Original Article

The effectiveness of emotional intelligence training on action control and self-criticism of high school students

S. Oladian: Department of Psychology, Valiabad Branch, Islamic Azad University, Tonkabon, Mazandaran, Iran

R. Yaghobian*: Department of Psychology, Behshahr Branch, Islamic Azad University, Behshahr, Iran

M. Salahshour Dastgerdi: Department of Psychology, Electronics Unit, Islamic Azad University, Tehran, Iran

Abstract

Background and Aim: Since adolescence is a period in which intense emotions accompany the physical and psycho-social changes of adolescents and many nervous and cognitive systems that control emotions grow during this period. Therefore, it is necessary to have training based on emotional intelligence. This study aimed to investigate the effectiveness of emotional intelligence training on action control and self-criticism of high school students. **Methods:** The current research was applied in terms of purpose and quasi-experimental research design with a pre-test and post-test design with an experimental group and a control group and a two-month follow-up period. The statistical population of the research included all the second-level high school students who were referred to counseling centers in the 7th district of Tehran. For sampling, the available targeted sampling method was used. For this purpose, 20 students were selected as the statistical sample of the research and were equally assigned to two experimental and control groups. An emotional intelligence training program was implemented for the experimental group, while the control group did not receive any intervention. The data collection tool was Thompson & Zuroff's self-criticism questionnaire (2004) and Diefendorff's action control questionnaire (2000). Multivariate analysis of variance and SPSS software were used for the statistical analysis of the data. **Results:** The results of the data analysis showed that emotional intelligence training reduced self-criticism scores ($F = 12.83$) and increased action control scores ($F = 10/04$) The experimental group had a significant effect. Also, the results of the LSD follow-up test indicated good stability of these effects. **Conclusion:** Therefore, emotional intelligence training can lead to decreased self-criticism and increased action control of secondary school students.

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Introduction

Education is one of a society's most important institutions that can provide people's all-around development. In general, the cultivation of individual talents and the consolidation of the foundations of collective life and the creation of understanding between human beings are done in the shadow of education (Cullen, 2011).

The theoretical and experimental model proposed by Zuroff, Santor & Mongrain (2005) claims that the motivational, cognitive and interpersonal characteristics of self-criticism dynamically interact with environmental factors and increase and maintain psychological harm and discomfort; Therefore, self-criticism is defined as a person's tendency to have high expectations of himself and to question his performance (Barlow, & Craske, 2017). Self-criticism makes students consider their performance incomplete and define unattainable standards for themselves in a way that ultimately causes anxiety, belief and irrational thinking style (Butt, Moosa, Ajmal, & Rahman, 2011). According to psychologists, self-criticism is known as a unique predictor of disorders and negative emotions. Ghaderi et al. (2020) believe that self-critical people emphasize achieving goals, engage in strict self-judgment, and fail to enjoy achieving their goals. Self-critical individuals have been identified as having feelings of worthlessness, guilt, and failure (Claes, Hart, Smite, Eynde, Mueller, & Mitchell, 2012).

Craske et al. (2011) believe that there are two types of self-criticism in people; Comparative self-criticism is defined as a negative view of oneself in comparison to others; at this level, the focus is on the unfavorable comparison of oneself with others, which takes place in a superior way, and the person shows a hostile or critical view of others. Also, another level of self-criticism is related to negative self-criticism compared to personal and private standards; the common denominator of both types of self-criticism is that a person considers his performance incorrect and as a result of achieving personal standards, it is considered a big problem for him (Abdollahi, Darbani & Parsakia, 2022). Action control is a self-regulatory process that allows people to

form, maintain and implement their intentions, and transform them into objective actions (Abdollahi, Darbani, & Parsakia, 2022). According to action control theory, this self-regulation ability is conceptualized as a trait and is measured on a continuum from dynamic orientation to static orientation; Dynamic and static orientation is related to individual differences in the ability to regulate emotions, cognition and behavior in order to perform voluntary actions. In other words, dynamic and static orientation indicate individual differences in self-regulation processes that occur while pursuing goals (Jostmann, & Koole, 2010). These people with dynamic orientation are able to regulate emotions intuitively, flexibly, efficiently and non-repressively (Koole, & Jostmann, 2014) and automatically, such as the ability to stop thoughts and reflections without any external help; In addition, these people; are able to reduce negative emotions in response to negative life events and continue their way after failure and can flexibly adapt to environmental requirements and show more advanced cognitive control against environmental requirements (Abdollahi, Darbani, & Parsakia, 2022).

Since adolescence is a period in which intense emotions accompany the physical and psycho-social changes of the adolescent, and many nervous and cognitive systems that control emotions grow during this period. Therefore, it is necessary to have training based on emotional intelligence (Amirkhanloo et al., 2022). Emotional intelligence is the ability to understand, describe, receive and control emotions; In other words, emotional intelligence includes a set of abilities, capabilities and skills that equip a person to adapt to the environment and achieve success in life (Navabinejad, Rostami, & Parsakia, 2023). Therefore, the present study aimed to investigate the effectiveness of emotional intelligence training on self-criticism and action control of second-level high school students in Tehran.

Research method

In terms of the purpose, the current research was of an applied type and a quasi-experimental research design with a pre-test and post-test design with an experimental

group and a control group and a two-month follow-up period. The statistical population of the research included all the second-level high school students who were referred to counseling centers in the 7th district of Tehran. For sampling, the available targeted sampling method was used. For this purpose, 20 students were selected as the statistical sample of the research and were equally assigned to two experimental and control groups. An emotional intelligence training program was implemented for the experimental group, while the control group did not receive any intervention. The criteria for entering the research was not having a mental illness. The criteria for exiting the research was not participating in more than two sessions. Multivariate analysis of variance and SPSS software were used for the statistical analysis of data.

Research tools

1. The scale of self-criticism levels. Thompson & Zuroff (2004) developed this scale with 23 questions. This scale measures two levels of comparative self-criticism (12 items) and internal self-criticism (11 items). The scoring of this questionnaire is based on a 5-point Likert scale. Therefore, the minimum score is 23 and the maximum score is 115. The reliability and validity of this questionnaire has been confirmed by its creators. Also, in their study, Yamagoji & Kim (2013) reported a suitable internal consistency for this scale with an alpha value of 0.90 (Hassanpour, Alizadeh Mousavi, & Mohammadi pour, 2022).

2. Action control questionnaire. This questionnaire was designed and compiled by Diefendorff (2000) in order to measure action control. In Iran, it has been validated by Farokhi, & Hosein Chari (2014). This questionnaire has 22 questions and three components of withdrawal-mental preoccupation, initiative-hesitancy and persistence-instability and based on the five-point Likert scale with questions such as (when I try to learn something new that I want to learn, I often feel like I need to take a break and do something else) measures action control. The reliability of the action control questionnaire was obtained using Cronbach's alpha above 0.70 (Farokhi, & Hosein Chari, 2014).

3. Emotional intelligence training sessions. Emotional intelligence training was held in eight weekly sessions for two months based on Bradbery & Grizoff (2001) protocol.

Table 1. Content of strength-based counseling sessions	
Session	**Content**
1	Pre-examination, introduction and familiarization of group members, statement of group goals and rules, determination of topics and general structure of meetings, definitions and description of emotion, importance of emotional intelligence, presentation of homework
2	Recognizing and teaching emotional and emotional words, teaching how to recognize and express a suitable face and using techniques such as stories and parables and paying attention to the face according to the mirror and poster
3	Checking homework, defining emotional self-awareness and increasing emotional self-awareness and emotional control, understanding other people's emotions, receiving feedback, presenting homework
4	Checking homework, teaching active listening and empathy, receiving feedback, presenting homework
5	Homework review, problem solving training focusing on emotional problem solving, receiving feedback, presenting homework
6	Checking homework, controlling emotions through changing the position, calming and emotional keywords, identifying unpleasant emotions that cause trouble, teaching responsibility for emotions, receiving feedback, providing homework
7	Homework review, anger control and management training, anger consequences, ways to deal with anger, receiving feedback, presenting homework

| 8 | Checking homework, reviewing past meetings, getting feedback from members regarding past meetings, coordinating with participants for follow-up plans. |

Results

In terms of demographic characteristics, the average age of the experimental group was 15.91, and the control group was 15.55. The descriptive data collected from the questionnaires are reported in the following table.

Table 2. Descriptive data of the research variables in the three stages of pre-test, post-test and follow-up					
Variable	Stage	Experimental group		Control group	
		Mean	Standard deviation	Mean	Standard deviation
Self-compassion	Pre-test	79.13	6.55	78.52	6.71
	Post-test	68.68	6.42	79.79	5.82
	Follow-up	69.19	5.97	78.81	6.30
Tendency toward marital infidelity	Pre-test	42.13	7.80	43.44	8.08
	Post-test	49.99	7.83	44.56	8.16
	Follow-up	50.01	7.50	43.91	8.22

Based on the contents of table number, it can be found that there is no difference between the average scores of self-criticism and control of the statistical sample of the research in the pre-test stage between the experimental and control groups. It can also be seen that the average self-criticism scores of the test group increased intuitively in the post-test phase. This is while this increase is not seen in the control group. In addition, the average performance control scores in the experimental group decreased after the intervention, which was not seen in the control group. To test the significance of the effect of emotional intelligence training on research variables in the experimental group, a multivariate analysis of variance with repeated measurements in three stages has been used. For this purpose, first, the required assumptions were checked.

Table 3. Results of Shapiro Wilk and Levene's test							
	Group	Shapirro-wilk test			Levene's Test		
Variable Self-compassion		Degree of freedom	Statistics	Sig.	Degree of freedom 2	Statistics	Sig.
	Experimental	20	0.90	0.52	18	2.13	0.17
	Control	20	0.92	0.65	18	2.00	0.13
Tendency toward marital infidelity	Experimental	20	0.90	0.52	18	2.19	0.24
	Control	20	0.88	0.46	18	1.99	0.13

According to the above table, the Shapiro-Wilk test shows that the obtained data have a normal distribution. The equality of variance is established based on the results of Levene's test. In the following, the results of Mauchly's test to test the condition of sphericity are reported.

Table 4. The results of the Mauchly's test to check the assumption of sphericity of the data							
Variable	W	X^2	Degree of freedom	Sig.	Epsilon		
					Green-house Geiser	Hewitt-Flett	Lower Bounds
Self-compassion	0.67	9.77	1	0.02	0.66	0.70	0.50
Tendency toward marital infidelity	0.71	11.15	1	0.02	0.68	0.73	0.50

Based on the above results, considering the significance level of 0.05, the condition of data sphericity is established. Further, the variance of repeated measures was used to analyze the results. The results of mixed variance analysis with its repeated measurements are shown in the table below.

Table 5. Mixed variance analysis with repeated measurements in three stages pre-test, post-test and follow-up

Variable		Sum of squares	Degree of freedom	Mean squares	F	Sig.	Effect size
Self-compassion	Stages	2687.26	1	2687.26	402.40	0.000	0.84
	Stages × Group	742.72	1.76	420.86	12.83	0.005	0.68
	Error	281.27	18	3.73			
Tendency toward marital infidelity	Stages	1923.17	1	1923.17	298.21	0.000	0.77
	Stages ×Group	595.80	1.65	359.40	10.04	0.007	0.56
	Error	193.65	18	3.13			

As seen in the above table, emotional intelligence training significantly affected self-criticism (F = 12.83) and action control (F = 10.04) variables. In the following, to check the stability of this effect, LSD post hoc test was used.

Table 6. LSD post hoc test results in three stages pre-test, post-test and follow-up by groups

	Stage		Strength-based Counseling	
Variables			Mean dif.	Sig.
Self-compassion	Post-test	Pre-test	10.15	0.001
	Follow-up	Pre-test	0.51	0.001
	Follow-up	Post-test	9.64	1.00
Tendency toward marital infidelity	Post-test	Pre-test	6.86	0.001
	Follow-up	Pre-test	6.88	0.001
	Follow-up	Post-test	0.02	1.00

The contents of the above table show that the changes in the variables were caused by emotional intelligence training (P < 0.001). Also, comparing the averages in the follow-up and post-test phases indicates that these effects were stable (P < 0.001).

Discussion and conclusion

This study aimed to investigate the effectiveness of emotional intelligence training on self-criticism and action control in high school students in Tehran. The results obtained from the statistical analysis of the data showed that emotional intelligence significantly reduced the self-criticism scores and increased the action control scores in the experimental group. Therefore, emotional intelligence training is effective on self-criticism and action control. So far, there has not been similar research regarding the effectiveness of emotional intelligence training or the relationship between emotional intelligence and self-criticism and action control, which has directly and specifically addressed the research in this regard.

Therefore, no consistent or inconsistent findings were found with the conclusion that emotional intelligence training is effective on self-criticism and action control in high school students. In explaining the findings of the current research, emotional intelligence has always been one of the main and important topics of psychology in relation to the factors related to students' abilities (Moeller, Seehuus, & Peisch, 2020). Emotional intelligence is the ability to understand, describe, receive and control emotions; In other words, emotional intelligence includes a set of abilities, capabilities and skills that equip a person to adapt to the environment and achieve success in life (Bar-on, 2010). Goleman (1999) points out that emotional intelligence is another form of intelligence. It means abilities such as being able to protect oneself. He should persevere in the face of adversities, control his impulses, regulate his mental states, and not let mental distress impair his thinking

power. Also, to persevere in the face of failure, empathize with others and hope (Bibi et al., 2020). Emotional intelligence is the awareness of feeling and its use, making appropriate decisions in life, the ability to endure emotional trauma and control emotional disturbances (Tajuddin et al., 2020). Emotional intelligence enables a person to maintain a positive mood and increase it, and it seems that emotional intelligence training can be effective on self-criticism and action control in this way (Romano et al., 2020). Emotional and social skills and abilities known as emotional intelligence are strong predictors of people's cognitive abilities. Research has also shown that emotional intelligence can reduce rumination. Since rumination is related to self-criticism, emotional intelligence training effectively reduces self-criticism (Sanchez-Alvarez, Berrios-Martos, & Kaciroti, 2018). Therefore, according to what was said, the effect of emotional intelligence training on action control and self-criticism of secondary school students can be justified.

The present study, like any other study, had limitations. These limitations make the generalization of the findings difficult. Therefore, it is recommended to act cautiously in generalizing the results of this research. One of the limitations of this research was that targeted sampling was available. Also, the questionnaire as a data collection tool has low accuracy because the respondent can complete it without respecting the principle of honesty or with bias.

According to the results obtained from the present research on the effectiveness of emotional intelligence training on practical thinking and self-criticism of secondary school students, it is suggested to use this method in schools and counseling centers. Also, to confirm or reject the current research findings, more studies are needed in this field.

Ethical principles

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were observed.

Acknowledgments

Conflict of interest

The authors of this study declared no conflict of interest.

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