

## Original research

**The effectiveness of emotion regulation training on mental health and parent-child relationship in mothers of children with oppositional defiant disorder**Behnam Jafari Sani,<sup>1</sup> Mohammad Hossein Bayazi\*,<sup>2</sup> Saeed Teymouri<sup>3</sup>**Abstract**

**Introduction:** Oppositional defiant disorder appears in childhood and affects the mental health and relationships of parents, especially mother and child. The aim of this research was to determine the effect of emotion regulation training on mental health, and parent-child relationship of mothers whose children suffer from oppositional defiant disorder.

**Methods:** Semi-experimental research design was a pre-test, post-test type with a control group. Statistical society included all of the mothers, whose primary school children suffer from oppositional defiant disorder, they referred to the ministry of education clinics located in district 4 and 6, Mashhad in 2022. 40 people were chosen due to the fact that they met the criteria to enter the training, as statistical samples. They were randomly divided into examination and control groups. To collect data, the scale of oppositional defiant disorder children, mental health scale, and mother-child relationship assessment scale. Data analysis was done using spss21 software with the help of covariance analysis.

**Results:** The results showed that emotion regulation training is effective on the mental health in the mothers of children with oppositional defiant disorder ( $P < 0.001$ ). Also, the emotion regulation training was effective in improving the mother-child relationship in the mothers of children with defiant disorder ( $P < 0.001$ ).

**Conclusions:** According to the results, the emotion regulation training can improve mental health and improve the mother-child relationship of mothers of children with oppositional defiant disorder.

**Key words:** emotion regulation training, mother-child relationship, mental health, oppositional defiant disorder

**Received:** 13/ November/ 2023

**Accepted:** 29/April/ 2024

**Citation:** Jafar Sani B, Bayazi MH, Teymouri S. The effectiveness of emotion regulation training on mental health and parent-child relationship in mothers of children with oppositional defiant disorder, Family and health, 2024; 14(2): 59-73

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### **Introduction:**

One of the most common externalizing behavioral disorders is oppositional defiant disorder (1). The specific symptoms of confrontational disobedience disorder include eight characteristics of anger, holding grudges, arguing with elders and authority figures and calling them to fight, disobeying the requests or orders of authority figures and rules, and intentionally doing actions that hurt other people. Blaming others for their mistakes or misbehavior is rashness, anger and malice (2). In the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders, to diagnose the sub-dimensions of oppositional defiant disorder, eight symptoms of the disorder are included in three subgroups: irritable/angry mood, indifference/controversial behavior and spitefulness (2). The research results confirm this three-dimensional structure of confrontational disobedience disorder (3).

Children with signs of externalization have little ability to correctly infer the thoughts, intentions and feelings of others (4) and children with oppositional defiant disorder often misinterpret social signs and fail to express Their negative feelings are accompanied by a suitable state of panic (5). Communication problems of these children with others may be the result of faulty social cognitions or cognitive-social deficiencies (6). Restlessness, inattention and irritability in oppositional defiant disorder affect interpersonal and family relationships (7). Family is a network of communication in which parents and children interact with each other in a two-way process. In this communication network, they are able to influence each other. By reflecting on the quality of parents' relationships, especially mother-child relationships, and scrutinizing it, one can understand the sensitive role of the mother in the relationship with the child. In recent decades, psychologists have emphasized a lot on the relationship between children and their caregivers. They have stated mutual reactions as the basis of emotional and cognitive development of the child (8). The relationship between mother and child has always been the focus of experts due to its unique characteristics. Thus, numerous studies on the interaction of children with oppositional defiant disorder and their mothers indicate communication problems between them and preferably punitive educational methods. Research shows that oppositional defiant disorder causes a negative interaction pattern, negative emotional functions and social withdrawal (9). Breen and Barclay (1998) concluded that mothers of children with oppositional defiant disorder have more maternal stress than mothers of normal children (10). Confrontational disobedience disorder has serious psychosocial consequences (7). The inconsistency in the social relations of these children with their peers leads to non-acceptance and rejection (11). Such behaviors can cause exhaustion and excessive stress and dissatisfaction of mothers (12). Oppositional defiant disorder has severe effects on the life of the mother. So that it leads to anxiety, aggression, depression, social withdrawal (13).

Therefore, oppositional defiant disorder affects the relationship between parents and children. On the other hand, the characteristics of a child with oppositional defiant disorder cause negative effects on mothers' mental health (14). The findings show that mental health is directly influenced by how mothers deal with their child's unusual development (15). According to Krincher, mental health is the key to a good relationship process, because it is difficult for mothers not to be good wives and to be good mothers (12). Decreasing mental health affects all aspects of the lives of mothers and their children. Lack of mental health

causes a decrease in life expectancy and an increase in the possibility of physical and mental illnesses (16). Parents' mental health plays an important role in family communication (17). Successful prevention and treatment methods can improve mental health and improve parent-child relationships.

One of the intervention methods for parents with a child with oppositional defiant disorder is emotion regulation training. Emotional regulation is the strategies that people use in distress to manage their emotions (18). When a person faces a situation, good feeling and optimism alone are not enough to manage his emotions, he needs to have the best cognitive function in these moments (19). In the new approach in the field of emotions, the constructive and positive role of emotions is emphasized (20). According to these theories, emotion can play a constructive role in problem solving and information processing and decision-making process (21). Various researches have also shown that the ability of people in emotional regulation can play an important role in psychological well-being and finding meaning in life (22). Using adaptive emotion regulation strategies such as positive reappraisal and refocusing on planning positively leads to an increase in people's mental health (23). Emotion regulation training has an effective role in improving psychological well-being, school adaptation, cognitive regulation strategies and optimism (24, 25). It affects mental health and quality of life (26). The use of this intervention program improves communication skills, social adaptation and practical emotional well-being (27). It also seeks empathic communication (28) and promotes social relations (29). Therefore, according to the role of emotions in cognitive functions and parent-child interaction, the present study was conducted with the aim of investigating the effect of emotion regulation training on mental health and improving the relationship between mothers and children with oppositional defiant disorder.

### **Research method:**

The present study is a semi-experimental study with a pre-test-post-test design with a control group. The statistical population of the study included mothers of primary school children suffering from oppositional defiant disorder who referred to the education clinics of the 4th and 6th districts of Mashhad city in 2022. Among the mothers of primary school children suffering from oppositional defiant disorder, 60 people were selected as the primary sample using the purposeful sampling method, among these 40 people who met the necessary criteria to enter education were selected as a statistical sample and then randomly. They were replaced in the experimental group (20 people) and the control group (20 people).

The criteria for entering the research were having a child with oppositional defiant disorder, age between 25 and 45 years and education of at least middle school (first high school), the possibility of attending meetings and providing written informed consent to attend meetings; And the exit criteria included absence of more than two sessions in training, drug addiction, severe job and family problems, and being under training and other psychological intervention at the same time as this intervention.

In order to collect information from the research samples, by referring to the education and training clinics of the 4th and 6th districts of Mashhad city, after obtaining the necessary permits, the children who had received the diagnosis of oppositional defiant disorder according to the opinion of a psychologist were identified and then Among the mothers of

children with oppositional defiant disorder, 60 people were selected using the purposeful sampling method. Of these, 40 people were selected as a statistical sample and randomly replaced in two experimental and control groups. Then the mothers were invited and with the cooperation of the head of Farhang Andisheh Clinic and placing the clinic hall at the disposal of the researcher, the pre-test was taken from all the mothers and at the end they were welcomed while thanking them for their presence. Then, the randomly selected experimental group was asked to attend 8 one-and-a-half-hour sessions (once a week) on Mondays every week for training. After the implementation of the training, a post-test was taken from all the mothers (control and experimental groups) in the following week. At the end of the meetings, mothers were appreciated and thanked for their valuable presence by giving gifts.

To collect data, the oppositional defiant disorder scale of Hommersen et al. (2006), the Goldberg mental health scale (GHQ-28) and the mother-child relationship assessment scale of Robert, M., Ross (1961) were used.

**Children's oppositional defiant disorder scale:** This scale was developed by Hommersen et al. in 2006, (30) and based on the revised criteria of the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders to diagnose children with oppositional defiant disorder. (It should be noted that the criteria of this scale are also consistent with the diagnostic criteria of the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (2013). This scale has 8 items and evaluates respondents in a 4-point Likert scale (from 0 = not at all to 3 = very much). This scale is used for children aged 5 to 15; and it is completed by their mothers. The creators of the scale made its reliability coefficient 0.92 by Cronbach's alpha method and its reliability coefficient 0.95 by retest method. This scale has been validated and validated by Abedi (2007) on Iranian students, and the internal consistency coefficient of this scale has been reported as 0.93 using Cronbach's alpha method and its reliability coefficient has been reported as 0.94 using the retest method (31). Also, this scale is another reporting method, parents or teachers respond to this scale (31). In the present study, the Cronbach's alpha coefficient of the oppositional defiant disorder grading scale was equal to 0.63 and its retest coefficient was equal to 0.61.

**Mental Health Scale (GHQ-28):** The mental health scale was created by Goldberg, and is one of the most well-known screening tools for mental disorders, which are 12, 28, 30, 60 question sheets. In this study, its 28-question form was used; whose questions include 4 subscales, each of which includes 7 questions. Questions 1-7 relate to physical symptoms of a general health condition. Questions 8-14 are related to the anxiety scale, questions 15-21 are related to the social functioning disorder scale, and questions 22-28 are related to the depression scale. There are two scoring methods for this test. One is the traditional method where the options are scored as (0-0-1-1) and the maximum score of a person will be equal to 28. Another scoring method is the Likert method, where the options are scored as (0-1-2-3). The maximum score of the subject with this method in the said questionnaire will be 84. Likert method is usually used in most researches. Also, if the obtained scores have not been recoded, a higher score is a sign of mental health, less with no mental health. This questionnaire is standard and has been standardized in different populations in Iran and different countries. In a study, this questionnaire was measured simultaneously with a parallel

test (MHQ) and the correlation coefficient of the two tests was 0.55 and the correlation coefficients between the subtests of this questionnaire with a total score between 0.72 and 0.87, which indicates high reliability. It is. This study was conducted on the student statistical population (32). Also, this test has high reliability, the value of alpha calculated for all its items is 0.90. The value of Cronbach's alpha coefficient of the questionnaire is 0.73.

**Mother-Child Relationship Evaluation Scale:** Mother-Child Relationship Evaluation Scale was designed by Robert, M. Ross in 1961 (33). This test is an attitudinal scale that evaluates the opinion of mothers regarding 4 styles of interaction with the child and is included in the field of projective tests. This scale includes 48 items and 4 subscales that evaluate the opinion of the respondents in a five-point Likert scale (Completely agree = 5 to completely disagree = 1). Items 40 to 48 are scored in reverse. The subscales of this test are: acceptance of the child, overprotectiveness, negligence and rejection of the child. The reliability of the test (mother-child relationship assessment scale) was obtained through the Cronbach's alpha formula for the subscales of child acceptance 0.77, child rejection 0.73, and extreme permissiveness 0.71 and overprotectiveness 0.78 (34). Also, the reliability of the test was obtained using Cronbach's alpha of 0.86.

The experimental group was trained in emotion regulation by Gross (2009) during 8 sessions of 90 minutes, but the control group did not receive any intervention. The summary of emotion regulation training sessions is reported in Table 1. To analyze the data and answer the research questions, descriptive statistics methods such as mean and standard deviation and inferential statistics methods such as univariate and multivariate analysis of covariance and Kruskal-Wallis test in order to control the effect The pre-test was used in experimental and control groups.

**Table 1.** Summary of emotion regulation training sessions

First session	Getting to know the members and establishing communication with each other, describing oppositional disobedience disorder. Meeting agenda: introducing the group members and stating the necessity of oppositional disobedience disorder and the use of emotion regulation in life.
Second session	Title: selection of the situation, meeting agenda: definition of emotion, recognition and education of types of emotion
Third session	Evaluation of the level of emotional vulnerability and emotional skills of the members. Agenda: Discussion about the function of emotions in the process of human adaptation and their benefits, the role of emotions in communicating with others and influencing them, as well as organizing and motivating human behavior.
Fourth session	Making a change in an exciting situation Agenda: Examining your relationship with a child with oppositional defiant disorder, other people around you, identifying individual and interpersonal situations that need to be improved, and teaching skills needed to solve interpersonal problems.
Fifth session	Teaching the skills of changing attention. Agenda: stopping rumination and worrying, teaching attention to children with oppositional defiant disorder

Sixth session	Changing cognitive evaluations. Agenda: Identifying wrong assessments of children with oppositional defiant disorder and their effects on emotional states
Seventh session	Changing the behavioral and physiological consequences of emotion. Session agenda: Skill training including: a- Training and practice of expressing and venting emotions b- Training and practice to modify behavior through changing environmental reinforces.
Eighth session	Summary of the sessions to investigate the extent to which mothers of children suffering from oppositional disobedience failure have achieved the regulation of problematic emotions. Session agenda: training to act against strong emotional desires according to the presented classification and training problem solving skills.

### Findings:

Table 2 shows the descriptive information related to the mental health variable of the experimental and control groups. Table 3 also shows the descriptive information related to the parent-child relationship variable of the experimental and control groups.

**Table 2.** Mean and standard deviation of mental health scores in two experimental and control groups

Variable	group	Test time	n	M	SD
mental health	experiment	Pre-test	20	28.3	10.33
		Post-test	20	20.8	6.9
	Control	Pre-test	20	30.15	9.83
		Post-test	20	28.95	8.81

**Table 3.** Mean and standard deviation of mother-child relationship dimensions, before and after the emotion regulation training program

Test time	Variable	Experimental group		Control group	
		M	SD	M	SD
Pre-test	Acceptance	36.2	4.59	34.4	5.06
	Excessive support	38.25	3.95	38.9	3.18
	Excessive carelessness	41.5	2.41	40.6	2.99
	Rejection	38.5	3.37	41.45	3.18
Post-test	Acceptance	42.9	3.46	34.8	4.76
	Excessive support	29.4	7.35	36.5	2.66
	Excessive carelessness	33.15	5.62	39.1	2.57
	Rejection	30.7	5.04	39.15	3.04

Table 4 presents the results of multivariate covariance analysis in determining the effectiveness of emotion regulation training on improving the mother-child relationship of mothers of children with oppositional defiant disorder. According to the results, it can be seen that the significance levels of all tests are less than 0.05, which indicates that the two

experimental and control groups had a significant difference in at least one dimension of the mother-child relationship.

**Table 4.** The results of multivariate covariance analysis in determining the effectiveness of emotion regulation training

Test	value	F	df	df error	P	$\eta$	$\beta$
Pillai effect	0.718	22.31	4	35	0.001	0.71	0.99
Wilkes Lambda	0.282	22.31	4	35	0.001	0.71	0.99
Hettling effect	2.55	22.31	4	35	0.001	0.71	0.99
Roy's Largest Root	5.22	22.31	4	35	0.001	0.71	0.99

The results of multivariate analysis of variance in MANCOVA text in Table 5 show that emotion regulation training has a significant effect on improving the mother-child relationship of mothers of children with oppositional defiant disorder ( $P < 0.05$ ); According to the eta square, it can be said that the effect size was 49% in acceptance, 30% in excessive support, 32% in excessive negligence, and 51% in rejection.

**Table 5.** Results of Multivariate Analysis of Variance (MANOVA) on mother-child relationship

Variable	SS	df	MSS	F	P	$\eta^2$	Power of a test
Acceptance	656.1	1	656.1	37.83	0.001	0.49	0.99
Excessive support	504.1	1	504.1	16.48	0.001	0.303	0.97
Excessive carelessness	354.02	1	354.02	18.52	0.001	0.320	0.98
rejection	714.02	1	714.02	41.06	0.001	0.51	0.99

To determine the effectiveness of emotion regulation training on the mental health of mothers of children with oppositional defiant disorder, a post-test was conducted immediately after the intervention. One-variable analysis of covariance (ANCOVA) was used to check the significance of the difference in the post-test scores of the experimental group, the results of which can be seen in Table 6. According to the results, there is a significant difference between the two groups in mental health scores ( $P < 0.05$ ). The difference between the remaining mean of mental health scores in the two experimental and control groups is significant ( $P < 0.05$ ) after controlling the effect of the pre-test. The amount of this group effect was 0.76. In other words, nearly 76% of the differences created in the dependent variable are related to the influence of the independent variable.

**Table 6.** Results of univariate covariance analysis (ANCOVA) of emotion regulation training on the mental health of mothers of children with oppositional defiant disorder

Source	SS	df	MS	F	P	$\eta^2$	Power of a test
Pre-test	2242.34	1	2242.34	593.46	0.001	0.94	0.99
Group	450.501	1	450.501	119.23	0.001	0.76	0.99
Error	139.8	34	3.778				
Total	27797	40					

### **Discussion and conclusion:**

The present study was conducted with the aim of determining the effectiveness of emotion regulation training on mental health and improving the parent-child relationship in mothers of children with oppositional defiant disorder. The results of the research showed that emotion regulation training is effective on the mental health of mothers of children with oppositional defiant disorder. These results are consistent with the research results of Lin (22), Farhadi and Barati (24), Azadi et al. (25) and Ixiu et al. (26). In explaining these results, it can be said that no mother wants to have an abnormal child (35); But when this happened, their first emotional reaction is shock and denial (36). And they will try to withdraw from the society and accumulate problems in the house. Isolating oneself and the child has a negative effect on various dimensions of mental health (37). When a mother gives birth to a child with oppositional defiant disorder, her emotional functions are disrupted, which overshadows the mother's mental health, dynamism and purposefulness at the macro level, and her most important psychological functions at the micro level. Such as expression, conflict resolution, independence, progress, recreation and entertainment, moral and religious values, structure and organization, commuting with others, unity, control and problem solving are affected (38). As a result of using emotion regulation training techniques to change the underlying and problematic beliefs that most mothers with children with oppositional defiant disorder have accepted as a basic reality in their lives. This means that by using the techniques of this approach, especially identifying negative thoughts, learning logical arguments and problem solving skills, and doing behavioral tasks, they were able to challenge their wrong thoughts and attitudes. Also, by teaching emotion regulation and problem solving strategies, the subjects were able to focus on their emotional reconstruction, remove ineffective thoughts and replace rational thoughts, the variable level of mental health increases.

Also, the present study showed that emotion regulation training is significantly effective in improving the mother-child relationship of mothers of children with oppositional defiant disorder. This result is consistent with the research results of Ahmadzadeh et al. (27), Farnoodian and Hashemi (28), and Martins et al. (29). In explaining the findings of the present study and similar studies, it can be said that psychological interventions have a positive effect on the symptoms of oppositional defiant disorder, which includes stubbornness, symptoms of disobedience, and lack of attention. In the present study, the clear and meaningful change of children in the mentioned areas can be attributed to the effect of education on improving mother-child interactions, changing parents' attitudes towards children's behaviors and recognizing their problems, more correct management of parents. In the field of managing children's disobedience, he attributed the method of teaching children to curb inappropriate behavior and the timely and appropriateness of tickets, rewards and punishments. A significant improvement in the problems caused by the child's disobedience can be attributed to the increase of the mother's ability in the field of creating more motivation in the child to do schoolwork and giving him appropriate and appropriate rewards for doing activities with sufficient attention. be Since the nature of the disorder of children with oppositional defiant disorder is such that when these children are provoked, they act impulsively, become angry and have a bad temper, and intentionally hurt others and hold grudges or revenge (2); and these impulsive behaviors affect the behavior of the parent of the child. In the process of emotion regulation training, mothers are taught to reflect on their



children's intentions and beliefs and consider their views before hastily interpreting their children's intentions. Mothers of children with oppositional defiant disorder avoid immediate impulsive responses by using emotion regulation training, adjust themselves to the children's mental world, and respond to provocative and ambiguous situations instead of being biased. They show hostility and provide suitable answers (34). Emotion regulation training reduces by creating a correct understanding of the desired interpretation and interpretation of topics and increases the chances of behaviors based on understanding and acceptance, and as a result, the mother gives a more appropriate response to the child; In this research, we also achieved these results. Teaching emotion regulation to mothers with children with oppositional defiant disorder made it possible to visualize children's thoughts and perceptions and encouraged them to pay attention to the children's point of view and with the effect it had on the understanding of mother-child relationships and interactions. It helped mothers to recognize the consequences of their hostile behavior more accurately and, as a result, respond more appropriately to the demands of others. Emotion regulation training made the mothers of children with oppositional defiant disorder, who have more limited solutions in interpersonal issues between themselves and the child and of course see more limited consequences related to their behavior, more aware of their behavior and to get the child and be able to better manage their arousals and look at issues from a wider perspective and interpret and process the child's behaviors without arousal. Therefore, emotion regulation training provides effective background changes in the relationship with a child with oppositional defiant disorder, providing a suitable context for parent-child communication.

Regarding the achievement of this research, it can be concluded that emotion regulation training for mothers with children with oppositional defiant disorder by gathering people with the same problem and in the form of group training to instill in them that others have the same problems as them and this It is a confirmation of one of the most important principles of group therapy, i.e. universality. The educational method used in this research is a case of life skills, and the results indicated its effectiveness; Therefore, these results can be a support for applying emotion regulation training to mothers with children suffering from oppositional defiant disorder in order to prevent them from developing, intensifying and turning into other disorders. Also, considering the effectiveness of emotion regulation training in mothers with children with oppositional defiant disorder and the frequency of this disorder in childhood and adolescence, the rate of referrals to treatment centers is increasing day by day due to this disorder, and since many mothers with Such effective interventions should not be limited to children with oppositional defiant disorder.

According to the results of the present study, it is expected that emotional regulation training for mothers with children with oppositional defiant disorder will be used by psychotherapy clinics. The results of this research can also inform the officials about the effectiveness of the strategies of using emotion regulation training for mothers with children with oppositional defiant disorder, so that in this way, suitable grounds can be found to improve the situation of mothers with children with oppositional defiant disorder. Also, taking advantage of these results can cause psychology officials to include emotion regulation training for mothers with children with oppositional defiant disorder as a part of family education activities in future training plans.

**Research limitations:** Due to the limited number of samples in the educational groups and the non-randomness of the sample selection method, the external reliability of the research is reduced. This research was exclusive to the mothers of elementary school students in districts 4 and 6 of Mashhad city; therefore, caution should be taken in generalizing the results to mothers of students in other grades and cities.

**Application of research:** According to the results of the present study based on the effectiveness of the emotion regulation training program, it is suggested that emotion regulation programs be considered as essential and basic skills needed by mothers with children with oppositional defiant disorder at different stages.

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