The effect of “FRIENDS for Life” and “Coping Cat” programs for reduction of anxiety symptoms on male children

Abstract

Background: Anxiety disorder is the most common type of psychiatric disorders in children. The aim of this study was to compare two anxiety-prevention programs including FRIENDS for Life (FFL) and Coping Cat (CC) for anxious male children.

Methods: This quasi-experimental study was performed using pre- and post-tests with two experimental and control groups. The population of this study included primary schoolchildren in District 5 of Tehran in 2019. Totally, 45 students aged 8 years were selected from 5 schools by cluster random sampling and were randomly assigned into 3 groups of 15. The two experimental groups participated in the one-hour therapy sessions of FFL and CC programs on a weekly basis. The Spence Children’s Anxiety Scale (SCAS, 1998) was used to collect research data. Data were analyzed using multiple analysis of covariance (MANCOVA) via SPSS 24.

Results: The results showed that both FFL and CC programs were effective on preschool children’s anxiety (F=16.46; P=0.001). However, this effectiveness was not found in control group. Moreover, by examining the pairwise comparison between the effectiveness of the FFL and CC programs, it was observed that the FFL was more effective than the CC for the anxiety of preschool children. The value of Eta coefficient indicated the effectiveness of FFL in all subscales.

Conclusions: Anxiety-prevention programs including FFL and CC have been effective in reducing children’s anxiety. Hence, the application of these two interventions in schools helps anxious children to gain a deeper understanding of their various emotions and feelings to reduce their anxiety.

Keywords: Anxiety, Child, Coping Cat, FRIENDS for life

Introduction

Anxiety and fear are among the major causes of many psychological worries and problems that persist into adulthood. Although some fears are considered normal during childhood and diminish with age, most of the anxieties are considered by psychologists and counselors that remain unresolved and later generalize to other situations in a person’s daily life\(^1\). Childhood anxiety is an emotion characterized by fear, tension, worry and disturbed thoughts\(^2,3\). Unresolved anxieties of this period in the not-too-distant future are predictors of other psychiatric disorders such as depression, personality disorders, suicidal tendencies and an increased likelihood of drug use in late adolescence and youth\(^4\).
Anxiety and symptoms such as extreme anxiety and physiological arousal result in psychosomatic complaints and excessive avoidance of certain situations. These people frequently have basic problems which are often psychological problems such as mental immaturity, excessive attention and reflection on problems and suffering, hypersensitivity, low self-esteem and poor social competence in their relationships with peers and other social relationships (3). Anxiety disorders in childhood not only lead to confusion and anxiety in the child, but also cause problems for family members and disrupt the daily activities of the family. These stresses start especially in the morning before the child goes to school. The child is usually reluctant to go to class with physical complaints due to fear of attending school (5-7). Statistics shows that one in five children and adolescents are at risk of experiencing anxiety, but the vast majority of them do not see mental health professionals (8). The World Health Organization (WHO) has stated that the total estimated number of people living with anxiety disorders in the world is 264 million (9). The prevalence of anxiety disorder in Iran has shown that about 8 to 12% of children and 5 to 10% of adolescents face one of the diagnostic criteria for anxiety disorder, to the extent that, it disrupts their normal life and daily functioning (10).

There are several pharmacological and non-pharmacological methods used to treat children's psychological disorders. One of these interventions is FRIENDS for Life (FFL) program. The FFL program is a cognitive-behavioral intervention developed by Barrett in 2004-5. This program is based on cognitive behavioral therapy (CBT). The FFL alters anxiety-related thoughts and behaviors through cognitive restructuring. The FFL teaches the child to identify the physiological symptoms of anxiety such as increased heart rate and rapid breathing and to help reduce his/her inner anxiety (11-12). FRIENDS stands for: Feelings, Remember to relax (Have quiet time), Inner helpful thoughts (‘I can do it! I can try my best!’), Explore solutions and coping steps, Now reward yourself!, you’ve done your best!, Don’t forget to practice, Smile! stay calm for life (7,11,13).

This program had been derived from Coping Koala, an Australian adapted version of Coping Cat Kendall (1994) (13-14). The program was later renamed FRIENDS to be used for group therapies. The FFL program is the fourth edition of Barrett's book, which has two manuals for working with children and one for working with teens (13). This program includes 10 sessions held once a week. Each session is designed for approximately 1-1.5 hours. The first 10 sessions are held once a week to help the program achieve its effectiveness goals (15). In this study, the FRIENDS for Children version (8-11 years) was used (16).

Another program used in this study was CC program. This program is a CBT intervention for children with anxiety that focuses on emotions and behavior. The CC program has been compiled and edited by Kendall et al. (17) as well as it combines effective behavioral strategies such as homework, exposure training, practice and reward with an emphasis on cognitive information processing (18). Previous studies have demonstrated that these two programs have had a dramatic effect on reducing anxiety in children. For example, Farrell and Barrett in their study showed that the FRIENDS program significantly decreased the symptoms of depression and anxiety in children and was considered as an effective program to decline stress (15). Moreover, Kavanagh has stated that the FLL reduces anxiety and increases social and school functioning. He suggests that this program as an easily implemented, versatile and cost-effective anxiety-prevention program can help reduce children's anxiety (19-20).

Lizuka et al. used the FFL program to reduce the emotional problems of minority groups at risk and concluded that it could help children's emotional health (21). The FFL program was applied by DeSousa et al. to reduce anxiety and depression in 7-12-year-old males and they found that this program was useful in rural and less-developed areas (22). On the other hand, research evidence suggests that the CC program has also been useful in reducing anxiety. For example, a study by Keehn et al. indicated that this program reduced anxiety in children with autism (23). In addition, the study by Micheal et al. illustrated that the CC program was able to decline generalized anxiety disorder in 6-year-old boys (24). Additionally, Norris et al. found that this program could reduce adolescent boys' anxiety (25). The CC program has also been effective in countries with Eastern cultures. For example, in Pakistan, after adapting this program, Khan et al. performed it on a group of children and concluded that the CC program could be culturally adapted and ultimately could reduce children's anxiety (26).

Due to the fact that the conducted studies have demonstrated that these two anxiety-prevention programs have been effective in other countries and can be implemented as a low-cost and educational method in groups. Besides, because anxiety disorder is one of the most common childhood disorders;
therefore, the aim of this study was to compare the effectiveness of both anxiety-prevention programs among Iranian male children with anxiety.

**Methods**

This quasi-experimental study was carried out using pre- and post-tests with two experimental and control groups. The statistical population of the current study included all 8-year-old boys in primary schools of District 5 of Tehran in 2019. Totally, 45 8-year-old students were selected through cluster random sampling. Next, they were randomly assigned into 3 groups of 15 (two experimental groups and one control group). The sample size was 15 schoolchildren for each group based on the effect size of 0.25, alpha of 0.05 and test power of 0.80.

Inclusion criteria were: 1- Children who scored above average in the anxiety inventory, 2- Children who were 8 years old or in second grade, 3- They were not under psychiatric or physical medication, and 4- Children whose parents were not divorced or single. Exclusion criteria included: 1- Children who were absent from therapy sessions for more than three sessions, and 2- Children who had simultaneous participation in another psychological program.

In the present study, the Spence Children’s Anxiety Scale (SCAS, 1998) was used to measure anxiety. The SCAS consists of 45 items, 38 of which are scored and 6 of them are positive question statements which are not counted. It also has an open-ended question that the child will answer descriptively and is designed for ages 8 to 15. The scoring of this scale is as a spectrum ranged from always (score 3) to never (score 0) [22]. This scale is the subscales of panic disorder/agoraphobia (questions 13-21-28-30-32-34-36-37-39, score 0-27), separation anxiety (questions 5-8-12-15-16-44, 44, score 0-18), Personal injury fears (questions 2-18-23-25-33, score 0-15), social panic (questions 6-7-9-10-29-35, 6, score 0-18), obsessive-compulsive disorder (questions 14-19-27-40-41-42, score 0-18) and general anxiety (questions 1-3-4-20-22-24, scores 0-18) with a maximum possible score of 114.

Higher scores indicate a more serious problem on that scale. The correlation coefficients of the subscales of this scale are between 39% and 81%, and all of them are statistically significant (p<0.01). This represents a good correlation among the subscales and that the basis of these subscales is a single structure [27]. This questionnaire was translated by Mousavi et al., and the validity of the test-retest was reported to be 89%. The convergence validity of the SCAS was significantly correlated with the Revised Children’s Manifest Anxiety Scale (RCMAS) (r=0.71). The internal consistency validity of the scale was 0.92 with Cronbach’s alpha, and the validity of the scale’s retest was 0.60 for 6 months [10].

**Procedure**

Initially, pre-test was taken from all three groups. The two experimental groups then participated in FFL and CC programs to decrease an anxiety group for 10 one-hour sessions per week. Informed written consent was obtained from the mothers of the children and authorities of the schools, and next the programs were implemented. Both programs were held weekly on Tuesdays and Wednesdays in the school hall. Both programs were run by a doctoral student in child counseling. Each program was configured according to the manual. This program had previously been translated into Persian by Khodabakhshi Koolae in a book entitled “Family Therapy and Parent Training” in 2009 [3].

The educational content of the programs is given in tables 1 [3,17,18] and 2 [3,11,13,15]. Then, the questionnaires were completed by the researcher through asking the questions from the child. In order to comply with the ethical standards in the present study, the following items were considered: the written agreement was received from the parents, the necessary explanations about the research was provided for the parents of the children, the parents’ consent was obtained and five training sessions were held for the control group after the end of the study. Finally, after the interventions, the anxiety tests were taken from all three groups.

The data were analyzed using descriptive statistics; mean and standard deviation, and to test the hypotheses, the multiple analysis of covariance (MANCOVA) was applied and the LSD was utilized for pairwise comparison of means via SPSS 24.

**Results**

The mean age of children participating in the study was 8.2 years. Table 3 represents the mean and standard deviation of the subjects’ anxiety scores in the two groups of FFL and control in the pre- and post-test stages.

Table 3 and 4 illustrates the mean and standard deviation of the subjects’ anxiety scores in the CC, FFL and control groups in the pre- and post-test stages.
As shown in table 5, the value of F is significant in all variables of generalized anxiety, social phobia, obsessive-compulsive disorder, physical injuries and separation anxiety. The value of Eta coefficient indicated that the effectiveness of FRIENDS program was 0.532, 0.534, 0.598, 0.990, 0.613 and 0.965 in generalized anxiety, social phobia, obsessive-compulsive disorder, physical injuries and separation anxiety and panic disorder/agoraphobia respectively.

Table 1. Coping Cat Program

<table>
<thead>
<tr>
<th>Sessions</th>
<th>Session Content - Basic Learning Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The first session was to familiarize children with the treatment environment, so the time of the session was spent finding the child's favorite toy, &quot;personal information&quot; game, favorite stories and characters as well as prizes that the child could earn by doing homework.</td>
</tr>
<tr>
<td>2</td>
<td>In this session, different emotions were labeled with the help of pictures and the differences that these feelings created in the posture and state of the body were identified. It was also prepared with the worksheet of the child’s emotion thermometer and fear ladder.</td>
</tr>
<tr>
<td>3</td>
<td>In this session, the therapist used the fire alarm scale to explain the physical reactions, and with the game &quot;Returning the fire truck&quot;, it was described that, sometimes, there was no danger.</td>
</tr>
<tr>
<td>4</td>
<td>In the fourth session as an unstructured session, parents’ concerns about the child's anxiety and their expectations of treatment were identified through the child's self-disclosure.</td>
</tr>
<tr>
<td>5</td>
<td>In this session, it was discussed that the physical symptoms of the child's anxiety were practiced with the help of playing a role or puppet.</td>
</tr>
<tr>
<td>6</td>
<td>This session examined how negative thoughts affected a child's anxiety responses and helped the child identify her/himself through the exercise-related inner self-talk.</td>
</tr>
<tr>
<td>7</td>
<td>This session dealt with the child's self-talk and gradual de-escalation practice with the help of cartoon characters. Moreover, in the form of games, the child was encouraged to change the end of the story by changing the story cards.</td>
</tr>
<tr>
<td>8</td>
<td>In this session, homework included reviewing anxious situations. Did he/she feel scared? Was he/she waiting for something bad to happen? What could he/she do? and what reward did he/she give his/herself?</td>
</tr>
<tr>
<td>9</td>
<td>This session addressed the role of parents in reducing their children's anxiety.</td>
</tr>
<tr>
<td>10</td>
<td>The assignments of the previous sessions were reviewed so that the child could practice in a hierarchy of anxiety-provoking situations such as illustrating high to low anxiety states.</td>
</tr>
</tbody>
</table>

Table 2. FRIENDS for life Program

<table>
<thead>
<tr>
<th>Sessions</th>
<th>Session Content - Basic Learning Objectives</th>
</tr>
</thead>
</table>
| 1        | • Communicate and introduce group members to each other  
|          | • Establish group goals  
|          | • Describe normal anxiety and individual differences in response to anxiety  
| 2        | • Teach emotions and introduce by identifying different emotions in life  
|          | • Introduce the connection between thinking and emotions  
| 3        | • F: Feelings  
|          | • R: Remember to relax. Have quiet time  
| 4        | • I: Inner helpful thoughts (‘I can do it! I can try my best!’)  
| 5        | • Explore solutions and Coping Step Plans.E  
| 6        | • Problem solving skills (six-step problem solving program)  
|          | • Role adaptation patterns  
|          | • Social support schemes or programs  
| 7        | • N: Now reward yourself! You’ve done your best!  
| 8        | • D: Don’t forget to practice.  
|          | • S: Smile! Stay calm for life!  
| 9        | • Generalize FRIENDS skills to other difficult situations  
|          | • Teach others how to apply FRIENDS adaptation skills  
| 10       | • Use new skills to maintain FRIENDS strategies  
|          | • Prepare for possible minor failures  

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The present study was conducted to compare the FFL and CC programs for anxious Iranian male children. According to the findings, the FFL program was more effective than the CC in all variables of generalized anxiety, social phobia, obsessive-compulsive disorder, physical injuries, separation anxiety and panic disorder/agnoraphobia. There are several studies on the effectiveness of both methods in reducing children’s anxiety [19-24].

Barrett et al. have suggested that the FRIENDS program increases resilience and reduces stress, which is treated as well as is easily implemented in schools by counselors [11-13]. This program teaches reducing children’s anxiety and panic disorder/somatic symptomatology, physical injuries, separation anxiety and obsessive-compulsive disorder. There are several studies on the effectiveness of both methods in reducing children’s anxiety [20-24].

Gallegos-Guajardo et al. have stated that the FRIENDS program has been successful in reducing anxiety and panic disorder/somatic symptomatology, physical injuries, separation anxiety and obsessive-compulsive disorder. There are several studies on the effectiveness of both methods in reducing children’s anxiety [20-24].

Discussion:

The present study was conducted to compare the FFL and CC programs for anxious Iranian male children. According to the findings, the FFL program was more effective than the CC in all variables of generalized anxiety, social phobia, obsessive-compulsive disorder, physical injuries, separation anxiety and panic disorder/agnoraphobia. There are several studies on the effectiveness of both methods in reducing children’s anxiety [19-24].

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Table 3. Mean and standard deviation of the scores of the participants in the FFL and control groups in the anxiety score and its subscales in the pre- and post-test stages

<table>
<thead>
<tr>
<th>Variables</th>
<th>Experimental group (FFL)</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-test</td>
<td>Post-test</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Generalized anxiety</td>
<td>1.98</td>
<td>0.19</td>
</tr>
<tr>
<td>Social phobia</td>
<td>2.11</td>
<td>0.14</td>
</tr>
<tr>
<td>Obsessive-compulsive disorder</td>
<td>1.89</td>
<td>0.15</td>
</tr>
<tr>
<td>Physical injuries</td>
<td>1.91</td>
<td>0.17</td>
</tr>
<tr>
<td>Separation anxiety</td>
<td>1.86</td>
<td>0.21</td>
</tr>
<tr>
<td>Panic disorder/agnoraphobia</td>
<td>1.02</td>
<td>0.14</td>
</tr>
</tbody>
</table>

Table 4. Mean and standard deviation of scores of participants in the CC and control groups in the score of anxiety and its subscales in the pre- and post-test stages

<table>
<thead>
<tr>
<th>Variables</th>
<th>Experimental group (CC)</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-test</td>
<td>Post-test</td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Generalized anxiety</td>
<td>1.99</td>
<td>0.14</td>
</tr>
<tr>
<td>Social phobia</td>
<td>2.14</td>
<td>0.12</td>
</tr>
<tr>
<td>Obsessive-compulsive disorder</td>
<td>1.96</td>
<td>0.08</td>
</tr>
<tr>
<td>Physical injuries</td>
<td>2.01</td>
<td>0.15</td>
</tr>
<tr>
<td>Separation anxiety</td>
<td>1.99</td>
<td>0.25</td>
</tr>
<tr>
<td>Panic disorder/agnoraphobia</td>
<td>1.87</td>
<td>0.16</td>
</tr>
</tbody>
</table>

Table 5. Summary of multivariate analysis of covariance

<table>
<thead>
<tr>
<th>Dependent Variable in post-test</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Sig</th>
<th>Eta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generalized anxiety</td>
<td>8.29</td>
<td>2</td>
<td>4.14</td>
<td>6.46</td>
<td>0.001</td>
<td>0.523</td>
</tr>
<tr>
<td>Social phobia</td>
<td>17.70</td>
<td>2</td>
<td>8.85</td>
<td>7.18</td>
<td>0.001</td>
<td>0.534</td>
</tr>
<tr>
<td>Obsessive-compulsive disorder</td>
<td>9.97</td>
<td>2</td>
<td>4.98</td>
<td>6.29</td>
<td>0.001</td>
<td>0.598</td>
</tr>
<tr>
<td>Physical injuries</td>
<td>10.53</td>
<td>2</td>
<td>5.26</td>
<td>8.15</td>
<td>0.001</td>
<td>0.990</td>
</tr>
<tr>
<td>Separation anxiety</td>
<td>10.53</td>
<td>2</td>
<td>5.26</td>
<td>6.79</td>
<td>0.001</td>
<td>0.613</td>
</tr>
<tr>
<td>Panic disorder/agnoraphobia</td>
<td>9.50</td>
<td>2</td>
<td>4.75</td>
<td>8.23</td>
<td>0.001</td>
<td>0.965</td>
</tr>
</tbody>
</table>
children how to identify anxiety situations and replace negative thoughts with positive ones. Group activities are performed in small and large groups through games, role-playing and answering questions. In a study, it has been suggested that the more children are active and creative in a meeting, the more their anxiety decreases.

Additionally, the results demonstrated that the CC was effective in reducing children’s anxiety. The CBT-based CC program tries to target a person’s beliefs and thoughts. The CC program teaches the child to identify (and somehow deal with) the beliefs that cause him/her constant worry or anxiety. Based on the CC program, the child learns the relationship between thoughts, feelings and behaviors as well as learns to improve the other two by focusing and changing the thoughts. The child becomes aware of the physical symptoms of anxiety, and when he/she sees the appearance of anxiety symptoms, he/she tries to reduce the anxiety symptoms based on the learned skills. Similarly, Pearson in a study has displayed that the CC program can help reduce children’s anxiety in the classroom.

In parent training programs, the therapist tries to help parents, and children understand the nature of the disorder by explaining the problems and disorders in detail. However, the results of CBT interventions for children and adolescents are very different. For example, in the current study, the FFL program was much more effective than the CC program.

There are several reasons for this regard. Schwartz et al. expressed that 9 CBT interventions including “Cool Kids, Cool Little Kids plus Social Skills, Coping Cat, Coping Koala, One-Session Treatment, Parent Education Program, Skills for Academic and Social Success, Strongest Families and Timid to Tiger” decreased the anxiety diagnosis. Their meta-analysis study was evaluated the effectiveness of these 9 CBT interventions on children and adolescents, which was compared with that of the fluoxetine. The results exhibited that all CBT interventions used for prevention or treatment were effective for any age group. Although fluoxetine was also effective, it was associated with side effects. Therefore, it was suggested that CBT programs could be widely used at any level including prevention and treatment along with medication.

In the present study, both of these preventative interventions seemed to help children cope with feelings of anxiety, fear, worry and depression. Doing this research had some limitations. First, by the beginning of 2020, schools were recessed due to the spread of the Covid-19 virus, and it was not possible to conduct a follow-up test to evaluate the effect of the interventions. Secondly, the ongoing study was limited to male primary school students only in District 5 of Tehran. Anxiety-prevention interventions are inexpensive, and because of their activity-oriented nature, it is recommended that special workshops should be held for school counselors to apply FFL and CC programs for children.

In conclusion, the results of the current study showed that two anxiety-prevention programs, FFL and CC, helped decline anxiety in children. Due to the fact that this program emphasizes on self-esteem and positive thoughts in children and decreases negative and destructive thoughts, they can be used as anxiety reduction programs in schools for both groups of children and adolescents.

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Conflict of interest: The authors declared no conflict of interest.

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