

Original Article

Effectiveness of Mothers' Training Based on Attachment Intervention on School Refusal and Social Competence of Children with Separation Anxiety Disorder

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Abstract

Background and Aim: Separation anxiety disorder in children is one of the disorders with a negative impact on social adjustment and peer relationships and is a predictor of psychiatric disorders in adolescence. Therefore, this research aimed to identify the effective treatment of this disorder, including the effectiveness of teaching mothers based on attachment intervention on school refusal and social competence of children with separation anxiety disorder.

Materials and Methods: The research method was semi-experimental with a pre-test-post-test design, a control group, and a three-month follow-up. The statistical population of this research was all mothers of elementary school students suffering from separation anxiety disorder in District 1 of Education in Sari, Iran, in the academic year 2022-2023. The research sample included 30 mothers selected by purposive sampling and randomly divided into two experimental and control groups. The tools used to collect data were the Separation Anxiety Questionnaire, School Refusal Questionnaire, and Social Competence Questionnaire. In this research, the experimental group received attachment intervention training in the eighth session of 120 minutes. The control group did not receive any intervention. Before and after the training sessions, pre-tests and post-tests were administered to both groups. Analysis of variance with repeated measures (ANOVA) was used for data analysis using SPSS 26 software.

Results: The results indicated a significant difference between the mean of school refusal and social competence in the pre-test-post-test and the pre-test-follow-up stages of the experimental group compared to the control group ($P < 0.05$).

Conclusion: The results suggest that maternal attachment-based intervention training, which focuses on emotional experiences related to the person's past attachment relationship and corrects disturbed mental representations of self and others, produces a decrease in school refusal and an increase in social competence in children with separation anxiety disorder.

Keywords: Attachment-based intervention, School refusal, Social competence, Separation anxiety disorder

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Introduction

Anxiety disorders are a group of internalized disorders in childhood that are more prevalent in children (1). Anxiety disorders are the most common psychiatric disorders in children, which are often less known and can significantly disrupt their quality of life and, if not treated, cause social and academic problems for them (2). The degree of anxiety children experience depends on the conditioning process, parents' fear, and training methods. The family, particularly the mother, as a model, is a crucial factor in forming fear in children (3). One of the most common psychological disorders in childhood is separation anxiety disorder (4). Separation anxiety disorder is a type of anxiety disorder that develops in childhood. This type of disorder is a type of severe anxiety that can cause significant distress in children when separating from a person to whom they are emotionally attached or dependent (5). Separation anxiety symptoms are the result of a complex interaction of environmental, genetic, family, and temperamental factors of the child, and it significantly interferes with the child's daily functioning, academic, social, family life, leisure time, and sleep. Since the mother is the first source of influence on the child's growth and development, it seems necessary to study the characteristics of mothers, including their diagnostic features, to improve the symptoms of children's separation anxiety, which, if treated, reduces the symptoms of school refusal in children (6). There are at least three symptoms for four weeks to diagnose this disorder, including extreme distress during separation, severe and continuous worry about being deprived and harmed, fear and helplessness during separation, frequent physical complaints, frequent nightmares, sleep problems, and school refusal (7). One of the problems of children with separation anxiety disorder is their refusal to go to school (8). School refusal refers to the unwillingness or refusal to attend school. During refusal, children often stay home during school hours rather than hiding the problem from their parents. While they should be at school, they reflect their distress in the form of excessive sadness, inexplicable physical symptoms, anger and moodiness, and extreme fear (7). School refusal is a problem of school attendance that manifests as emotional distress

(9). One of the signs of school refusal is absenteeism, which may be late to school, complete absences, and returning home during the day (10). The results of Noursalim *et al.*'s (11) research showed that school refusal is affected by children's irrational beliefs about school and the motivating factors for school refusal, such as separation anxiety, fear, and illness of parents, which causes an increase in school refusal in children. Also, the findings of Abdul Azim *et al.* (12) showed that the behavior of refusing school is significantly related to the degree of anxiety among school-aged children, and the main reason for refusing school children is separation anxiety. Furthermore, separation anxiety damages other psychological, emotional, and social processes, and one of the problems faced by these children is social competence (13).

Social competence is a set of skills, emotional states, and attitudes that help to deal with a person's social competence. In other words, social competence refers to prosocial behavior, which is on the opposite end of the spectrum from antisocial behavior (14). We can state that the high social competence of children increases their ability to perform personal independence, social responsibility, taking care of oneself, and helping others (15). Jordan *et al.*'s research revealed that anxiety can decrease social performance and social competence in children (16). Also, in another study, Mir Hosseini *et al.* showed that gaining awareness of emotions, awareness of the five chief body senses, and mindfulness in daily life can effectively improve social competence and reduce social problems in children with separation anxiety symptoms (17). Considering the prevalence and long-term impact that separation anxiety has on children, their families, and their lives, researchers are seeking effective therapeutic interventions and prevention methods for these problems in children (18). In other words, separation anxiety is rooted in the presence and behavior of attachment figures, so the child's attachment style has a strong correlation with separation anxiety symptoms (19).

Among parent-based interventions, one of the most popular approaches to address children's separation anxiety is attachment-based intervention (20). Attachment-based intervention creates an opportunity to form a secure attachment in the child (21). This intervention is based on the belief that family

interactions can have a healing effect in cases of attachment injuries. Developing positive interactions between the family and the child who experienced direct psychological trauma and was subjected to injustice is considered a key factor for reconstructing their performance (22). The primary focus of attachment-based therapy is to reestablish the emotional bond between the child and the caregiver and to restore trust in psychological, emotional, and behavioral issues (23, 24). Therefore, one of the treatment approaches for behavioral problems in different groups suffering from various disorders in recent years was attachment-based intervention training and making the parent-child relationship secure attachment (25).

In this regard, Bahmanesh et al. (23), in their research, showed that attachment-based intervention could be an efficient program to improve the parenting practices of mothers and reduce the symptoms of separation anxiety disorder in children. Also, Weeks et al.'s research demonstrated that attachment-based intervention causes a change in parents' behavior or reduces the distress due to the child's anxiety, which significantly reduces the symptoms of separation anxiety (19). According to the abovementioned issues in this research and the negative consequences of separation anxiety disorder in children, the necessity of this research was to help children with separation anxiety disorder improve their social competence and decrease school refusal in these children. Despite the research conducted in this field, there is no study to investigate the effectiveness of attachment-based intervention training for mothers on school refusal and social competence of children suffering from separation anxiety disorder, which is considered a research gap in this regard. Thus, this research aimed to examine the effectiveness of attachment-based intervention training for mothers on school refusal and increasing social competence of children with separation anxiety disorder.

Methods

The research method was semi-experimental with a pre-test-post-test design and a three-month follow-up with the control group. The statistical population of this research was all the mothers of elementary school

students suffering from separation anxiety disorder in District 1 of education in Sari in 2022-2023. This research was approved by the ethics committee of the Islamic Azad University, Sari Branch, with the number IR.IAU.SARI.REC.1402.029. First, children with separation anxiety disorder were identified, and then, their mothers were selected. After the initial examination using clinical interview and screening, Han et al. (26) separation anxiety questionnaire - the parent form - was provided to the parents of these children to complete. From the 300 people who completed the form and met the first inclusion criterion of this study (having the benchmark score of separation anxiety disorder), 120 people were selected. After holding explanation sessions to evaluate the symptoms of children's separation anxiety more accurately, with the presence and supervision of the researcher, a diagnostic interview was conducted with the parents. In this interview, other inclusion criteria for the research were checked. Finally, 30 people were selected using a purposeful sampling method and randomly assigned into an experimental (15 people) and a control group (15 people). The inclusion criteria for this study were mothers with children with separation anxiety disorder between the ages of 7 and 12, the child living with their family (no death in the family, no history of parental divorce), not receiving any other psychosocial treatment, mothers having minimum education, and active participation of mothers in treatment. The exclusion criteria of the study were the presence of other clinical disorders or simultaneous primary/secondary diagnosis, pervasive developmental disorders, and the parent suffering from a severe mental disorder.

Materials

Separation Anxiety Questionnaire: Han et al. (26) developed the separation anxiety questionnaire (parent-child version). This questionnaire has two parent and child forms, each with 34 items that measure the specific dimensions of childhood separation anxiety based on the diagnostic criteria of the revised fourth diagnostic and statistical manual of mental disorders. The four main dimensions of this tool are fear of being left alone questions (7, 13, 19, 24, 30), fear of abandonment questions (4, 12, 20, 25, 33), fear

of physical illness questions (2, 8, 17, 27, 31), and worry about dangerous incidents questions (3, 9, 14, 21, 26). In addition, the separation anxiety questionnaire includes two research subscales of the frequency of dangerous incidents (5, 11, 16, 23, 29) and the list of security signs (1, 6, 10, 18, 22, 28, 32, 34). In this research, the parental version was used. The parental version of this questionnaire is a 34-item instrument filled out by the mother or father. The scoring of this questionnaire is on a 4-point Likert scale, graded from 1 (never) to 4 (always). In previous studies, Han *et al.* (26) reported the internal consistency coefficient of the test as 0.91 and its retest coefficient as 0.83. In Iran, the reliability coefficient for the total score was reported as 0.94. This scale was translated into Persian by Talajnejad *et al.* (27) and then back-translated. The opinions of two psychology experts were used to test the face and content validity of the scale, and then, according to their comments, some changes were made in the written form of the scale. The Cronbach's alpha coefficient of the scale was calculated at 0.87 for the total score and between 0.62 and 0.74 for the subscales. The Cronbach's alpha in this study for the total score was 0.87.

School Refusal Questionnaire: The revised version of the school refusal questionnaire has 24 items and four subscales. These subscales are A) school refusal due to unpleasant stimuli at school (items 21, 13, 17, 9, 5, 1); B) school refusal due to avoidance of social situations and evaluation (items 22, 18, 14, 10, 6, 2); C) refusal due to excessive parental attention (items 23, 19, 15, 11, 7, 3); and D) refusal due to incentives outside of school (items 24, 20, 16, 12, 8, 4), all of which assess the school refusal behavior of children between the ages of 6 and 17. Parents score the items on a 7-point Likert scale from 1 (never) to 7 (always). Completing this questionnaire takes about 5 to 10 minutes. Carney and Silverman (28) developed this scale with 16 items, which increased to 24 items in the revised version measuring four subscales. Carney obtained the validity of this tool for various subscales as 0.86, 0.86, 0.88, and 0.78, respectively. Kim in North Korea reported the reliability coefficient of the scale between 0.50 and 0.87 using Cronbach's alpha. In the United States, Haight *et al.* (29) used the parent version, whose Cronbach's alpha for the four subscales was reported as 0.84, 0.75, 0.76, and 0.79, and for the total scale 0.89,

respectively. Also, Cronbach's alpha in the present study for four subscales, namely refusal from school due to unpleasant stimuli in school, refusal due to avoidance of social situations and evaluation, refusal due to excessive parental attention, and refusal due to incentives outside of school was equal with 0.82, 0.80, 0.77, and 0.72 and for the total test is 0.87.

Social Competence Scale- Parent Version (SCS-P): Social Competence Questionnaire-Parent Version is a 12-item scale that assesses a child's social behaviors, communication skills, and self-control. The Social Competence Scale-Parent Version was developed by the Behavior Problem Prevention Research Group (30) and includes two subscales: social/communication skills (items 12, 11, 10, 9, 7, 4) and emotion regulation skills (items 8, 6, 5, 3, 2, 1). Some of the items of this scale were adapted from Kendall and Wilcox's (31) and Gersten's (31) valuations, and new items were added to it. The parent version of this scale contains a subset of the items from the teacher version, which in each item of the Social Competence Scale expresses the behavior that the child may exhibit in a social setting. The scoring system is on a 4-point Likert scale (not at all (0), a little (1), almost a lot (2), a lot (3), and very much (4); the minimum score is 0 and the maximum is 48. Corrigan (32) reported Cronbach's alpha internal consistency coefficients for the social/communication skills subscale as 0.80 to 0.74, for the emotional regulation skill subscale as 0.80 to 0.77, and the total scale of the test was 0.87. In the present study, Cronbach's alpha for the social/communication skills subscale is equal to 0.73, the emotion regulation skill subscale is equal to 0.79, and Cronbach's alpha for the whole test is 0.74.

First, general explanations were given to the subjects, and after considering the inclusion and exclusion criteria and obtaining their consent, the participants entered the research. Before the implementation of the therapeutic intervention, the mentioned research questionnaires were distributed among the participants of the two experimental and control groups. Then, training sessions under the attachment-based intervention based on the guidelines of Korn-Carey and Dozier, Ackerman, and Cooper *et al.* (33,34) were conducted in groups for the experimental group. The control group did not receive any intervention. After the training sessions, the questionnaires were

distributed to the experimental and control groups to collect data for the post-test stage. The content of the sessions was compiled based on previous valid research and using the experts' opinions in this field in eight 120-minute sessions. Group training was conducted for eight 2-hour sessions, one session per week at the educational counseling center by the researcher and one assistant. Three months after the last session, the follow-up test was performed. Table 1 provides a brief description of the content of

attachment-based intervention sessions. After data were collected, descriptive and inferential statistics were used to analyze data. In descriptive statistics, central tendency (mean, percentage, frequency) and dispersion indicators (standard deviation, variance) were measured. Then, in inferential statistics, repeated-measures Analysis of Variance (ANOVA) using SPSS version 26 software was used.

Table 1. The summary of parent training package based on attachment theory (35)

Session	Title	Primary objectives	Secondary objectives	Homework
First	Acquaintance	Getting to know the members with each other, discussing the objectives and rules of the group, getting to know the attachment theory.	Increasing observational skills to distinguish anxiety and behaviors and other problematic behaviors.	Recording the severity location of
Second	attachment behaviors versus exploratory behaviors	Familiarity with safe and insecure attachment style and consequences and factors that are effective in creating them, recognition of attachment and exploratory behaviors in children, teaching how to respond effectively to these behaviors and teaching free play.	Increasing observational and inferential skills.	Recording attachment and exploratory behaviors, mother's way of responding and child's reaction (recording behavioral chains) and performing free play in a fixed place and time
Third	Past voice 1	The role of parents' mental representations of attachment in relationship to children, recognition of mental representations sensitive to safety, development, and relationship.	Understanding the relationship between childhood experiences and parenting behaviors.	Monitoring thoughts and feelings and recording them to recognize mental representations
Fourth	Past voice 2	Increasing mothers' knowledge of their own behavioral foundations and reducing behaviors that increase problems in children	Increasing mothers' knowledge of their own behavioral foundations and reducing behaviors that increase problems in children	Each group of mothers had their own tasks according to the discovered mental representations.
Fifth	Establishing positive relationships with the child	Discussing the signs of positive and negative relationships in children, teaching the skills of understanding their inner feelings and the ability to express them.	Increasing the ability of mothers to respond in the face of children's behaviors and reducing the conflict between them	Recording feelings and thoughts in front of children's behavior and how to express them and the child's reaction to it
Sixth	An insight into the child's inner world 1	Teaching the necessary skills to understand and comprehend basic needs of children and the ability to express them	Increasing mothers' sensitivity and response to the anxious behaviors and reducing rejecting behaviors on their part	Recording the occurrence of children's behaviors, guessing the needs or underlying causes of these behaviors, and speaking for the child
Seventh	An insight into the child's inner world 2	Creating a multi-dimensional vision of the child and encouraging	Creating a real and complete picture of the child and	Recording the positive and negative

mothers to change their view of including the (positive and characteristics of children according to new negative) characteristics and children and the experiences revising them according to mother's feelings towards these characteristics and discovering the changes that occurred during the sessions and comparing the child before and after the sessions.

Eighth How to maintain and increase changes Review of previous sessions and training to maintain and increase mothers' readiness to use the post-test The end of the course and training alone Setting the time for the changes that have been made

Results

The findings showed that among the participants, in the experimental group, 40% of the mothers had a boy child and 60% of them had a girl child, and in the control group, 33.3% of the mothers had a boy child and 66.7% of them had a girl child. The average age of mothers shows that in the experimental group, 20% were 35-31 years old, 20% were 36-40 years old, and 33.3% were 41-45 years old, and in the control group, 13.3% aged 25-30, 20% aged 31-35, 46% aged 36-40, and 20% aged 41-45. Also, in the experimental group, one of the children was seven-year-old (6.7%), four were eight-year-old (26%), two were nine-year-old (13.3%), two were eleven-year-old (13.3%), three were twelve-year-old (20%), and two were thirteen years old (13.3%). In the control group, six children were seven-year-old (40%), one was eight-year-old (6.7%), one was nine-year-old (6.7%), two were ten-year-old (13.3%), three were eleven-year-old (20%),

and two were thirteen years old (13.3%). The study of other demographic variables showed no significant difference between the experimental and control groups regarding age, educational status, and gender in the chi-square test ($P < 0.05$).

Descriptive indices such as mean and standard deviation of pre-test, post-test, and follow-up variables of school refusal and social competence of children with separation anxiety disorder in both experimental and control groups are presented. Also, the Shapiro-Wilk test was used in this table to check the normality of the data. Table 2 indicates the results of the normality of the distribution of variable scores ($P < 0.05$).

To check the assumptions of repeated-measures analysis of variance, the homogeneity of variance test, Levine's test, equality of covariance matrices test, and Mbox test were used in the social competence and school refusal. Examining the assumptions indicated that the F value of the research variables was not significant ($P < 0.05$). Therefore, the use of repeated-measures Analysis of Variance was permitted.

Table 2. Descriptive indices of pre-test, post-test, and follow-up scores of school refusal and social competence in two experimental and control groups

	Test	Group	Mean	SD	df	Shapiro-Wilk test	
						Statistics	P value
Total school refusal	Pre-test	experiment	42.87	12.258	15	0.961	0.706
		control	48.93	26.105	15	0.920	0.190
	Post-test	experiment	22.27	10.927	15	0.949	0.514
		control	49.6	25.244	15	0.952	0.557
	Follow-up	experiment	24.6	6.386	15	0.885	0.165
		control	48	20.178	15	0.968	0.832
Refusal due to an unpleasant stimulus	Pre-test	experiment	11.81	7.739	15	0.702	0.124
		control	11.23	7.883	15	0.642	0.135
	Post-test	experiment	10.64	7.452	15	0.523	0.258
		control	11.13	9.678	15	0.958	0.467

	Follow-up	experiment	9.86	7.326	15	0.869	0.563
		control	11.47	8.625	15	0.926	0.362
Refusing to avoid social situations	Pre-test	experiment	10.42	7.363	15	0.961	0.211
	Post-test	control	10.23	7.298	15	0.952	0.168
		experiment	9.68	7.541	15	0.941	0.265
	Follow-up	control	10.36	7.452	15	0.938	0.145
Refusal due to excessive parental attention		experiment	9.24	7.265	15	0.987	0.264
	Pre-test	control	10.46	7.369	15	0.975	0.126
		experiment	11.53	7.463	15	0.982	0.465
		control	12.68	3.832	15	0.921	0.379
	Post-test	experiment	10.07	7.142	15	0.938	0.359
		control	14.10	6.912	15	0.964	0.623
Refusing to pay attention to external incentives	Follow-up	experiment	9.23	7.265	15	0.940	0.572
		control	13.98	8.513	15	0.916	0.119
	Pre-test	experiment	11.86	2.637	15	0.931	0.268
		ontrol	12.65	8.654	15	0.971	0.398
	Post-test	experiment	10.96	7.623	15	0.936	0.187
		control	12.94	8.264	15	0.972	0.336
Total Social competence	Follow-up	experiment	10.23	7.415	15	0.954	0.245
		control	13.03	5.645	15	0.938	0.196
	Pre-test	experiment	18	6.503	15	0.901	0.098
		control	23.07	9.13	15	0.935	0.328
	Post-test	experiment	30.53	9.826	15	0.916	0.121
		control	22.27	7.066	15	0.325	0.365
Social/communication skills	Follow-up	experiment	26.47	6.534	15	0.97	0.864
		control	22.04	6.982	15	0.926	0.149
	Pre-test	experimet	10.43	4.687	15	0.965	0.496
		control	10.61	7.549	15	0.924	0.231
	Post-test	experiment	11.47	3.482	15	0.915	0.163
		control	10.79	5.475	15	0.908	0.124
Emotion regulation skills	Follow-up	experiment	12.13	6.548	15	0.926	0.365
		control	10.64	7.723	15	0.986	0.786
	Pre-test	experiment	11.23	4.632	15	0.907	0.113
		control	12.65	5.684	15	0.926	0.157
	Post-test	experiment	12.36	6.595	15	0.949	0.284
		control	10.71	7.189	15	0.985	0.645
	Follow-up	experiment	12.84	3.386	15	0.978	0.789
		control	10.63	5.819	15	0.981	0.695

The repeated-measures analysis of variance shows a significant difference between the variable means of school refusal and social competence in children with separation anxiety disorder at different research stages ($P < 0.05$). Based on the calculated F coefficients, the time or assessment stage significantly affected school refusal scores and social competence of children with separation anxiety disorder ($P < 0.05$). The effect size shows that the group factor explains 27% of the variance in school refusal scores of children with

separation anxiety disorder. Also, the results of repeated-measures analysis of variance show that based on the calculated F coefficients, the factor of time or assessment stage had a significant effect on school refusal scores of children with separation anxiety disorder ($P < 0.05$). The effect size shows that the group factor explains 36% of the difference in the variances of the social competence scores of children with separation anxiety disorder (Table 3).

The Bonferroni comparison test examined the

differences between the three research stages and the experimental group. The results show that the difference between the pre-test and post-test stages and between the pre-test and follow-up stages in the school refusal variable is significant ($P<0.05$). However, there is no significant difference between the two stages of post-test and follow-up ($P<0.05$).

The Bonferroni post hoc test to compare the means based on the stage in the social competence variable shows that the difference between the pre-test and post-test stages and between the pre-test and follow-up stages is significant ($P<0.05$). However, there is no significant difference between the two stages of post-test and follow-up ($P<0.05$) (Table 4).

Table 3. The results of the repeated-measures analysis of variance for the effect of the independent variable on the dependent variables

Variable	Effect	Source	SS	df	MS	F	P value	Effect Size	
Total school refusal	Within- group factors	Time	1916.289	1.482	44.078	8.944	0.002	0.242	
		Time*Group	1920.476	1.482	91.011	8.963	0.002	0.245	
		Error	5999.244	41.488	144.600				
	Between-group factors	Group	8096.600	10.610	8065.600	3.298	0.003	0.275	
		Error	21285.556	28	760.198				
Refusal due to an unpleasant stimulus	Within- group factors	Time	105.156	1.015	103.603	4.516	0.015	0.153	
		Time*Group	117.600	1.015	115.864	5.051	0.032	0.153	
		Error	651.911	29.520	22.939				
Refusing to avoid social situations	Between-group factors	Group	8801.111	1	8801.111	119.591	0.000	0.810	
		Error	2060.622	28	73.594				
	Within- group factors	Time	110.600	1.466	75.451	6.498	0.007	0.188	
		Time*Group	44.822	1.466	30.578	2.633	0.009	0.176	
		Error		476.578	41.044	11.611			
Refusal due to excessive parental attention	Between-group factors	Group	4752.400	1	4752.400	57.866	0.000	0.674	
		Error	2299.556	28	82.127				
	Within- group factors	Time	228.422	1.401	163.098	6.841	0.007	0.196	
		Time*Group	60.689	1.401	43.333	1.818	0.184	0.061	
		Error		934.889	39.215	23.840			
Refusing to pay attention to external incentives	Between-group factors	Group	683.378	1	383.378	5.551	0.026	0.165	
		Error	34447.111	28	123.111				
	Within- group factors	Time	98.956	1.452	68.169	10.429	0.001	0.271	
		Time*Group	84.022	1.452	57.881	8.855	0.002	0.240	
		Error		265.689	40.646	6.537			
Total Social competence	Within- group factors	Group	645.344	1	645.344	7.225	0.012	0.205	
		Error	2500.978	28	89321				
	Within- group factors	Time	528.022	2	264.011	747.652	0.000	0.297	
		Time*Group	707.756	2	353.878	745.8112	0.000	0.362	
		Error		2121.422	56	37.878			
social/communication skills	Between-group factors	Group	146.944	1	8065.600	1.072	0.030	0.368	
		Error	3839.778	28	137.135				
	Within- group factors	Time	118.867	2	59.433	11.925	0.000	0.229	
		Time*Group	81.356	2	40.678	8.161	0.001	0.226	
		Error		279.111	56	4.984			
Emotion regulation skills	Between-group factors	Group	182.044	1	182.044	5.491	0.026	0.164	
		Error	928.222	28	33.151				
	Within- group factors	Time	26.289	2	13.144	3.545	0.036	0.112	
		Time*Group	13.400	2	6.700	7.807	0.174	0.061	
		Error		207.644	56	3.708			
Between-group factors	Group	324.900	1	324.900	8.207	0.008	0.207		
	Error	1108.489	28	39.589					

Table 4. Pairwise Bonferroni comparison based on the stage related to the variable of school refusal and social competence

Variable	Comparison	Mean differences	Standard error	P value	Confidence interval 0.95	
					lower limit	upper limit
Refusal from school	Pre-test - post-test	9.967	1.437	0.0001	5.195	14.738
	Pre-test - follow-up	9.600	2.643	0.0001	1.221	17.979
	Post-test - follow-up	-0.367	-0.367	1.000	-7.147	6.413
Refusal due to an unpleasant stimulus	Pre-test - post-test	0.933	0.511	0.235	-0.368	2.235
	Pre-test - follow-up	2.767	0.614	0.0001	1.230	4.330
	Post-test - follow-up	1.833	0.599	0.0001	-4.330	-1.203
Refusing to avoid social situations	Pre-test - post-test	2.067	1.062	0.0001	0.637	4.770
	Pre-test - follow-up	2.467	1.090	0.185	-0.130	5.243
	Post-test - follow-up	-0.400	0.111	0.0001	-0.683	0.117
Refusal due to excessive parental attention	Pre-test - post-test	1.600	0.629	0.0001	-0.002	3.202
	Pre-test - follow-up	2.700	0.954	0.0001	0.271	5.129
	Post-test - follow-up	-1.100	0.630	0.275	-2.703	0.503
Refusing to pay attention to external incentives	Pre-test - post-test	1.833	0.712	0.0001	0.021	3.645
	Pre-test - follow-up	3.900	1.329	0.0001	0.517	7.283
	Post-test - follow-up	2.067	1.033	0.0001	4.698	0.564
Total Social competence	Pre-test - post-test	-5.867	1.413	0.0001	-9.466	-2.267
	Pre-test - follow-up	-3.700	1.146	0.0001	-6.618	-0.728
	Post-test - follow-up	2.167	1.073	0.160	-0.567	4.900
social/communication skills	Pre-test - follow-up	2.000	0.515	0.0001	0.961	3.039
	Pre-test - follow-up	3.644	0.581	0.0001	2.472	4.817
	Post-test - follow-up	-1.644	0.452	0.0001	-2.557	-0.732
Emotion regulation skills	Pre-test - follow-up	1.111	0.369	0.0001	0.366	1.857
	Pre-test - follow-up	1.733	0.446	0.0001	0.384	2.633
	Post-test - follow-up	-0.622	0.352	0.085	-1.333	-0.088

Discussion

This study examined the effectiveness of attachment-based mother training on school refusal and social competence of children with separation anxiety disorder. The results of the research showed that attachment-based intervention has a significant effect on school refusal and social competence of children with separation anxiety disorder. This treatment could reduce school refusal and increase social competence in these children. These findings are in line with the findings of research conducted by Damico and Nabarte et al. (36), Astoni et al. (37), Mohammadpour et al. (38), Sadeghi et al. (39), and Bahmanesh et al. (23).

In explaining the effectiveness of attachment-based intervention on school refusal of children with separation anxiety disorder, we can state that mothers

of children with an insecure attachment style are less secure, warm, supportive, and sensitive about their children than mothers of dependent children and help their children less in solving problems. Also, mothers of children with insecure attachment lack responsiveness and are incompetent in their maternal and child-rearing behaviors and involvement with their children; it seems that these characteristics can play a significant role in students' school refusal behavior (40). By teaching this intervention during the sessions, mothers learn different techniques for empowerment, one of which is the mother's availability technique. In this technique, the child gradually gains confidence in the mother's availability, and this, in turn, will reduce his separation anxiety. Teaching the verbal communication technique leads the mother to a healthy relationship with the child, and accordingly, the children get the chance to express their emotions and

needs. It can help children vent their emotions and get relief when experiencing negative emotions through verbal communication with their mother (41).

Regarding the relationship between school refusal and separation anxiety, we can say that mothers' attachment-based intervention training focuses on emotional experiences related to a person's past attachment relationship, corrects their disturbed mental representations about themselves and others, and reduces anxiety (42). In addition, children with attachment problems who undergo attachment therapy gradually learn that adults can be reliable and helpful and provide safety, and, contrary to their imagination, they do not hurt or limit them (1). In this regard, Tekin and Aydin (43) investigated school refusal and anxiety among children and adolescents. They showed that anxiety is a common factor related to school refusal and is directly related to social anxiety, school anxiety, and separation anxiety. In another study, Bitsica *et al.* (44) examined the association of social phobia and separation anxiety with the risk of school refusal among autistic boys bullied at school. The findings showed that social phobia and separation anxiety are related to school avoidance among autistic children. Moreover, their results showed that attachment-based intervention affects the social competence of children with separation anxiety disorder. These results are consistent with the studies conducted by Bahmanesh *et al.* (23), Astoni *et al.* (37), and Mayer Breen *et al.* (45).

In explaining the effectiveness of attachment-based intervention on the social competence of children with separation anxiety disorder, we can state that considering that children with separation anxiety disorder are not able to interact with others appropriately in social situations, they do not trust others and withdraw from others and are very aggressive (46). In the attachment-based intervention training session, mothers learned to take their relationship with their children seriously, increase their emotional connection, and have a deeper physical and positive relationship with them. The mother's sensitivity to positive responses to their child's needs, accessibility, and, accordingly, reducing confusion and conflicts encouraged mothers to mother more carefully and sensitively and, consequently, the quality of care increased, and, as a result, separation

anxiety in children decreased (47). Communicating effectively with the child and the elements of attachment, attachment-based therapy with social competence helps the mother establish effective and appropriate communication with herself and others by seeing the child's inner world and adapting to others and their surroundings. With attachment-based intervention training, mothers learn to focus on more adaptive responses to the child to face certain situations that improve the child's self-control in social relationships and increase the child's social competence by strengthening his positive behaviors that target his social skills (4).

Also, excessive worry, sleep problems, distress in social and academic environments, and various physical symptoms with attachment-based intervention training lead to a reduction of these symptoms and increase these children's social competence (48). In this regard, Mirhosseini *et al.* (17) investigated social competence, emotional ataxia, and anxiety symptoms. In this regard, Mirhosseini *et al.* (17) investigated social competence, emotional ataxia, and anxiety symptoms. The results showed that the reduction of anxiety leads to the improvement of social competence in children. De Register *et al.* (49) also investigated social functioning and separation anxiety in another study. The findings indicate the relationship between social competence and separation anxiety. In addition, children with anxiety symptoms show less social competence.

This study, like any other research, has faced limitations: focusing solely on mothers and the unclear role of fathers, not examining them due to less access to them, and their unwillingness to cooperate to attend therapy sessions were among the limitations. The research population was solely from Sari City; therefore, caution is necessary in generalizing the results to people outside the scope of the research population. Thus, according to the mentioned limitations, it is suggested that researchers repeat the present research in other situations, cultural contexts, and among other strata and compare the results. We also recommend other researchers study two groups of mothers and fathers in further studies. Since training mothers based on attachment-based intervention was operational on school refusal and social competence of children with separation anxiety disorder, we suggest that future researchers use the results of this study in

psychology and counseling clinics, education, and school counseling. We also recommend preparing a manual for training parents of children with separation anxiety disorder to use some techniques to reduce children's separation anxiety.

Conclusion

We can conclude that attachment-based intervention reduces school refusal and improves the social competence of children with separation anxiety disorder; therefore, the training provided to mothers with children suffering from separation anxiety disorder increases their social competence. The solutions offered to mothers also reduced children's refusal to go to school.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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