# **Research Paper:** The Effectiveness of Emotion Regulation Training on Reducing Aggressive and Oppositional Behaviors Among Children Aged 4 to 6 Years

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# ABSTRACT

**Background:** Emotion regulation is necessary for psychological wellbeing and social functioning. The present study aimed to evaluate the effectiveness of emotion regulation skills training on reducing aggressive and oppositional behaviors in children (4-6 years old) in Shiraz, City, Iran during the fall and winter of 2018-19.

**Methods:** This was quasi-experimental study with pre-test & posttest design and controlgroup. The current study's statistical population consisted of 26 children with symptoms of aggressive and oppositional behaviour through the Child Symptom Inventory (CSI-4) and the Seyedi questionnaire for aggression. Among these people, a purposeful sampling method was used to select 26 individuals (13 to a control group and 13 individuals assigned to an experimental group). The experimental group participated in 28, 30-45-minute emotion regulation training sessions from a programme called DECA-P2, whereas the control group received no treatment. A posttest was conducted after the sessions were done. The Child Symptom Inventory-4(CSI-4) and Aggression questionnaire were used to collect the data. Data were analyzed MANCOVA by using SPSS V. 23 software.

**Results:** Results of covariance analysis showed that emotion regulation training with the DECA-P2 approach was effective in reducing aggressive and oppositional behavior among children (P<0.01).

**Conclusion:** Considering the effectiveness of emotion regulation training (the DECA-P2 approach) in reducing the aggressive and oppositional behaviors among children, we recommended that authorities apply this training to reduce children's maladaptive behaviors and prepare them for the next emotional and social development stages.

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# 1. Introduction

ysregulated emotions are characterized by intense and rapidly changing emotions, frequently associated with irritable and violent behavior [1], and high rates of the comorbid oppositional defiant disorder [2].

The oppositional defiant disorder is a consistent pattern of negative behavior, aggression, and impatience toward authority, according to the Diagnostic and Statistical Manual of Mental Disorders Fifth edition (DSM-5) [3]. The occurrence of this condition is between 2% and 16% in children [3]. Disruptive behaviors in adolescents, such as outbursts of rage and violence, are among the most common explanations for outpatient mental health referrals.

In the latest edition of DSM-5, anger/irritability is the central symptom of Oppositional Defiant Disorder (ODD), and violent behavior is most generally associated with conduct disorder [4].

Over the past decade, a particular irritability component characterized by three symptoms has been established in factor-analytical studies of strange symptoms: sometimes loss of temperature, easily disturbed, and always angry and indignant [2, 5].

Researchers believe that insufficient regulation of emotional responses can be a significant factor in the creation of aggression, impulsive violence guilt, and shame [6]. Emotion control skills are key components of behavior for individuals to initiate and maintain a positive interaction with others [7, 8].

Children show significant development in identifying and understanding basic emotions (i.e., happiness, sadness, anger, fear) and complex emotions (i.e., pride, shame, anxiety) [9]. Under all conditions, children with emotional management skills control their emotions, reduce the possibility of exhibiting externalized and disruptive behavioral disorders, find success in social and interpersonal relationships, exhibit social behavior approved by their peers, and increase their academic achievements [10].

Emotional awareness influences emotional regulation processes. When emotional awareness changes, it must be properly labeled and assessed to recheck whether responses or actions are necessary and appropriate or must be controlled. Children with aggression problems appear to be weak in suppressing emotional reactivity and to use less productive or inappropriate regulations [11]. The study described five risk factors that lead to the development of aggressive behavior: lack of attention, behavioral problems, insecurity, poor communication skills, and oppositional behavior. They also defined a group of violent behaviors that can be seen in children with five risk factors: flying off the handle, being disobedient, not sharing, accusing others, not being liked by others, lies, intimidation, violence, fights, kicks/bites/ hits, or property damage. Several primary school children were diagnosed and treated with the five risk signs associated with violent behaviors and a substantial decrease in the occurrence of behavioral disorder was reported when the children became [12].

Children who demonstrate violent behaviors in early school years and do not seek therapy are likely to experience improvements in the frequency and severity of disruptive activities during their childhood and teenage years. In the preschool years, children learn to "inhibit physical aggression", thus this lifespan may be the most relevant for preventive measures benefiting the child, family, and community.

Despite early intervention and care, children with aggressive behaviors who do not receive assistance are likely to have these behaviors repeated by the age of 8 [13].

Research studies have shown that children diagnosed with the ODD at an older age have behavioral issues such as deception, theft, aggressive behavior, substance abuse, and breach of peers' rights or a wider community, and are eventually classified as those with behavioral disorders [14].

Evidence has shown that emotion regulation learning is an efficient way to change the individual's emotions, desires, beliefs, and practices and to give order and purpose to everyday life so that higher goals can be achieved. People's achievement of goals is judged based on their ability to regulate emotions, knowledge, and behavior [15]. However, according to Heflinger and Humphreys, emotion regulation skills training can decrease signs and symptoms of child and youth oppositional disorders [16] and thus reduce aggression [17]. Furthermore, longitudinal evidence indicates that socio-emotional learning approaches are successful in promoting tailored social-emotional skills, resulting in improved social and academic adjustment and decreased levels of behavioral problems and emotional distress [18].

The correlation between particular aspects of socialemotional competence and such preschool transition is gaining more attention towards relationships such as emotional control and achievement in kindergartens [19]. This evolving research highlights the significance in academic contexts of emotions and the influence of social interactions on the skills of children [20]. According to Poulou, the preschool period is the best time to recognize and decrease early signs of problems before improving developmental difficulties into sequential patterns. Studies suggest that preschool years of children demonstrate a key component of comprehensive prevention and early intervention system in construction [21].

With respect to the treatment of maladaptive violence in young people, psychosocial interventions are the first line of intervention because they do not have any side effects [22]. Therefore, the current study aimed to investigate the effectiveness the emotion regulation skills training on reducing the symptoms of aggressive and oppositional behaviors among children aged 4-6 years.

## 2. Methods

We used a quasi-experimental study with a Pre-test-Post-test design to compare an experimental group with a control group. The current study population comprised all children with the symptoms of aggressive and oppositional behaviors based on the child symptom inventory (CSI-4) and the Seyedi questionnaire on aggression. They were 4 to 6 years old kindergarten children in Shiraz City, Iran in 2018-19. Among these children, we selected 26 eligible children (13 in the control group and 13 in the experimental group) with a purposeful sampling method. To select nursery schools, a random sampling method was used. From the list of all kindergartens in Shiraz, four kindergartens were randomly selected. The selection of children was purposeful, and children with higher scores were selected as samples by distributing the research questionnaire and then we interviewed with parents, educators, and finally, the very children who had these scores.

Finally, the children who were selected to participate in the research were oppositional in the DSM-V criteria based on disobedience disorder. In addition to oppositional behaviors, children who scored high in the aggression questionnaire, should not have any other disorder, such as attention-deficit hyperactivity disorder, conduct disorder, depression, and severe anxiety. The children who are completely satisfied with their training and their parents. The exclusion criteria included having a major psychological disorder and unsatisfying to participate in the training session. After considering the above criteria, a sample of 26 children was selected and randomly divided into two groups of the experimental and control (each 13 children). In the present study, the intervention was implemented for two months after the necessary coordination with nursery and family management, and each session lasted 30-45 minutes. No training was provided for the control group. Both groups were evaluated after completion of the intervention and the findings were used as a criterion for training progression. It should be noted that parents and children's consent was a prerequisite for study entry, and all personal information were regarded as confidential. Post-test assessments were carried out for both groups after the intervention.

Following the implementation of sessions, emotional regulation training methods and techniques were taught to the experimental group for 28 sessions (training sessions of emotion regulation skills were conducted once a week for 2 months) and during this period no psychological training was given to the control group. The participants tried to fill out the questionnaires after 28 training sessions on emotional regulation training. It should be remembered that the researcher worked closely with the participants at all stages of the study and responded to all possible problems. Descriptive statistics (Mean±SD) and inferential statistics (multivariate analysis of covariance) were used to analyze the data in SPSS V. 23.

Table 1 provides a summary of the training sessions' content. It should be noted that two briefing sessions were held for them to better match parents. This emotional regulation intervention was based on a program called DECA-P2 or the Devereux early childhood assessment for the preschool-second edition [23].

**Study Measures** 

The Child Symptom Inventory-4 (CSI-4)

It is a DSM-4-referenced rating scale that screens children for emotional and behavioral symptoms. Relevant target demographics for children aged 5 to 12 are available for both parent versions (97 items) and teacher versions (77 items).

The CSI-4 parent checklist screens for 15 emotional and behavioral disorders, and the CSI-4 teacher checklist screens for 13 emotional and behavioral disorders. The CSI-4 can be scored to derive symptom count scores or symptom severity scores [24].

Questions are marked as "never", "sometimes", "often", and "most of the time". Nine Iranian research psychiatrists [25] approved the content validity of the Table 1. Summary of the structure and contents of the therapy sessions of emotion regulation training

Session	Content and Activities	Session Time
1	Welcoming kids and learning how to invite someone new to the class. They are playing the first gar helps improve their concentration, memory, and power. When they meet loving, sensitive, and supp- children develop trust. To help them stay connected, build confidence, and feel comfortable enough things, they need a stable foundation. DECA's classroom strategies to support the social and emo- include ideas to help children establish a relationship of trust with a caring adult.	me of Brain Builder, which ortive people in the world, n to explore and learn new ptional growth of children
2	Listening to kids and learning the laws of listening. During group time, following these rules help ex Self-Regulation: As they help to set them, children are more likely to obey the rules. When there are for kids to know what they are supposed to do. They feel confident in conduct and in charge.	veryone understand them. e just a few rules, it is easy
3	Children discover that to concentrate their attention, they need their eyes, ears, and brain. To hell learn how to make and use an attend-o-scope by cupping their hands around their eyes. Attachme regulation: Children can build a sense of community and belonging through involvement in small gro will establish trusting relationships with teachers who pay attention, exchange ideas, and listen to a each other.	p them concentrate, they ent/Relationships and self- pups. In small groups, they each other and encourage
4	Self-talk: Kids understand that self-talk involves communicating in a quiet voice or within their hear them concentrate on what they need to do, they use self-talk. Self-regulation: If they realize change learn to control their time and avoid agitation. They will finish what they do, put materials away, a When they don't recall what will happen next, some kids worry and feel anxious.	ds to themselves. To help e is coming, most kids will ind plan for the next case.
5	Children learn how to repeat directions to help themselves recall the directions after following dire- initiative: Small group activities help to develop many skills for children. They learn to follow instruct various methods, work with others, solve problems, and make choices, and trust adults and peers.	ctions. Self-regulation and ions, share, take turns, try
6	Asking what you need or want kids to learn to ask what they need or want by approaching the per and using a firm, polite voice. Self-regulation and initiative: The children feel strong and capable wh themselves. These emotions build self-esteem and help children grow self-confidence and grow ne take on challenges. To promote the independence and competence of children, strategies are available	rson they want to support then they do something for two skills and knowledge to able.
7	Identifying feelings: Children learn to tell how other people are feeling by looking for clues on their fa the feelings of happiness and sadness. (This weekly theme has two cards, 7A and 7B.)	ces and bodies. They learn
8	Kids learn to say how someone feels by reflecting on what is happening with more emotions. The being shocked and frightened. (There are two cards to this weekly theme, 8A, and 8B.)	y acquire the emotions of
9	Children learn to recognize rage by searching for clues on their faces or bodies to say whether oth learn when everybody feels mad, but when mad, it's not OK to be mean or to harm someone. Lea emotions helps children develop trust, build self-control, learn to solve problems, and grow in trust a more effectively.	ners are upset. Often they rning to identify and label s they interact with others
10	Kids understand from the same or different feelings that individuals may have the same or different thing. The self-concept of children comes from identifying who they are and what makes them equal individuals. A strong self-concept encourages a child to grow talents, talents, and self-esteem.	t feelings about the same to and distinct from other
11	Kids realize what an accident is. When anything happens by mistake, they learn what to say and do. tive: The distinction between an intentional and accidental event that can lead to the same negative being injured, is crucial for children to understand. When children learn to identify problems on problem-solving process, they gain independence, self-control, and trust. Children may learn to analy appropriately to the intent of the actions.	Self-regulation and initia- e outcome, such as a child their own and begin the yze a situation and to react
12	Caring about children and helping them learn how to say something kind and do good things to show their emotions. When they meet loving, sensitive, and supportive people in the world, children deve how to be supportive, they begin to gain more control over how they support themselves and others	v people that they care for lop trust. As children learn to care about themselves.
13	Kids learn to pay attention to their bodies and understand how they feel about our bodies. They leand seek help when they feel nervous. Self-regulation: As kids think about their emotions and th emotions within their bodies, they begin to develop skills for self-regulation. Self-regulation skills are adjusting children's behaviors, emotions, and energy levels to the ever-changing environment they	earn to talk to a grown-up e representation of those important in adapting and learn and play in.
14	Kids learn to put their hands on their tummies and calm down intense feelings. They learn that the when they're trying to do something difficult. Self-regulation: Each child has special talents, desires in their ability to use self-control. So for each child and in each case, the constructive approach of cope with their feelings will be different.	y could feel overwhelmed , and needs. Children vary the teacher to help them
15	Naming kids' feelings allows them to calm down. When they have intense emotions, they realize t them. Self-regulation: When a loving adult takes the time to reach a child and listens to what the we the child are saying, the child can have a greater sense of confidence, understanding that the adult c	hat relating to adult helps ords and body language of ares for his or her feelings.
16	Managing children who are disappointed: They learn how to breathe their bellies to relax negative they could feel frustrated when they don't get what they want. Attachment/Relationships and sel learn to control themselves by using calming strategies. They can better communicate with peers have more control over their sentimental language. Relaxation strategies are available to the entire children.	e feelings. They learn that If-regulation: Children can and adults because they community and individual

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Session	Content and Activities	Session Time
17	Managing rage: Children learn how to relax and calm their angry feelings. They understand that feeling angry is a angry, it is not good to do anything hurtful.	good, but when
18	Managing to wait: while they have to wait, children can apply ways to calm down and apply coping skills. Self-t dren who show violence sometimes have to use this technique because they believe nothing else can help t needs. Learning how to convey anger and frustration more effectively can help children feel more in control about themselves. Self-regulation and initiative: For kids who lack strong protective factors, the transition times cult. They also strengthen their protective factors and social experiences as kids learn to postpone gratification with others while maintaining a cooperative and safe learning atmosphere.	regulation: Chil- hem fulfill their and feel better s are often diffi- and cooperate
19	Three fairways to play are taught by fairways to play: play together, trade, and take turns.	
20	Having fun with friends: Children learn to use equal methods of playing to have fun with their friends instead getting their way.	l of focusing on
21	Inviting kids to learn how to invite others to play. Knowing how to invite someone makes others feel like they Initiative: As they play and work together, children have fun and develop a sense of belonging. They will enjoy de couldn't do on their own or work together to accomplish a mutual objective. When two or more people use n objects, kids learn to cooperate. Via group play, kids learn to make friends, manage anger, listen to each other, an other. Children are learning to balance their interests with the family's interests.	are interested. oing things they nore interesting nd respect each
22	Joining kids: With play learning, they learn how to engage others in play. Knowing how to involve others in pla make friends.	ay, help the kids
23	The kids are learning to calm down intense emotions before attempting to solve a problem. Then, they learn the problem by using terms. Initiating exercises help children learn to deal with frustrations with maturity, and s deal with rejection. Children develop a sense of identity as distinct from others by playing sometimes alone a others to play at other times. Thinking and social skills are used to plan and execute thoughts by adolescents.	how to explain ometimes even nd encouraging
24	Children learn to think about options and plenty of safe ideas to fix problems. Initiative: in the problem-solvi teacher and the children should be equal partners. During a problem-solving phase, the instructor first lister viewpoint and then gives his or her views about what the child has suggested. This approach helps children I and solve social-emotional problems using logic and reasoning.	ng process, the ns to the child's earn to explore
25	Children learn to think about options and plenty of safe ideas to fix problems. Initiative: in the problem-solvi teacher and the children should be equal partners. During a problem-solving phase, the instructor first lister viewpoint and then gives his or her views about what the child has suggested. This approach helps children I and solve social-emotional problems using logic and reasoning.	ng process, the ns to the child's earn to explore
26	The listening rules and skills for learning are reviewed by learning in kindergarten kids. They think ahead of t these skills can help them become successful kindergarten learners. Self-regulation and initiative: When child their turn to participate and volunteer at appropriate times to share knowledge, they lead to a respectful tone in culture.	ime about how ren can wait for n the classroom
27	In the sense of looking forward to riding the bus to kindergarten, kids riding the kindergarten bus review skills to calm down intense feelings. Self-regulation: Kids can learn to calm down by themselves. When they are more in communication of emotions, children are better able to interact with peers and adults.	o recognize and control of their
28	They will enjoy doing things that they couldn't do on their own or working together to accomplish a shared obje and interactions that promote cooperation are listed.	ective. Activities

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CSI-4 inventory. The Cronbach  $\alpha$  of the inventory in the current study was 0.87.

The other questionnaire that was used was Seyedi's aggression questionnaire. In 2000, it consisted of 22 instances of the children's behaviors when they are angry or aggressive, and contains four choices of "never", "sometimes", "often", and "always" scored from 1 to 4. The obtained mean in scale is 45. The Cronbach  $\alpha$  and its test retest coefficient are reported to be 0.60 and 0.65, respectively [26]. The children whose marks are more than the defined mean are considered aggressive. The Cronbach  $\alpha$  of the questionnaire in the current study was 0.68.

## 3. Results

According to Table 2, the mean scores of aggression (parent's view (M=40.08), teacher's view (M=33.92)), and oppositional behaviors (parent's view, (M=2.85) and teacher's view, (M=1.46)) decreased during the Post-test while no significant differences were seen in the control group.

Considering the significant level of less than 0.05, there is a positive and significant relationship between aggression and oppositional behaviors of the teacher and parents' point of view.

The hypothesis of the study: Emotional regulation training significantly affects the aggression and oppositional behaviors of children aged 4 to 6 years.

	Mean±SD						
Variables	Experi	mental	Control				
	Pre-test	Post-test	Pre-test	Post-test			
Aggression (Parent's view)	50.15±5.37	40.08±1.75	53.62±3.95	53.38±4.13			
Aggression (teacher's view)	44.26±3.17	33.92±3.09	45.23±2.31	45.15±2.44			
Oppositional behaviors (Parent's view)	0.85±0.90	2.85±1.77	4.44±1.51	4.31±1.32			
Oppositional behaviors (teacher 's view)	0.31±0.63	1.46±1.33	2.15±2.19	2.08±2.43			

Table 2. Mean±SD of two groups of aggression and oppositional behaviors of the teacher and parent's point of view variables in the Pre-test and Post-test

To study this hypothesis, we implemented a multivariate analysis of variance. The results of the Box test were not statistically significant (P>0.05, F=0.08) so the homogeneous assumption of the covariance matrices was approved.

The Levene's test showed that there is no significant in aggression and oppositional behaviors due to insignificance the variances are equal. This finding is important because it confirms the reliability of the next results (Table 3).

Considering the F value and the significance level of the multivariate analysis of covariance (Table 4), the linear combination of variables has a significant difference with respect to group membership. The effect size of the test (Eta squared) of 0.88 indicates that emotional regulation training has a great effect on children's aggression with high statistical significance of 0.99. Besides, the effect size of the test (Eta squared) of 0.85 showed that emotional regulation training has a great effect on children's oppositional behaviors that has a statistically significant effect (0.99).

According to Table 5, The results of covariance analysis of aggression (F=96.59, P=0.001) and oppositional be-

haviors (F=119.34, P=0.001) scores in the Post-test stage from the parent's point of view showed the efficacy of training emotion regulation on preschool children. Thus, the experimental group had a lower mean of the control group in these variables. In other words, the intervention was effective in the experimental group and able to reduce aggression and oppositional behaviors in them. The effect of an independent variable intervention (emotional regulation training) on aggression was 0.78 which means 78% of the variance in the Post-test scores of aggression was related to the effect of emotional regulation training. Therefore, the effect of the independent variable of intervention (emotional regulation training) on oppositional behaviors was 0.81 which means 81% of the variance of Post-test scores of oppositional behaviors was influenced by emotional regulation training. Thus, the hypothesis of the research was confirmed. In other words, the intervention decreased the oppositional behaviors.

The results of covariance analysis of aggression (F=80.03, P=0.001) and oppositional behavior (F=50.33, P=0.001) scores in the Post-test stage from the teacher's point of view showed the efficacy of training emotion regulation on preschool children. Thus, the experimental group had a lower mean of the control group in these variables. In other words, the intervention was effective

Table 3. The Pearson correlation coefficient between aggression and pertinacity of the teacher's and parent's point of view

Variables	Mean±SD	Correlation Coefficient	Р	
Aggression (Parent's view)	44.73±2.76	0.92	0.001	
Aggression (teacher's view)	51.88±4.45	0.82		
Oppositional behaviors (Parent's view)	1.77±1.94	0.75	0.001	
Oppositional behaviors (teacher's view)	3.58±1.70	0.75	0.001	

Variables	Presumptions	Value	F	Sig. (P)	Eta Squared	Statistical Power
	Pillai's trace	0.88		0.001	0.88	0.99
Aggression	Wilk's lambda	0.12	74.40			
Aggression	Hoteling's trace	7.09				
	Roy's greatest root	7.09				
	Pillai's trace	0.85	59.73	0.001	0.85	0.99
Oppositional	Wilk's lambda	0.15				
behaviors	Hoteling's trace	5.69				
	Roy's greatest root	5.69				

Table 4. Results of the multivariate analysis of variance (MANCOVA) for the variables

in the experimental group and could reduce aggression and oppositional behaviors in them.

The effect of an independent variable intervention (emotional regulation training) on aggression was 0.84 which means 84% of the variance in the post-test scores of aggression was related to the effect of emotional regulation training. Therefore, the effect of an independent variable intervention (emotional regulation training) on oppositional behaviors was 0.70 which means 70% of the variance of the Post-test scores of oppositional behaviors was influenced by emotional regulation training. Thus, the hypothesis of the research was confirmed. In other words, the intervention decreased the oppositional behaviors.

# 4. Discussion

The results of this study showed that emotional regulation training is effective in reducing the symptoms of aggression and oppositional behaviors. The components of the intervention in this study was the training of selfawareness skills, respect for self and others, empathy skills, knowing emotions, effective communication, knowing and controlling emotions such as anger, and ultimately problem-solving skills. Regardless of whether these skills are considered emotional adjustment, emotional intelligence elements, or life skills, researchers generally agree that training these skills will successfully influence the social behaviors of children even at an early age. According to the results of this study, emotional regulation training can be used in individual sessions for clients with aggression and oppositional behaviors. Also, the results of this research are consistent with the findings of some other studies [27-32].

Previous research studies have focused almost exclusively on preschool-age children in explaining the impact of emotion regulation training on reducing aggression and oppositional disorder and has shown that children recognize that problem-focused and emotion-focused strategies can reduce negative emotional experiences [32]. Our current findings extend these findings to broad-

Table 5. The results of ANCOVA on the impact of emotional regulation training on the decrease of aggression and pertinacity of experimental groups

Source of Change	Sum of Squares	df	Mean Square	F	Sig. (P)	Eta Squared	Statistical Power
Aggression in the Post-test (Parent's view)	698.32	1	698.32	96.59	0.001	0.81	0.99
Aggression in the Post-test (teacher's view)	625.70	1	625.70	80.03	0.001	0.78	0.99
Oppositional behaviors in the Post-test (parent's view)	45.02	1	45.02	119.34	0.001	0.84	0.99
Oppositional behaviors in the Post-test (teacher's view)	13.52	1	13.52	50.33	0.001	0.70	0.99

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er early school adjustment indices. The prominence of the contributions of negative emotions and emotional deregulations strengthens the need for programming to help preschoolers become more emotionally competent [33].

One of the prominent findings in this study is that excitement regulation can, fortunately, be trained and, according to researchers, a child can learn strategies to improve self-regulation [34]. Furthermore, researchers concluded that emotional intelligence training has a significant effect on emotional intelligence, and those trained in emotional intelligence skills have higher scores [35].

The results of this study showed that it is possible to improve communication skills and social compatibility of preschool children by teaching notions such as self-concept, self-awareness, and problem-solving in the form of emotional regulation training. This result is consistent with the views of most theorists of emotional intelligence on teaching these skills, especially in children. Confirmation of this research's hypotheses on the efficacy of learning excitement training skills indicates that empathy practical training one of the components of emotional intelligence and emotional regulation will improve interpersonal skills in children [36].

These results are consistent with another study results [37] that indicated the effect of learning on the recognition, understanding, and control of emotion, empathy, and social capabilities, which are different names of interpersonal abilities and skills [37]. According to one study [38], the impact of an educational program based on emotional-social learning techniques is consistent with improving anger reduction and self-esteem and the ability to help others [38]. The researchers have shown that focus and inhibition play an independent role in the aggressive response of a child. The Devereux Early Childhood Assessment for the Preschool-Second Edition (DECA-P2), the research conducted in this context, underlines the attention and inhibition applied in most of the training skills and can justify the results [39].

Another important factor in explaining the findings is the research setting in a collective group and position to develop emotional regulation skills. More specifically, these tasks, together with a group of peers, are performed in a social context and not individually. As Bronson [36] points out, the capacity of the child to control excitement is not only affected by parents and teachers, but peer groups play an important role, too. Peers are "teachers" for each other. Peers heavily influence children during engagement and learning. They also have a thrilling setting in terms of the complex demands they need to learn in dealing with peers [40].

Each research has both methodological and performance limitations, and the current research is not an exception. The main limitation of this research was that preschoolers were randomly placed in the experimental and control groups. Using methods such as questionnaires always has a bias, inaccuracy, and even a lack of understanding and interpretation of the recommendations of the questionnaire during the Pre-test and Posttest phases. Therefore, any results from these types of tools must be interpreted with caution. Considering the researcher's time limitations and the restrictions in access to preschool children, there was no potential for follow-up analysis, especially during the next academic year. This shortcoming severely limited the generalizability and reliability of the findings.

#### 4. Conclusion

Considering the effectiveness of emotion regulation training (DECA-P2) in reducing aggressive and oppositional behaviors among children, it is recommended that authorities apply this training program to reduce children's maladaptive behaviors and prepare them for the next stages of emotional and social development. The continuing collaboration between academics, psychologists, and teachers on the one hand and the family on the other hand to develop emotional coping skills can provide a broader range of first-line interventions for preschool mental health today and tomorrow. It is recommended that the relevant authorities, such as the country's welfare organization and education system, apply for the emotional adjustment program as an official part of preschool and primary school education. The program can be evaluated in the context of a provincial guidance analysis and then throughout the preschool and primary school system.

#### **Ethical Considerations**

Compliance with ethical guidelines

This research has been approved with the ethical code: IR.AUS.REC.1394.6716323.

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Authors' contributions

All authors contributed in preparing this article.

**Conflict of interest** 

The authors declared no conflict of interest.

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