



The Effectiveness of Schema Therapy on Aggression and Emotion Dysregulation in Adolescent Girls with Self-harm

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Abstract

Background: Many interventions currently recommended for young people whose self-harm are clinic-based, delivered by mental health clinicians, and primarily aimed to address the underlying mood and personality disorders. This study aimed to evaluate the effectiveness of schema therapy on aggression and emotion dysregulation in an adolescent girl with self-harm.

Methods: The research method was semi-experimental with pre-test and post-test design with the control group. The study population included all female patients with self-harm who had been referred to the public and private Aram center for psychiatry and psychology, from November to January in Tehran District 3, Iran, in 2021. 30 people were selected through the purposive sampling method and randomly divided into two groups of experimental ($n=15$) and control ($n=15$). Questionnaires such as the aggression questionnaire (AGQ) and the difficulties in emotion regulation scale (DERS) were used for data collection. The emotional schema therapy was performed for 8 sessions, 90 minutes each for the experimental group, and the control group received none. Multivariate analysis of covariance (MANOVA) and one-way analysis of covariance (ANOVA) on the SPSS23 software was used for data analysis.

Results: In this study, participants ranged in age from 12 to 18 years old, with a mean of 15.53 years ($SD=1.84$). Results suggest that the schema therapy approach had positive effects on aggression and emotion dysregulation in adolescent girls with self-harm ($Pvalue<0.001$).

Conclusions: Study results showed that schema therapy for aggression and emotion dysregulation was a cost-benefit intervention for adolescent girls with self-harm aged between 12 and 18.

Keywords: Schema therapy, Aggression, Emotion dysregulation, Adolescent girl, Self-harm.

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Introduction

People deliberately self-harm for various reasons, some of which are entwined with cultural or environmental standards or rituals, while others are pathological. A subgroup of this behavior, non-suicidal self-injury (NSSI), is defined as “a deliberate causing of damage to one’s own body in a manner that is not socially acceptable and does not have a suicidal intent”. As such, it occurs most frequently in the adolescent and

young adult population and most commonly comprises cutting or slashing, although burning, self-battery, scratching, biting, wound interference and head banging are also common. The majority of patients use this behavior with the aim of calming down, relaxing, and gaining control over their emotional difficulties, with an intent opposite to an intention to die and perpetuated most commonly with negative reinforcement.¹

As with self-harm, aggression is variably defined within the literature. Aggressive behavior may range in severity from minor acts (e.g., verbal aggression) to more serious acts (e.g., stabbing and killing). While self-harm and aggression may initially seem distinct, research has consistently shown that these behaviors co-occur across various populations. The co-occurrence of self-harm and aggression during the course of an individual’s lifetime has been termed “dual-harm”.² There is emerging evidence to suggest that, compared to those who engage in self-harm alone or aggression alone (“sole-harm”), individuals who dual-harm may have distinct characteristics. These include greater levels of contextual and personal risk and a riskier pattern of harmful behaviors.³⁻⁵ Such evidence has led researchers to hypothesize that, rather than self-harm and aggression simply co-occurring, dual-harm may be an independent construct that stands separate from sole-harm behaviour.⁶

The function(s) that self-harm behaviors serve varies between individuals but studies have found individuals to most commonly report using self-harm to reduce negative feelings, release emotional pressure, change feelings of numbness, punish oneself, and communicate with someone else/gain attention. Aggression is often classified as either instrumental or reactive. Instrumental aggression involves behaviors that are planned and have a goal in mind, whereas behaviors that occur in response to perceived threats, provocation, or feelings of frustration and other negative emotions are classified as reactive aggression. In regards to the function of reactive aggression researchers have suggested that individuals engage in aggressive behaviors as an act of catharsis which regulates emotions aggression in young adults is particularly worrisome given that the nature of aggressive behaviors often becomes more serious during this time. Types of aggression characteristic of this age group include domestic violence, child abuse, sexual abuse, and homicide.⁷

The concept of dysregulation of emotion has assumed greater significance as psychopathology becomes more broadly understood and self-injurious behavior has become more widely recognized as a possible risk factor.⁸ In addition to maladaptive and destructive behaviors, aggression toward oneself and others has also been linked to emotion dysregulation. The previous studies also showed that individuals with self-harming behavior (NSSIs and/or suicide attempts) had significantly more difficulty with emotion regulation than those without self-harm.⁹ The findings suggest that individuals experiencing greater emotional dysregulation are more likely to experience NSSI, regardless of their age or gender.¹⁰

These patients are considered high treatment users as they consume a lot of treatment resources, and a large percentage of them return to therapy after the initial course of therapy.¹⁰ A form of psychotherapy called schema therapy has proven to be effective for a variety of disorders such as post-traumatic stress disorder,¹¹ mixed personality disorders,¹² eating disorders,¹³ and externalizing behavior problems.¹⁴ A study found that schema therapy was also more cost-effective. Further, schema therapy can be successfully implemented in mental health treatment.¹⁵ Due to the fact that schema therapy has not yet been used on adolescent girls with self-harm. Schema therapy is one of the most efficient therapies for personality disorders. However, there is a lack of recent studies on how it treats emotion dysregulation. Although the treatment of emotional dysregulation is not the core of schema therapy, it is certainly important inside this theoretical framework.¹⁶ Due to this research gap, it's believed the schema therapy approach may reduce adolescent self-harm aggression caused by emotion dysregulation. According to the explanation provided, the present article aims to address the gaps in the literature by evaluating the effectiveness of schema therapy in reducing aggression and emotion dysregulation among adolescent girls with self-harm.

Materials and Methods

The research method was quasi-experimental with the pre-test-post-test and control group, in which the effectiveness of independent variable schema therapy (ST) on dependent variables (i.e., aggression and emotion dysregulation) was investigated. The study population included all female patients with self-harm who had been referred to the Aram public and private center for psychiatry and psychology from November to January in Tehran District 3, Iran, in 2021. The sample was selected through the purposive sampling method. The criteria for entering the research sample included a structured clinical interview, educational status, age range of 12 to 18 years old, lack of acute physical and psychological disorder, as well as other criteria considered in this research. People with psychotic disorders, mood disorders, substance abuse, and psychiatric patients were excluded. The sample consisted of 30 self-harm patients based on diagnostic and statistical manual of mental disorder-fifth edition-text revision (DSM-5), clinical interview, and the patient has been hospitalized, missing more than a

dozen treatment sessions. In addition, they were matched considering age, educational status, sex, lack of acute physical and mental disorder, and other criterion considered in this research. Then, the sample was randomly divided into two groups (i.e., experimental (n=15) and control (n=15) groups). The instruments were the aggression questionnaire (AGQ) and the difficulties in emotion regulation scale (DERS). This instrument was used to measure the outcome of the treatment. After pre-testing, the experimental group received 8 sessions of schema therapy¹⁷ (Table1). The sessions were held twice a week (90 minutes) in eight sessions of individual training using schema therapy techniques. However, the control group did not receive any intervention. Then post-test was taken from both groups. For ethical considerations, the control group received 3 sessions of intervention. Data analysis was conducted through analysis of variance on difference scores. The Azad university of Tehran (IR.IAU.REC.1400. 077) ethically approved this article. Descriptive statistics (mean and standard deviation), multivariate analysis of covariance (MANOVA), and one-way analysis of covariance (ANOVA) on the SPSS software version 23 were used for data analysis.

Aggression questionnaire (AGQ): This questionnaire includes multiple-choice 30 questions. In this questionnaire, 14 questions measure "anger"; 8 questions measure "offensive" and 8 questions measure "implacability". Every question of this questionnaire is a multiple-choice question based on Likert-type (never, rarely, sometimes, and always) and the scores are considered 1, 2, 3, and 4 respectively. A score equal to or greater than 75 is considered an aggressive person. This questionnaire is normalized by Najarian in Iran, and the reliability of this questionnaire has been reported at 85%. There are used Cronbach's alpha method in order to determine the reliability coefficient. The amount of this coefficient was gained to 0.775, which is a suitable reliability coefficient.¹⁸

The difficulties in emotion regulation scale (DERS)¹⁹: Is a self-report scale and includes 36 items on a 5-point scale ranging from one (almost never) to 5 (almost always). The items cover six subscales of nonacceptance of emotional responses (e.g., 'when I'm upset, I feel guilty for feeling that way), difficulty engaging in goal-directed behavior (e.g., 'when I'm upset, I have difficulty concentrating'), impulse control difficulties (e.g., 'when I'm upset, I lose control over my behaviors'), lack of emotional awareness (e.g., 'I am attentive to my feelings'), limited access to emotion regulation strategies (e.g., 'when I'm upset, I believe that I'll end up feeling very depressed'), and lack of emotional clarity (e.g., 'I have difficulty making sense out of my feelings). Higher scores indicate greater difficulty with emotion regulation. The DERS has high internal consistency for the total score (0.93) and all subscales (>0.80) and has demonstrated convergent validity.¹⁹ In addition, the Persian version of the scale had good criterion validity along with acceptable reliability (Cronbach's α between 0.66 and 0.88 and test-retest coefficients between 0.79 and 0.91).²⁰ In the current study, the 33-item version of the DERS was administered and had good internal consistency with Cronbach's alpha ranging from 0.73 to 0.81.

Table 1. Schema-based training protocol¹⁷

The first and second sessions were devoted to introducing individuals, briefing each person on the tasks, schema training, guidelines, and general rules of teamwork, and explaining Young's schema model.

In the third, fourth, and fifth sessions, training schema such as schema validity, redefining the evidence verifying schema, evaluating the advantages and disadvantages of patient coping styles, establishing a dialogue between healthy and unhealthy aspects of the schema, developing a training card and completing the schema registration form were focused on.

In the sixth, seventh, and eighth sessions, we trained behavioral modeling techniques that included encouraging the subjects to effective coping behaviors such as behavior change, motivation, reassessment of the advantages and disadvantages of continuing behavior and practicing healthy behaviors, and preparing people for ending the sessions.

Results

The number of participants in the present study includes 30 female adolescents from Aram private center for psychiatry and psychology from November to January in Tehran District 3, Iran, in 2021. Ages ranged from 12 to 18 years with a mean of 15.53 years (SD=1.84)

As shown in table 2, the mean and SD scores of aggression for the experimental and control groups in the pre-test were (21.13±4.36) and (20.23±4.66), respectively, in the post-test were 17.33±3.66 and 20.43±4.67), respectively. Also, the Mean and SD scores of emotion dysregulation for the experimental and control groups in the pre-test were (134.24±22.64) and

(135.27±21.88), respectively, in the post-test were (130.27±21.98) and (135.67±20.98), respectively.

From table 3, it can be seen that the schema therapy intervention had a positive effect on aggression ($F=181.154$, $Pvalue<0.01$) and emotion dysregulation ($F=256.851$, $Pvalue<0.01$) in the experimental group compared to the control group post-test, respectively.

In table 4, it is apparent that there is a significant difference between the experimental and control groups regarding dependent variables, with a significant level of less than 0.01. The calculated effect size indicates that 87% of the total variance between experimental and control groups is due to the independent variable.

Table 2. Comparing the schema therapy interventions between two groups on pretest and posttest

Variables	Groups	Experimental (Mean±SD)	Control (Mean±SD)
Aggression	Pre-test	21.13±4.36	20.23±4.66
	Post-test	17.33±3.66	20.43±4.67
Emotion dysregulation	Pre-test	134.24±22.64	135.27±21.88
	Post-test	130.27±21.98	135.67±20.98

Table 3. Results of multivariate analysis of covariance (MANCOVA) on post-test scores aggression and emotion dysregulation in experimental and control groups

Presumptions	Size	F	Df hypothesis	Df error	Pvalue
Pillai's Trace	0.835	183.624	2	24	0.001
Wilk's Lambda	0.075	183.624	2	24	0.001
Hotelling's Trace	15.218	183.624	2	24	0.001
Roy's Greatest Root	13.832	183.624	2	24	0.001

Table 4. Analyses of the ANCOVA scores for post-test scores in aggression and emotion dysregulation

Group	Variable	SS	DF	MS	F	Pvalue	Eta
Post-test group	Aggression	4329.237	1	4329.237	181.154	0.001	0.76
	Emotion dysregulation	432619.065	1	432619.065	256.851	0.001	0.87

Discussion

The purpose of this study was to evaluate the effects of schema therapy on aggression and emotion dysregulation in adolescent self-harming girls. The results indicated that there was a significant difference in the aggression and emotion dysregulation between the two experimental groups compared to the control group post-test. These findings indicate that schema therapy intervention is effective in reducing aggression and emotion dysregulation in adolescent girls with self-harming. Due to the lack of research done to date regarding self-harming adolescents, no research has been found to support the findings. In spite of the fact that self-harm and aggression might seem to be distinct, research consistently shows that these behaviors occur together across various populations. Self-harm and aggression occurring simultaneously during the lifespan of a person are known as "dual-harm."² There is emerging evidence suggesting that people who engage in dual-harm may present unique characteristics compared to those who engage in only self-harm or aggression alone ("sole-harm"). Among them are higher levels of contextual and personal risk and a pattern of damaging behaviors that is more likely to occur.^{2,5,6}

Schema training addressing maladaptive schemas and positive expectations regarding harmful behaviors could reduce dual-harm.^{2,5} Because schema training techniques were focused mainly on changing people's thinking and perception through identifying and replacing maladaptive or dysfunctional schemas with healthy thoughts, and since behavioral modeling was not used, compassion techniques were found to have a greater result in reducing adjustment problems. In schema-based training, the focus is on the resolution of cognitive conflicts and distortions, false beliefs, irrational schemas and thoughts, and working with these beliefs and modifying them, which has been less effective than compassion-based techniques.²¹

In ST, difficulties regulating emotions can be explained by early adverse experiences (e.g., poor attachment, childhood abuse, or emotional neglect). Traumatic experiences have led to unprocessed psychological traumas and fear of emotions, resulting in avoiding emotions and dysfunctional meta-cognitions about emotions. Based on ST, emotion regulation improves when these underlying difficulties are addressed. The major ST techniques for trauma processing, emotional avoidance, and dysregulation include limited re-parenting, empathic confrontation, and experiential techniques such as chair dialogs and imagery re-scripting.²²

According to ST, aversive experiences and frustration with childhood needs (e.g., safety, love, attention, acceptance, or autonomy) lead to the development of maladaptive schemas in interaction with biological and cultural factors. Organizing patterns of information processing that include thoughts, emotions, memories, and preferences are called schemas.¹⁷ It has a significant impact on how individuals perceive themselves, their relationships with others, and the world around them. Young et al.¹⁷ described¹⁸ maladaptive schemas, such as shame/defectiveness, social isolation, mistrust, or unrelenting standards. As a result of activating a maladaptive schema, painful emotions arise. As a result of these intense

emotions, coping mechanisms (surrender, avoidance, overcompensation) form which attenuates aversive feelings but impairs interpersonal and self-regulation behaviors.¹⁷

The sample age range for this study is limited to adolescents between the ages of 12- and 18 years. Accordingly, self-harm should be considered in other age groups. The use of self-report tools could have resulted in individuals not answering questionnaires or describing problems accurately, and human factors could have affected the results. Furthermore, this study focused on adolescent girls only, and the results could not be generalized to other groups. A further study should assess the stability and continuity of treatment during the follow-up phase. A similar study should be conducted on adolescent boys as well. It is recommended that this intervention be tested on a variety of ages of participants, as well as with both male and female adolescents who self-harm.

In Iran, this is the first study to examine schema therapy in adolescents with self-harm. Schema therapy for aggression and emotion dysregulation was a cost-benefit intervention in the experimental group post-test. It is important for health care providers to implement this therapy on sensitive adolescents in order to provide sufficient evidence of its effectiveness.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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