Comparison of Effectiveness of Mindfulness and Happiness Training in Promoting Parent-Child Interaction Case Study: Mothers of Anxious Preschool Children in Shahrekord 2018

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ABSTRACT

Introduction: Anxiety disorders are common psychiatric disorders in children and adolescents. It seems that the parent-child interaction affects or exacerbates the creation of anxiety disorders in children. The present study aimed to compare the effectiveness of mindfulness and happiness training in promoting parent-child interaction in mothers of anxious preschool children.

Methods: The research method was experimental with a pretest-posttest design and control group. The statistical population included all mothers of preschool anxious children in Shahrekord in 2018. Using the multistage sampling method, 45 people were selected and put randomly in the control and two experimental groups (n=15 per group). The Spence Children's Anxiety Scale (SCAS) and Pianta's Child-Parent Interaction Questionnaire (PACHIQ) were used for data collection. Experimental groups were put under mindfulness (eight 90-minute sessions) and happiness (ten 90-minute sessions) training, but the control group did not receive any intervention. Analysis of the data involved both inferential and descriptive statistics including mean, standard deviation. Data analysis was conducted using one-way analysis of variance (one-way ANOVA) and analysis of covariance (ANCOVA). SPSS version 24 was further used for analyzing the data. The significance level of research was considered to be α=0.05.

Results: The results indicated that both mindfulness (p=0.0001) and happiness (p=0.0001) training increased parent-child interaction in mothers of anxious preschool children. The mean ± SD of the post-test score of parent-child interaction in the control group was 96.73±7.89 which was significantly different from the experimental groups (p=0.0001). Furthermore, there was no significant difference between the effectiveness of mindfulness (117.80±4.47) and happiness training (115.46±4.65) in promoting parent-child interaction in mothers of anxious children (p=0.599).

Conclusion: Mindfulness and happiness training were effective in improving parent-child interaction in mothers of preschoolers with anxiety and could similarly change the parent-child interaction in mothers of anxious children.

Keywords: Happiness, Parent-child interaction, Anxiety disorder, Preschool

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Comparison of Effectiveness of Mindfulness…

Introduction
Anxiety disorders are chronic and people with these disorders will have adaptation problems until adulthood (1). The epidemiological studies indicate that anxiety disorders with a prevalence of 5 to 17 percent, are widely common in psychiatry during childhood and are often experienced by school children. Their prevalence is two times greater in girls than boys and this difference will continue until the six years of age (2). Moreover, these disorders are stable over time and put people at the risk of inadequate functioning in other fields such as low self-esteem, depression and drug addiction, or poor academic performance (3).

Given the impact of anxiety disorders on psychological functions and mental health of children and their parents, it seems that the parent-child interaction affects or exacerbates the creation of anxiety disorders in children. The parent-child interaction means a parenting style that is created in the interaction between mother and child (4). It can be argued that the quality of this interaction emphasizes the impact of communication and attitude towards children and the creation of an emotional atmosphere by mothers (5). At the same time, improving the quality of mother-child interaction is an evidence-based approach to the reduction of disruptive behavior in children and improved behavioral management by parents (6). The main goals of improving the quality of parent-child interaction include the reduction of child behavioral problems, an increase in socially desirable behavior, and the improvement of child-rearing skills such as decisive discipline and reduction of parental stress (7).

Since several factors affect relationships of children and parents and the quality of their interaction; and thus, it is necessary to use techniques and training to improve mother-child interaction in mothers of anxious children. Mindfulness training is an important technique in this regard. Mindfulness helps people process their cognitive, behavioral and physiological activities. This approach is based on three components of avoiding judgment, raising one’s awareness, and focusing on the present (8). In general, the mindful people have safe assessments of accidents and stressful happenings and benefit less from coping avoidance strategies (9). More adaptive responses to stress and coping strategies are completely mediated by mindfulness and well-being (10). Some studies have indicated the effectiveness of this therapy.

Neece et al. (11) found that mindfulness-based stress reduction training improved parental relationships and interactions with their retarded children. Ridderinkhof et al. (12) also found that the mindfulness-based program was effective in improving parental interaction with children with Autism spectrum disorder (ASD). The results of studies by Geurtzen et al. (13) and Tak et al. (14) also indicated a lack of correlation between parental fluid awareness (mindfulness) and the symptoms of depression and anxiety in adolescents. Karimi et al. (15) reported that the quality of mother-child interaction had a direct and significant effect on the mental health and religious identity of students.

Happiness training is another important approach to the improvement of parent-child interaction in mothers of anxious children. Due to the increasing introduction of the effect of happiness on individuals' mental health and well-being and its effect on the consolidation of human psychological forces to deal with stressful problems and complexities of today's world, the researchers have paid attention to this issue. Happy people feel more secure, are more partnership-spirited, make decisions easier than others in their living environment, and have more satisfaction (16).

Due to adverse effects of anxiety in children and its effects on parent-child interaction and its consequences, timely diagnosis and appropriate interventions by therapists can improve its adverse conditions and improve the parent-child interaction in mothers with anxious children. Based on the above cases, the present study sought to evaluate and compare the effectiveness of mindfulness and happiness training in promoting parent-child interaction in mothers of anxious preschool children.
Methods
The research method was experimental with a pretest-posttest design and control group. The statistical population included all mothers of anxious preschool children in Shahrekord (The capital city of Chaharmahal and Bakhtiari Province; Southwest of Iran) in 2018. The research was done by a multistage sampling method. First, Shahrekord was divided into five regions: North, South, East, West and Central and five kindergartens of each region were selected based on kindergarten managers’ cooperation. The sample size was calculated using Cohen's table of 45 people. The statistical power indicated that the sample size was sufficient for the study objectives (17, 18). They were then assigned to two experimental groups and a control group (n=15 per group) by simple random sampling and the questionnaires were provided to them. Exclusion criterion: the existence of concurrent interventions; the existence of family problems; and the absence of more than two treatment sessions. After the selection of eligible mothers, the pre-test was done under the same conditions, and then the first experimental group under the mindfulness training intervention was exposed to 8 weekly sessions individually for 90 minutes. The second experimental group under the happiness training was exposed to 10 weekly sessions in a group for 90 minutes.

Assessment Instrument
Children's Anxiety Scale: The Preschool Children's Anxiety Scale (CAS) (Parental Form) was designed by Spence et al. (19) in a 28-item form. On this scale, parents rate the frequency of child behavior on a 5-point Likert scale. The subscales of this test are generalized anxiety disorder, social phobia, obsessive-compulsive disorder, fear of physical injury, and separation anxiety disorder, which yield the total score of the test. Spence et al. (19) calculated the correlation of subscales of this test to be 0.44. Validation of test was examined by Ghanbari et al. (20) in Iran and the correlation of its subscales was 0.82 in total scale score by the test-retest, and greater than 0.70 in all its subscales. In the present study, Cronbach's alpha was utilized to determine the reliability of the children's anxiety Scale and it was 0.84 for the entire questionnaire.

Child-parent interaction Questionnaire: The 33-item child-parent interaction Questionnaire was designed by Pianta (1994) and measured the parental perceptions of their relationships with children. The questionnaire consists of three components, namely closeness, dependency, and conflict. Scoring the questionnaire is based on a 5-point Likert scale from 1: totally disagree to 5: strongly agree, and the total score of this test is obtained from summing up 33 questions. The total score of the test was used in the present study. The content validity of the questionnaire was desired according to Abedi-Shapourabadi et al. (21) and the total test reliability was 0.86. In a study, Abedi-Shapourabadi et al. (21) reported a Cronbach's alpha of 0.86 for the whole questionnaire. In the present study, the Cronbach's alpha coefficient was 0.87 for the questionnaire.

Intervention program
The first intervention program consisted of eight 90-minute sessions of mindfulness training. This intervention was performed by Baer (22) on the parents of exceptional children and the results showed a good validity. (Table 1 presents the summary of sessions). The second intervention program consisted of ten 90-minute sessions of group happiness training. This intervention was performed by Fordyce's (23) on the couples and the results showed a good validity. (Table 2 presents the summary of sessions).
### Table 1. Mindfulness training sessions (22)

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Session Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>Introduction and basis of treatment</td>
<td>Establishment of a relationship; definition and conceptualization; the need for using mindfulness training; and pre-test</td>
</tr>
<tr>
<td>Second</td>
<td>Automatic guidance and coping with the barriers</td>
<td>Presenting general themes of each session; a brief introduction to the mindfulness approach; parent-child interaction overview; mindfulness to exit automatic guidance; training raisin eating and focusing on it; training thoughts and feelings; sitting meditation; and physical examination</td>
</tr>
<tr>
<td>Third</td>
<td>Mindfulness of breathing</td>
<td>Training mindfulness of breathing and meditation of mindfulness; sitting meditation, mindfulness of breathing and body; mindfulness and meditation training; training to see and hear; walking training with mindfulness; physical checking by the focus on breathing</td>
</tr>
<tr>
<td>Fourth</td>
<td>Stay at present</td>
<td>Breathing and body meditation training; the meditation of thoughts and noise; different ways of seeing thoughts; training to see the connection between activities and mood.</td>
</tr>
<tr>
<td>Fifth</td>
<td>Permission to attend</td>
<td>Permission of experience as they are without their judgment; Meditations</td>
</tr>
<tr>
<td>Sixth</td>
<td>Thoughts are not facts</td>
<td>Creating negative thoughts restricts our connection with experience even though they are not true.</td>
</tr>
<tr>
<td>Seventh</td>
<td>Self-care</td>
<td>Learning to take self-care by practicing and meditation</td>
</tr>
<tr>
<td>Eighth</td>
<td>Use of learning</td>
<td>A balanced life by the help of mindfulness and meditation</td>
</tr>
</tbody>
</table>

### Table 2. Description of Happiness Training Sessions (23)

<table>
<thead>
<tr>
<th>Session</th>
<th>Content of Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>Introducing members of the group to each other; reviewing the structure of sessions, rules, and regulations; training the activity technique, and being a more active member, and performing the pre-test</td>
</tr>
<tr>
<td>Second</td>
<td>Training techniques for increasing intimacy and social relationships in members</td>
</tr>
<tr>
<td>Third</td>
<td>Training techniques for increasing creativity in members</td>
</tr>
<tr>
<td>Fourth</td>
<td>Training techniques for planning and better organization in members</td>
</tr>
<tr>
<td>Fifth</td>
<td>Training techniques for stopping concerns in members</td>
</tr>
<tr>
<td>Sixth</td>
<td>Training techniques for lowering expectations and self-esteem in members</td>
</tr>
<tr>
<td>Seventh</td>
<td>Training techniques for developing positive thinking and optimism in members</td>
</tr>
<tr>
<td>Eighth</td>
<td>Training techniques for living at present</td>
</tr>
<tr>
<td>Ninth</td>
<td>Training techniques for expressing emotions quite easily</td>
</tr>
<tr>
<td>Tenth</td>
<td>Training techniques for valorizing happiness in members</td>
</tr>
</tbody>
</table>

### Statistical analyses

Data were analyzed by descriptive and inferential statistics such as mean and standard deviation scores. Data normality was examined by the Shapiro-Wilks test. Levene’s test was also utilized to examine the equality of variances. The analysis of variance was utilized to test the assumption of homogeneity of line slope. Bonferroni’s post hoc test was used to determine the mean difference between different training sessions. Data analysis was conducted using one-way analysis of variance (one-way ANOVA) and analysis of covariance (ANCOVA). SPSS version 24 was further used for analyzing the data. The significance level of research was considered to be $\alpha=0.05$.

### Results

The mean ± SD age of the participants in the mindfulness training, happiness training, and control groups were 34.36±2.59, 36.08±2.63
and $34.20\pm2.29$, respectively. The demographic characteristics of the participants are shown in Table 3.

The results showed that the distribution of scores was normal in research variables. Levene's test was also utilized to examine the equality of variances (for equality of variances in experimental and control groups) ($F= 3.156$ and $p=0.062$). The results indicated that the assumption of the equality of variances was true and the use of analysis of covariance was permitted. Furthermore, the analysis of variance was utilized to test the assumption of homogeneity of line slope ($F=707.59$ and $p=0.120$). This interaction was not significant, indicating compliance with the assumption of homogeneity of line slope. Therefore, the assumption of homogeneity of regression line slope was true for research variables; and the analysis of covariance test can be used.

### Table 3. Demographic characteristics of the participants.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Age (Mean±SD)</th>
<th>Middle School degree</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mindfulness training</td>
<td>34.36±2.59</td>
<td>5</td>
<td>Diploma</td>
</tr>
<tr>
<td>Happiness training</td>
<td>36.08±2.63</td>
<td>2</td>
<td>Associate degree</td>
</tr>
<tr>
<td>Control</td>
<td>34.20±2.29</td>
<td>0</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Overall Percentage (%)</td>
<td>-</td>
<td>15.55</td>
<td>Master's Degree</td>
</tr>
</tbody>
</table>

### Table 4. Mean and standard deviation of the dependent variable in experimental and control groups in pre-test and post-test

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Test</th>
<th>Mindfulness training M ± SD</th>
<th>Happiness training M ± SD</th>
<th>Control M ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent-child interaction</td>
<td>Pre-test</td>
<td>97.13 ± 5.34</td>
<td>96.46 ± 4.25</td>
<td>95.26 ± 6.89</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>117.80 ± 4.47</td>
<td>115.46 ± 4.65</td>
<td>96.73 ± 7.89</td>
</tr>
</tbody>
</table>

Table 4 presents the mean and standard deviation of research variables in the experimental and control groups in the pre-test and post-test. Mean ± SD of mindfulness, happiness and control groups in the pre-test stage were $97.13 \pm 5.34$, $96.46 \pm 4.25$ and $95.26 \pm 6.89$, respectively. Whereas, mean ± SD of mindfulness, happiness and control groups in the post-test stage were $117.80 \pm 4.47$, $115.46 \pm 4.65$ and $96.73 \pm 7.89$, respectively.

### Table 5. The results of univariate analysis of covariance on the post-test scores of parent-child interactions.

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent-child interaction</td>
<td>2</td>
<td>3383.715</td>
<td>1691.858</td>
<td>188.440</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

Based on Table 5, the F ratio refers to univariate analysis of covariance for the dependent variable. Therefore, at least training had a significant effect on the dependent variable.

### Table 6. The results of the Bonferroni's post hoc test.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Groups</th>
<th>Mean difference</th>
<th>SE</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent-child interaction</td>
<td>Mindfulness training - Control</td>
<td>19.114**</td>
<td>1.196</td>
<td>0.0001</td>
</tr>
<tr>
<td></td>
<td>Happiness training- Control</td>
<td>17.572**</td>
<td>1.194</td>
<td>0.0001</td>
</tr>
<tr>
<td></td>
<td>Mindfulness training - Happiness training</td>
<td>1.542</td>
<td>1.183</td>
<td>0.599</td>
</tr>
</tbody>
</table>

** = $p<0.01$
The difference between means of the mindfulness training and control groups was 19.114 in the parent-child interaction and it was significant (p=0.0001) (Table 6). The findings indicated that mindfulness training was effective in promoting parent-child interaction; hence, the first research hypothesis was confirmed. Furthermore, the difference between means of happiness training and control groups was 17.572 in the parent-child interaction (p=0.0001). The findings also indicated that happiness training was effective in promoting the parent-child interaction. Therefore, the second research hypothesis was confirmed. The difference between means of the mindfulness training and happiness training groups was 1.542 in the parent-child interaction and it was not significant (p=0.599). The findings indicated that there was no significant difference between mindfulness training and happiness training groups in the parent-child interaction.

**Discussion**

Mindfulness training was effective in promoting the parent-child interaction of mothers of anxious preschool children. In other words, mindfulness training improved the parent-child interaction in the experimental group versus the control group. In support of this hypothesis, Neece et al. (11) found that mindfulness-based stress reduction training improved parental relationships and interactions with their retarded children. Ridderinkhof et al. (12) also indicated that a mindfulness-based program was effective in improving parental interaction with children with an autism spectrum disorder. Parent et al. (24) also concluded that when parental awareness was high, it had a direct relationship with the low level of negative emotions in parents and the internal and external problems of children. Corthorn (25) found that fluid awareness training for mothers improved the parent-child relationship and its dimensions (increasing the reasoning skill and decreasing the verbal or physical aggression) between mothers and sons. Furthermore, Wong et al. (26) concluded that parental fluid awareness (mindfulness) training played an important role in exhibiting positive behavior by parents and reducing their punitive and maladaptive behavior. Geurten et al. (13) and Tak et al. (14) also indicated a lack of correlation between parental fluid awareness (mindfulness) with symptoms of depression and anxiety in adolescents. In explaining these findings, it can be argued that the distortion of cognitive perceptions played a major role in the creation of problems and conflicts in the parent-child relationship. The mindfulness training could have a positive appropriate effect on the reduction of problems and conflicts, and thus improve the parent-child relationship. It could lead to non-judgment acceptance of behavior, traits and other characteristics of children by mothers (7). Using this training, mothers gain instant and complete awareness of their interactions and relationships with their children, accepting and rejecting them, developing the quality of listening with full attention to children, and developing awareness of their emotions, and increasing children compassion and acceptance and intimacy in their relationships with children (8).

The results also showed that happiness training was effective in improving parent-child interaction in mothers of preschoolers with anxiety. This result was consistent with studies by Pourrahimi et al. (27) on the effectiveness of Fordyce's happiness training in promoting the coping strategies, quality of life and optimism in female students; and Kamarzin (28) based on the effectiveness of the Fordyce's happiness training pattern in marital satisfaction in mothers of mentally retarded boys. The method can be used to improve the quality of life for families with mentally retarded children. In recent years, happiness has been considered as an important variable of health psychology. In this regard, some studies have found a direct relationship of this construct with the immune system, so that happy and optimistic people tend to think that bad things belong to the same moment and place and have no effect on other aspects of life (29). Happy people react to adverse events and conditions more adaptively and positively than others and have lower levels stress and more creative and stronger immune system than unhappy.
people, and they are expected to have extensive relationships with different people and make others feel better about their relationships. This characteristic can be also extended to interact with anxious children. Happy mothers decrease stress levels in anxious children and establish more intimate and interpersonal relationships with their children. Happiness training positively affects mother-child interactions by increasing meaningfulness, hope, optimism, and social well-being (5).

The research results indicated no significant difference between mindfulness and happiness training groups on parent-child interaction. The results indicated that both mindfulness and happiness training and appropriate and effective training improved the parent-child interaction and could similarly change the parent-child interaction in mothers of anxious children. If mothers can identify their own and children's emotions, they avoid their habitual reactions (6) and deal with children more attentively and consciously, and accept and establish positive interactions with intimacy and compassion due to the mindfulness training instead of rejecting their children (30). On the other hand, happiness is a combination of positive emotions, such as sensory arousal, pleasure, and excitement when negative emotions such as the feeling of depression, disinterest and boredom are minimum. In other words, happiness is a high level of positive emotions along with a low level of negative emotions (31, 32). Fordyce (23) believes that living happily and gaining happiness can affect people's interactions. Happiness is an important determinant of human promotion and development and refers to the use of purposive behavioral techniques that aim to eliminate, reduce or minimize problems or stress in interpersonal relationships. Happy people are more satisfied with personal, social and familial life. It is assumed that happiness is effective in changing the individual perception of the intensity of emotions and events, and their ability to control or tolerate everyday activities and problems (33). Happy people tend to see themselves and others positive and interpret events as positive. In general, happiness refers to the individuals' evaluation of themselves and their lives. Studies indicate that happiness increases the resilience in life and improves interpersonal relations. Happiness also plays an important role in improving physical and mental health and enhancing the sense of security, satisfaction in life and promoting participation. According to psychological theories, happy people consider neutral events as positive events; and positive events as more positive issues (32). Happiness and positive mood have beneficial effects for people including the more attention to oneself and others' behavior; improvement of the quality of communication; improvement of tolerance in events; thinking more creative; better job performance; being an altruist and assisting others; helping others to solve the problem and dealing with ambiguity and stressful conditions (31).

Conclusion

The mindfulness training could have a positive appropriate effect on the reduction of problems and conflicts, and thus improve the parent-child relationship. Happiness training was effective in improving parent-child interaction in mothers of preschoolers with anxiety. Happiness training positively affects mother-child interactions by increasing meaningfulness, hope, optimism, and social well-being. In general, mindfulness training decreases the previous maternal neglect of their children, and thus parents put on the priority and accept their children's feelings, emotions and needs through conscious and purposeful attention and being in the present time. Overall, education without judgmental thinking improves mothers' interaction and provides supportive and positive interactive patterns. In many cases, changes in mothers' behavior are more effective, especially if mothers have a psychological disorder and there are communication problems in the family. Based on the research findings, the following practical suggestions are recommended: Mindfulness and happiness training as a therapeutic intervention to improve parent-child interaction in mothers of anxious children in counseling and preschool...
Comparison of Effectiveness of Mindfulness... centers. Holding workshops to introduce mothers to parent-child interaction problems. In future studies, the effect of programs in fathers' population should be also investigated, because coordination between parents and their joint efforts to improve parent-child interaction will increase the effectiveness of parenting programs.

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Conflict of interest statement
The authors declare no conflict of interest for this study.

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