qomi & Jahan Bakshi (2021), Nasirzadeh, Rezaei, and Mohammadi Far (2018), Jahid Mutlaq et al.

Resilience training provides belief in ability and an optimistic philosophy to life, and is one of the constructive elements of action that helps a person fill the gap between his strengths and his limitations (Rose et al., 2013). In other words, it restores self-belief and gives people the courage to do the work, and through encouragement, a person becomes aware of his values and becomes aware of his strengths and assets (McCarthy & Atkinson, 2012). Therefore, resiliency training increases people's empathy, as a result of which people's quality of life increases, people who have a high quality of life show more flexible behaviors and create better relationships with others. These flexible behaviors lead to better problem solving and better understanding of the situation. In fact, people who have a positive evaluation of their lives experience more peace and can classify the received information in a wider and more diverse way. As a result, they have more associations about a topic (Lepin et al., 2014). People with a high level of quality of life persist more to solve life problems and have more endurance against the negative feedback they receive from their surroundings. As a result, they can express higher levels of positive emotions. It will enable people to cultivate it in themselves, to be immune to stress and other negative aspects that endanger their mental health and well-being (Stahl et al., 2015). Participating in resilience group training sessions made nurses accept their problems (anxiety, depression and occupational stress) and face them rationally. Most likely, successful and unsuccessful in the presence of people who have common characteristics with the person, gives him a sense of self-witness, intimacy, responsibility and self-efficacy. Perhaps for the

first time, the resilience training intervention provided the nurses with the opportunity to face their problem at a distance and feel that they have the skills that allow for a pleasant relationship despite job difficulties (Peng et al., 2014). In addition, the training was such that it made the nurses reflect and think. This training was based on questions and thinking, and it was repeatedly emphasized to avoid quick answers and to be more careful and reflective.

On the other hand, the reduction of behaviors that disturb the quality of life and the increase of mental health, physical health and environmental health can be because: In the group meetings, the practical and verbal participation of people to find a solution was highly considered. Also, favorable behaviors and responses of nurses were encouraged, which leads to positive experience and improved attitude (Forbes & Fikertoglu, 2018).

In fact, in another explanation of these results, it can be said that resilience, with a combined definition, teaches people three components of beliefs about themselves, themselves and the world. These three components are commitment, control and struggle. Trained people believe in change, transformation and dynamics of life and the attitude that every event does not necessarily mean a threat to human security and health, cognitive flexibility and tolerance to difficult stressful events and ambiguous situations follow. Kobasa and Poketi (1983) believe that people who have high optimism, hope, and conscientiousness because of a high sense of curiosity, a tendency to have interesting and meaningful experiences, self-expression, energetic, and that change in life is a natural thing. It can be beneficial in adapting a person to stressful life events (Sarkar and Fletcher, 2017). Studies show that resilience as a variable in the field of positive psychology has a positive relationship with physical and mental health, and as a source of internal resistance, it reduces the negative effects of stress. Finally, it prevents physical and mental disorders (Peng et al., 2014). Therefore, resilience increases people's ability to cope and this increases the quality of life.

Every research has its limitations, which will be discussed in the current research: environmental and family factors are not controlled in this research, such as: Family conditions, parental status, and economic and social status. One of the research's limitations was not using a therapist's help. It is suggested that this research be conducted in another sample group and its results be evaluated and compared with the results of this research. It is suggested that in future studies, the researcher should seek the benefit of an expert as a therapist and therapy training to reduce the possibility of bias in the research. It is suggested that the researcher use the experimental method in future studies to reduce the possibility of bias in the research. It is suggested that this research be followed up with individual counselling after group training. Considering that it is one of the controversial and significant trends in psychology and counselling that has been widely noticed today. In the field of parents with teenage children, it is suggested that family counsellors and psychologists use the findings of this research. Specialist training by relevant organizations in emotional discipline skills training to conduct workshops by specialists for vulnerable groups. Considering the effectiveness of this type of treatment, it is appropriate that this treatment method be used in the existing treatment centres in the country to control the suffering caused by injuries and crises.

Conflict of Interest

According to the authors, this article has no financial sponsor or conflict of interest.

References

Arria, A. M., Bugbee, B. A., Mader, J., Smith, J. M., & Winters, K. C. (2021). Postdischarge Outcomes of Adolescents Attending a Long-term Addiction Treatment Program. Addictive Disorders & Their Treatment, 20(2), 117-126.

Chiang, C. L., & Lee, H. (2016). The effect of project-based learning on learning motivation and problem-solving ability of vocational high school students. International Journal of Information and Education Technology, 6(9), 709-712.

Cousijn, J., Luijten, M., & Ewing, S. W. F. (2018). Adolescent resilience to addiction: a social plasticity hypothesis. The Lancet Child & Adolescent Health, 2(1), 69-78.

Ding, Q., Li, D., Zhou, Y., Dong, H., & Luo, J. (2017). Perceived parental monitoring and adolescent internet addiction: A moderated mediation model. Addictive Behaviors, 74, 48-54.

Fatollahzadeh, N., Darbani, S. A., Bagheri, P., & Rostami, M. (2017). Effectiveness of social skills training on adaptation and self-efficacy of high school girl students. *Journal of*

Applied Psychology, *10*(4), 271-289. [In Persian]

Forbes, S., & Fikretoglu, D. (2018). Building resilience: The conceptual basis and research evidence for resilience training programs. Review of General Psychology, 22(4), 452-468.

Griffin, A. S., & Guez, D. (2014). Innovation and problem solving: a review of common mechanisms. Behavioural Processes, 109, 121-134.

Hosseini Qomi, T., & Jahan Bakshi, Z. (2021). The effectiveness of resilience training on stress and mental health of mothers with mentally retarded children. The culture of counseling and psychotherapy. 12(46), 205-228.

Jahed Motlagh, O., Yonesi, S. J., Azkhosh, M., & Farzi, M. (2015). The effectiveness of resilience training on the mental stress of female high school students living in a dormitory. School Psychology, 4(2), 21-7.

Kuo, Y. C., Walker, A. E., Schroder, K. E., & Belland, B. R. (2014). Interaction, Internet self-efficacy, and self-regulated learning as predictors of student satisfaction in online education courses. The internet and higher education, 20, 35-50.

Leppin, A. L., Bora, P. R., Tilburt, J. C., Gionfriddo, M. R., Zeballos-Palacios, C., Dulohery, M. M., ... & Montori, V. M. (2014). The efficacy of resiliency training programs: a systematic review and meta-analysis of randomized trials. PloS one, 9(10), e111420.

Magtibay, D. L., Chesak, S. S., Coughlin, K., & Sood, A. (2017). Decreasing stress and burnout in nurses: Efficacy of blended learning with stress management and resilience training program. JONA: The Journal of Nursing Administration, 47(7/8), 391-395.

McCraty, R., & Atkinson, M. (2012). Resilience training program reduces physiological and psychological stress in police officers. Global advances in health and medicine, 1(5), 44-66.

Mealer, M., Conrad, D., Evans, J., Jooste, K., Solyntjes, J., Rothbaum, B., & Moss, M. (2014). Feasibility and acceptability of a resilience training program for intensive care unit nurses. American Journal of Critical Care, 23(6), e97-e105.

Mohammadi Shemirani, S., Saadipour, E., Dortaj, F., Ebrahimi Ghavam, S., & Falsafinejad, M. (2020). The effectiveness of game-based resilience training package on children's

social adjustment. Behavioral Science Research 18(2):226-213.

Nasirzadeh, Z., Rezaei, A., & Mohammadifar, M. A. (2018). The effectiveness of resilience training on reducing feelings of loneliness and anxiety in female high school students. Clinical Psychology. 10(2), 29-40.

Novak, Z., Aglipay, M., Barrowman, N., Yeates, K. O., Beauchamp, M. H., Gravel, J., ... & Zemek, R. L. (2016). Association of persistent postconcussion symptoms with pediatric quality of life. JAMA pediatrics, 170(12), e162900-e162900.

Peng, L., Li, M., Zuo, X., Miao, Y., Chen, L., Yu, Y., ... & Wang, T. (2014). Application of the Pennsylvania resilience training program on medical students. Personality and Individual Differences, 61, 47-51.

Pontes, H. M., Szabo, A., & Griffiths, M. D. (2015). The impact of Internet-based specific activities on the perceptions of Internet addiction, quality of life, and excessive usage: A cross-sectional study. Addictive Behaviors Reports, 1, 19-25.

Rabiee Kanari, F., Jadidian, A., & Selegi, M. (2015). The effectiveness of resilience training on reducing parenting stress in mothers with children with autism. Scientific Journal of Ilam University of Medical Sciences. 23 (4): 9-105.

Robinson, S. M., & Walsh, J. (1994). Cognitive factors affecting abstinence among adolescent polysubstance abusers. Psychological reports, 75(1), 579-589.

Rose, R. D., Buckey Jr, J. C., Zbozinek, T. D., Motivala, S. J., Glenn, D. E., Cartreine, J. A., & Craske, M. G. (2013). A randomized controlled trial of a self-guided, multimedia, stress management and resilience training program. Behaviour research and therapy, 51(2), 106-112.

Sarkar, M., & Fletcher, D. (2017). How resilience training can enhance wellbeing and performance. In Managing for Resilience (pp. 227-237). Routledge.

Stahl, J. E., Dossett, M. L., LaJoie, A. S., Denninger, J. W., Mehta, D. H., Goldman, R., ... & Benson, H. (2015). Relaxation response and resiliency training and its effect on healthcare resource utilization. PloS one, 10(10), e0140212.

Surya, E., & Putri, F. A. (2017). Improving mathematical problem-solving ability and self-confidence of high school students through contextual learning model. Journal on Mathematics Education, 8(1), 85-94.

Tabatabai, S. M., & Chalabianlu, Gh. (2020). The effectiveness of resiliency training on the amount of positive and negative emotions and reducing psychological disturbances of mothers with children with attention deficit hyperactivity disorder. Journal of Arak University of Medical Sciences. 23 (4): 449-438.

Wang, P., Wang, X., Wu, Y., Xie, X., Wang, X., Zhao, F., ... & Lei, L. (2018). Social networking sites addiction and adolescent depression: A moderated mediation model of rumination and self-esteem. Personality and Individual Differences, 127, 162-167.