



ORIGINAL ARTICLE

## The Effect of Psychoeducational Program on Emotional Expression and Mood Regulation in Mothers of Children Diagnosed with Autism Spectrum

### Psikoeğitim Programının Otizm Tanılı Çocuğa Sahip Annelerde Duyguları İfade Etme ve Duygu Durumunu Düzenlemeye Etkisi

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ABSTRACT

**Aim:** This study aimed to investigate the effects of a psychoeducation program on emotional expression and mood regulation among mothers of children diagnosed with Autism Spectrum Disorder (ASD).

**Method:** The research employed a quasi-experimental design with pre-test and post-test control groups. The study sample consisted of 28 mothers whose children were attending the Selçuklu Foundation for the Education of Individuals with Autism (SOBE) in Konya, Turkey. The experimental group participated in a 10-week psychoeducation program, while no intervention was provided to the control group. Data were collected using the Emotional Expression Scale, the Negative Mood Regulation Scale (NMRS), and a Personal Information Form developed by the researcher. The data were analyzed using mixed-design two-way ANOVA and paired and independent samples t-tests.

**Results:** The findings indicated that the psychoeducation program led to significant improvements in emotional expression and mood regulation among mothers in the experimental group. Moreover, these positive effects persisted for up to eight weeks following the completion of the program, suggesting its long-term impact.

**Conclusion:** The results demonstrate that structured psychoeducational interventions can effectively enhance emotional coping skills in mothers of children with ASD and contribute to their emotional well-being over time.

**Keywords:** Autism, emotional expression, mother, negative mood regulation, psychoeducation

ÖZ

**Amaç:** Bu çalışmanın amacı, Otizm Spektrum Bozukluğu (OSB) tanısı almış çocukların annelerine yönelik bir psikoeğitim programının, duyguları ifade etme ve duygudurum düzenleme becerileri üzerindeki etkilerini incelemektir.

**Yöntem:** Araştırma, öntest-sontest kontrol grubu desenine sahip yarı deneysel bir yöntemle yürütülmüştür. Çalışma örneklemini, çocukları Konya/Selçuklu Otizmli Bireyler Eğitim Vakfı'na (SOBE) devam eden 28 anne oluşturmuştur. Deney grubundaki annelere 10 haftalık bir psikoeğitim programı uygulanmış; kontrol grubuna ise herhangi bir müdahalede bulunulmamıştır. Veriler, Duyguları İfade Etme Ölçeği, Olumsuz Duygudurum Düzenleme Ölçeği ve araştırmacı tarafından geliştirilen Kişisel Bilgi Formu kullanılarak toplanmıştır. Elde edilen veriler, karışık deseni iki faktörlü ANOVA ile bağımlı ve bağımsız örneklem t-testi kullanılarak analiz edilmiştir.

**Bulgular:** Elde edilen sonuçlar, psikoeğitim programının deney grubundaki annelerin duyguları ifade etme ve olumsuz duygudurum düzenleme becerilerinde anlamlı iyileşmelere yol açtığını göstermiştir. Ayrıca bu olumlu etkilerin, programın tamamlanmasından sonra sekiz hafta boyunca devam ettiği ve uzun vadeli bir etki yarattığı saptanmıştır.

**Sonuç:** Bulgular, yapılandırılmış psikoeğitim programlarının OSB'li çocukların annelerinde duygusal başa çıkma becerilerini geliştirmede ve duygusal iyi oluşa katkı sağlamada etkili olabileceğini ortaya koymaktadır.

**Anahtar Kelimeler:** Anne, duyguları ifade etme, olumsuz duygudurum düzenlemesi, otizm, psikoeğitim

## Introduction

**A**utism Spectrum Disorder (ASD) is a developmental disorder that typically appears in early childhood and lasts throughout an individual's life. This disorder is characterized by difficulties in social communication, limited social interaction, and repetitive behaviors [1]. ASD encompasses a range of conditions characterized by factors that jeopardize communication, language, and social behavior. Children diagnosed with ASD may exhibit heightened or reduced sensitivity to sensory stimuli such as touch, smell, sound, pain, and discomfort. Due to these characteristics, children with ASD require more attention, care, and supervision compared to children with typical development. Additionally, as ASD treatment and education are often challenging and complex, they can significantly increase stress levels for families. This situation can be particularly overwhelming for parents, who face more difficulties than those raising typically developing children, and may experience higher levels of tension, stress, and anxiety [2,3,4].

Parents of children diagnosed with ASD face numerous challenges, and mothers, in particular, are often the individuals most affected by this situation [5]. In traditional societal roles of parenting, where mothers are typically the primary caregivers and engage more intensively with the child, they often bear more responsibility and, consequently, experience greater challenges in coping with difficult thoughts and emotions compared to fathers [6, 7, 8]. This situation tends to impact mothers more than fathers [9,10].

Caring for a child with Autism Spectrum Disorder (ASD) can lead mothers to face a range of challenges, including emotional distress and caregiving strain [5], physical health complications [11], reduced psychological resilience [12], and difficulties in marital relationships and family interactions [13], all of which impact multiple dimensions of family life. A study by Astuti and Suminar (2022) identified that mothers of children with ASD face challenges in three key areas: 1) emotional fluctuations (e.g., sadness, anger, frustration, anxiety), 2) parenting difficulties (e.g., stress, fatigue, problem-solving challenges, helplessness, behavioral issues), and 3) planning for their child's future (e.g., professional care, schooling) [14].

Emotions coordinate behavioral patterns, experiences, and psychological tendencies, significantly influencing how we respond to events, challenges, and opportunities [15]. When used appropriately, emotions can make life easier; however, when they emerge in an exaggerated or inappropriate manner, they can lead to conflicts that make life more difficult [16]. The severity of SD symptoms in children, along with negative feelings about their children's future, creates more anxiety and loneliness in mothers of children with ASD compared to mothers of typically developing children. Additionally, mothers may experience sadness, anger, impatience, burnout, exclusion, hopelessness, and negative thoughts and emotions about the future due to the social environment's negative judgments, behavioral issues, stigmatization, and labeling directed toward

their children [17, 18, 19, 20, 21].

The emotions that mothers experience, when they experience them, how they are influenced by those emotions, and their processes of experiencing and expressing emotions are all related to their emotional regulation skills [15]. These skills include the ability to observe, evaluate, and modify intense and transient emotional responses in order to achieve personal goals [22]. It has been found that suppressing emotions increases the risk of prolonged negative emotions and depressive symptoms by leading individuals to ruminate on specific issues [23]. Based on research showing the contribution of fully experiencing and expressing emotions to subjective and psychological well-being [24, 25], it can be said that expressing emotions is important for mental health. Difficulty in understanding and expressing emotions is often associated with psychopathology. Individuals who cannot express both their positive and negative emotions are at risk of a range of physical and psychological problems [23, 26].

The ability to express emotions, either verbally or nonverbally, is crucial for physical and psychological health. Research indicates that this ability has a positive impact on an individual's subjective and psychological well-being. Moreover, emotional expression has been shown to reduce the effects of traumatic experiences and is central to psychological resilience following life events [24, 27, 28]. Studies also highlight that personality [29], psychological needs [30], negative emotions, obsessive-compulsive tendencies, depression, and paranoid thoughts [31, 32], subjective well-being [33], and motivation [34] all play important roles in the expression and regulation of emotions. Emotional expression is regarded as a therapeutic process that alleviates the emotional burden of experiences [35]. Many psychotherapy and counseling approaches are based on the sharing of emotions. Some research findings have demonstrated that emotional expression reduces the impact of traumatic experiences [27, 28].

Emotional regulation, which encompasses both conscious and unconscious cognitive processes, influences individuals' emotions and can be observed in all components of emotional responses, such as behavior, physical symptoms, thoughts, and emotional elements. Emotional regulation is defined as the active effort individuals make to manage their emotional processes, including both positive and negative emotions, moods, and stress levels, with the aim of regulating their emotional state [36]. According to Thompson (1994), emotional regulation skills, which are described as the ability to manage intense or transient emotional responses arising from observation and evaluation processes to achieve a specific goal, play a crucial role in solving problems and controlling anxiety [41]. Furthermore, emotional regulation skills affect all emotions and have an impact on individuals' well-being [38]. These skills involve being aware of one's own emotions and the emotions of others [39].

Parents of children with ASD show significant differences in their ability to cope with the challenges

associated with their child's ASD [40, 41]. In terms of coping with emotional issues in parenting, parental emotional regulation and the degree of ASD can be important indicators. A study conducted with mothers of children diagnosed with ASD revealed significant differences in emotional burnout levels based on the severity of ASD and the frequency of ASD symptoms [42]. When reviewing the literature, it is evident that parents of children with ASD face various challenges and may require psychological and social support services to overcome these difficulties.

To alleviate psychological distress in mothers, utilizing a combination of formal and informal social support systems—such as therapy services, peer support groups, involvement of extended family, networks of parents with shared experiences, and virtual support platforms—has been identified as highly beneficial [43]. These forms of support contribute to sustaining emotional stability and promoting a positive mental state in mothers [41].

Psychoeducational groups are defined as a type of group aimed at helping individuals acquire skills and achieve specific goals through educational content [44]. Psychoeducational groups provide therapeutic benefits to participants [45]. In Turkey, within the scope of guidance and psychological counseling services, there is a need for psychoeducational programs aimed at helping parents of children with ASD express their emotions and regulate their feelings.

This research is significant in terms of both developing new programs for mothers of children with ASD and assessing their current situation. The results of the study are expected to contribute to future work with parents of children diagnosed with ASD, guide teachers and psychological counselors in supporting mothers of children with disabilities, and provide a systematic contribution to the psychological assistance services offered to parents. It is anticipated that mothers participating in the psychoeducational program will be better equipped to cope with the challenges of raising a child with ASD and will become more successful in expressing their emotions and regulating their mood.

In line with the statements made so far, the aim of this research is to examine the impact of the psychoeducational program on enhancing the ability of mothers of children with ASD to express emotions and regulate negative emotional states.

## Materials and Methods

This study adopts a quasi-experimental approach utilizing a pre-test–post-test control group design. Participants are randomly allocated to either the intervention group or the control group, with only the former receiving the treatment. Before the intervention begins, both groups complete a pre-test. Administering a pre-test helps minimize differences in the dependent variable, thereby enhancing the power of statistical analyses [46]. Following the intervention, a post-test is administered to both groups. The use of random assignment in this design contributes to its high level of internal validity [47].

## Procedure

To carry out the research, written permission was obtained from the Konya/Selçuklu Autism Individuals Education Foundation and the Ethics Committee of the Faculty of Education at Selçuk University on 01.12.2022, with permission number 416770. Initially, an announcement was made to mothers of children diagnosed with ASD to form the study group on a voluntary basis. Preliminary interviews were conducted with the mothers who were to be part of the study group. Having a child diagnosed with autism was determined as an inclusion criterion, while having a psychiatric diagnosis was set as the exclusion criterion for mothers. As a result of the screening process, 28 mothers were selected, and through random assignment, 14 mothers were assigned to the experimental group and 14 mothers to the control group. When assigning participants to groups, factors such as the mothers' age and educational background were not taken into consideration, and the group assignments were carried out in a completely random manner. In order to ensure the homogeneity of the experimental and control groups, similar demographic characteristics were observed in both groups. Written permission for the research was obtained from the Konya/Selçuklu Autism Individuals Education Foundation for the implementation of the procedures. Information was provided to the mothers of children with ASD about participating voluntarily in the study, and an "Informed Consent Form" was obtained from each participant.

The psychoeducation program sessions were conducted in the seminar hall of the Konya/Selçuklu Autism Individuals Education Foundation. No intervention was applied to the control group, while the mothers in the experimental group participated in a psychoeducation program, which lasted approximately 80–90 minutes per session, once a week, for 10 weeks. A follow-up test was conducted 8 weeks after the implementation of the program.

## Psychoeducation Program

In this study, the psychoeducation program developed based on a Cognitive Behavioral Therapy (CBT) approach aimed to reduce the state and trait anxiety levels of mothers in the experimental group. The program consisted of 10 sessions. The Psychoeducation Program was designed using relevant modules and units from the Family Education Program, scientific studies related to the research topic [48, 49, 50, 51, 52, 53], and expert opinions in the field. The program generally included information and guidance, sharing of life experiences related to having a child with ASD, group activities aimed at recognizing and expressing both positive and negative emotions, and addressing the behavioral and cognitive changes required by mothers.

During the implementation of the psychoeducation program, activities were conducted in line with the goals of each session. In the sessions of the program, role-plays related to real-life situations of the participants were conducted. For example, difficulties a mother experiences in communicating

with her child with autism or challenges faced in social life were dramatized, contributing to the group members developing different solutions. Additionally, drama and creative drama activities (such as understanding emotions through I-messages, the Emotion Game, Mirror Technique, Chair of Feelings and Thoughts, etc.) were utilized to enhance skills like the use of "I-messages" and empathy. A discussion environment was provided where participants could share what they had learned and the difficulties they experienced. These sharing sessions allowed other mothers to contribute by offering similar experiences and possible solutions.

The general objectives of the psychoeducation program, arranged according to the session order, are as follows:

Session 1: Facilitate the mothers' introduction to each other and provide information about the program to be implemented.

Session 2: Learn about the characteristics of ASD and recognize the effects of having a child with ASD on mothers' emotions, thoughts, and behaviors.

Session 3: Learn about different types of emotions and help mothers recognize, accept, and express the emotions they experience.

Session 4: Help mothers become aware of how their negative emotions and thoughts affect their behavior and life, and enable them to share these within the group.

Session 5: Learn about the relationship between negative emotions, thoughts, and behavior (ABC Model).

Session 6: Understand the physiological aspects of emotions and their relationship with body language, and learn to express emotions through body language.

Session 7: Accept both positive and negative emotions and learn how to regulate negative emotions.

Session 8: Learn skills to express emotions and thoughts (using "I" language, empathy, transparency).

Session 9: Help mothers recall past and present experiences related to their children, and recognize and express emotions about the future.

Session 10: Conduct a general evaluation of the program and share the gains and outcomes of the program with the mothers.

The program aims to enhance the mothers' emotional regulation, improve their ability to express their feelings, and equip them with practical coping strategies to manage the challenges they face in raising a child with ASD.

## Data Collection Tools

### Emotional Expression Scale

The Emotional Expression Scale was developed by King and Emmons to assess individuals' tendencies to express their emotions. The adaptation of this scale into Turkish culture was carried out by Kuzucu

(2006). This scale consists of 15 items and is scored on a 7-point Likert scale, evaluating tendencies to express both positive and negative emotions. The items are rated on a scale from 1 to 7, where 1 indicates strong disagreement with the statement, and 7 indicates strong agreement. Higher scores on the scale indicate a stronger tendency to express emotions. Items 6 and 14 are reverse-scored. Factor analysis revealed that the scale comprises three main dimensions, although some items loaded onto different factors. These three factors account for 35% of the total variance. Test-retest reliability ( $n = 96$ ,  $r = .85$ ) and internal consistency analysis ( $\alpha = .85$ ) confirm the scale's reliability [54].

### Negative Mood Regulation Scale

The Negative Mood Regulation Scale, developed by Catanzaro and Mearns (1990), was adapted into Turkish by Bahadır (2006). The scale consists of 30 items and follows a 5-point Likert structure. The total score range spans from 30 to 150. Higher scores indicate that individuals expect to cope more effectively with negative moods. The scale comprises four subscales: disengagement from negative mood, active efforts, confrontation, and social support. The internal consistency coefficients range from .58 to .82. The overall internal consistency coefficient of the scale is .88, and its test-retest reliability is .85. Factor analysis results show that the correlations between the subscales range from .61 to .83. Confirmatory factor analysis confirmed the validity of the four-component factor structure. In this study, the total score of the scale was used.

### Personal Information Form

This form, created by the researcher, includes characteristics of the mothers in the study group.

### Study Group

This study was conducted with 28 mothers who have children diagnosed with ASD and are enrolled at the Konya/Selçuklu Autism Individuals Education Foundation. Among the mothers who voluntarily participated in the research, 2 (7.14%) have a graduate degree, 7 (25.00%) have a university degree, 8 (28.57%) have completed high school, 6 (21.42%) have completed middle school, and 5 (17.86%) have completed primary school. Regarding the age variable, 1 mother (3.57%) is in the 20-30 age range, 6 mothers (21.42%) are in the 31-40 age range, 15 mothers (53.57%) are in the 41-50 age range, and 6 mothers (21.42%) are 51 years or older. In terms of marital duration, 2 mothers (7.14%) have been married for 1-4 years, 8 mothers (28.57%) for 5-10 years, 8 mothers (28.57%) for 11-20 years, and 10 mothers (35.71%) have been married for more than 21 years. Regarding the number of children, 7 mothers (25.00%) have one child, 10 mothers (35.71%) have two children, 9 mothers (32.14%) have three children, and 2 mothers (7.14%) have four or more children. The ages of the mothers' children range from 4 to 13 years old. Finally, in terms of employment, 2 mothers (7.14%) are employed, while 26 mothers (92.86%) are not working.

### Analysis

SPSS 27.0 software was used to analyze the data obtained from the study. In the analysis of the data, a two-way repeated measures analysis of variance (ANOVA), commonly used in mixed designs, was employed. In the study, the assumptions of the two-way repeated measures analysis of variance (ANOVA) were examined, and all assumptions were found to be met. The two-way ANOVA for repeated measures is utilized in mixed designs where there are independent measurements related to the experimental groups and repeated measurements over time. This technique is used to test the interaction effect between group and measurement, as well as the main effects of the group and measurement factors, in relation to the effectiveness of the experimental treatment. To determine whether there was a significant difference between the pretest scores of the experimental and control groups, an independent samples t-test was used. According to the assumptions of the t-test for independent samples, the variances of the two groups in the population are approximately equal. The dependent variable is at least on an interval or ratio scale, and the two groups are independent of one another [54].

### Results

The mean and standard deviation values of the emotional expression and negative mood regulation scores of the mothers with children diagnosed with ASD in both the experimental and control groups are presented in Table 1.

**Table 1:** Mean and Standard Deviation Values of Emotional Expression and Negative Mood Regulation Scores for Mothers with Children Diagnosed with ASD in the Experimental and Control Groups

Tests	Groups	Pretest			Posttest low-up Test			Fol-	
		N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$
Emotional Expression	Experimental	14	61.14	13.12	14	76.92	12.57 9.50	14	68.35
	Control	14	58.92	8.99	14	57.64	8.45 12.15	14	61.57
Negative Mood Regulation	Experimental	14	88.92	5.56	14	108.71	13.83 4.71	14	105.35
	Control	14	93.28	8.01	14	97.71	9.83 6.77	14	96.64

ASD: Autism Spectrum Disorder; SD: Standard Deviation.

When Table 1 is examined, it is observed that the post-test mean scores for emotional expression and regulation of negative mood among mothers of children with ASD in the experimental group are higher than their pre-test mean scores. Additionally, the post-test mean scores for emotional expression and regulation of negative mood among mothers of children with ASD in the experimental group were found to be higher than those of mothers in the control group.

An independent samples t-test was conducted to determine whether there were any significant differences between the emotional expression and regulation of negative mood scores of mothers of children with ASD in the experimental and control groups. The results of these analyses are presented

in Table 2.

**Table 2:** Results of the Independent Samples t-Test on Pre-Test Total Scores for Emotional Expression and Negative Mood Regulation among Mothers of Children with ASD in the Experimental and Control Groups.

Dependent Variable	Groups	N	$\bar{X}$	SD	t	p
Emotional Expression	Experimental	14	61.14	13.12	.521	.607
	Control	14	58.92	8.99		
Negative Mood Regulation	Experimental	14	88.92	5.56	-1.671	.107
	Control	14	93.28	8.01		

ASD: Autism Spectrum Disorder; SD: Standard Deviation.

According to Table 2, the t-test conducted to determine whether there was a significant difference between the pre-test scores of emotional expression and negative mood regulation in mothers of children diagnosed with ASD in the experimental and control groups revealed no statistically significant difference between the two groups. (Emotional Expression:  $t = .521$ ;  $p = .607$ ; Negative Mood Regulation:  $t = -1.671$ ;  $p = .107$ ).

A Two-Way Analysis of Variance was applied to the data to determine whether the difference observed between the pre-test and post-test mean scores for emotional expression and regulation of negative mood among mothers of children with ASD in the experimental and control groups was statistically significant. The results of the analysis are presented in Table 3.

**Table 3:** ANOVA Results for Pre-test and Post-test Scores on Emotional Expression

Source of Variance	Sum of Squares	SD	Mean Square	F	P	Partial Eta Squared
Between Groups	4685.476	27				
Group (Experimental/Control)	1866.857	1	1866.857	12.356	.002	.322
Error	928.381	26	151.092			
Within Groups	7304.00	56				
Measurement (Pre-test-Post-test)	767.595	2	767.798	3.667	.032	.124
Group * Measurement	1093.357	2	546.679	5.223	.009	.167
Error	5443.048	52	104.674			
Total	11.989.476	83				

ANOVA: Analysis of Variance, SD: Standard Deviation.

According to Table 3, the results of the ANOVA conducted on the mean scores of emotional expression pre-test and post-test measurements for mothers of children with ASD indicate that the interaction effect (group \* measurement effect) is significant ( $F = 5.223$ ;  $p < .05$ ). This finding suggests that the joint effect of group membership and measurements taken at different times is significant.

The mothers of children with ASD who participated in the psychoeducation program showed a significant increase in their emotional expression scale scores compared to the mothers in the control group. The partial eta-squared value ( $\eta^2 = 0.167$ ) indicates that, regardless of pre-test scores, 16.7% of the variability in the post-test emotional expression scores can be explained by group membership, representing a large effect size.

A Two-Way ANOVA was conducted to determine whether the observed difference in the mean scores for regulation of negative mood between the pre-test and post-test among mothers of children with ASD in the experimental and control groups was statistically significant. The results of this analysis are presented in Table 4.

**Table 4:** ANOVA Results for Pre-test and Post-test Scores on the Negative Mood Regulation Scale

Source of Variance	Sum of Squares	SD	Mean Square	F	p	Partial Eta Squared
<b>Between Groups</b>	2885.608	27				
<b>Group (Experimental/Control)</b>	550.298	1	550.298	6.127	.020	.191
<b>Error</b>	2335.071	26	89.810			
<b>Within Groups</b>	6821.334	56				
<b>Measurement (Pre-test-Post-test)</b>	2327.310	2	1163.655	17.128	<.001	.397
<b>Group * Measurement</b>	961.167	2	480.583	7.074	.002	.214
<b>Error</b>	3532.857	52	67.940			
<b>Total</b>	9706.942	83				

ANOVA: Analysis of Variance, SD: Standard Deviation

According to Table 4, the results of the ANOVA conducted on the mean scores for the regulation of negative mood pre-test and post-test measurements among mothers of children with ASD indicate that the interaction effect (group \* measurement effect) is significant ( $F = 7.074$ ;  $p < .05$ ). This finding suggests that the joint effect of group membership and measurements taken at different times is significant. The mothers of children with ASD who participated in the psychoeducation program showed a significant increase in their regulation of negative mood scores compared to the mothers in the control group. The partial eta-squared value ( $\eta^2 = 0.214$ ) indicates that, regardless of pre-test scores, 21.4% of the variability in the post-test regulation of negative mood scores can be explained by group membership, representing a large effect size. Moreover, the research findings show that the 10-session psychoeducation program applied to mothers of children with ASD had long-lasting effects on emotional expression and regulation of negative mood, as these effects continued even 2 months (8

weeks) after the completion of the experiment.

## Discussion

This study was conducted to examine the effects of a 10-session psychoeducation program on emotional expression and the regulation of negative mood in mothers of children with ASD. According to the research findings, there was a significant difference between the pre-test and post-test scores for emotional expression and regulation of negative mood among mothers in the experimental group. Based on this finding, it can be concluded that the psychoeducation program, which was designed based on a CBT approach, was effective in helping mothers of children with ASD express their emotions and regulate their mood states. A study conducted to investigate the effectiveness of interventions aimed at improving the mental health of mothers of children with disabilities found that psychoeducational approaches improve mental health, and that cognitive-behavioral and psychoeducational interventions are effective [55]. A review of the literature reveals research findings indicating the effectiveness of psychoeducation programs for mothers of children with ASD. These programs have been found to be effective in reducing stress [56, 57] and anxiety [49] levels in mothers of children with ASD.

Similar to the results obtained in this study, research findings indicate that psychoeducation programs focusing on emotion regulation, emotional acceptance, and expression have been effective for individuals with various ages and characteristics, beyond parents of children with disabilities. In a study conducted by Turan and Canbulat (2023), the educational program focused on emotional acceptance and expression for groups was found to be effective in improving the psychological resilience and depression scores of nurses. Additionally, the effect of the program was determined to be long-lasting [58]. Moreover, psychoeducational interventions aimed at emotions in students have also been shown to be effective. A psychoeducation intervention conducted with high school students in a sports academy revealed a significant increase in students' emotional regulation skills and awareness of emotions [59]. In a study by Akdemir and Gündüz (2022), a psychoeducation program aimed at enhancing emotion regulation skills in adolescents showed that, following the intervention, individuals in the experimental group had significantly different scores in emotion regulation difficulties and reactive aggression compared to the control group [60]. Another study found that a psychoeducation program applied to high school students significantly increased emotion regulation skills and mindfulness levels in the experimental group, and these differences were maintained in follow-up measurements [61].

A review of the literature reveals studies indicating the effectiveness of psychoeducation programs aimed at emotional expression and emotion regulation for mothers of children with ASD. A happiness training program applied to mothers of children with ASD was found to be effective in increasing

emotional expression and improving quality of life [62]. A psychoeducational group intervention for mothers of children with ASD was shown to increase the frequency of positive emotional words, decrease the frequency of negative emotional words, and significantly reduce depression scores [63]. Additionally, research results indicate that psychoeducation programs targeting emotional expression and emotion regulation for mothers of children with disabilities other than ASD have also been effective. An intervention program for mothers of children with hearing impairments was found to be effective in enhancing behavioral emotion regulation and resilience [68]. In another study, a psychoeducation group program for parents of children with learning disabilities was evaluated, and the results showed that parents who participated in the program significantly differed from the parents in the regular treatment group in terms of expressions of criticism, warmth, positive comments, and general emotional expression [65]. The results of this study align with the findings of research showing that interventions targeting the emotions of mothers of children with ASD are effective. Moreover, based on the conclusion that as mothers' emotion regulation skills increase, the total anxiety, anger, and fear levels in the child decrease while the child's happiness increases [66], it can be suggested that improving the emotion regulation skills of mothers may have a positive impact on the emotional development of both mothers and their children with ASD.

High levels of stress and emotional difficulties frequently observed in mothers of children with Autism Spectrum Disorder (ASD) are often linked to the challenges associated with caregiving. However, explaining the mother's emotional state solely through the characteristics of the child may be insufficient. In line with Family Systems Theory [67], the emotional well-being of the mother and the way she expresses her emotions are also shaped by the attitudes of other family members—particularly the father and siblings. Indeed, paternal involvement in caregiving can alleviate the mother's burden, enhance her psychological well-being, and contribute to the improvement of marital relationships [68, 69]. Fathers' provision of emotional and physical support may help reduce mothers' sense of loneliness and parenting-related stress, thereby promoting healthier emotional regulation. Similarly, positive attitudes exhibited by siblings can strengthen the perception of familial support and enhance the mother's social and emotional resources [70, 71]. Therefore, studies evaluating mothers' emotional experiences should adopt a holistic approach that considers broader family dynamics.

Based on the findings of the study, one of the possible variables that can explain the improvement in emotional expression and mood regulation skills among mothers in the experimental group is the group factor. In psychoeducation groups, therapeutic factors such as cognitive support and interpersonal learning, which emphasize indirect learning, guidance, and self-understanding, play a key role [72]. It can be suggested that the similarity

of the mothers to the other members of the group in terms of characteristics helped them feel understood, share their emotions and thoughts, provide support to others, and realize that they were not alone. This shared experience likely contributed to an enhanced sense of security and a deeper understanding of others in the group.

Group support can play a crucial role in initiating change, especially when considering the challenges faced by mothers [73]. Mothers of children with disabilities need to be with others who share similar experiences, form close relationships, and have the opportunity to share aspects of their lives, realizing that they are not alone [74]. Friends are an important source of support for mothers [75]. Knowing that they have someone with whom they can share their emotions and thoughts and whom they can trust, and experiencing relief through these exchanges can contribute to problem-solving. Common characteristics among the mothers in the experimental group that increased their sense of connection helped them become more willing to open up, reducing feelings of loneliness and alienation [45]. Additionally, expressing emotions, building self-confidence, learning communication skills, fostering interaction, and using activities such as written exercises, role-playing, and sociodrama based on the group's goals also contributed to the development of new interpersonal skills and the exploration of problems [72, 76]. The psychoeducation program, based on a CBT approach, incorporated homework assignments, which have been found to be effective in helping clients solve problems, gain confidence, learn new skills, and maintain those skills [77]. Group sessions, starting with warm-up activities, were structured with a focus on the experiential application of cognitive-behavioral techniques. The homework assignments and techniques used are thought to have contributed to the improvement of the mothers' skills in emotional expression and negative mood regulation. Furthermore, the homogeneity of the group in terms of gender and the small number of mothers in the experimental group, which helped reduce the difficulties of self-disclosure inherent in heterogeneous groups, can be seen as a limitation of the study. However, it can also be argued that these factors enabled the mothers to share their emotions and thoughts in a comfortable and detailed manner.

## Conclusion

The findings of the study indicate that the 10-session psychoeducation program applied to mothers of children with ASD has long-lasting effects on emotional expression and mood regulation, with these effects continuing two months (8 weeks) after the conclusion of the intervention. This suggests that the knowledge and skills gained by mothers of children with ASD within the group setting have been transferred to their daily lives.

Considering the results of the study, the psychoeducation program implemented for mothers of children with ASD, which contributed to the development of their emotional expression and

mood regulation skills, can be adapted for mothers with similar characteristics. Additionally, it would be beneficial to compare the results of applying this program to fathers of children with ASD. It is also recommended that psychoeducation programs be planned and implemented for children with ASD and their siblings.

In addition to the psychoeducation group work, individual and group psychological counseling, family counseling, and individual and group guidance sessions can be provided to mothers of children with ASD who are in need, focusing on topics such as conflict resolution, stress management, problem-solving, social support, and similar areas.

In particular, the attitudes of fathers and siblings, their involvement in caregiving processes, and the patterns of family communication are among the key factors that directly or indirectly affect the emotional well-being of the mother. Future research that explores these types of intra-family interactions in greater depth may contribute to the multidimensional design of support programs for mothers.

### Limitations

This study has several limitations. The measurement tools used consisted of self-report questionnaires employing Likert scales, and no observational data were collected to verify improvements in emotional expression or emotion regulation skills. The study sample was limited to 28 mothers of children diagnosed with Autism Spectrum Disorder (ASD) who attend the Konya/Selçuklu Autism Individuals Education Foundation. This limitation restricts the generalizability of the findings. Additionally, the research focused solely on the perspectives and experiences of mothers. Paternal involvement in caregiving and the emotional support provided by fathers may reduce mothers' stress levels and negative emotions; similarly, the nature of the sibling's relationship with the child with autism can influence the mother's feelings of guilt, inadequacy, or happiness.

### Disclosure of interest

The author reports no conflicts of interest.

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