

Emotion Regulation Training on Psychological Resilience of Self-Harming Female Students

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Zeinab Gholipour Crane¹; Sara Masoumi²; Nafise Boorboor³; Tanaz Dabiri⁴; Nafise Shafiee Anaraki^{5*}; zahra alibakhshi⁶

1. Master of Clinical Psychology, Islamic Azad University, Islamshahr Branch, Faculty of Psychology, Educational Sciences and Humanities, Department of Psychology, Islamshahr, Iran
2. Department of Educational Sciences, Faculty of Humanities, Abhar Branch, Islamic Azad University, Abhar, Iran.
3. Master of General Psychology, Department of Humanitis Islamic Azad University Electronic Campus, Tehran, Iran
4. Department of Psychology, Karaj Branch, Islamic Azad University, Karaj, Iran
5. Master of General Psychology, Department of Psychology, Faculty of Humanities, Tehran-North Azad University, Tehran, Iran. **Corresponding Author:** nafise.shafiee.agent@gmail.com
- 6 Assistant Professor, Department of Psychology, Faculty of Psychology, Payame Noor University, Tehran, Iran

Abstract

Aim: The study aimed to investigate the effectiveness of emotion regulation training on the psychological resilience of female students with self-harming behavior. **Methods:** The present study was a semi-experimental study with pre-and post-test with a control group design. The statistical population of the study included all female students aged 12-15 years studying in the elementary and middle school in Tehran in the academic year 2019-2020. A purposive sampling method was used to select self-harming students. The sample consisted of 36 female students who had self-harming behavior that was randomly assigned into two groups (emotion regulation training group, n=18 and control group, n=18). For data collection, we the used Self-Harm Inventory and the Connor-Davidson resilience scale (CD-RISC). The experimental group received emotion regulation training in eight sessions of 60 minutes per week and the control group received no training. One-way analysis of covariance (ANOVA) on the SPSS software version 24 was used for data analysis. **Results:** The results of the analysis of variance showed that emotion regulation training was effective in improving psychological resilience in students with self-harming behavior. Hence, by designing training programs for the regulation of emotion and including them in the curriculum of students, the necessary basis should be provided to strengthen related skills.

Keywords: Emotion Regulation Training, Psychological Resilience, Self-harming, Female Students.

Introduction

The term non-suicidal self-injury refers to deliberate, self-inflicted damage to body tissue that does not result in suicide. A person who intentionally and deliberately causes damage to himself or herself is called a self-injurious individual (Zhang, Meiai, Benxian, & Zhang, 2021), and its prevalence among Iranian students has been reported to be 10%. (Tahery et al, 2018). In a study conducted by Menon et al. (2018), stress levels are associated with self-harm(SH) and risk-taking behavior. Lots of studies have reported a moderately significant negative correlation between stress and resilience (Durand-Bush et al., 2015; Sanderson and Brewer, 2017; Cooper et al., 2020; Kim et al., 2021; Labrague, 2021). It has been found that resilient individuals tended to report a decreased risk of negative consequences (like depression, and anxiety). Similarly, a higher level of resilience was related to a lower risk of internalizing problems. Therefore, it is reasonable to postulate that resilience may also protect against SH (Tian et al, 2021). In the field of psychology, resilience is described as the competence of an individual to successfully pull through adversity or trauma (Tian et al, 2019).

Western literature reported that resilience was significantly associated with SH: SH individuals have generally observed a lower level of resilience (Huang, & Mossige, 2015). In this regard, resilience-building might be a promising method to alleviate SH frequency and severity. It is also practical, for empirical evidence has suggested that individual resilience can be drastically reinforced by psychological or psychosocial intervention measures (Dray et al, 2014; Tian et al, 2019). Various methods have been used to increase psychological resilience in students with self-harm. For example, the most common type of intervention examined via 14 of the 28 primary studies in terms of its impact on youth resilience was CBT which was typically delivered in a group format and over four to 18 sessions (Challen et al., 2014; Chen et al., 2014; Cutuli et al., 2013). The Penn Resiliency Program (PRP), including Dutch adaptations, was evaluated in four of these studies (Kindt et al., 2014). One study delivered CBT via the Fun FRIENDS program (Anticich et al., 2013) and another via the Resilience Builder Program (RBP) (Watson et al., 2014), one study delivered CBT in the form of Rational-Emotional Behavioural Therapy (REBT) combined with art therapy (Roghanchi et al., 2013) and the final study involving CBT compared Teen Club (TC, group psychoeducation, outreach, and instrumental assistance) on its own to TC plus Positive Adolescent Life Skills (PALS), a cognitive-behavioral skill-building component, delivered to high-risk teenagers over 25 sessions (Hipke et al., 2002).

Training in emotion regulation is a therapy proven to be effective in increasing resilience in normal and clinical populations (Dixon et al, 2020). A person's emotional regulation process involves modifying their emotions to achieve a specific goal or to enhance and/or suppress their emotional experiences and expressions. Researchers have demonstrated that emotion regulation is essential for mental health, while maladaptive emotion regulation (or emotion dysregulation) contributes to the development and maintenance of a wide range of mental disorders, such as self-harm (Laporte et al., 2021). The previous studies suggest that resilience-building interventions, particularly those that focus on improving goal concentration, emotion regulation, and positive perception, could be effective in reducing impulsivity-related SH risks in adolescents (Xiao et al,

2020; Tian et al, 2021; Ran, et al, 2022). According to Ran et al. (2020), resilience strengthening measures, such as increased ability to regulate emotions and increasing social support, could be effective in reducing SH behaviors among Chinese teenagers. Thus, Emotion-regulation training is one the appropriate training for those who are unable to regulate their emotions in face of stressful situations. Therefore, emotion regulation plays an important role in the psychological well-being of each person (Sharifi, Basharpour, & Narimani, 2021). Emotion regulation training means reducing and controlling negative emotions and how to use positive emotions. Emotion regulation increases human ability after negative stressful emotional experiences and helps the person to adapt to the environment better (Bomyea et al, 2021). It is known that emotions regulate psychological problems, and emotional regulation strategies predict subsequent adjustment and psychological distress. There are six relevant sub-skills of emotional regulation: emotion acceptance, emotion awareness, purposeful behavior during emotional experiences, impulse control, access to emotion regulation strategies (emotional skills), and emotional clarity (Vafaei, Samavi, Whisenhunt, & Najarpourian, 2021). As a result, training in emotion regulation may improve resilience in students dealing with self-harm. A major objective of this study is to investigate whether training in emotion regulation can improve resilience among students who have self-harmed.

Methods

The present study was a semi-experimental study with pre-and post-test with a control group design. The statistical population of the study included all self-harm female students aged 12-15 years studying in the Elementary and Middle school in Tehran in the academic year 2019-2020. A purposive sampling method was used to select self-harming students. Thus, after estimating the sample size with Cochran's formula, six schools from six districts (5, 9,12,16,19,21) were randomly selected, then two classes from each school and 3 students from each class were selected as the prototype by the comprehensive deliberate self-harm inventory was given to them. In the next stages, 36 students were selected as the main sample and randomly assigned to the experimental and control groups. The inclusion criteria were: a high score in the deliberate self-harm inventory, conscious consent to participate in the study, and not participating in similar psychological interventions. We excluded those who were not willing to continue and were absent for more than two sessions. To implement the protocol, all students were referred to the Psychological Counseling Center in Tehran's 9th District at the appointed time, and the treatment was carried out by the first author. Before the intervention program, the resilience questionnaire was administered as a pre-test in all two groups for the first experimental group. Then, emotion regulation training was performed in 8 sessions of 60 minutes per week, and at this time, the control group did not receive any intervention. At the end of the intervention sessions, the resilience questionnaire was administered as a post-test in all two groups and the results of the two groups were compared. In this study, the emotion regulation protocol was performed based on the instructions of the Gross model (2007) for the experimental group. A summary of the sessions of the training programs is provided in Table 1. Univariate analysis of covariance was used to analyze the data. Data were analyzed using SPSS software, version 24.

The following tools were used to collect information:

Deliberate Self-Harm Inventory (DSHI):

This questionnaire was designed by Grtaz (2001) to measure various types of self-harming behavior in the non-patient community. This questionnaire contains 17 descriptive phrases on the common intentional self-injury behaviors (scratching the head and face, scratching and piercing the skin, burning, engraving writings and photos on the skin, etc.). Each phrase asks about the duration of various self-injury behaviors in the past year. Scoring included yes (score 1) and no (score 0). Gratz calculates the Cronbach α coefficient of the questionnaire as 0.82 and its reliability coefficient after two weeks (test-retest) as 0.68. The Cronbach α coefficient on the Iranian sample is 0.71, which indicates acceptable reliability and validity. The content of the test is obtained through a survey of psychologists and educational scientists (Payvastegar, 2013). The Cronbach α coefficient of the scale in this study was 0.75.

The Connor-Davidson resilience scale (CD-RISC):

The scale was designed by Connor and Davidson in 2003 to measure people's resilience. This scale has 20 items scored on a 4-point Likert scale from completely false (zero) to always true (Connor, & Davidson, 2003). The total score in this test ranges from 0 to 100, and higher scores indicate more resilience in the person (Connor, & Davidson, 2003). Connor and Davison reported the internal stability of the resilience scale using Cronbach's alpha to be 0.89 and retest reliability of 0.87. In Iran, Mohammadi et al (2006) calculated the reliability of the Connor and Davison scales reporting a Cronbach's alpha of 0.89, and stated that it was valid and reliable (Mohammadi et al, 2006). According to this study, it had a Cronbach α coefficient of 0.87.

Session	Table 1: Summary of the content of the training sessions of the emotion regulation package based on the Gross model (2007).
First	Introduction, description of training sessions, familiarity with emotion and emotion regulation, homework
Second	Assignment and discussion about events and emotions experienced in each event, modification of emotion regulation strategies through Gross model, normal emotion and problematic emotion, emotional self-awareness through familiarity with emotion-provoking situations
Third	Assessing members' vulnerability and skills, emotional performance in human adaptation, and communication
Fourth	Teach problem-solving strategies and skills needed to change emotion-provoking situations.
Fifth	Learn to stop rumination
Sixth	Identify miscalculations and their effects on emotional states and re-evaluate training
Seventh	Identifying the extent and manner of using inhibition guides and its role in emotional outcomes, exposure training, emotion expression training, behavior modification through reinforcement, training in proper emotion evacuation

Eighth	Apply the skills learned in real life and the obstacles to using them
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Results

Participants were females adolescents presenting self-harm behavior ($N = 36$; Mage = 13.54; SD = 1.25; Range = 12–15); the mean age in the experimental group was 13.32 years with a SD of 1.21 and the mean age in the control group was 12.54 years with a SD of 1.32.

Table 2: Descriptive indicators of psychological resilience by group

Groups	Pre-test		Shapiro-Wilk	Sig.	Post-test		Shapiro-Wilk	Sig.
	Mean	Std. Deviation			Mean	Std. Deviation		
Control	29.25	1.7	0.94	0.32	29.33	2.19	0.92	0.20
Experimental	27.93	2.8	0.92	0.20	35.07	1.68	0.84	0.02

Table 2 shows the mean and standard deviation indices of psychological resilience for the emotion regulation and control training groups in the pre-test and post-test periods. Shapiro-Wilk test was used to evaluate the hypothesis of normal psychological resilience distribution. The Shapiro-Wilk statistic is non-significant in some stages of pre-test and post-test psychological resilience ($P \leq 0.06$). Therefore, the psychological resilience distribution in the pre-test and post-test is normal. The results of Levene's test, indicating the equality of variances for the psychological resilience variable, and the distribution of the data is normal ($F = 1.847$; $P = 0.124$).

Table 3: Analysis of covariance analysis (ANOVA) on psychological resilience of self-harming female students

Dependent Variable	Source	Type III Sum of Squares	Mean Square	F	Sig.	η^2
Psychological Resilience	group	42.847	42.847	87.115	0.000	0.745
	Error	13.280	0.493		5	

According to the results of Table 3, the training program was effective in improving resiliency ($F(2,34) = 87.115$; $P < 0.01$; $\eta^2 = 0.745$) in the experimental group compared to the control group. The experimental group had higher resiliency scores than the control group. The F ratio obtained in the educational interventions was significant in improving resilience ($P < 0.005$); This means that the subjects' scores in the experimental group increased from the pre-test to the resiliency.

Discussion

This study aimed to assess the effectiveness of the emotion regulation training program on the resilience of students with self-harm. The results of data analysis showed that the emotion regulation training program was effective in improving the resilience of students with self-harm. The experimental group had higher resiliency scores than the control group. This finding is consistent with the findings of Kazemi, et al., 2020; Izakiyan, Mirzaian, & Hosseini, 2019; Denny, 2020, and Wang et al., 2016. Emotional regulation skills allow people to be aware of positive and negative emotions, not escape negative emotions when faced with stressful situations, accept and express them promptly, and reduce negative emotional reactions such as catastrophe and rumination (Denny, 2020). The education of emotional regulation techniques affects the components of generalized stress and distress tolerance and it can be used as an effective interventional method to reduce stress, improve emotional regulation difficulties, and increase resiliency (Izakiyan et al., 2019). Moreover, emotion regulation training can be effective in promoting resilience and problem-solving style in adolescents with chronic kidney disease and under dialysis (Mehboodi, Amiri, & Molavi, 2020). Therefore, the main focus of emotion regulation therapy is on positive and negative emotions and strengthening them. Since the emotional processes of adolescents at this age may affect their cognitive system, by knowing and being aware of these emotional processes, the cognitive system of these people can be certificated and anxiety and depression can be prevented (Wang et al., 2016). Emotional regulation skills enable individuals to reduce processes, such as self-blame, blaming others, and mental rumination; this kind of control increases their acceptance (Sheybani, Mikaeili, & Narimani, 2020). Emotional-regulation training by informing people about positive emotions, their acceptance, and timely expression plays an essential role in reducing physical and mental symptoms and improving social functioning and levels of mental health.

Thus, emotion regulation involves numerous regulatory processes and strategies, including cognitive, physical, social, and behavioral dimensions. Emotion regulation strategies are used to increase adjustment and adaptation to manage emotions and are part of adaptation strategies related to the experience and treatment of emotional and physical disorders. Therefore, emotional regulation reduces negative emotions, such as depression, and increases positive emotions and adaptive behavior (Kazemi et al., 2020). Logically, the Emotional Information Processing framework suggests that goal articulation and strategy implementation is more effective when learners can effectively appraise their emotional states and evaluate the availability of coping resources (Thomas, & Zolkoski, 2020).

In terms of the limitations of the present study, it must be noted that although the self-report tools used in this study had adequate validity and reliability, the answers to these scales might be affected by the social desire or the conditions of the subjects at the time of answering. Due to the effectiveness of emotion-regulation training in improving psychological resilience to self-harm, it is recommended that this training package be combined with other forms of training to improve psychological resilience. Resulting from the study, future studies are likely to use participants from clinical samples.

Conclusion

Using emotion regulation training to increase resilience among students with self-harm can be an effective and short-term treatment. Hence, by designing training programs for the regulation of emotion and including them in the curriculum of students, the necessary basis should be provided to strengthen related skills.

Disclosure Statements

The present study is a psychology research project. This study would not have been possible without the participation and cooperation of the students. This study's authors declare that they did not receive any funding for the research, and no potential conflicts of interest were disclosed.

ORCID

0000-0001-9804-3313

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