Effectiveness of Resilience Training on Ego-control and Hardiness of Illicit Drug Users

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Abstract

Background: The aim of this research was to determine the effectiveness of resilience training upon ego-control and hardiness of the addicted persons.

Methods: This was a semi-experimental study with pretest and posttest control groups which was conducted in Sari, Iran, during 2014-2015. Thirty persons were selected among 240 illicit drug users who underwent screening. Resilience training was performed in ten sessions for the experimental group. The Kobasa hardiness questionnaire and self-restraint scale (SRS) were used for data collection and multivariate covariance test was performed for data analysis.

Findings: According to the data, ego-control and hardiness of participants were improved significantly by resilience training (P < 0.001).

Conclusion: Resilience training is effective upon the rate of ego-control and self-restraint and hardiness. This method can be used in addiction treatment clinics and residential centers.

Keywords: Resilience; Hardiness; Illicit drug users; Substance use disorders


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Introduction

The increasing drug dependency among the people has raised a worldwide concern. According to some reports, there are 2-3 million drug abusers in Iran and nearly 200000-230000 are intravenous drug users. The number of opium and heroin users was estimated to be 1.9-2.1 million. In the past three decades, mental health problems have increased among high-school students in Iran. Moreover, 16.30% of students of the arts, 8.85% of humanistic science students, 6.00% of technical and engineering students, and 5.10% of medical students at the Universities of Tehran were found to have a drug abuse history.

Addiction crisis, similar to other crises involving the environment, poverty, famine, war and bloodshed, and the appearance of new diseases, is harmful to human's health. The problems related to narcotic drug addictions show extensive spectrum. One side of this spectrum consists of family problems, and the other side reflects the political and economic inconsistencies. The business of narcotic drugs is considered to be the second biggest economy in the world. The impact of political, social, economic and cultural affairs on the addiction has also been clearly stated. Iran government is paying a heavy cost while fighting against the smuggling of narcotic drugs by providing persistent protection from frontiers, creating look-out towers and spreading disciplinary forces toward the frontiers. The fines related to narcotic drugs and heavy costs of de-addiction therapies have added an economic burden on the Iranian government.

It is necessary to identify the risk factors associated with drug dependency and high risk behaviors and coping strategies against them since these variables may form a constitutive part of a health and safety management plan among people with substance abuse disorders. Previous researches have shown that harm avoidance, resiliency, persistence and commitment in drug abusers is lower than others and such tendencies could play a critical role in addiction. They have more dysfunctional attitude and emotion-focused coping and risky behavior. Ego-resilience (ego-enduring) has been conceptualized as one of the main constructs of personality to understand motivation, emotion, and behavior so once this ability is achieved in someone, he could adapt to his individual and social tasks successfully. In other words, ego-resilience is a potential factor for change in a positive form of it. It is also referred to as "natural mechanism of human's self-reformation". In addition, resiliency refers to the adjustment in the ability of control level on the basis of environmental circumstances.

New research has shown that hardness protects the health and stimulates effective performance in stressful situations through making the individual resilient in facing stress. These studies showed hardy character is composed of attitudes, patterns and psychological skills related to control, effort and commitment that provides the pathway to management of stressful conditions by changing them into an opportunity for potential growth and fulfillment, instead of the horrible experience.

When humans secure their primary needs, resiliency appears. The resiliency process can reform, adjust or even disappear unpleasant effects that results in poor mental health of the injured persons. Ego-resilience can adjust the stress level and disability in unpleasant circumstances. Studies showed that resilience can be useful for persons to behave in front of difficult circumstances in a flexible manner.

However, resilience training can be effective on many variables. According to previous research, non-resilient persons are more vulnerable and have no boldness, encouragement, motivation, and basic strategies to change stressful circumstances or exaggerate about their problems. They are also dissatisfied from the existing circumstances, consider themselves helpless, and do not show any attempt to solve such stressful circumstances. They behave in an inflexible manner and demonstrate fear toward their future and feel disabled against their problems. However, persons with high resiliency have strong motivation to succeed and their self-reliance and self-believe is high.

The aim of this research was to determine the effectiveness of resilience training upon ego-control and hardiness of addicted persons.

Methods

The present research is a semi-experimental study. The research design consists of pretest and posttest with a control group.
The statistical population of this research included addicted men (240 persons) referred to the methadone maintenance treatment (MMT) centers of Sari Behzisti, Sari, Iran. Self-restraint scale (SRS) (questionnaire) and Kobasa hardiness questionnaire were administered among the population to assess ego-control and hardiness; following which 30 persons with low scores were selected and randomly divided into two groups of 15 persons each. The experimental group received resilience training for ten sessions, and the control group received no training. At the end of the training period, a posttest was administered to the both groups.

**SRS:** SRS is one of the self-report scales that include 30 items, which evaluates the rate of emotional restraint and the ability of anger suppression. Weinberger and Schwartz created this test in 1990 and it is known as Weinberger Adjustment Inventory (WAI). The SRS consists of one total scale and four subscales. The subscales of this test are similar but with separate constructs. These include suppressing anger, impulse control, consideration of others and responsibility. Weinberger reported the correlation coefficient to be 0.91. The retest reliability has been reported to be 0.89 at two weeks (n = 49) and 0.76 at seven months (n = 337). The internal consistency of total test in another research has been found to be 0.85-0.88, and the internal consistency of anger suppressing subscale was 0.79-0.82, impulse control 0.66-0.69, consideration of others 0.68, and responsibility 0.76-0.77.

**Kobasa hardiness test:** Kobasa hardiness test is a questionnaire that consists of 50 items, which includes subtests like challenge (17 questions), commitment (16 questions), and control (17 questions). This questionnaire was created based on the Likert scale with a range varying from 1 (it is never correct) until 3 (it is perfectly correct). A separate score was given to each of these three subscales, and the unweight mean of the three scales presented the total score of hardiness.

The hardiness test has been translated by Ghorbani and Watson and Ghorbani, and its formal and content validity have been estimated. According to previous studies, the reliability for hardiness items, i.e., control, commitment and challenge, have been found to be 0.70, 0.52 and 0.52 respectively, and these coefficients have been estimated to be 0.75 for the hardiness feature.

The relationship between this questionnaire and subscales of Minnesota Multiphasic Personality Inventory (MMPI) has been surveyed and the correlation coefficients have been given as 0.116-0.539.

Resilience training including ten sessions was performed. The aims of the sessions were as follows:

Session 1: to become familiar with concepts, structure, stages, the method of program execution and duties.

Session 2: to identify and control emotions (for example, the level of happiness, feelings about self and the rate of confronting with problems). For this, the relaxation training, gradual muscular relaxation and mental imaging exercises were executed.

Session 3: the methods of important unanimity level were executed. The philanthropy behavior, helping nature, acceptance, and considering and consoling each other were taught.

Session 4: to become familiar with ego-control and ego-resilience words. Ego-control is an item that enables addicted persons to delay instant enjoyment. Ego-resilience is contributed to the person’s ability for adjustment and flexibility. These techniques were used to improve the hardiness level. For example, it was used to challenge the coevals and working group.

Session 5: the ability of creating good communications, i.e., both effective verbal and nonverbal communications, was also discussed.

Session 6: the good witty nature sense-group partnership was developed to improve the resilience and hardiness level.

Session 7: self-identification sense (for example by work notes and group discussions), positive self-perception (for example gathering positive features) and self-efficiency were trained to increase ego-control.

Session 8: metacognition problem solving, the survey of negative thoughts cycles and having positive attitude were taught to increase their hardiness.

Session 9: the fixation of believers and religious or spiritual expectations and future aims were also considered.

Session 10: the aim of this session was to fix the learned abilities during all the above nine sessions that included the concrete of emotional, social and cognitional resiliency for the addicted persons. The posttest was administered at this session.
Multivariable covariance analysis, Bonferroni test and Box test were used to survey the mentioned hypothesis.

### Results

Box test was done to survey the homogeneity assumption of variance and covariance matrices. According to the findings, the significance level was more than 0.05 \([P = 0.800, F_{(3,14112)} = 2.3]\), and therefore, the calculated F value has been found to be statistically insignificant.

Table 1 reveals the significance level of dependent variables, i.e., hardiness and ego-control that stands at more than 0.05. Therefore, the data confirms the equality assumption of variance error. According to the results of table 1, the significance level of the interaction between the independent group and hardiness pretest, and the interaction between independent group and ego-control pretest was found to be more than 0.05. Therefore, the calculated F was statistically insignificant, and this confirmed the regression homogeneity assumption.

The mean and standard deviation (SD) scores of pretest and posttest for experimental and control groups are shown in table 2.

Table 3 shows the relation between the eta squared to new combinational variable (0.838) that demonstrates the effect of resilience training upon ego-control and hardiness. The calculated partial eta squared indicated the high effect of resiliency.

Bonferroni alpha \((P < 0.001)\) has been used for analysis of the dependent variables, hardiness and ego-control in both the experimental and control groups. As demonstrated in table 4 it can be concluded that there is a significant difference between hardiness and ego-control posttest scores for both experimental and control groups. As shown in table 5, resiliency increased as resilience training strengthens ego-control and hardiness.

### Discussion

The use of narcotic drugs has confirmed the decrease in the rate of ego-control and hardiness. The aim of this research was to increase the level of hardiness and the rate of ego-control for addicted persons through resilience training. Some researchers believe that positive emotions are beneficial to health and are important psychological resources that help persons to use the effective confronting strategies against stress and benefit from the enhanced copying resources.\(^34,35\) Therefore, individuals who experience the positive emotions seems to be more patient.

Resiliency is person’s internal and external compatibility in challenging situations that helps the person become compatible with these situations. This does not mean that the person does not experience distress, but rather involves traits that can be developed in order to cope best with the major adversaries of his life.\(^36\)

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**Table 1.** The equality assumption of variances error and regression homogeneity assumption

<table>
<thead>
<tr>
<th>Variable</th>
<th>Equality of variances error</th>
<th>Regression homogeneity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(F)</td>
<td>(P)</td>
</tr>
<tr>
<td>Hardiness</td>
<td>0.249</td>
<td>0.782</td>
</tr>
<tr>
<td>Ego-control</td>
<td>0.595</td>
<td>0.560</td>
</tr>
</tbody>
</table>

**Table 2.** The mean and standard deviation (SD) scores of pretest and posttest for experimental and control groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean ± SD</td>
<td>Mean ± SD</td>
</tr>
<tr>
<td></td>
<td>Control group</td>
<td>Experimental group</td>
</tr>
<tr>
<td>Hardiness</td>
<td>21.235 ± 1.675</td>
<td>22.185 ± 1.874</td>
</tr>
<tr>
<td>Ego-control</td>
<td>28.606 ± 1.312</td>
<td>35.028 ± 1.838</td>
</tr>
<tr>
<td></td>
<td>Control group</td>
<td>Experimental group</td>
</tr>
<tr>
<td>Hardiness</td>
<td>24.750 ± 1.675</td>
<td>23.897 ± 1.242</td>
</tr>
<tr>
<td>Ego-control</td>
<td>33.057 ± 0.870</td>
<td>49.216 ± 1.219</td>
</tr>
</tbody>
</table>

SD: Standard deviation

**Table 3.** Partial eta squared (\(\eta^2\)) based on Wilkes lambda test for combinational variable (the effectiveness of resilience training)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Value</th>
<th>(F)</th>
<th>(df_1)</th>
<th>(df_2)</th>
<th>(P)</th>
<th>(\eta^2)</th>
<th>Potency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>0.162</td>
<td>59.365</td>
<td>2</td>
<td>23</td>
<td>&lt; 0.001</td>
<td>0.838</td>
<td>1.000</td>
</tr>
</tbody>
</table>

df: Degree of freedom

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Researchers believe that resiliency is a kind of self-amendment with positive emotional, affective and cognitive conclusions that leads to reversing the consequences of earlier distressing experiences. Therefore, resiliency helps a person to agree with the changes happening in the world. According to this research, persons with more resiliency show more ego-control and hardness. These findings are consistent with other researches.

The resilient persons usually have little risk behaviors and acquire better score in mental health. Resiliency, mental hardness and ego-control ability in some persons has been found to be more than that of others, as it focuses on the ability or successful compatibility.

Self-restraint including suppressing anger, impulse control, consideration of others and responsibility increased in participants after resilience training. Also hardness of them including challenge, commitment and control improved. This finding is congruent with the results of the past studies.

Many researchers believe that positive compatibility with life is referred to as resilience. In other words, bouncing back and going strong can result in high level of resiliency. Hardness plays an important role in person’s recovery from stress, and the good news is regardless of the reason to distress, resilience is highly learnable. Some researchers believe that resiliency is a very important psychological resource to help persons use more affective confronting strategies against stress.

There were some limitations to our study. The sex variable has also been controlled in this research. Therefore, the generalization of these findings to females needs to be done in a separate intervention. The rate of the effectiveness of this method is not clear according to the usage of narcotic drugs since the origin of a lot of behavioral disorders for young people is related to the deficiency of abilities and skills. Therefore, we propose for developing the skill training, especially the mentioned two skills (ego-control and hardness), by knowing the training necessities and needs.

### Conclusion

Resilience training is effective upon the rate of ego-control and self-restraint. It can improve suppressing anger, impulse control, consideration of others and responsibility in drug abusers. Also resilience training increases the hardness in these patients and their challenge, commitment and control will be strengthened. This method can be used in addiction treatment clinics and residential centers.

### Conflict of Interests

The Authors have no conflict of interest.

### Acknowledgements

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### Table 4. The analysis of covariance results for hardness and ego-control variables based on experimental and control groups

<table>
<thead>
<tr>
<th>Diffraction source</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean of squares</th>
<th>F</th>
<th>P</th>
<th>Eta</th>
<th>Test potency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1200.641</td>
<td>1</td>
<td>1200.641</td>
<td>23.909</td>
<td>&lt; 0.001</td>
<td>0.499</td>
<td>1.000</td>
</tr>
<tr>
<td>Hardiness</td>
<td>1205.232</td>
<td>24</td>
<td>50.218</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ego-control</td>
<td>2442.701</td>
<td>1</td>
<td>2442.701</td>
<td>110.684</td>
<td>&lt; 0.001</td>
<td>0.822</td>
<td>1.000</td>
</tr>
<tr>
<td>Error</td>
<td>529.660</td>
<td>24</td>
<td>22.069</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

df: Degree of freedom

### Table 5. Covariance statistical analysis of experimental and control groups upon the rate of ego-control and hardness

<table>
<thead>
<tr>
<th>Diffraction source</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean of squares</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ego-control variable</td>
<td>2433.216</td>
<td>1</td>
<td>2433.216</td>
<td>112.190</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Error</td>
<td>585.557</td>
<td>27</td>
<td>21.687</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardiness variable</td>
<td>1183.896</td>
<td>1</td>
<td>1183.896</td>
<td>25.227</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Error</td>
<td>1264.590</td>
<td>27</td>
<td>4.518</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

df: Degree of freedom
References


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تعیین اثری‌بخشی آموزش تابآوری بر روی خودبازداری و سخت‌رویی در افراد مبتلا به سوء مصرف مواد

امین رستایی۱، دکتر بابالله بخشی‌پور۲، یونس دوستیان۳، علی اکبر گودینی۴، منصوره کار۵، دکتر امید مساح۶.

چکیده
مقدمه: هدف از انجام پژوهش حاضر، تعیین اثری‌بخشی آموزش تابآوری بر روی خودبازداری و سخت‌رویی در افراد مبتلا به سوء مصرف مواد بود.
روش‌ها: این پژوهش با نوع آزمون-پیشآزمون به‌کار رفته است. در شرکت‌کنندگان ثبت شده، از بین ۲۴۰ نفر نمونه اصلی، ۱۳۵ نفر، به روش تصادفی، به دو گروه مورد بررسی قرار گرفتند. آموزش تابآوری برای گروه آزمون در ۰۱ جلسه ارایه گردید. جهت جمع آوری داده‌ها، از مقیاس‌های خودبازداری Kobasa و سخت‌رویی استفاده شد. داده‌های بدست آمده با استفاده از آزمون کوواریانس چند متغیره تحلیل کرده و تحلیل فرآیند. یافته‌ها: خودبازداری و سخت‌رویی افراد مبتلا به سوء مصرف مواد پس از مداخله تغییر معنی‌داری را نشان داد و افزایش یافت (P<0/0).

نتیجه‌گیری: آموزش تابآوری می‌تواند بر میزان خودبازداری و سخت‌رویی افراد مبتلا به سوء مصرف مواد مؤثر باشد و افزایش یابد. بهتر است آموزش تابآوری در مراکز درمان سرپایی و اقامتی اعتیاد به کار گیرد.

واژگان کلیدی: تابآوری، سخت‌رویی، مصرف قانونی مواد، اختلالات مصرف مواد

ارجاع: رستایی امین، بخشی‌پور بابالله، دوستیان یونس، گودینی علی اکبر، کار منصوره، مساح امید. تعیین اثری‌بخشی آموزش تابآوری بر روی خودبازداری و سخت‌رویی در افراد مبتلا به سوء مصرف مواد. مجله اعتیاد و سلامت. ۱۳۹۵; ۹(1):۲۳-۳۴.

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