



Education Quarterly Reviews

Kul, Aykut, and Hamamcı, Zeynep. (2021), The Effect of an Anxiety-Coping Program for Children Based on Cognitive Behavioral Therapy on 4th Graders' Anxiety Levels. In: *Education Quarterly Reviews*, Vol.4, No.2, 287-300.

ISSN 2621-5799

DOI: 10.31014/aior.1993.04.02.280

The online version of this article can be found at:
<https://www.asianinstituteofresearch.org/>

Published by:
The Asian Institute of Research

The *Education Quarterly Reviews* is an Open Access publication. It may be read, copied, and distributed free of charge according to the conditions of the Creative Commons Attribution 4.0 International license.

The Asian Institute of Research *Education Quarterly Reviews* is a peer-reviewed International Journal. The journal covers scholarly articles in the fields of education, linguistics, literature, educational theory, research, and methodologies, curriculum, elementary and secondary education, higher education, foreign language education, teaching and learning, teacher education, education of special groups, and other fields of study related to education. As the journal is Open Access, it ensures high visibility and the increase of citations for all research articles published. The *Education Quarterly Reviews* aims to facilitate scholarly work on recent theoretical and practical aspects of education.



ASIAN INSTITUTE OF RESEARCH
Connecting Scholars Worldwide

The Effect of an Anxiety-Coping Program for Children Based on Cognitive Behavioral Therapy on 4th Graders' Anxiety Levels*

Aykut Kul¹, Zeynep Hamamcı¹

¹ Faculty of Education, Gaziantep University, Gaziantep, Turkey

Correspondence: Aykut Kul, Faculty of Education, Gaziantep University, Gaziantep, 27310, Turkey.
E-mail: aykutkul@gantep.edu.tr

Abstract

The purpose of this study was to investigate the effects of an anxiety-coping program for children based on cognitive behavioral therapy on children's anxiety levels. The study was conducted with 12 students in the fourth grade of primary school. Screen for Child Anxiety Related Disorders (SCARED) was during the study for data collection. Students in the experimental group participated in a Cognitive Behavioral Therapy based anxiety coping program consisting of eight sessions. No study was conducted with the students in the control group. A mixed design of 2x3 was used in the study. Follow-up measurement was performed six months after the study was completed. In the analysis of the data, Mann Whitney U test and Friedman test were used. As a result of the analysis, a significant decrease was observed in the general anxiety, general anxiety disorder, separation anxiety and social anxiety levels of the participants in the experiment group after the intervention which continued during the follow-up period. Furthermore there was no statistically significant decrease in panic disorder/somatic symptoms and school phobia levels of the participants in the experimental group. The findings indicated that the anxiety-coping program for children based on cognitive behavioral therapy is effective in terms of decreasing the anxiety levels of children.

Keywords: Anxiety, Children, Cognitive Behavioral Therapy, Group Counseling

1. Introduction

Even though anxiety and fears are a normal part of growth in children's development, children's lives are negatively affected as the anxiety intensity increases. According to Essau (2007), in order for an anxiety to be a

* This research was produced by the first author under the supervision of the second author within the scope of a master's thesis, and some of them were presented as oral presentation in the 5th International Participated CBT and 1st National Child and Adolescent CBT Congress held in Istanbul on 7-10 November 2019. No funding or donations were received from any institution for the research. We have no known conflict of interest to disclose.

treatment-requiring disorder, a) its duration and severity should not correspond to the actual danger of the situation, b) it should develop in “harmless” situations without danger, c) it should be chronic (long term) and finally, d) it must cause impairment in psychological, academic and social functionality.

Researchers indicate the age of onset of childhood anxiety disorders as 11 (Davis et al. 2011) with lifetime prevalence varying between 2.5-20% (Costello et al. 2005; Newman et al. 1996; Rapee et al. 2009). Changes can be observed in five different areas in children with high levels of anxiety. These are: physical (excessive sweating, palpitations, difficulty in breathing, abdominal pain, etc.), emotional (panic, anxiety, sadness, fear, etc.), behavioral (avoidance, finger sucking, nail eating, insomnia, etc.), cognitive (failure expectations, catastrophic thoughts, etc.) and interpersonal relationships (not being able to read aloud, fear of negative evaluation, not being able to join a group or social environment, etc.) (Friedberg and McClure, 2002; Kashani and Orvaschel, 1990; Beidel and Turner, 1998). Anxiety has adverse impacts on the child in the aforementioned areas; while on the other hand, it can also have a devastating effect on the child's family. Keller et al. (1992) stated that anxiety tends to be chronic with spontaneous reduction seldomly observed in very few cases.

Cognitive Behavioral Therapy is one of the most commonly used approaches in the treatment of childhood anxiety disorders. It was observed when previous studies on the problems faced by children and adolescents were examined that cognitive behavioral interventions make up one of the most effective methods of psychological treatment (Weisz et al. 2017). Weisz et al. (2017) conducted a meta-analysis study on the psychological interventions performed for children and adolescents during the last 50 years and concluded that cognitive behavioral therapy has a highly effective treatment approach on many problems such as attention deficit and hyperactivity disorder, depression, conduct disorder and anxiety disorder. Treatments with the highest effect size among these problems were reported to be interventions for anxiety disorder. In another systematic review study conducted by Neil and Christensen (2009) examined school-based prevention and early intervention programs aimed at reducing anxiety in children and adolescents indicating that 78% of these programs were based on cognitive behavioral therapy and that 71% of these studies were successful in reducing anxiety symptoms.

Dysfunctional cognitions play an important role in the occurrence of childhood anxiety in accordance with the cognitive behavioral therapy (Beck, Emery and Greenberg, 1985; Vasey and MacLeod, 2001). In particular, self expressions, cognitive errors and cognitive schemas affect anxiety disorders in children and adolescents (Alfano, Beidel and Turner, 2002). Kendall and Ronan (1990) suggested that danger and threat-related schemas are much more active in children with high anxiety level. In addition, it is stated that these children have insufficient skills to cope with anxiety or cannot use their existing skills adequately; while on the other hand they have biased or distorted cognitive processes (Pilecki and McKay, 2011).

It can be observed when the related literature is examined that many controlled efficacy studies have been carried out for childhood anxiety disorders based on cognitive behavioral therapy (Barrett, 1998; Silverman et al., 1999; Mendlovitz et al., 1999; Flannery-Schroeder and Kendall, 2000; Short, Barrett and Fox, 2001; Muris, Meesters and van Melick, 2002; Manassis et al., 2002; Lumpkin et al., 2002; Mifsud and Rapee, 2005; Liber vd. 2008; Hudson et al., 2009; Lau, Chan, Li and Au, 2010; Bilek and Ehrenreich-May, 2012; Ishikawa et al., 2012; Wergeland et al., 2014) and according to the results of these studies, Cognitive Behavioral therapy has an effect on reducing childhood anxiety disorders.

Kendall (1994) conducted the first controlled efficacy study by developing “Coping Cat,” the first therapy handbook based on cognitive behavioral therapy for the treatment of childhood anxiety disorders, followed by other therapy guidelines (Kendall, 1994; Barrett, Dadds and Rapee, 1996; Beidel, Turner and Morris, 2000; Barrett, Lowry-Webster and Turner, 2000; Ehrenreich-May and Bilek, 2009).

It is observed in Turkish literature that cognitive behavioral anxiety coping programs are not common for children who are not in the clinical group and school settings. An anxiety coping program in an individual format was developed in a previous study (Sorias, Bildik and Tekinsav-Sütçü, 2013). Furthermore it is seen that there is only one study with an anxiety coping program in group format (Cool Kids) which has been translated

into Turkish and applied. The results of the study point out that CBT Cool Kids program is effective in reducing the anxiety symptoms of children (Kapçı et al., 2012).

Hence, it is very important to develop and test the effectiveness of cognitive behavioral group programs specific to the Turkish culture. The aim of the study was to develop and test the effectiveness of an anxiety coping program based on Cognitive Behavioral Therapy for childhood anxiety.

2. Method

Research Design

This was a quasi-experimental study conducted for examining the effects on the anxiety levels of children of an anxiety-coping program for children based on cognitive behavioral therapy. A mixed design of 2x3 (experimental and control*pre-test, post-test and 6-month follow-up) was used in the study (Neuman, 2014). The design of the study is shown in Table 1.

Table 1: Research Design

Groups	Pre-test	Procedure	Post-test	Follow-up
Experimental	SCARED	Anxiety-Coping Program for Children Based On Cognitive Behavioral Therapy	SCARED	SCARED
Control	SCARED	-	SCARED	SCARED

Note. SCARED: The Screen For Child Anxiety Related Emotional Disorders

According to this design, the research has one independent and one dependent variable. The independent variable of the study was the anxiety-coping program for children based on cognitive-behavioral therapy. The dependent variable was the anxiety levels of children. SCARED was applied as a pre-test to experimental and control groups before the implementation of the anxiety coping programme. The anxiety-coping program for children based on cognitive-behavioral therapy, consisting of a total of eight sessions, was applied during the study to the participants in the experimental group for a period of 4 weeks with two sessions per week. No studies have been conducted with the participants in the control group. SCARED was applied as a post-test to both the experimental and control groups one week after implementation and as a follow-up 6 months after implementation. In addition, written feedback was received from the parents on the effects of the program on their children's anxiety after the program was completed.

Participants

The participants of the study were selected from students continuing their fourth grade education at a primary school in Gaziantep. Participants were selected from the students attending the fourth grade of the primary school and meeting the conditions stated below:

- To have a SCARED score above the standard deviation of the mean group score
- Not having undergone any psychological treatment in the past or not being involved in any psychological treatment currently.
- Not currently using any psychiatric drugs.
- Volunteering to participate in the study.
- To have the written permission of the student's parents to participate in the study.

Informed consent form was obtained from all participants' parents.

Forming the Experiment and Control Groups

Screen for Child Anxiety Related Emotional Disorders (SCARED) was applied on 120 fourth grade students at a primary school in Gaziantep in order to form the experiment and control groups of the study. These 120 students were then asked to draw pictures of the subjects they feared and worried about. 20 students who scored on a standard deviation (SD= 11.80173) and two standard deviations (SD = 23.60346) on the mean obtained by the group applied by the measurement tool (SCARED) were determined. The pictures previously drawn by the students with high anxiety scores were examined to receive expert opinion based on the following criteria: a) whether there is a concrete anxiety object in the picture, b) the intensity of the anxiety drawn in the picture, c) the size of shapes and the colors used, and d) the content of the picture. A total of 4 boys and 6 girls were assigned to the experiment group, while 7 girls and 3 boys were assigned to the control group.

Afterwards, the parents of the students in the experiment group were informed by the school psychological counselor and their written permission was obtained. Parents of two students from both the experiment and control groups did not allow their children to participate in the study. Thus, in the last case, post-test measurements were completed with 8 students in the experiment group and with 8 students in the control group. As the students graduated from the fourth grade, they changed their schools and could not be reached, thus leading to a loss of subjects during follow-up measurements; and the study was completed with six students in each of the experiment and control groups making up a total of 12 students.

Measures

The Screen for Child Anxiety Related Emotional Disorders

The Screen for Child Anxiety Related Emotional Disorders(SCARED) was developed by Birmaher et al. (1997) to determine childhood anxiety disorders. The scale is comprised of a total of 41 items (Birmaher et al., 1997).

The items in the scale were prepared by considering the criteria of childhood anxiety disorders in DSM-IV. SCARED consists of 41 items and 5 sub-dimensions. These sub-dimensions are: 1- Somatic symptoms / panic disorder (13 items), 2- Generalized anxiety disorder (9 items), 3- Separation anxiety disorder (8 items), 4- Social phobia (7 items) and 5- School phobia (4 items). The first four of these five factors address the symptoms of childhood anxiety disorders in DSM-IV. School phobia, which is the last sub-dimension, is not a category in DSM-IV, but it is included as a sub-dimension because it is frequently observed either together with other anxiety disorders or separately (Birmaher et al., 1997).

Each scale item was given a score ranging between 0-2 points. If the “not correct or rarely correct” option is marked for an item in the scale, it is rated as 0 point, if the “slightly or sometimes correct” option is marked, it is rated as 1 point, and if the “true or often true” option is marked, it is rated as 2 points. A separate score can be obtained for each subscale, as well as a total score. The highest score that can be obtained from the scale is 82 and the lowest score is 0. High scores from the scale indicate a high general anxiety level for the child (Birmaher et al., 1997).

Parental Feedback Form

In order to collect data in the qualitative dimension of the research, the parents were asked three open-ended questions developed by the researcher. These questions are given below:

- 1- Have you observed any changes in your child's fears? Can you explain the changes you have observed by example?
- 2- Have you observed any change in your child's coping behavior? Can you explain the behavioral changes you have observed by example?
- 3- What are the other effects of the program that you observed on your child?

Procedure

The “Anxiety-Coping Program for Children Based On Cognitive-Behavioral Therapy” developed by the researcher and consisting of 8 sessions was applied to the experiment group during the present study in two sessions per week. The program is introduced below.

The Development of the Anxiety-Coping Program for Children Based On Cognitive-Behavioral Therapy

While preparing The Anxiety-Coping Program For Children Based On Cognitive-Behavioral Therapy within the scope of this study, some therapy books and workbooks were used such as “Fear Hunter” (Sorias, Bildik, Tekinsav-Sütücü and Aydın, 2013), “Starving the anxiety gremlin for children aged 5-9: A cognitive behavioral therapy workbook on anxiety management” (Collins-Donnelly, 2013), “A Clinician's Guide to Think Good-Feel Good: Using CBT with Children and Young People” (Stallard, 2017), “CBT strategies for anxious and depressed children and adolescents: A clinician’s toolkit” (Bunge, Mandil, Consoli and Gomar, 2017) and “101 Healing Stories for Kids and Teens: Using Metaphors in Therapy” (Burns, 2016). The content of the program is based on cognitive behavioral therapy techniques such as relaxation techniques, psycho-education, cognitive restructuring, self-rewarding, role play, problem solving.

Since the group to be studied was comprised of primary school students, the number of sessions of the study was limited and care was taken not to exceed 60 minutes for each session. Moreover, since the study group consisted of children, attention was given to make the sessions as enjoyable as possible by making use of activities such as warm-up games, cartoons, painting activities, drawing pictures, and reading stories. Fun games were played with the children at the beginning and end of each session.

The program was primarily examined by three specialists who have been trained in Cognitive Behavioral Therapy with previous studies performed, with at least PhD education, who are working as lecturers in Psychological Counseling and Guidance. Necessary arrangements were made on the program taking into consideration the feedback received from the experts.

Implementation of the Program

The required permissions to make video recording of the group sessions were obtained from the families before the group program was implemented. Information was provided to the parents and their feedback was taken on the purpose and content of the program. While the sessions were conducted by a school psychological counselor experienced in working with children, the researcher was also involved in the process as a co-therapist. The school counselor and the researcher were getting CBT training. Each session was monitored, evaluated and feedback was given by the supervisor who is also a CBT therapist. Preparations were made in line with the feedback received.

Program Content

The program developed by the researcher was prepared based on Cognitive Behavioral Therapy. The overall aim of this program was to reduce the anxiety levels of children between the ages of 9 and 12. The overall sessions and objectives of the program are presented below.

The Objectives of the Sessions

Session 1:

- To have knowledge about the group process and the aims of the group.
- Creating rules to be followed in the group.
- Realizing that there are different emotions.

Session 2:

- To learn what anxiety is.
- To realize what are the physical symptoms of anxiety.

Session 3:

- Realize that each individual's anxiety is unique.
- To learn what kind of behaviors can be done when worried.
- Learning to relax physically and mentally when worried.

Session 4:

- To distinguish positive and negative thoughts about anxiety.
- To be able to realize the negative thoughts that cause anxiety in mind.

Session 5:

- To learn behavioral coping skills with anxiety

Session 6:

- To learn how to Struggle with anxiety-causing thoughts.

Session 7:

- To be able to develop alternative thoughts against thoughts that cause anxiety.

Session 8:

- To be able to evaluate the group process.

Data Analysis

In order to determine the statistical methods to be used in the analysis of the data obtained in the study, it was investigated whether the pre-test scores of the students in the experimental and control groups met the basic assumptions of the parametric tests.

Normal distribution of data is one of the basic assumptions of parametric tests. The Shapiro-Wilks values and skewness and kurtosis coefficients of the subgroup of the experimental and control groups from the SCARED pre-test measurements were examined in order to test whether this assumption was met or not. The values obtained are given in Table 2.

Table 2: Normality tests of pre-test scores of experiment and control groups

Scale	Group	\bar{X}	SD	Shapiro Wilks	Skewness	Kurtosis
SCARED	Experimental	49,81	7,53	,074	,595	-1,309
	Control	46,91	4,46	,035	1,127	,048

Note. SCARED: The Screen For Child Anxiety Related Emotional Disorders

It can be observed when Table 2 is examined that the Shapiro-Wilks value of the experimental group's pretest score is greater than .05, but when the skewness and kurtosis coefficients are examined, it is observed that the kurtosis coefficient is not in the range of -1 to +1; the experimental group appears to be more flattened than normal. It is observed when the value of Shapiro-Wilks related to the pre-tests of the control group is examined that it is smaller than .05 indicating that it does not dissipate normally. Again, the skewness coefficient is not in the range of -1 to +1 and the control group is more skewed than normal (Hair, Black, Babin, Anderson & Tatham, 2013).

Nonparametric tests are recommended when the number of subjects in each study group is less than 15 especially for social sciences related experimental and quasi-experimental studies (Field, 2013).

Hence, Mann-Whitney U test, which is the non-parametric equivalent of the t-test for Independent Samples, was used to examine whether there is a significant difference between the groups according to the mean scores received by the experimental and control groups from the pretest, posttest and follow-up measurements.

Friedman test, which is the non-parametric equivalent of the one-way ANOVA with repeated measurements was used to examine whether there is a significant difference between the mean scores of the experimental and control groups before and after the procedure, that is within the group (pre-test, post-test, follow-up measures). The Wilcoxon Signed Rank Test was used to reveal the difference between the measurements.

3. Results

The mean and standard deviation values of the scores of SCARED obtained by the participants in the experimental and control groups from the pretest, posttest and follow-up measurement were calculated. The findings are given in Table 3. Table 3 presents the mean values and standard deviations of the scores of the experiment and control groups obtained from SCARED during each stage of the study.

Table 3: Means and Standard deviations of experimental and control groups on the SCARED

Scale	Pre-test			Post-test			Follow-up		
	n	\bar{X}	SD	n	\bar{X}	SD	n	\bar{X}	SD
SCARED									
Experimental	8	49,81	7,53	8	32,95	12,38	6	23,33	14,12
Control	8	46,91	4,46	8	40,46	7,58	6	38,17	9,81
Panic/Somatic									
Experimental	8	15,68	4,39	8	9,57	6,12	6	5,33	5,61
Control	8	14,24	4,03	8	11,71	4,13	6	11,33	7,17
GAD									
Experimental	8	11,19	3,5	8	7,13	4,49	6	4,83	3,66
Control	8	8,29	2,53	8	7,88	4,12	6	7,83	3,06
Separation Anxiety									
Experimental	8	10,38	2,72	8	7	3,12	6	6,17	5,64
Control	8	11,5	2,93	8	10,25	1,91	6	8,67	4,41
Social Phobia									
Experimental	8	11,19	2,78	8	7,75	1,49	6	7,83	3,06
Control	8	10,87	2,30	8	9	1,31	6	9,67	1,63
School Phobia									
Experimental	8	1,38	1,06	8	1,5	1,41	6	0,17	0,41
Control	8	2	1,1	8	1,63	0,52	6	1,5	1,38

Note. SCARED: The Screen For Child Anxiety Related Emotional Disorders

Mann-Whitney U test was used to test the significance of the difference between the averages of the scores obtained by the experimental and control groups from the pretest, posttest and follow-up measurements. A statistically significant difference was not observed between the pre-test mean scores of the experimental and control groups of SCARED [$U_{(16)} = 27.5$, $p > 0.05$], the post-test mean scores [$U_{(16)} = 21$, $p > 0.05$] and follow-up measurement mean scores [$U_{(12)} = 6$, $p > 0.05$] based on the Mann-Whitney U test results.

Friedman test was used to investigate whether there is a significant difference between the mean SCARED scores of the experiment and control groups obtained from the pre-test, post-test and follow-up measurements. Wilcoxon Signed Ranks test was used to determine reason for the difference in case of a difference between the measurements.

According to the Friedman test results there is a statistically significant difference between mean scores of pre-test, post-test and follow-up measurement in the experiment group ($\chi^2 = 8,33$, $p < 0,05$). A statistically significant

difference was observed between the pre-test and post-test ($z = -2,100$, $p < 0.05$), pre-test and follow-up measurement ($z = -2.201$, $p < 0.05$) mean scores based on the Wilcoxon Signed Ranks test results, while there was no significant difference between the post-test and follow-up measurement mean scores ($z = -1,261$, $p > 0.05$). In accordance with these results, it can be seen that the post-test and follow-up measurement mean scores are significantly lower than the pre-test mean scores.

A similar pattern was observed with the Friedman test results of the control group. A statistically significant difference was observed between the mean scores of pre-test, post-test and follow-up measurement in the control group ($\chi^2 = 8,44$, $p < 0,05$). In accordance with the results of Wilcoxon Signed Ranks, a significant difference was determined between the pre-test and post-test ($z = -2,240$, $p < 0.05$), pre-test and follow-up measurement ($z = -2.023$, $p < 0.05$) mean scores while there was no significant difference between the post-test and follow-up measurement mean scores ($z = -0,105$, $p > 0.05$). Accordingly, it can be seen that the post-test and follow-up measurement mean scores are significantly lower compared with the pre-test mean scores.

Furthermore, Mann-Whitney U test was conducted on the pre-test, post-test and follow-up measurements of the scores obtained by the experiment and control groups from all sub-dimensions of SCARED. According to the results of Mann-Whitney U test, there was no significant difference between the mean scores obtained by the experimental and control groups from all sub-dimensions (Panic/Somatic, Generalized Anxiety Disorder, Social Phobia, School Phobia), except for Separation Anxiety, from pre-test, post-test and follow-up measurements. There was only a significant difference between the posttest mean scores of the separation anxiety [$U_{(16)} = 12$, $p < 0.05$] in favor of experimental group.

Friedman test was performed to determine whether there is a difference between the mean scores of the experimental group from all sub-dimensions from the pretest, posttest and follow-up measurements. It was observed based on the results that there is a significant difference between the mean scores obtained from the sub-dimensions of pretest, posttest and follow-up measurement of Generalized Anxiety Disorder ($\chi^2 = 7600$, $p < 0.05$), Separation Anxiety ($\chi^2 = 8.435$, $p < 0.05$) and Social Phobia ($\chi^2 = 10.182$, $p < 0.05$). It is stated that this observed difference is due to the difference between the pre-test-post-test and pre-test-follow-up measurement mean scores. There was no statistically significant difference between the mean scores of the experiment group from the sub-dimensions of Panic Disorder-Somatic Symptoms ($\chi^2 = 4.957$, $p > 0.05$) and School Phobia ($\chi^2 = 4,500$, $p > 0.05$).

Friedman test was repeated to determine whether there is a difference between the mean scores of the control group from all sub-dimensions from the pretest, posttest and follow-up measurements. According to the results there was no statistically significant difference among the mean scores of the control group from the sub-dimensions of Panic Disorder-Somatic Symptoms ($\chi^2 = 4,261$, $p > 0,05$), Generalized Anxiety Disorder ($\chi^2 = 1,091$, $p > 0,05$), Separation Anxiety ($\chi^2 = 4,957$, $p > 0,05$), Social Phobia ($\chi^2 = 2,211$, $p > 0,05$) ve School Phobia ($\chi^2 = 1,059$, $p > 0,05$).

Moreover the feedback form was sent to the parents of the students in the experimental group and they were asked to provide feedback on their children's situation after joining the program. Seven of the parents filled the feedback form and no feedback was received from one parent. Parents were coded as P1, P2 in the content analysis.

Majority of the parents responded to question 1 (Have you observed any changes in your child's fears? Can you explain the changes you observed with the example?) by stating that they have observed a decrease in their child's fears at the end of the program. This decrease also supports the quantitative findings. For example, a parent (P1) stated that the fears of his child decreased and also adding that the child clearly overcame the fear of being alone. Table 4 presents detailed information on the codes related with the changes in the fears of children. According to Table 4, five codes emerged in the category of "reduction in fears" under the theme of "change" within the scope of question 1.

Table 4: Qualitative content analysis results of the answers given to the first question

Change (Theme)
Decrease in fears (Category)
Decrease in fear of being alone (P1, P5)
Decrease in fear of height (P4)
Decrease in fear of getting on the elevator (P2)
Decrease in fear of specific animals (P6, P7)
Decrease in fear of darkness (P7)

It was observed when the responses to the 2nd question (Did you observe any changes in your child's behaviors to cope with his fears? Can you explain the behavioral changes you observed?) were examined that one parent (P1) stated his child didn't prefer to talk about his fears at the end of the process but on the other hand had a lot of fun while talking about the program and said that he was happy in this process. Another parent (P7) stated that her child can sleep in the dark without using a night light while sleeping at night. Detailed information about the codes that emerge about the change in children's coping behaviors is presented in Table 5. According to Table 5, four codes have emerged in the category of "behavior change" under the theme of "coping with fear" within the scope of question 2.

Table 5: Qualitative content analysis results of the answers given to the second question

Coping with fear (Theme)
Behavior changes (Category)
Doing breathing exercises for the fear of height (P4)
Accepting sleep alone (P5)
Trying to reduce insect fear by observing insects (P6, P7)
Getting used to sleeping in the dark without using a night light (P7)

Based on the responses to the 3rd question (What are the other effects of the program you observed on your child?), it was observed that a parent (P5) stated that after the implementation of the program her child's self-confidence was fulfilled and he felt a little older. Another parent (P4) stated that her child was able to calm himself by transferring the skills acquired during the program to other areas of life. Another parent (P1) stated that his child was able to express himself more comfortably after the application of the program and that he defended his rights by stating what he does not like or what he wants as an individual without hesitation. The codes that emerged regarding the other effects of the program on children are presented in Table 6. According to Table 6, no theme was found within the scope of question 1; Six codes emerged in the category of "other effects of the program."

Table 6: Qualitative content analysis results of the answers given to the third question

The other effects of the program (Category)
Transferring learned skills to other areas of life (P4)
To gain the ability to calm yourself in anxious situations (P4, P6)
Self-confidence development (P5)
Learning to collaborate with peers (P5)
Development of positive emotions (P1, P6)
Improved self-expression ability (P1)

Qualitative content analysis was applied on the data obtained from these parental feedback forms. The most common fears in the pictures drawn by the children prior to the application were fear of animals such as spiders, snakes, fear of darkness, fear of being alone and fear of heights.

4. Discussion

The present study examined the effectiveness of a group program based on cognitive behavioral therapy aimed at reducing anxiety symptoms in fourth grade students of primary school with high level of anxiety symptoms. The general anxiety levels of the students participating in the Anxiety- Coping Program for Children Based on Cognitive Behavioral Therapy were observed to decrease which also continued during the six-month follow-up period.

Moreover, it was observed that the decrease in the anxiety levels of the students in the experimental group participating in the program decreased significantly compared with that of the students in the control group who did not participate in such a program. A statistically significant difference was observed between the groups in terms of general anxiety level and all sub-dimensions. There was a statistically significant decrease in the general anxiety levels of the students in the control group. It is thought that there may be several reasons for this decrease in the scores of the control group. The first reason may be that the date of the pre-test measurement in the research coincided with one week before the students' exam week. It is thought that the general anxiety levels of students may have increased due to the upcoming exams. As post-test measurements taken after the application coincide with the school report week, it is predicted that the students may distance themselves from the school and exam stress leading to reduced anxiety. On the other hand, no intervention was made to the control group. During the follow-up period, these children may have experienced life events that may lower their anxiety levels such as seeking help from a mental health professional about their anxiety outside the control of the researcher. It is thought that such situations may lead to a decrease in anxiety levels of the students in the control group.

Even though there was no significant difference between the total anxiety scores and subscale scores of both groups in SCARED, it was observed when the means of the scores of the two groups were examined that the scores of the students in the experimental group decreased more than those of the students in the control group. This decrease in anxiety levels observed in the experimental group compared with the control group may have resulted from the intervention. In addition, it was concluded when the scores of the experimental group on the general anxiety level, Generalized Anxiety Disorder, Separation Anxiety and Social Anxiety levels were examined that there are significant differences between pre-test, post-test and follow-up measurements. It was observed when an analysis was performed for determining the measurements with this significant difference that there is a difference between the general anxiety, separation anxiety and social anxiety levels between the pre-test and post-test; pre-test and follow-up measurements; while it was concluded for Generalized Anxiety Disorder that there is a difference between only the pre-test and follow-up measurements. In this case, it can be figured out that the post-test and follow-up measurement scores of the experimental group are significantly lower than the pre-test scores. Accordingly, it can be stated that the Anxiety- Coping Program for Children Based on Cognitive Behavioral Therapy developed within the scope of the present study is effective in reducing the general anxiety levels, generalized anxiety disorder, separation anxiety and social anxiety levels of children. These findings are consistent with studies demonstrating that group CBT is effective in reducing childhood anxiety symptoms (Dadds, et al., 1997; Silverman et al., 1999; Flannery-Schroeder and Kendall, 2000; Short, Barrett and Fox, 2001; Muris, Meesters and van Melick, 2002; Barrington, Prior, Richardson and Allen, 2005; Chiu et al., 2013; Gallagher et al., 2004; Manassis et al., 2002; Mifsud and Rapee, 2005; Nauta vd. 2003; Hudson et al., 2009; Lau, Chan, Li and Au, 2010; Bilek and Ehrenreich-May, 2012; Kapçı et al., 2012; Wergeland et al., 2014; Gedik, Gökkaya and Tekinsav Sütçü, 2018).

No significant difference was found between the pretest, posttest and follow-up measurements in the Panic Disorder / Somatic Symptoms and School Phobia sub-dimensions of the experimental group. There may be several possible causes for this. This may be due to the content of the anxiety of the children involved in the study, usually separation anxiety such as loss of mother or anxiety about specific phobias such as spider, snake, and monster. While the researcher was preparing the program to deal with anxiety, she adapted the activities in the sessions according to the types of anxiety the group experienced more intensively, and these concerns were studied more frequently throughout the process.

On the other hand, the scores of the students participating in the study from the school phobia sub-dimension are lower than the other sub-dimensions. The reason for this may be that these students are in fourth grade and school phobia is generally observed more frequently during the beginning of primary school, middle school or high school (Ollendick and Mayer, 1984). In addition, the developed program does not include a module directly for school phobia. These situations can be seen as possible reasons for the program not to have an impact on school phobia.

The applied program does not include parental sessions. Since there is no parental involvement, it is thought that the children are not getting enough support from their parents while using the skills and coping methods they have learned through practice in daily life. This may have caused the implementation to be effective only partially. As a matter of fact, Ginsburg (1995), Mendlowitz et al. (1999) and Silverman et al. (1999) stated that parental involvement in the treatment of childhood anxiety disorders is important in terms of encouraging the generalization of coping methods learned to children during the therapy to the outside world. In this regard, it can be said that the children participating in the program have deficiencies in generalizing their coping methods acquired during the process to their experiences in the outside world, and thus the program has failed to provide changes in some anxiety inflicting situations.

For these reasons, the program applied may not have an impact on children's panic disorder/somatic symptoms and school phobias. There was a difference in the Generalized Anxiety Disorder, Separation Anxiety and Social Anxiety levels of the experimental group in terms of pre-test, post-test and follow-up measurements and this difference was not observed in the control group. According to this result, it can be said that the applied CBT program has an impact on the general anxiety, generalized anxiety disorder, separation anxiety and social anxiety levels of the children. Feedbacks received from the parents in the study also support the findings. Particularly, the parents stated that there was a decrease in the fear of animals, fear of darkness, and loneliness in their children.

Furthermore, according to the feedback received from the parents, a student stated that she calmed herself by using the relaxation and breathing exercises taught in the sessions when she rode on a high machine in the amusement park. Another parent stated that his child stopped using the night light by going over the fear of darkness and that he was able to cope with this fear. In line with these feedbacks received from the parents, it can be said that the Anxiety-Coping Program is effective in ensuring that children acquire coping behaviors with anxiety. This result is in accordance with the results of other effectiveness studies in related literature (Flannery-Schroeder and Kendall, 2000; Mifsud and Rapee, 2005; Wergeland et al. 2014).

In addition, it is also observed based on the feedback received from the parents that some other positive changes have taken place in the children the experiment group such as transferring the acquired skills to other areas of life, development of positive emotions, increased self-confidence, self-expression, self-defense, learning to cooperate with peers. As a matter of fact, group therapies for children and adolescents have positive effects on children such as positive self-esteem and increased self-confidence, cooperation with peers and developing social skills. Accordingly, it can be stated that the Anxiety Coping Program developed and implemented within the scope of the present study is effective in developing positive emotions for children with high anxiety levels. As a result, the anxiety-coping program for children based on cognitive behavioral therapy is considered to be effective in reducing the anxiety levels of children.

Acknowledgments

Identify grants or other financial support (and the source, if appropriate) for your study; do not precede grant numbers by No. or #. Next, acknowledge colleagues who assisted in conducting the study or critiquing the manuscript. Do not acknowledge the persons routinely involved in the review and acceptance of manuscripts—peer reviewers or editors, associate editors, and consulting editors of the journal in which the article is to appear. In this paragraph, also explain any special agreements concerning authorship, such as if authors contributed equally to the study. End this paragraph with thanks for personal assistance, such as in manuscript preparation.

References

- Alfano, C. A., Beidel, D. C., & Turner, S. M. (2002). Cognition in childhood anxiety: conceptual, methodological, and developmental issues. *Clinical Psychology Review, 22*(8), 1209-1238.
- Barrett, P. M., Dadds, M. R. & Rapee, R. M. (1996). Family treatment of childhood anxiety: a controlled trial. *Journal of Consulting and Clinical Psychology, 64*(2), 333-342.
- Barrett, P. M., Lowry-Webster, H. & Turner, C. (2000). *FRIENDS program for children: Group leaders manual*. Australian Academic Press.
- Barrington, J., Prior, M., Richardson, M., & Allen, K. (2005). Effectiveness of CBT versus standard treatment for childhood anxiety disorders in a community clinic setting. *Behaviour Change, 22*(1), 29-43.
- Beck, A., Emery, G., & Greenberg, R. (1985). *Anxiety disorders and phobias. A cognitive perspective*(pp. 300-368). Basic Books.
- Beidel, D. C., & Turner, S. M. (1998). *Shy children, phobic adults: Nature and treatment of social phobia*. American Psychological Association.
- Beidel, D. C., Turner, S. M. & Morris, T. L. (2000). Behavioral treatment of childhood social phobia. *Journal of Consulting and Clinical Psychology, 68*(6), 1072-1086.
- Bilek, E. L., & Ehrenreich-May, J. (2012). An open trial investigation of a transdiagnostic group treatment for children with anxiety and depressive symptoms. *Behavior Therapy, 43*(4), 887-897.
- Birmaher, B., Khetarpal, S., Brent, D., Cully, M., Balach, L., Kaufman, J. & Neer, S. M. (1997). The screen for child anxiety related emotional disorders (SCARED): Scale construction and psychometric characteristics. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*(4), 545-553.
- Bunge, E. L., Mandil, J., Consoli, A. J., & Gomar, M. (2017). *CBT strategies for anxious and depressed children and adolescents: A clinician's toolkit*. The Guilford Press.
- Burns, G. W. (2016). *101 healing stories: Using metaphors in therapy*. John Wiley & Sons.
- Chiu, A. W., Langer, D. A., McLeod, B. D., Har, K., Drahota, A., Galla, B. M., ... & Wood, J. J. (2013). Effectiveness of modular CBT for child anxiety in elementary schools. *School Psychology Quarterly, 28*(2), 141.
- Collins-Donnelly, K. (2013). *Starving the anxiety gremlin for children aged 5-9: A cognitive behavioral therapy workbook on anxiety management*. Jessica Kingsley Publishers.
- Costello, E. J., Egger, H., & Angold, A. (2005). 10-year research update review: the epidemiology of child and adolescent psychiatric disorders: I. Methods and public health burden. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*(10), 972-986.
- Dadds, M. R., Spence, S. H., Holland, D. E., Barrett, P. M., & Laurens, K. R. (1997). Prevention and early intervention for anxiety disorders: a controlled trial. *Journal of Consulting and Clinical Psychology, 65*(4), 627.
- Davis, T. E., May, A., & Whiting, S. E. (2011). Evidence-based treatment of anxiety and phobia in children and adolescents: Current status and effects on the emotional response. *Clinical Psychology Review, 31*(4), 592-602.
- Ehrenreich-May, J., & Bilek, E. (2009). *Emotion detectives treatment protocol. Unpublished treatment manual*. University of Miami.
- Essau, C. A. (2007). Editorial: Anxiety in children: When is it classed as a disorder that should be treated? *Expert Review of Neurotherapeutics, 7*, 909-911.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage Publications.
- Flannery-Schroeder, E. C. & Kendall, P. C. (2000). Group and individual cognitive behavioral treatments for youth with anxiety disorders: A randomized clinical trial. *Cognitive Therapy and Research, 24*(3), 251-278.
- Friedberg, R. D. & McClure, J. M. (2002). *The clinical practice of cognitive therapy with children and adolescents: The nuts and bolts*. Guilford Press.
- Gallagher, H. M., Rabian, B. A., & McCloskey, M. S. (2004). A brief group cognitive-behavioral intervention for social phobia in childhood. *Journal of Anxiety Disorders, 18*(4), 459-479.
- Ginsburg, G. S., Silverman, W. K., & Kurtines, W. K. (1995). Family involvement in treating children with phobic and anxiety disorders: A look ahead. *Clinical Psychology Review, 15*(5), 457-473.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2013). *Multivariate data analysis*. Pearson Education Limited.
- Hudson, J. L., Rapee, R. M., Deveney, C., Schniering, C. A., Lyneham, H. J., & Bovopoulos, N. (2009). Cognitive-behavioral treatment versus an active control for children and adolescents with anxiety disorders: a randomized trial. *Journal of the American Academy of Child & Adolescent Psychiatry, 48*(5), 533-544.
- Ishikawa, S. I., Motomura, N., Kawabata, Y., Tanaka, H., Shimotsu, S., Sato, Y. & Ollendick, T. H. (2012). Cognitive behavioral therapy for Japanese children and adolescents with anxiety disorders: a pilot study. *Behavioral and Cognitive Psychotherapy, 40*(03), 271-285.

- Kapçı, E. G., Uslu, R. İ., Sukhodolsky, D., Atalan-Ergin, D., & Çokamay, G. (2012). Cognitive-behavioral therapy for anxiety in elementary school students. *Journal of Cognitive-Behavioral Psychotherapy and Research, 1*(2), 121-126.
- Kashani, J. H., & Orvaschel, H. (1990). A community study of anxiety in children and adolescents. *The American Journal of Psychiatry, 147*(3), 313-318.
- Keller, M. B., Lavori, P. W., Wunder, J., Beardslee, W. R., Schwartz, C. E., & Roth, J. (1992). Chronic course of anxiety disorders in children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*(4), 595-599.
- Kendall, P. C. (1994). Treating anxiety disorders in children: results of a randomized clinical trial. *Journal of Consulting and Clinical Psychology, 62*(1), 100-111.
- Kendall, P. C., & Ronan, K. R. (1990). Assessment of children's anxieties, fears, and phobias: Cognitive-behavioral models and methods. In C. R. Reynolds & R. W. Kamphaus (Eds.), *Handbook of psychological and educational assessment of children* (pp. 223-244). Guilford.
- Lau, W. Y., Chan, C. K. Y., Li, J. C. H., & Au, T. K. F. (2010). Effectiveness of group cognitive-behavioral treatment for childhood anxiety in community clinics. *Behaviour Research and Therapy, 48*(11), 1067-1077.
- Liber, J. M., van Widenfelt, B. M., Utens, E. M., Ferdinand, R. F., van der Leeden, A. J., Gastel, W. V. & Treffers, P. D. (2008). No differences between group versus individual treatment of childhood anxiety disorders in a randomised clinical trial. *Journal of Child Psychology and Psychiatry, 49*(8), 886-893.
- Lumpkin, P. W., Silverman, W. K., Weems, C. F., Markham, M. R., & Kurtines, W. M. (2002). Treating a heterogeneous set of anxiety disorders in youths with group cognitive behavioral therapy: A partially nonconcurrent multiple-baseline evaluation. *Behavior Therapy, 33*(1), 163-177.
- Manassis, K., Mendlowitz, S. L., Scapillato, D., Avery, D., Fiksenbaum, L., Freire, M., Suneeta, M. & Owens, M. (2002). Group and individual cognitive-behavioral therapy for childhood anxiety disorders: A randomized trial. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(12), 1423-1430.
- Mendlowitz, S. L., Manassis, K., Bradley, S., Scapillato, D., Miezitis, S., & Shaw, B. E. (1999). Cognitive-behavioral group treatments in childhood anxiety disorders: The role of parental involvement. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*(10), 1223-1229.
- Mifsud, C., & Rapee, R. M. (2005). Early intervention for childhood anxiety in a school setting: Outcomes for an economically disadvantaged population. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*, 996-1004.
- Muris, P., Meesters, C., & van Melick, M. (2002). Treatment of childhood anxiety disorders: A preliminary comparison between cognitive-behavioral group therapy and a psychological placebo intervention. *Journal of Behavior Therapy and Experimental Psychiatry, 33*(3-4), 143-158.
- Nauta, M. H., Scholing, A., Emmelkamp, P. M., & Minderaa, R. B. (2003). Cognitive-behavioral therapy for children with anxiety disorders in a clinical setting: No additional effect of a cognitive parent training. *Journal of the American Academy of Child and Adolescent Psychiatry, 42*(11), 1270-1278.
- Neil, A. L., & Christensen, H. (2009). Efficacy and effectiveness of school-based prevention and early intervention programs for anxiety. *Clinical Psychology Review, 29*, 208-215.
- Neuman, W. L. (2014). *Social research methods: Qualitative and quantitative approaches: Pearson new international edition*. Pearson Education Limited.
- Newman, D. L., Moffitt, T. E., Caspi, A., Magdol, L., Silva, P. A., & Stanton, W. R. (1996). Psychiatric disorder in a birth cohort of young adults: prevalence, comorbidity, clinical significance, and new case incidence from ages 11 to 21. *Journal of Consulting and Clinical Psychology, 64*(3), 552.
- Ollendick, T. H. & Mayer J. A. (1984). School phobia. In S. M. Turner (Eds.), *Behavioral treatment of anxiety disorders* (pp. 367-411). Plenum Press.
- Pilecki, B. & McKay, D. (2011). Cognitive behavioral models of phobias and pervasive anxiety. In McKay & E. A. Storch (Eds.), *Handbook of child and adolescent anxiety disorders* (pp. 39-48). Springer.
- Rapee, R. M., Schniering, C. A., & Hudson, J. L. (2009). Anxiety disorders during childhood and adolescence: Origins and treatment. *Annual Review of Clinical Psychology, 5*, 311-341.
- Shortt, A. L., Barrett, P. M., & Fox, T. L. (2001). Evaluating the FRIENDS program: A cognitive-behavioral group treatment for anxious children and their parents. *Journal of Clinical Child Psychology, 30*(4), 525-535.
- Silverman, W. K., Kurtines, W. M., Ginsburg, G. S., Weems, C. F., Lumpkin, P. W., & Carmichael, D. H. (1999). Treating anxiety disorders in children with group cognitive-behavioral therapy: A randomized clinical trial. *Journal of Consulting and Clinical Psychology, 67*(6), 995.
- Sorias, O., Bildik, T., & Tekinsav Sütcü, S. (2013). *Korku Avcısı çalışma kitabı*. Ege University Press.
- Stallard, P. (2017). *A clinician's guide to think good-feel good: Using CBT with children and young people*. John Wiley & Sons.

- Vasey, M. W., & MacLeod, C. (2001). Information-processing factors in childhood anxiety: A review and developmental perspective. In M. W. Vasey and M. R. Dadds (Eds.), *The developmental psychopathology of anxiety* (pp. 253–277). Oxford University Press.
- Weisz, J. R., Kuppens, S., Ng, M. Y., Eckshtain, D., Ugueto, A. M., Vaughn-Coaxum, R., ... & Weersing, V. R. (2017). What five decades of research tells us about the effects of youth psychological therapy: a multilevel meta-analysis and implications for science and practice. *American Psychologist*, *72*(2), 79.
- Wergeland, G. J. H., Fjermestad, K. W., Marin, C. E., Haugland, B. S. M., Bjaastad, J. F., Oeding, K., ... & Heiervang, E. R. (2014). An effectiveness study of individual vs. group cognitive behavioral therapy for anxiety disorders in youth. *Behaviour research and therapy*, *57*, 1-12.