INVESTIGATION OF THE EFFECTIVENESS OF THE ANGER MANAGEMENT SKILLS PSYCHOEDUCATION PROGRAM FOR HIGH SCHOOL STUDENTS BASED ON COGNITIVE BEHAVIORAL THERAPY

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Abstract:

The aim of this study is to examine the effect of the Cognitive Behavioral Therapy (CBT) based anger management psychoeducation program on the anger management skills of high school students. While the independent variable of the study is the anger management psychoeducation program based on CBT, the dependent variable is the trait anger level, anger inside, anger outside, and anger control scores determined by the Trait Anger-Anger Expression Style Scale of the adolescents. The sample of the study consists of 10th and 11th grade volunteer students studying at Ahlat Selçuklu Anatolian High School. In this study, which consists of experimental and control groups an experimental design was used; pre-test, post-test, and follow-up tests were applied. Among the volunteer students, 10 participants were randomly assigned to the experimental group and 10 participants to the control group. While the program developed by the researcher was applied to the experimental group for seven weeks, no application was made to the control group. While collecting the data of the study, the "Trait Anger-Anger Style Scale" was used. Mann-Whitney U test was used to compare the pretest and posttest scores of the experimental and control groups, and Wilcoxon Singed to compare the pretest and posttest, the posttest and follow-up test of the experimental group, and the pretest and posttest of the control group, and the posttest and follow-up test. Ranks test was used. Analysis of the research was carried out using the IBM SPSS 22.0 package program. As a result of the study, it was observed that there was a significant difference in the levels of trait anger, anger inside, anger outside, anger control levels of the participants in the

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experimental group, which are sub-dimensions of STAS. In the control group, there was no significant difference in any of the sub-dimensions. It can be said that the developed program has a positive effect. The findings were examined within the scope of the literature and it is thought that it will contribute to the literature by presenting practical suggestions in the study.

Keywords: cognitive behavioral therapy, psychoeducation, group work, high school students

1. Introduction

Anger is an emotion in human nature and everyone can occasionally get angry. However, when anger is out of control, it can complicate a person's life and cause inappropriate attitudes and behaviors. In this case, the feeling of anger may cease to be a normal emotion and become a problem (Hagiliassis et al., 2005; Azevedo et al., 2010). When the developmental periods of adolescence are examined, it is seen as an emotionally stormy, stressful, and complex transition period (Carlozzi et al., 2010). It is known that adolescents who experience their emotions so intensely also experience anger very intensely as in other emotions. In fact, outbursts of anger are common during this period (Steiner & Hall, 2015). When this intense feeling of anger cannot be controlled, it leads to negativities that surround the whole life of the adolescent during adolescence. Studies have shown that adolescents who cannot control their anger experience academic problems, such as absenteeism, a decrease in academic achievement, and dropping out of school (Hinshaw, 1992; Kazdin, 1996). In addition, uncontrolled anger also causes deterioration in peer relations, which have an important place in the life of the adolescent, and even leads to a process that goes as far as the exclusion from the peer group (Coie et al., 1995; Kazdin, 1996). This uncontrollability negatively affects the course of life in many areas, causes an irreversible process leading to the adolescent's involvement in crime (Brook, Whiteman, & Finch, 1992; Tsytsarev & Grodnitzy, 1995) and even ending his/her life (Stein et al., 1998; Batıgün, Durak, and Şahin, 2003). In this context, it is seen that the lack of anger management skills negatively affects adolescents' lives. Anger management skills are highly significant in adolescents' lives, and acquiring these skills is very important both for society and for the individual. Cognitive behavioral therapy (CBT) is one of the prominent approaches to help adolescents gain anger management skills.

Thanks to the CBT-based program, adolescents can recognize and change their thoughts and beliefs that cause anger, improve their anger expression skills, and release anger by using relaxation and problem-solving techniques (Collins-Donnelly, 2012). Thus, CBT has positive outcomes on adolescents' anger management. Research supports that anger management programs based on cognitive behavioral therapy significantly reduce adolescents' anger levels.

Faramarzi, Sodani, Hashemian, and Reza Nayestani (2014) found that the anger management skill education applied to Iranian female students was effective in the anger

management skills of the students in the experimental group (Faramarzi, Sodani, Hashemian, & Reza Nayestani, 2014, as cited in Rahmatulin, 2015). Martsch (2005) determined that a 10-session integrative approach and the cognitive-behavioral approach together were more effective in behavioral disorders and parental conflicts in older adolescents. The cognitive behavioral program, on the other hand, was more effective in younger adolescents. It was observed that there was a decrease in the anger inside and anger outside levels and improvements in the anger management levels of students who benefited from the cognitive behavioral therapy-based program conducted by Duman et al. (2019).

Özkamalı and Buğa (2010) determined that the anger management education program reduced students' trait anger levels. Şahin Kıralp (2013) also found that there was a significant decrease in trait anger levels as a result of the 10-session anger management skills program that was developed within the framework of cognitive behavioral therapy and rational emotive behavior therapy. Following a 10-session anger management program conducted by Bulut Serin and Genç (2011), it was observed that there was a significant decrease in students' anger inside and outside, trait anger, and anger management levels, and an increase in anger management levels. On the other hand, as a result of a meta-analysis study, including 21 published and 19 unpublished scientific studies, conducted to examine the effects of different treatment methods on children and adolescents' anger-related problems and to compare four cognitive behavioral approaches, Sukhodolsky, Kassinove, and Gorman (2004) determined that cognitive-behavioral approaches were effective in reducing anger in children and adolescents.

The long-term aim of having adolescents gain anger management skills is to prevent problems, such as school discipline problems, delinquency, and suicide, which are caused by uncontrolled anger, before they turn into social problems. Since anger mostly affects interpersonal relations and causes problems in communication, it is thought that adolescents' experience of the aforementioned process in a group will facilitate its practice in daily life. The fact that the program created in this study, which was planned to improve anger management skills in high school students, is supported by original activities using CBT techniques and methods, such as cognitive restructuring, self-monitoring, gaining skills, and group experience (role-playing), strengthens the functionality and life-oriented aspect of this study. In the study, a program supported with original content that can be easily used by other mental health professionals, especially psychological counselors, was designed, and it was aimed to contribute to the literature.

The main purpose of this study is to examine the effect of the anger management psychoeducation program based on cognitive behavioral therapy on high school students' anger management skills. Answers to the following questions were sought within the framework of the main purpose of the study:

1) Is there a significant difference between the experimental group participating in the CBT-based anger management psychoeducation program and the control

group with no intervention in terms of their trait anger, anger outside, anger inside, and anger control pretest scores?

2) Is there a significant difference between the experimental group participating in the CBT-based anger management psychoeducation program and the control group with no intervention in terms of their trait anger, anger outside, anger inside, and anger control posttest scores?

3) Is there a significant difference between the pretest and posttest trait anger, anger outside, anger inside, and anger control scores of the experimental group participating in the CBT-based anger management psychoeducation program?

4) Is there a significant difference between the pretest and posttest trait anger, anger outside, anger inside, and anger control scores of the control group that did not participate in the CBT-based anger management psychoeducation program?

5) Is there a significant difference between the posttest and one-month follow-up test trait anger, anger outside, anger inside, and anger control scores of the experimental group participating in the CBT-based anger management psychoeducation program?

6) Is there a significant difference between the posttest and one-month follow-up test trait anger, anger outside, anger inside, and anger control scores of the control group that did not participate in the CBT-based anger management psychoeducation program?

2. Methods

The methods used are examined in this part of the research and explanations about the research model, the population and sample of the research, data collection tools, and the CBT-based anger management psychoeducation program are presented.

2.1 Research model

An experimental design consisting of pretest, posttest, and experimental and control groups was used in the study (See Table 1). Experimental design is employed to determine the effect of an experimental intervention or application on the outcome and it helps control all external factors that may affect the outcome (Creswell, 2013). The main purpose of experimental designs is to reveal the cause-effect relationship between variables (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz, & Demirel, 2008). A follow-up measurement was performed one month after the intervention to determine whether the program made a significant difference following its implementation. The sample of the study consisted of experimental and control group subjects, who were randomly selected among the volunteer students. Both groups consisted of ten-person psychoeducation groups. A CBT-based anger management psychoeducation program was applied to the experimental group, while the control group received no intervention.

Table 1: Experimental Design of the Research

Groups	Pre-intervention	Intervention	Post-intervention	Follow-up test
Experimental group	TAAEI	CBT-based anger management psychoeducation program	TAAEI	TAAEI
Control group	TAAEI	-	TAAEI	TAAEI

2.2 Study group

The population of this research consisted of 10th and 11th-grade students studying at high schools in Turkey. The sample of the study consisted of 20 students, including 10 in the experimental group and 10 in the control group, who voluntarily agreed to participate in the study. Ninth- and twelfth-grade students were not included in the study thinking that the former may experience adaptation problems and the latter were going to take the university test, and the exam stress may affect the process and results of the program to be applied. The "Trait Anger-Anger Expression Inventory" (TAAEI) was applied to the volunteer students who participated in the program. Students whose TAAEI scores did not show a normal distribution were not included in the study. Ten students were randomly assigned to the experimental group and ten to the control group by drawing lots among the students whose scores were normally distributed.

Table 2: Demographic Information of the Study Group

	Female		Male	
	10th grade	11th grade	10th grade	11th grade
Experimental group	2	3	3	2
Control group	2	3	3	2
Total	4	6	6	4

2.3 Data collection tool

The State-Trait Anger Expression Inventory, developed by Spielberger (1988) and adapted to Turkish by Özer (1994), was used as a data collection tool in the study. It consists of 44 items and three sections. The first section is the 10-item state anger, which is defined as an emotional state that shows how much subjective feelings, such as tension, anger, irritability, and fury, are felt in the face of injustice or the hindrance of purposeful behavior. The ten-item trait anger makes up the second part as a concept showing how often state anger occurs. The third and last part is the anger expression scale, which consists of twenty-four items, including eight items on the anger inside dimension, eight items on the anger outside dimension, and eight items on the anger control dimension (Öner, 1996). The scale has a four-point Likert-type scoring structure with the following options: almost never, sometimes, often, and almost always. Regarding the interpretation of the scores, a high "trait anger" score indicates a high level of anger, a high "anger outside" score means the expression of anger, a high "anger inside" score indicates suppression of anger, and high scores on the "anger control" subscale indicate that the anger management methods are used. In this context, high scores on the trait anger, anger

outside, and anger inside are interpreted negatively, while high anger control scores are interpreted positively (Öner, 1996; Özer, 1994). In the reliability study of the scale, item-total score correlations and alpha coefficients had been used to determine the internal consistency of the scale. The item-total score correlations were found to range from .14 to .56 (median = 33) and alpha coefficients between .73 and .84 (Savaşir and Şahin, 1997). Correlations with Trait Anxiety, List of Depressive Adjectives, and Anger Inventory were calculated to determine the criterion-related validity of Trait Anger and Anger Expression scales. The correlations were significant at the .01 and .001 levels. In addition, a high negative correlation was found between Trait Anger and Anger Expression scales (Savaşir & Şahin, 1997).

2.4 The Anger Management Education Program That Was Developed in The Study
In this part of the study, the aim and content of the CBT-based anger management psychoeducation program applied to the experimental group is given (See Table 3).

Table 3: The CBT-Based Anger Management Psychoeducation Program

Session	Aims	Methods and techniques	Materials	Time
Session 1: Introduction to the psychoeducation program, establishing group rules, and discussing anger and its causes	• Introduction • Establishing the rules of the group • Determining the expectations of the group and learning participants' reasons for participating in the group • Learning the causes of anger and explaining that anger is a normal emotion	• Warm-up game • First meeting events • Lecturing • Question-answer	• Paper • Pen • Color crayons • Social media form (Form 1) • Pressure cooker anger: (Form 2) • Newspaper	60 minutes
Session 2: Recognizing the factors causing anger, the ABC of anger, and recognizing the effects of anger	• Detection of conditions that reveal the feeling of anger • Recognizing situational, mental, and physical clues of anger (A-B-C of anger) • Recognizing the effect of cognitions on emotions and behaviors when anger occurs.	• CBT-Based activity • Lecturing • Question-answer • Homework (Anger Diary)	• Form 3 • Color crayons	60 minutes
Session 3: Recognizing the effect of thoughts on anger, gaining knowledge about automatic thoughts, creating constructive thought patterns	• Recognizing how thoughts that cause anger affect emotions • Providing information about automatic thoughts, which is one of the important factors of cognitive behavioral therapy.	• CBT-Based activity • Lecturing • Question-answer	• Watch Chair Türkçapar (2009) • Thought Characteristics List (Automatic thoughts list)	60 minutes

	• Recognizing automatic thoughts that cause anger • Changing the thoughts that cause anger and creating constructive thought patterns instead			
Session 4: Recognizing appropriate and inappropriate anger responses	• Learning appropriate and inappropriate anger responses • Recognizing appropriate anger responses • Recognizing the negativities caused by inappropriate anger responses	• CBT-Based Board Game • Lecturing • Question-answer	• "Streets of Rage" Board Game (Form 4) • Wood • Board pen	60 minutes
Sessin 5: Teaching expressions of coping with anger, recognizing the automatic thoughts that cause anger and creating alternative thought patterns instead of these thoughts, and teaching the "I" language	• Teaching expressions of coping with anger • Creating alternative thought structures instead of automatic thoughts by helping students to encounter the feeling of anger in the session through behavior experiments (role-play). • Using "I" Language when expressing anger	• Role-play • Lecturing • Question-answer • Homework	• Anger coping statements form (Form 5) • Team bands • Color crayons	60 minutes
Session 6: Teaching breathing and relaxation exercises	• Teaching breathing and relaxation exercises to alleviate the physical effects of anger • Ensuring that breathing and relaxation exercises used to alleviate the physical effects of anger are applied inside and outside the group	• Breathing and relaxation exercises • Lecturing • Question-answer	• Breathing exercise chart (Form 6) • Relaxation exercises tutorial (Form 7) • Relaxing instrumental music	60 minutes
Session 7: • Review of the sessions, • Evaluation of the sessions • Termination	• Helping students notice their contributions in previous sessions • Sharing feelings and thoughts about the termination of the group	• Termination activity • Lecturing • Question-answer	• Paper • Pen	60 minutes

Table 3 presents the content of the psychoeducation program developed.

2.5 Data analysis

Since the data did not show a normal distribution, non-parametric methods were preferred to test research hypotheses. Mann-Whitney U test was used to compare the pretest and posttest scores of experimental and control groups, and the Wilcoxon signed-rank test was used to make the intra-group pretest vs. posttest and posttest vs. follow-up test comparisons of the experimental and control groups.

3. Results

Table 4 presents the descriptive analysis of the trait anger and anger expression inventory findings of high school students in the experimental group. Results showed that the mean posttest scores on the trait anger and anger inside decreased compared to the mean pretest scores, while the mean follow-up test score increased compared to the mean posttest score. The mean posttest anger outside score decreased compared to the mean pretest score, the mean follow-up test score was similar to the mean posttest score, while the mean posttest anger control score increased compared to the mean pretest score, and the mean follow-up test score decreased slightly compared to the mean posttest score (See Table 4).

Table 4: Descriptive Statistics of the Scores of the Experimental
Group on the Trait Anger and Anger Expression Scales

Trait Anger and Anger Expression Inventory	Experimental group	N	$\overline{X}$	Sd	Min.	Max.
Trait anger	Pretest	10	27.90	4.01	21.00	33.00
	Posttest	10	20.90	3.25	15.00	26.00
	Follow-up	10	21.90	3.07	15.00	25.00
Anger outside	Pretest	10	21.10	5.17	10.00	29.00
	Posttest	10	16.00	3.40	8.00	19.00
	Follow-up	10	16.00	3.13	9.00	19.00
Anger inside	Pretest	10	19.00	5.37	9.00	25.00
	Posttest	10	13.60	2.76	9.00	17.00
	Follow-up	10	15.70	2.75	12.00	20.00
Anger control	Pretest	10	18.00	4.69	12.00	29.00
	Posttest	10	25.30	2.87	23.00	31.00
	Follow-up	10	24.80	3.08	22.00	32.00

The descriptive analysis results of the sub-dimensions of the trait anger and anger expression inventory of high school students in the control group are given in Table 5. The findings showed that there was a slight increase in mean trait anger scores from the pretest to the posttest and follow-up test. There was an increase in the mean posttest anger outside score compared to the mean pretest score, while there was a slight decrease in the mean follow-up test score compared to the mean pretest score. Regarding the anger control test, there was a decrease in the mean posttest score compared to the mean pretest

score and a slight decrease in the mean follow-up test score compared to the mean posttest score (See Table 5).

Table 5: Descriptive Statistics of the Scores of the Control
Group on the Trait Anger and Anger Expression Scales

Trait Anger and Anger Expression Inventory	Control group	N	$\overline{X}$	sd	Min.	Max.
Trait anger	Pretest	10	26.70	4.02	19.00	33.00
	Posttest	10	26.50	5.93	19.00	34.00
	Follow-up	10	25.00	4.92	19.00	34.00
Anger outside	Pretest	10	20.70	3.59	16.00	28.00
	Posttest	10	22.20	4.71	17.00	31.00
	Follow-up	10	23.70	6.24	12.00	32.00
Anger inside	Pretest	10	16.40	4.62	9.00	24.00
	Posttest	10	17.40	2.27	13.00	21.00
	Follow-up	10	16.10	2.73	12.00	20.00
Anger control	Pretest	10	20.00	3.74	15.00	27.00
	Posttest	10	19.20	3.91	13.00	24.00
	Follow-up	10	19.00	4.16	13.00	24.00

Table 6 gives the results of the Mann-Whitney U test, which was conducted to determine whether there was a significant difference between the experimental and control groups in terms of their mean pretest scores on the trait anger, anger outside, anger inside, and anger control sub-dimensions. According to the analysis, there was no statistically significant difference between the experimental and control groups in terms of their mean pretest scores on the trait anger (U=41.000, p>0.05), anger outside (U=42.500, p>0.05), anger inside (U=32.500, p>0.05), and anger control (U=32.500, p>0.05) sub-dimensions (See Table 6).

Table 6: Comparison of the Mean Pretest Scores of the Experimental Group
and the Control Group on the Trait Anger and Anger Expression Scales

Pretest	Groups	N	Mean rank	Total rank	U	p
Trait anger	Experimental	10	11.40	114.00	41.000	.494
	Control	10	9.60	96.00		
Anger outside	Experimental	10	11.25	112.50	42.500	.567
	Control	10	9.75	97.50		
Anger inside	Experimental	10	12.25	122.50	32.500	.184
	Control	10	8.75	87.50		
Anger control	Experimental	10	8.75	87.50	32.500	.182
	Control	10	12.25	122.50		

*P<0.05; N (20)

Table 7 gives the results of the Mann-Whitney U test, which was conducted to determine whether there was a significant difference between the experimental group and the control group in terms of their mean posttest scores on the trait anger, anger outside,

anger inside, and anger control sub-dimensions. Results indicated that there was a statistically significant difference between the experimental and control groups in terms of their mean posttest scores on the trait anger (U=21.500, p<0.05), anger outside (U=14.50, p<0.05), anger inside (UU=13.000, p<0.05), and anger control (U=10.000, p<0.05) sub-dimensions (See Table 7).

Tablo 7: Comparison of the Mean Posttest Scores of the Experimental
Group and the Control Group on the Trait Anger and Anger Expression Scales

Posttest	Groups	N	Mean rank	Total rank	U	p
Trait anger	Experimental	10	7.65	76.50	21.500	.030
	Control	10	13.35	133.50		
Anger outside	Experimental	10	6.95	69.50	14.500	.007
	Control	10	14.05	140.50		
Anger inside	Experimental	10	6.80	68.00	13.000	.005
	Control	10	14.20	142.00		
Anger control	Experimental	10	14.50	145.00	10.000	.002
	Control	10	6.50	65.00		

*P<0.05; N (20)

Table 8: Comparison of the Pretest and Posttest Scores of the
Experimental Group on the Trait Anger and Anger Expression Scales

Trait anger posttest Trait anger pretest	N	Mean rank	Total rank	z	p
Negative rank	10	5.50	55.00	-2.812	.005
Positive rank	0	0.00	0.00		
Neutral	0				
Anger outside posttest Anger outside pretest	N	Mean rank	Total rank	z	p
Negative rank	10	5.50	55.00	-2.825	.005
Positive rank	0	0.00	0.00		
Neutral	0				
Anger inside posttest Anger inside pretest	N	Mean rank	Total rank	z	p
Negative rank	9	5.00	45.00	-2.670	.008
Positive rank	0	0.00	0.00		
Neutral	1				
Anger control posttest Anger control pretest	N	Mean rank	Total rank	z	p
Negative rank	0	0.00	0.00	-2.812	.005
Positive rank	10	5.50	55.00		
Neutral	0				

*P<0.05; N (10)

Table 8 gives the results of the Wilcoxon signed-rank test, which was conducted to determine whether there was a significant difference between the mean pretest and posttest scores of the experimental group in terms of their trait anger, anger outside,

anger inside, and anger control perceptions. According to the test, there was a statistically significant difference between pre-and post-education levels of trait anger (z= -2.812, p<0.05), anger outside (z= -2.825, p<0.05), anger inside (z= -2.670, p<0.05), and anger-control (z= -2.812, p<0.05) (See Table 8).

Table 9 gives the results of the Wilcoxon signed-rank test, which was conducted to determine whether there was a significant difference between the mean pretest and posttest scores of the control group in terms of their trait anger, anger outside, anger inside, and anger control perceptions. According to the test, no statistically significant difference was found between pre-and post-education levels of trait anger (z= 0.000, p>0.05), anger outside (z= -0.841, p>0.05), anger inside (z= -0.716, p>0.05), and anger-control (z= -0.774, p>0.05) (See Table 9).

Table 9: Comparison of the Pretest and Posttest Scores of the
Control Group on the Trait Anger and Anger Expression Scales

Trait anger posttest Trait anger pretest	N	Mean rank	Total rank	z	p
Negative rank	4	5.63	22.50		
Positive rank	5	4.50	22.50	0.000	1.000
Neutral	1				
Anger outside posttest Anger outside pretest	N	Mean rank	Total rank	z	p
Negative rank	3	4.00	12.00		
Positive rank	5	4.80	24.00	-0.841	.400
Neutral	2				
Anger inside posttest Anger inside pretest	N	Mean rank	Total rank	z	p
Negative rank	3	6.83	20.50		
Positive rank	7	4.93	34.50	-0.716	.474
Neutral	0				
Anger control posttest Anger control pretest	N	Mean rank	Total rank	z	p
Negative rank	5	4.70	23.50		
Positive rank	3	4.17	12.50	-0.774	.439
Neutral	2				

*P<0,05; N (10)

Table 10 presents the results of the Wilcoxon signed-rank test, which was conducted to determine whether there was a significant difference between the mean posttest and one-month follow-up test scores of the experimental group in terms of their trait anger, anger outside, anger inside, and anger control perceptions. According to the results of the test, no statistically significant difference was found between the posttest and one-month follow-up levels of trait anger (z= -1.781, p>0.05), anger outside (z= 0.000, p>0.05), and anger control (z= -0.707, p>0.05), but there was a statistically significant difference between the posttest and one-month follow-up levels of anger inside (z= -2.676, p<0.05) (See Table 10).

Table 10: Comparison of the Posttest and One-Month Follow-Up Test Scores
of the Experimental Group on the Trait Anger and Anger Expression Scales

Trait anger follow-up Trait anger posttest	N	Mean rank	Total rank	z	p
Negative rank	1	5.50	5.50		
Positive rank	7	4.36	30.50	-1.781	.075
Neutral	2				
Anger outside follow-up Anger outside posttest	**N**	**Mean rank**	**Total rank**	**z**	**p**
Negative rank	5	4.50	22.50		
Positive rank	4	5.63	22.50	0.000	1.000
Neutral	1				
Anger inside follow-up Anger inside posttest	**N**	**Mean rank**	**Total rank**	**z**	**p**
Negative rank	1	1.50	1.50		
Positive rank	9	5.94	53.50	-2.676	.007
Neutral	0				
Anger control follow-up Anger control posttest	**N**	**Mean rank**	**Total rank**	**z**	**p**
Negative rank	3	3.33	10.00		
Positive rank	2	2.50	5.00	-0.707	.480
Neutral	5				

*P<0.05; N (10)

Table 11: Comparison of the Posttest and One-Month Follow-Up Test Scores
of the Control Group on the Trait Anger and Anger Expression Scales

Trait anger follow-up Trait anger posttest	N	Mean rank	Total rank	z	p
Negative rank	4	6.38	25.50		
Positive rank	4	2.63	10.50	-1.053	.292
Neutral	2				
Anger outside follow-up Anger outside posttest	**N**	**Mean rank**	**Total rank**	**z**	**p**
Negative rank	3	6.33	19.00		
Positive rank	7	5.14	36.00	-0.868	.385
Neutral	0				
Anger inside follow-up Anger inside posttest	**N**	**Mean rank**	**Total rank**	**z**	**p**
Negative rank	5	6.50	32.50		
Positive rank	4	3.13	12.50	-1.192	.233
Neutral	1				
Anger control follow-up Anger control posttest	**N**	**Mean rank**	**Total rank**	**z**	**p**
Negative rank	4	3.50	14.00		
Positive rank	2	3.50	7.00	-0.816	.414
Neutral	4				

*P<0.05; N (10)

Table 11 presents the results of the Wilcoxon signed-rank test, which was conducted to determine whether there was a significant difference between the mean posttest and one-month follow-up test scores of the control group in terms of their trait anger, anger outside, anger inside, and anger control perceptions. Accordingly, it was found that there was no statistically significant difference between the posttest and one-month follow-up levels of trait anger (z= -1.053, p>0.05), anger outside (z= -0.868, p>0.05), anger inside (z= -1.192, p>0.05), and anger control (z= -0.816, p>0.05) (See Table 11).

4. Discussion

There was no significant difference between the trait anger, anger outside, anger inside, and anger control pretest scores of high school students in the experimental and control groups before the implementation of the cognitive behavioral therapy-based anger management psychoeducation program in the study (See Table 6). Therefore, it can be said that the attitudes of the experimental and control groups in terms of trait anger and anger expression were similar or close to each other. It is desirable that the pretest scores for an education program applied in such studies with control groups do not differ between experimental and control groups.

One of the findings obtained after the implementation of the CBT-based anger management psychoeducation program in the experimental group showed that there was a significant difference between the experimental and control groups in terms of their trait anger, anger outside, anger inside, and anger control posttest scores. These results suggest that the CBT-based anger control psychoeducation program was effective in terms of trait anger and anger expression of high school students in the experimental group and that the education program used in the study worked. When the literature was examined, it was seen that there were similar results to those of this research (DiGiuseppa & Tafrate, 2003; Sukhodolsky, Kassino & & Gorman, 2004; Duran & Eldeklioğlu, 2005; Şahin Kıralp, 2013; Kelleci, Avcı, Erşan & Doğan, 2014; Görgü and Tekinsav Sütçü, 2015; Türk and Hamamcı, 2016; Chin and Ahmad, 2017).

The results of this study showed that there was a significant difference between the trait anger, anger outside, anger inside, and anger control pretest scores and posttest scores of the experimental group in favor of the posttest results (See Table 8). The results of this study were consistent with those of the studies conducted by Sofronoff et al. (2007), Naeem et al. (2009), Gültekin (2011), Serin and Genç (2011), Gebeş (2011), who did research on the application of anger management programs. Also, there are few studies in the literature that produced different results on anger management (Howells et al., 2005; Watt & Howells, 1999). It was observed that there was no significant difference as a result of the anger management programs applied in these studies.

No significant difference was found between the mean pretest and posttest scores of high school students in the control group on trait anger, anger outside, anger inside, and anger control (See Table 7). This showed that there was no change between the mean pretest and posttest scores of the high school students in the control group in terms of

their trait anger and anger expression styles. These findings show that the anger management psychoeducation program is a necessity.

According to another finding of the study, there was a significant difference between the mean posttest and follow-up test scores of high school students in the experimental group in terms of only their anger inside levels. The results of the follow-up test applied to the experimental group one month after the study showed that while there was no change in anger inside levels in only one out of ten students, there was an increase in nine of them (See Table 10). The results of the study are similar to those of studies conducted by Çekiç (2009), Sütçü, Aydın, and Sorias (2010), Bedel (2011), and Zorlu (2017). On the other hand, some studies in the literature indicated that there was no significant difference between the posttest and follow-up test scores on the trait anger, anger inside, anger outside, and anger control sub-dimensions (Akdeniz, 2007; Gerzina and Drummond, 2000; Deffenbacher et al., 2001).

It was determined that there was no significant difference between the posttest and follow-up test scores of the high school students in the control group on the trait anger, anger outside, anger inside, and anger control sub-dimensions (See Table 11). There was no change in any of the sub-dimensions of anger in adolescents in the control group, which reveals the significance of the program applied. In this study, an anger management education program was planned to make the feeling of anger a part of the solution rather than the problem, and it was aimed to prevent the negativities that may be caused by uncontrolled anger. The anger control psychoeducation programs should be delivered to large masses in order not to avoid the negative consequences of uncontrolled anger These studies are included within the scope of preventive studies aiming to protect public health.

In this study, an anger management intervention program based on the cognitive behavioral therapy method was developed. Significant resources in the field of cognitive behavioral therapy, such as Beck (2001), Corey (2008), and Türkçapar (2008), were used to create the content of the program. As a result of these studies, a handbook was designed for application. When studies on designing anger management programs were examined, it was seen that these programs were created by utilizing both cognitive and behavioral methods. In this context, it has been stated that these multidimensional programs will help group members to create alternative thinking structures instead of their irrational beliefs and will be effective in creating appropriate behavior changes (Özmen, 2004; Tekinsav Sütcü, 2006; Genç, 2007; Gürbüz, 2008).

Knowing the causes of anger, its content, the way it is expressed, and its functions play a critical role in reducing the anger level and achieving anger control. In addition, an individual's awareness of the physical and psychological effects of anger on him/her and knowing the techniques by which he/she can express his/her anger appropriately are effective ways that can lead to relaxation by providing emotional discharge (Corey, 1996; Bilge, 1996). The anger management program developed in this study included activities about recognizing the components of anger with the ABC of anger technique, gaining knowledge about appropriate anger reactions, and learning breathing and relaxation

exercises to provide bodily relaxation. It can be said that anger control scores may have increased thanks to the replacement of automatic thoughts with alternative constructive thought patterns, the use of expressions of coping with anger that guide what should be done in case of anger, and the practice of breathing and relaxation exercises that allow the body to relax in case of anger and facilitate coping with the physical effects of anger in the 5th and 6th sessions of the study.

In the second session of the study, the components of anger and how they affected each other were explained. In this presentation, the ABC of anger method was used. The ABC of anger method can help control feelings of anger by changing thoughts. In the third session of the study, the list of thought characteristics developed by Türkçapar (2009) was used. The purpose of this form was to identify automatic thoughts that affected emotions, thoughts, and behaviors and arose in our minds without conscious judgment, and to replace them with more realistic and constructive thought patterns. Activities were designed based on the list of thought characteristics, and it was tried to make students realize their automatic thoughts. With the effect of the techniques applied in these two sessions, it was observed that the trait anger scores of the participants decreased. For this reason, it can be argued that the techniques applied in the program were effective.

Expressing anger using irony, offensive words or aggressive behavior may cause the individual to encounter similar reactions from others or their withdrawal. In this sense, it can cause tensions in the individual's life and damage relationships (Zillman, 1991; Donohue & Kolt, 1992). For this reason, activities related to anger outside were included in the study. In the 4th and 5th sessions of the study, behavioral experiments and role-playing techniques were used to help students realize their responses to anger. In addition, awareness was raised about appropriate and inappropriate anger responses, and the possible problems that inappropriate anger responses could cause were highlighted. Thus, it was aimed to prevent students from expressing their anger in inappropriate ways. In this context, it is thought that learning appropriate anger responses and being able to see how they responded in case of anger in group environments and the results of their responses may have contributed to the decrease in the pretest anger outside scores of the experimental group in the posttest.

Research findings revealed a significant difference between the mean anger inside scores of the experimental group from the pretest and posttest and a decrease in the anger inside scores. In the 2nd and 5th sessions of the study, two important strategies were used to reduce anger inside. The first included teaching the difference between the "I" language and "you" language" and how the "you" language could evoke defensive and offensive reactions in the interlocutor. This helped individuals learn how they could express their feelings more easily to their interlocutors by using the right methods instead of repressing their anger. The second strategy included keeping an anger diary. Keeping an anger diary allows a person to write down their anger and relax. Thanks to these diaries, individuals can become aware of anger, analyze the processes that cause anger, and develop alternative responses. It was aimed to raise awareness of the individuals

through the diaries examined during the group process by giving feedback. It can be said that these interventions may have contributed to the expression of anger in appropriate ways and the recognition of the process that reveals anger.

At the end of the activities carried out in the sessions, the students were encouraged to use the awareness they gained in the group in their daily lives, and the necessary information on the subject was presented (assignments, anger diaries, tasks for the application of the learned behavior in daily life, etc.). It can be thought that the awareness experienced in the group and the experience of appropriate anger responses learned contributed positively to maintaining the effectiveness of the program outside of the study.

5. Recommendations

Since adolescence is a period in which emotions are intensely experienced, it is a critical period in terms of anger control. On the other hand, the feeling of anger starts from individuals' birth, not in adolescence, and is shaped over time by the influence of the environment. In this context, the application of anger management education in pre-adolescent ages will ensure early prevention of the problems caused by anger and help gain anger management skills from an early age. Teachers, administrators, and parents can also be trained to help students manage their anger. Anger, violence, suicide, delinquency, etc. can cause problems. In this context, students who are at risk in terms of anger management should be identified and anger management programs for these students should be a continuous activity of the school. Social skills education can be organized not only for students who are at risk for anger control but also for all other students, using techniques such as role-playing and demonstration for the appropriate expression of anger.

Some studies in the literature have shown that parental attitudes have a significant impact on anger management skills (Kazdin, 1991; Tolan, Hanish, McKay, & Dickey, 2002). For this reason, it is thought that including parents in psychoeducation programs in future studies to increase the effectiveness of the program may change their attitudes and behaviors and have a positive effect on adolescents' anger management skills. In the study, the study data were collected based on participants' self-report (scale). It is recommended that the opinions of parents, teachers, and other people in students' circles can be taken to examine the effectiveness of the results in future studies.

Conflict of Interest Statement
The authors have no conflicts of interest to declare.

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