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The impact of group psycho-education program on cognitive emotion regulation strategies in children*

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Abstract

In this research, real experimental design with pre-test, post-test, and follow-up measurements were used. The research was carried out with 20 students attending the 5th and 6th grades of a secondary school in Istanbul. The program is found to cause an increase in the use of refocus on planning, positive reappraisal, and putting in the perspective strategies, and a decrease in the use of self-blame. This increase and decrease both remained persistent until the follow-up measurement. A decrease in the use of catastrophizing strategies was found and this decrease partially preserved its effect until the follow-up measurement. The program had no effect on the strategies of acceptance, rumination, and other-blame. The program led to an increase in the use of positive refocusing, however, this increase failed to maintain its effectiveness in the period until the follow-up measurement. The pilot study concluded that the developed program is effective on some strategies.

Keywords: *cognitive emotion regulation in children, awareness program, psycho-education*

1. Introduction

1.1. Introduce the problem

Emotion regulation refers to the process of changing the emotions that an individual feels in the face of the experience, the intensity of the emotions, the duration, the time of emergence, and the emotion-oriented reactions through certain initiatives (Gross, 1998). Emotion regulation further pertains to the process of increasing, maintaining and decreasing positive and negative emotions (Parrott, 1993), with efforts to this end represented in almost every area of life. Examples of emotion regulation strategies

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include meeting with a loved one in order to feel happy, avoiding crowded environments to lower anxiety and engaging in distractions to lessen anger (Gross, 2002).

Deficiencies in emotion regulation skills and psychopathological problems are closely related. For example, those suffering from substance addiction or eating disorders can have problems properly regulating their emotions (Pierrehumbert et al., 2002). In addition, it has been found that individuals suffering from psychosis, anxiety and mood disorders use dysfunctional emotion regulation strategies more often than others. It is recommended that such individuals learn to acquire functional emotion regulation strategies as part of their treatment protocol. (Livingstone et al., 2009). As a matter of fact, eliminating deficiencies in emotion regulation skills can have a facilitating effect in the treatment of problems, such as generalized anxiety disorders (Mennin, 2004).

Eliminating problems that prevent the development of emotion regulation skills is considered important not only in the treatment of psychological issues but also in preventing the risk of psychopathology – and the importance of this issue demands far more attention (Rudolph et al., 2007; Garnefski et al., 2005; O'Driscoll et al., 2014). Various strategies can decrease or increase emotional tension in an individual that can manifest in certain parts of the brain (Belden et al., 2014; Wolgast et al., 2011; Bormann & Carrico, 2009; Hazebroek et al., 2001; Ray et al., 2008). In addition, the functional value of any strategy may vary according to the experience for which it is used (Garnefski et al., 2001). When considered in this context, increasing the awareness of individuals about emotion regulation strategies is considered an important factor.

1.1.1. Cognitive Emotion Regulation Strategies

Individuals are able to regulate their emotions in different means. One of these means is cognitive emotion regulation strategies. Cognitive emotion regulation strategies are described as the regulation of emotions using several intellectual ways and are defined as self-blame, acceptance, rumination, positive refocusing, refocus on planning, positive reappraisal, putting into perspective, catastrophizing, and blaming others (Garnefski et al., 2001).

To explain further, self-blame strategy refers to an individual's self-accusatory way of thinking regarding the experience. Acceptance strategy is focusing on what they can do by accepting the experience. Rumination means clinging to the emotions and thoughts related to the experience. Positive refocusing means thinking about better and positive issues instead of the experience. Problem-solving-oriented thinking is explained as refocus on planning. Positive reappraisal happens when an individual considers how the experience has positively contributed to their personal growth. Putting into perspective refers to comparing the actual event to bigger issues in order to play down on its effectiveness. Thinking about the negative outcomes of the experience exaggeratedly is

called catastrophizing. Finally, blaming others refers to accusing other people of the experience instead of taking responsibility (Garnefski et al., 2001).

1.1.2. Importance of Middle Childhood from the Perspective of Awareness of Cognitive Emotion Regulation Strategies

Children's ability to regulate their emotions on their own is more improved in terms of both quality and quantity in middle childhood compared to earlier periods. The achievements of this period, such as the development of self-understanding and insight from a psychological point of view, distinguishing the difference between visible and real, the development of a multi-faceted perspective towards the event, and socially acquired knowledge, contribute to children's understanding of the effects of displaying and expressing emotions on others. Thus, children learn to hide their emotions and regulate them by trying to prevent and change the unwanted reactions of others. Again, in this period, with the increase of cognitive maturity level, they can think more flexibly and establish a cause-effect relationship between events. They can regulate their emotions by focusing on what negative events bring them to personal development or by thinking about more pleasant things instead of negative events. However, they may turn to self-blaming thoughts in the face of negative events (Skinner & Zimmer Gembeck, 2007; Andres et al., 2016; Garnefski et al., 2007; Damon & Hart, 1982; Flavell et al., 1983; Fischer, 1980; Thompson, 1991).

As observed, an individual in middle childhood receives less help from adults in regulating their emotions compared to previous developmental periods, can hide their emotions more because they take into account the reactions in their external environment, and can use cognitive strategies (for example, self-blame), in addition to other methods, while regulating their emotions with the increase in cognitive maturity level. For this reason, raising awareness about cognitive emotion regulation strategies is of vital importance in regard to those undergoing middle childhood.

It is thought that the awareness towards cognitive emotion regulation strategies to be gained by the children during the middle childhood period will also affect their future age periods. Because with adolescence, there is a significant increase in psychopathological problems, and those who encounter psychopathological issues are known to employ cognitive strategies related to these issues in order to regulate their emotions. (Garnefski et al., 2005; Costello et al., 2011). Therefore, the awareness to be gained by the children regarding cognitive emotion regulation is hoped to both plays a protective role and help them cope with the possible psychopathological problems in the adolescence period.

1.1.3. Approaches Based on the Program and Reasons for Preference

Rational Emotive Behavior Therapy (REBT). Rational Emotional Behavior Therapy (REBT) pertains to one's feelings toward and behaviors following an event (Ellis & MacLaren, 2005). This is explained by the ABC analysis, by which the result (C) of the

triggering event or situation (A) is affected by the belief system (B) of the person (Hackney & Cormier, 2005).

In REBT, beliefs are divided into rational and irrational. Rational beliefs are related to one's desires and goals and contribute to helping oneself effectively. Being flexible in preferences, against catastrophe, tolerant in the face of frustration, and accepting of the reality of an event are considered characteristics of rational thinking styles, leading to healthy emotion, functional behavior, and realistic thinking (Ellis, 1993; Dryden & Neenan, 2015).

Cognitive emotion regulation strategies are also related to thoughts by nature and cognitive emotion regulation strategies show similar characteristics with REBT, in terms of the mindsets they focus on. In addition, the REBT can be used for children and adolescents as well as adults (Bernard et al., 2006) and is considered beneficial in terms of revealing, evaluating, and changing various cognitive emotion regulation strategies. Due to all these reasons, it was decided to benefit from the theoretical framework of ADDT in the developed program.

Game-Based Learning Approach. Game is defined as the "most natural learning tool that affects all developmental areas of the child, with or without a purpose, including rules or no rules, with or without a tool, where the child participates willingly and with pleasure" (Koçyiğit et al., 2007: p. 327). Children's interest in play can provide a boost to their educational activities (Pehlivan, 1997). According to Orlich (1985), educational games have many effects on children, such as increasing motivation, solving complex problems in simpler ways, improving children's awareness of future social roles, and developing analytical processes.

Games have a facilitating role in teaching and can structure children's existing knowledge. Since games are attractive to children, their use in the learning environment can positively boost motivation towards learning. Children, whose motivation is provided through play activities, become more engaged in the learning process and can thus learn more effectively (Bodrova & Leong, 2003; Akbaba et al., 2003; Ginsburg, 2007; Luo et al., 2010; Meluso et al., 2012; Tuğrul, 2014). For all these reasons, it was thought that the Game-Based Learning Approach would contribute to the research, and for this reason, it was decided to also benefit from the Game-Based Learning Approach in the program developed within the scope of the research.

*1.1.4. Cognitive Emotion Regulation Strategies Awareness Progra**m***

The Cognitive Emotion Regulation Strategies Awareness Program is a psycho-educational program based on the Rational Emotional Behavior Therapy and Game-Based Learning Approach developed by the researchers within the scope of this study. The program consists of seven sessions held once a week lasting between 60-85 minutes. The program is targeted at those going through middle childhood (ages 9-12) and is

focused on achieving seven main goals, including: (1) fusion, relationship-building, and interaction; (2) helping group members to recognize and distinguish between thoughts, feelings, and behavior; (3) helping group members recognize the cognitive emotion regulation strategies they use against experiences; (4) helping group members test the functionality of the strategies they use; (5) helping group members identify alternative strategies; (6) helping group members replace dysfunctional strategies with alternatives; (7) to allow group members to say their goodbyes appropriately. The content of the program consists of methods and techniques, some of which were developed by researchers and others that were adapted to cognitive emotion regulation strategies by researchers, such as warm-up activities, ABC model, cognitive discussion, role-playing, role change, homework, drama, and interactive games.

1.2. Purpose of the research

The purpose of this study is to examine the effect of the Cognitive Emotion Regulation Strategies Awareness Program based on Rational Emotional Behavior Therapy and Game-Based Learning Approach, developed by the researchers, on the cognitive emotion regulation strategies used by individuals in middle childhood.

2. Method

2.1. Model of the Research

In this study, in order to test the effect of the Cognitive Emotion Regulation Strategies Awareness Program, which is based on Rational Emotional Behavior Therapy and Game-Based Learning Approach, developed by the researchers, on the cognitive emotion regulation strategies used by individuals in middle childhood, working via a pre-test/post-test control group trial model. This design includes the repeated measurements of the experimental and control groups, which were determined by a random assignment of variable, which was tested in the group following the trial (Büyüköztürk, 2001). In the study, the permanence of the applied program was tested by making a follow-up measurement for the experimental group. The design of the research is shown in Figure 1:

Figure 1 *Symbolic Representation of the Experimental Design*

R	D	O1	X	O2	t	O3
R	K	O1		O2		

R: Neutral assignment, D: Experimental Group, O1: Pre-test application, X: Cognitive Emotion Regulation Strategies Awareness Program applied to the experimental group, O2: Post-test application, t: Time after the application (5 Months), O3: Follow-up measurement for the experimental group

2.2. Study Groups

The research was carried out on 5th and 6th-grade students who are attending a secondary school in Istanbul during the 2018-2019 academic year. After obtaining the necessary permission, introductory posters were put up on the school corridors and the students were announced that they could pre-apply to the program voluntarily by visiting the classes. 145 students volunteered to pre-apply in the program and these students completed the Cognitive Emotion Regulation Strategies Scale for Children. In efforts to facilitate interaction in voluntary groups, the number of group members can be limited between 8 and 12 (Voltan Acar, 2018). Thereby, of the students who applied, 10 students were chosen for the experimental and another 10 were chosen for the control group randomly. The students who were not chosen for the study were appropriately informed on why they were not selected. The students were informed that the program will be applied to them in the process after the pilot study, considering the findings.

There were five female and five male students in both experimental and control groups. The mean age of both groups came to 11.2 years. The participants were children from families of middle or low socioeconomic statuses. None of the participants had a past or current clinical diagnosis.

2.3. Data Collection Tools

Personal Information Form.The form developed by the researchers include questions about the birth year, grade level, name, surname, and gender.

Cognitive Emotion Regulation Questionnaire-k for Children. The Cognitive Emotion Regulation Questionnaire for Children is a version of the Cognitive Emotion Regulation Scale developed by Garnefski et al. (2001) and adapted by the same team in 2007. The scale consists of 36 items and nine sub-dimensions presented in a 5-point Likert-type rating format, with four items in each sub-dimension. The scale can be applied to the clinical or non-clinical group. A minimum of 4 and a maximum of 20 points can be obtained from each sub-dimension. The score obtained from any sub-dimension indicates the level of strategy use of that sub-dimension (Garnefski et al., 2007). The reliability and validity studies of the Turkish adaptation of the scale were carried out by Akfirat and Turan (2021). According to the results of a confirmatory factor analysis performed within the scope of the Turkish adaptation of the scale, c2/df = 2.05; AGFI=0.89; RMSEA=0.040; GFI=0.91; NNFI=0.93; CFI= 0.93 and RMR= 0.056, it was concluded that the model fit well. The general internal consistency coefficient of the scale is 0.79. The Cronbach alpha reliability coefficient values for the sub-dimensions range from 0.43 to 0.80, the total correlation values for the scale items are between 0.16 and 0.66, and the test-retest

reliability values for the sub-dimensions varies between 0.36 and 0.66. It was concluded that the findings obtained were compatible with the original form and other versions of the scale (Akfırat & Turan, 2021).

2.4. Data Analysis

Due to the small number of subjects, non-parametric tests were used in the analysis of the data. Within the scope of the research, a Mann-Whitney-U Test was conducted to compare the pre-experimental and post-experimental measurements for the experimental and control groups. The Wilcoxon Signed Ranks Test was used to compare the pre-test/post-test scores of the control group, while a Friedman Analysis was used to compare the pre-test, post-test, and follow-up results of the experimental group. Subsequently, the Wilcoxon Signed Ranks Test was used to compare the pre-test/post-test, post-test-follow-up, and pre-test-follow-up measurement results of the experimental group. The Mann-Whitney-U test is used to evaluate if the measurement results obtained from two independent variables are different from each other. The Wilcoxon signed-rank test can be used to investigate the difference between two different measurement results of a group (Büyüköztürk, 2016). Additionally, the Friedman test is used to investigate whether at least one of more than two measurement results belonging to a group is different from the others (Karagöz, 2010).

2.5. Implementation Process

After an unbiased assignment, the necessary explanations were given to the experimental and control groups and necessary permissions were obtained from the students and their parents. Before starting the program, the school administration was contacted and the necessary environment was prepared. Then, a Cognitive Emotion Regulation Strategies Awareness Program based on Rational Emotional Behaviour Therapy and Game-Based Learning Approach was implemented on the experimental group, with sessions lasting between 60-85 minutes, once a week for seven weeks. The sessions were held before classes, in order not to disrupt the children's education and a 10-minute break was taken when half of each session was reached. A note of reminder was given to the parents over the phone 1-2 days before the sessions. A member could not attend only one session due to personal reasons; in the other sessions, it was observed that the participation was full. Apart from the first, third session, and the last session, the experimental group was allowed to transfer their skills to daily life with homework assignments. Throughout this process, no action was taken on cognitive emotion regulation strategies for the control group. Since one of the researchers worked as a

psychological counsellor in the same school, he conducted counselling activities and interviews on different subjects from time to time. After the 7-week program implementation period, the experimental and control groups were post-tested and, after five months passed, a follow-up measurement was made for the experimental group. The measurement results were analyzed via SPSS 22. The actions taken in the sessions are summarized below:

The first session focused on introducing group members, interacting, and establishing group rules. After briefly mentioning the general purpose of the group, two name activities and one game activity were held to emphasize the importance of the rules. Then, group rules were created, which the children were allowed to discuss.

The second session focused on introducing the main emotions, comprehending what kind of functions these emotions could involve, and the possible consequences of being under the influence of emotions for a long time. These were rated along with the ABC model, revealing the emotions related to an event and rating the level of severity of the emotions. First of all, a card activity was conducted to introduce the main emotions and characteristics of these emotions (their functions, their effects on the individual in the short and long term). Secondly, an activity was carried out that included defining and grading the emotions of an experienced event. Then, the ABC model was introduced. After each event, members were allowed to discuss. Finally, assignments were made so that members could practice on the ABC model until the next session.

In the third session, the assignment given at the end of the second session was discussed. This session focused on the precise differentiation of questions that elicit emotion, thought, behaviour, as well as a thorough understanding of the ABC model. First, the activity was inspired by the maze game and aimed to distinguish the questions that help reveal emotions, thoughts, and behaviour, with members then encouraged to discuss. Afterward, a second activity was held, which aimed for members to enter the roles of characters in different events and to identify the possible feelings, thoughts, and behaviours they might possess, before a post-activity discussion.

In the fourth session, the focus was on making the cognitive emotion regulation strategy of acceptance and how this strategy can be used to make it difficult for the individual to adapt. The first activity draws attention to the fact individuals can face certain experiences whose results cannot be changed and that it is more beneficial to focus on other opportunities by accepting the result instead of being stuck with the experience in such cases. The cognitive emotion regulation strategy of accepting was introduced by passing to the discussing stage. In the second activity, group members were divided into two groups, who were asked to try to guess the feelings and thoughts of characters by taking on the roles in a scenario. Then, in order to access the accepting cognitive emotion regulation strategy, they were asked to ask the questions here by giving Annex-11 in the program content. In the third activity, it was suggested that the

members regulate their feelings about an event in the past using the cognitive emotion regulation strategy, and they were allowed to discuss. Afterward, assignments were given and the session was ended in order to enable the members to practice the use of the cognitive emotion regulation strategy of acceptance.

The fifth session focused on recognizing the strategies of putting situations in perspective and showing how positive reappraisals can be used at difficult times. First, the assignment given at the end of the fourth session was discussed, and then the first activity, which aimed at making people realize putting in the perspective strategy, was carried out. After this activity, members were asked to regulate their feelings about a past event using the cognitive emotion regulation strategy of putting them into perspective. Subsequently, an activity was held to raise awareness of the positive reappraisal strategy, and here it was suggested that this was how members could regulate their feelings about a past event. After the discussion, assignments were made and the session was drawn to a close to enable members to practice.

In the sixth session, firstly, the assignments given at the end of the fifth session were discussed and the strategy of refocusing was introduced. The members were asked to regulate their feelings about a past event using the strategy of refocusing on planning. In the next activity, members were divided into groups of two and, starting from the first group, were asked to act out a scenario in which one member blamed the other, while the other member thinks more pleasant things against these words. After the activity was completed a discussion was launched and information was given about the positive refocusing strategy, and it was stated that this strategy should not be used all the time and that it could only be used temporarily in crises. The members were informed about what kind of questions they could ask themselves in order to use this strategy and reminded that the next session would be the last. The session ended with a homework assignment to enable members to practice the use of these two strategies.

In the seventh session, after the assignments given at the end of the sixth session were shared, the aim was to repeat and summarize the skills intended to be gained in the program, to share their thoughts about the program and to say goodbye appropriately by completing their unfinished work. In order to achieve these goals, case studies were presented in the first activity and members were asked to identify the strategies used in these events. In the second activity, a competition was held with questions in order to reveal the strategies. In the third activity, they were suggested to imagine that the group process was terminated and to identify their feelings and thoughts. Then, they were asked to draw a picture reflecting these feelings and thoughts together. After the discussion, the Cognitive Emotion Regulation Strategies Scale for Children was given out as a post-test for students to fill out and submit within a week. The program was concluded by giving each member a Certificate of Participation in the Cognitive Emotion Regulation Strategies Awareness Program prepared as part of the program.

3. Results

3.1. Comparison of Pre-test and Post-test Rank Means of Experimental and Control Groups

The results of Mann Whitney-U tests, which were conducted to compare the pre-experimental and post-experimental cognitive emotion regulation strategies usage levels of the experimental and control groups, are shown in Table 1:

Table 1. Results of Mann Whitney-U Tests Conducted to Compare the Pre-test and Post-test Scores of the Experimental and Control Groups

		Pre-Test						Post-Test					
Sub-Dimensions	**Groups**	**N**	**Mean Rank**	**Total Rank**	**U**	**Z**	**P**	**N**	**Mean Rank**	**Total Rank**	**U**	**Z**	**p**
Self-blame	Experimental Control	10 10	10 11	100,00 110,00	45,000	-0,380	0,704	10 10	6,2 14,8	62,00 148,00	7,000	-3,266	0,001*
Acceptance	Experimental Control	10 10	10,60 10,40	106,00 104,00	49,000	-0,076	0,939	10 10	12,40 8,60	124,00 86,00	31,000	-1,451	0,147
Rumination	Experimental Control	10 10	12,80 8,20	128,00 82,00	27,000	-1,763	0,078	10 10	8,55 12,45	85,50 124,50	30,500	-1,481	0,139
Positive Re-Focusing	Experimental Control	10 10	11,40 9,60	114,00 96,00	41,000	-0,686	0,493	10 10	15,30 5,70	153,00 57,00	2,000	-3,638	0,000*
Re-Focusing on the Plan	Experimental Control	10 10	9,15 11,85	91,50 118,50	36,500	-1,025	0,305	10 10	13,85 7,15	138,50 71,50	16,500	2,538	0,011*
Positive Reappraisal	Experimental Control	10 10	9,85 11,15	98,50 111,50	43,500	-0,495	0,621	10 10	15,30 5,70	153,00 57,00	2,000	-3,652	0,000*
Putting in the Perspective	Experimental Control	10 10	11 10	110,00 100,00	45,000	-0,387	0,699	10 10	15,20 5,80	152,00 58,00	3,000	-3,569	0,000*
Catastrophizing	Experimental Control	10 10	9,75 11,25	97,50 112,50	42,500	-0,573	0,566	10 10	6,80 14,20	68,00 142,00	13,000	-2,812	0,005*
Blaming Others	Experimental Control	10 10	10,05 10,95	100,50 109,50	45,500	-0,343	0,732	10 10	7,65 13,35	76,50 133,50	21,500	-2,180	0,029*

*p<0,05

Upon examination, Table 1 shows that there is no difference between the cognitive emotion regulation strategies pre-test rank averages of the experimental and control groups ($p>0.05$). However, when the post-test rank averages are noted, one sees a significant difference in the sub-dimensions of self-blame, catastrophizing and other-blame – and the experimental group used these strategies less than the control group ($p<0.05$). On the other hand, considering the mean rank, it was found that the experimental group used the strategies of positive refocusing, refocus on planning, positive reappraisal, and putting in the perspective statistically more than the control group ($p<0.05$); it was found that there was no difference between the groups in the use of rumination and acceptance strategies ($p>0.05$).

As a result of the comparison between the groups, there was no significant difference between the experimental and control groups regarding the level of use of acceptance and rumination strategies, so these strategies were not included in subsequent analyses.

3.2. Comparison of the Pre-test and Post-test Rank Means of the Control Group

The Wilcoxon Signed Ranks Test results, which were performed to compare the pre-test and post-test rank averages of the control group, are shown in Table 2

Table 3. Wilcoxon Signed-Rank Test Results Performed to Compare the Pre-test and Post-test Results of the Control Group

Sub-Dimensions	Groups	N	Mean Rank	Total Rank	Z	p
Self-blame	Negative Rank	6	6,67	40,00	-1,286	0,198
	Positive Rank	4	3,75	15,00		
	Equal	0				
Positive Re-Focusing	Negative Rank	6	3,58	21,50	-0,492	0,623
	Positive Rank	2	7,25	14,50		
	Equal	2				
Re-Focusing on the Plan	Negative Rank	5	5,50	27,50	-0,595	0,552
	Positive Rank	4	4,38	17,50		
	Equal	1				
Positive Reappraisal	Negative Rank	6	3,50	21,00	-2,232	0,026*
	Positive Rank	0	0,00	0,00		
	Equal	4				
Putting in the Perspective	Negative Rank	5	4,20	21,00	-0,424	0,671
	Positive Rank	3	5,00	15,00		
	Equal	2				
Catastrophizing	Negative Rank	3	5,67	17,00	-0,141	0,888

	Positive Rank	5	3,80	19,00		
	Equal	2				
Blaming Others	Negative Rank	3	7,00	21,00	-0, 421	0,674
	Positive Rank	5	3,00	15,00		
	Equal	2				

*p<0,05

Considering the analysis results in Table 2, it was found that the control group used positive reappraisal strategies less after the experiment than beforehand (Z= -2.232; p <0.05) and that there was no change in the level of use of other techniques (p> 0.05).

3.3. Comparison of Pre-test, Post-test and Follow-up Measurement Results of the Experimental Group

The results of the Friedman Test performed to compare the pre-test, post-test, and follow-up measurement results of the experimental group are shown in Table 3:

Table 3. Friedman Test Results Performed to Compare the Pre-test, Post-test, and Follow-up Measurement Results of the Experimental Group

Sub-Dimensions	**Tests**	**N**	**Mean Rank**	**χ^2**	**sd**	**p**
Self-blame	Pre-Test	10	2,90	14,000	2	0,001*
	Post-Test	10	1,40			
	Follow-up	10	1,70			
Positive Re-Focusing	Pre-Test	10	1,40	6,703	2	0,035*
	Post-Test	10	2,50			
	Follow-up	10	2,10			
Re-Focusing on the Plan	Pre-Test	10	1,00	15,846	2	0,00*
	Post-Test	10	2,65			
	Follow-up	10	2,35			
Positive Reappraisal	Pre-Test	10	1,15	11,744	2	0,003*
	Post-Test	10	2,60			
	Follow-up	10	2,25			
Putting in the Perspective	Pre-Test	10	1,20	14,000	2	0,001*
	Post-Test	10	2,85			
	Follow-up	10	1,95			
Catastrophizing	Pre-Test	10	2,60	7,189	2	0,027*
	Post-Test	10	1,45			
	Follow-up	10	1,95			
Blaming Others	Pre-Test	10	2,40	4,867	2	0,088
	Post-Test	10	1,55			
	Follow-up	10	2,05			

*p<0,05

Table 3 indicates no significant difference between the pre-test, post-test, and follow-up results for the sub-dimension of other-blame ($p>0.05$). Therefore, the sub-dimension of other-blame was not included in the subsequent analyses. In all other sub-dimensions, at least one of the pre-test, post-test, and follow-up measurement results differ statistically from the others ($p<0.05$).

3.4. Comparison of Pre-test - Post-test, Post-Test-Follow-up and Pre-test-Follow-up Measurements of the Experimental Group

The results of the Wilcoxon Signed-Rank Tests conducted to compare the pre-test/post-test, post-test-follow-up, and pre-test-follow-up measurements of the experimental group are shown in Table 4:

Table 4. Results of Wilcoxon Signed Rank Tests Conducted for the Comparison of Pre-test/Post-test, Post-Test-Follow-up and Pre-test-Follow-up Measurements of the Experimental Group

	Pre-Test – Post-Test						**Post-Test – Follow-up**						**Pre-Test – Follow-up**					
Sub-Dimensions	**Groups**	**N**	**Mean Rank**	**Total Rank**	**Z**	**p**	**Groups**	**N**	**Mean Rank**	**Total Rank**	**Z**	**p**	**Groups**	**N**	**Mean Rank**	**Total Rank**	**Z**	**p**
Self-blame	Neg. Rank	9	5,00	45,00	-2,673	0,008*	Neg. Rank	3	5,33	45,00	-0,778	0,437	Neg. Rank	9	5,00	45,00	-2,684	0,007*
	Pos. Rank	0	0,00	0,00			Pos. Rank	6	4,83	0,00			Pos. Rank	0	0,00	0,00		
	Equal	1					Equal	1					Equal	1				
Positive Re-Focusing	Neg. Rank	1	1,00	1,00	-2,554	0,011*	Neg. Rank	6	6,42	9,00	-1,901	0,057	Neg. Rank	2	4,50	9,00	-1,601	0,109
	Pos. Rank	8	5,50	44,00			Pos. Rank	3	2,17	36,00			Pos. Rank	7	5,14	36,00		
	Equal	1					Equal	1					Equal	1				
Re-Focusing on the Plan	Neg. Rank	0	0,00	0,00	-2,807	0,005*	Neg. Rank	6	6,08	0,00	-1,663	0,096	Neg. Rank	0	0,00	0,00	-2,818	0,005*
	Pos. Rank	10	5,50	55,00			Pos. Rank	3	2,83	55,00			Pos. Rank	10	5,50	55,00		
	Equal	0					Equal	1					Equal	0				
Positive Reappraisal	Neg. Rank	0	0,00	0,00	-2,809	0,005*	Neg. Rank	6	7,50	1,00	-1,797	0,072	Neg. Rank	1	1,00	1,00	-2,549	0,011*
	Pos. Rank	10	5,50	55,00			Pos. Rank	4	2,50	44,00			Pos. Rank	8	5,50	44,00		
	Equal	0					Equal	0					Equal	1				
Putting in the Perspective	Neg. Rank	0	0,00	0,00	-2,807	0,005*	Neg. Rank	8	5,31	4,50	-2,374	0,018*	Neg. Rank	2	2,25	4,50	-2,346	0,019*
	Pos. Rank	10	5,50	55,00			Pos. Rank	1	2,50	50,50			Pos. Rank	8	6,31	50,50		
	Equal	0					Equal	1					Equal	0				
Catastrophizing	Neg. Rank	9	6,00	54,00	-2,712	0,007*	Neg. Rank	3	7,00	31,50	-0,179	0,858	Neg. Rank	6	5,25	31,50	-1,895	0,058
	Pos. Rank	1	1,00	1,00			Pos. Rank	6	4,00	4,50			Pos. Rank	2	2,25	4,50		
	Equal	0					Equal	1					Equal	2				

*p<0,05

Meanwhile, Table 4 shows that the experimental group used the self-blame strategy less after the application than beforehand, and this situation was permanent when evaluated together with the post-test-follow-up and pre-test-follow-up measurements. On the other hand, it is seen that the positive refocusing strategy was used more after the application, but permanence could not be achieved. In addition, the strategies of refocusing on planning, positive reappraisal, and putting into perspective were used more following the application and this situation did not change in the period until the follow-up measurement. When considered together with the results, it can be understood that this learning outcome is partially permanent (see Table 4).

4. Discussion

In this study, the effect of the Cognitive Emotion Regulation Strategies Awareness Program is based on the rational, emotional behavior therapy and game-based learning approach developed by the researchers on the level of cognitive emotion regulation strategies by individuals in middle childhood was examined. It was found that participants started to use the self-blame strategy less, which is one of the cognitive emotion regulation strategies, after the program was applied. According to Beck (1963), the majority of individuals who show symptoms of depression blame themselves. In addition, other studies indicate the connection between self-blaming thoughts and psychopathological symptoms (Peksaygılı & Güre, 2008; Grych et al., 2000; Garnefski et al., 2007; Sakız, 2011; Orgilés et al., 2018). For this reason, a decrease in the use of self-blame cognitive emotion regulation strategy at the end of the program and persistence of this decrease during the five months until the follow-up measurement is considered a positive outcome.

As a result of the research, it can be seen that the applied program had no effect in terms of the acceptance strategy. The acceptance strategy focuses on the acceptance of events that cannot be changed and focusing on what can be done, as Garnefski et al. (2001) relate. Individuals in middle childhood want to be appreciated and approved by those around them in terms of achievements and the psychosocial crisis of this age period, industry vs inferiority, creates a feeling of inferiority against success (Erikson, 1968). Therefore, the children may have interpreted the acceptance strategy as "accepting inadequacy." Because such an interpretation does not match children's desire to be successful and appreciated, which is characteristic of this period, group members may have developed a certain resistance to the accepting strategy. In addition, accepting events that cannot be changed and focusing on what can be done requires a process, especially for challenging events (Tedeschi & Calhoun, 2004). For example, according to Kübler-Ross (1969), there are stages of denial, anger, bargaining, depression, and finally, acceptance in the grieving process. However, when the acceptance strategy has been

examined in certain studies, it has been construed as "letting feelings and thoughts about experiences come and go without intervention," and it has been seen that the participants regulate their emotions by using this strategy (Wolgast et al., 2011; Antoine et al., 2018). Therefore, it may be more appropriate to consider the acceptance strategy on such a conceptual basis.

Rumination is seen as an emerging effort towards facing the problems of stress and depression (Robinson & Alloy, 2003; Nolen-Hoeksema, 1991). Research results also indicate that rumination increases stress and depression symptoms, harms problem-solving skills and thought system, and decreases concentration and motivation (Nolen-Hoeksema & Morrow, 1993; Just & Alloy, 1997; Lyubomirsky & Tkach, 2003). In addition, the contents with rumination symptoms come to the mind of the person involuntarily, which may cause the person's mind to be constantly occupied with the problem since the person experiencing rumination is stuck with negative events. Since the person is constantly busy with the problem, this situation may prevent him from thinking and acting on the solution options that can help him (Conway et al., 2000; Nolen-Hoeksema, 1987). However, rumination has been found to require more precise classifications, including self-critical rumination, anger rumination, anxiety rumination, interpersonal error-oriented rumination, or post-event rumination (Oral & Arslan, 2017; Rector et al., 2008; Wade et al., 2008; Sukhodolsky et al., 2001; Smart et al., 2016). As part of the implemented program, rumination was considered a choice and considered a strategy that could be reduced in light of the introduction of others. However, as stated, rumination is a relatively non-preferential state that brings an individual's mind under intense emotions involuntarily, restricts their appeal towards solutions, and has characteristic types within itself. Therefore, an awareness of rumination strategies used by individuals in the program and introducing alternative strategies may not have affected its use. For this reason, it can be considered a solution towards dealing with rumination more comprehensively, by focusing on underlying dynamics.

Learning is defined as "a relatively permanent change in behavior that occurs due to the interaction of the individual with the environment at a certain level" (Senemoğlu, 2012: p. 4). The applied program failed to make the learning outcomes permanent using a positive refocusing cognitive emotion regulation strategy. The skills developed for using this strategy could not be generalized to similar events in the period encompassing the scope of the study. However, as İnanç and Yerlikaya (2011) state, people do not have to learn to develop a reaction to every new situation, thanks to their ability to generalize. However, it was stated that the positive refocusing cognitive emotion regulation strategy should not be used for a long time during the application of the program and that it should only be used temporarily in severe crises. With this in mind, the aim was to eliminate the risk factor for the suppression of unpleasant events. Because the strategy of positive refocusing involves thinking about other, more pleasant things, instead of a relevant situation, it may negatively affect psychological adaption if used in the long

term (Garnefski et al., 2001). Because of this risk factor, group members may have used the positive refocusing strategy only in crises and exhibited a distinctive attitude towards its long-term use.

Solving problems requires skills that progress in stages. Developing a solution-oriented plan is considered as an important factor in functionally solving problems (Polya, 1945; Türnüklü and Yeşildere, 2005). The cognitive emotion regulation strategy of refocusing on planning is a strategy for thinking about what can be done and what kind of path to follow in order to resolve the unpleasant event (Garnefski et al., 2001). In that case, this strategy constitutes the cognitive dimension of the plan that the individual will make to solve the problem they are experiencing. This shows that it is important to use refocusing on planning cognitive emotion regulation strategy effectively. In addition, studies show that the cognitive emotion regulation strategy of refocusing on planning plays a functional role in regulating emotions in general. (Kurtoğlu-Karataş, 2019; Ataman, 2011; Lei et al., 2014; Balzarotti et al., 2016; Liu et al., 2016). For all these reasons, an increase in the use of refocusing on planning cognitive emotion regulation strategy due to the program and the persistence of this increase during the period until the follow-up measurement are considered to be positive results.

In terms of previous studies on the role of positive reappraisal cognitive emotion regulation strategy in regulating emotions, Rood et al. (2012) asked adolescents to ponder negative life experiences before giving them instructions on how to think after each experience. The positive reappraisal found that the cognitive emotion regulation strategy was more effective than all the others within the scope of their research in regulating emotions towards these events. Similarly, Wolgast et al. (2011) concluded that the positive reappraisal cognitive emotion regulation strategy has a functional role in emotion regulation. In addition, the results of many studies show that the positive reappraisal cognitive emotion regulation strategy can play an active role in facilitating psychological adaptation (Garnefski et al., 2004; Lei et al., 2014; Rudolph et al., 2007; Garland et al., 2011; Chan et al., 2016; Andres et al., 2016; Kara, 2019; Öztürk, 2019; Min et al., 2013). Considering the studies in the literature, it is perceived to be a positive outcome that the applied experimental program led to an increase in the positive reappraisal cognitive emotion regulation strategy and that this increase was preserved until the follow-up measurement.

In a study conducted on adults, Garnefski and Kraaij (2009) found that the cognitive emotion regulation strategy of putting into perspective had a functional effect on regulating emotions related to negative somatic life experiences. Other studies show that using a perspective cognitive emotion regulation strategy can be effective, especially in reducing depressive symptoms (Şahin, 2018; Kara, 2019; Garnefski et al., 2004). In terms of the putting into perspective cognitive emotion regulation strategy, in which a person compares the event they have undergone with other negative events that others have

experienced or with what they have experienced before, this can contribute to a realistic evaluation of the value that the person attributes to the event. For this reason, it is considered as a positive result that the applied program leads to a permanent increase in the use of putting into perspective cognitive emotion regulation strategy and that this increase was persistent until the follow-up measurement.

There are many studies showing the frequent use of catastrophizing cognitive emotion regulation strategy to be closely related to psychopathological symptoms (Garnefski et al., 2004; Martin & Dahlen, 2005; Garnefski et al., 2001; Suadiye & Aydın, 2009; Garnefski & Kraaij, 2009; Öz, 2017; Kurşunoğlu, 2018; Yalçın, 2019; Kara, 2019; Garnefski et al., 2007; Liu et al., 2016; Orgilés et al., 2018). These studies point out the importance of reducing the level of use of the catastrophizing cognitive emotion regulation strategy. Therefore, the decrease in the use of this method is a positive result and it is closely related to psychopathological symptoms that may have caused its decrease and its use to be partially permanent. However, some positive effects of this reduction, albeit partial, have also been observed. As a matter of fact, as a result of the research, it was found that some children had fewer test anxiety complaints than before.

As the use of positive refocusing cognitive emotion regulation strategy decreases, the use of catastrophizing cognitive emotion regulation strategy increases (Liu et al., 2016: p. 9; Kurtoğlu- Karataş, 2019: p. 58). Meanwhile, as the use of positive refocusing cognitive emotion regulation strategy decreases, the use of putting into perspective cognitive emotion regulation strategy decreases (Garnefski et al., 2001: p. 1322; Garnefski et al., 2007: p. 6; Liu et al., 2016: p. 9; Orgilés et al., 2018: p. 8). Furthermore, as the use of putting into perspective cognitive emotion regulation strategy decreases, the use of catastrophizing cognitive emotion regulation strategy increases (Onat & Otrar, 2010: p. 137).

Although the relationships between the related strategies differ in some studies, the decrease in positive refocusing cognitive emotion regulation strategy, partial decrease in the use of putting into perspective cognitive emotion regulation strategy, and the increase in the use of catastrophizing cognitive emotion regulation strategy are consistent with the above-mentioned findings. The fact that the changes in the level of using these strategies coincide with the same period and the findings mentioned above suggests that the strategies may interact with each other and the increase or decrease in the use of one may have affected the increase or decrease in the use of the other. From such a perspective, the partial persistence of the reduction in the use of the catastrophizing cognitive emotion regulation strategy may be due to the decrease in the use of the positive refocusing cognitive emotion regulation strategy and the partial decrease in the use of the putting into perspective cognitive emotion regulation strategy. The same may be valid for the vice versa. The increase in the use of the catastrophizing cognitive emotion regulation strategy may have reduced the use of positive refocusing

and putting into perspective cognitive emotion regulation strategies. Of course, it should not be forgotten that there may be different factors that can affect these changes.

By analyzing events they have experienced, people tend to establish a cause-effect relationship and attribute responsibility to a cause. For example, an individual who fails in any achievement test can attribute the reason for this failure to themselves or the difficulty of the test (Kelley, 1973). At the same time, when the behavior is controllable, an individual makes more internal attribution, but when the behavior is uncontrollable, they tend to direct the attribution to external sources (Weiner, 1985). From this point of view, shifting the responsibility of events to external sources can sometimes be perceived as a useful strategy, although not always. Because the person will have exported the attribution of uncontrollable situations instead of directing them into themselves, and in this way, they will regulate their emotions by externalizing the burden caused by a given experience. Since the experimental group found this strategy useful for some situations, the program may not have produced any change in the level of using the cognitive emotion regulation strategy, other-blame.

Studies show that the cognitive emotion regulation strategy of other-blame makes psychological adaptation difficult (Kara, 2019; Kurtoğlu-Karataş, 2019; Akyıl, 2019; Öztürk, 2019; Yiğit-Demir, 2018; Garnefski et al., 2007, Liu et al., 2016; Orgilés et al., 2018). Some studies have also shown that the use of this strategy may directly or indirectly affect the dissonance in interpersonal relationships, or that interpersonal relationship problem may increase the use of this strategy (Garnefski et al., 2003; Çelik & Onat-Kocabiyik, 2014; Erdem, 2019; Sepetçi, 2019; Stuewig et al., 2010; Hazebroek et al., 2001; Erdemir-Yeşiltaş, 2020). For this reason, practices aimed at increasing harmony in interpersonal relations may reduce the use of this strategy. This view is supported by the research findings of Antoine et al. (2018) and Mirzei & Hasani (2015). The program applied by Mirzei and Hasani (2015) is a life-skills-based program, which led to a decrease in the use of the cognitive emotion regulation strategy of other-blame in adolescents. Similarly, Antoine et al. (2018) concluded that the program based on Positive Psychology reduced the use of the cognitive emotion regulation strategy of blaming others in the experimental group. If the theoretical perspectives used in these studies are examined, relations – in line with Positive Psychology Theory – are considered important in terms of meeting such needs as sharing, being loved, and establishing closeness – often described as some of the basic building blocks of well-being. Thus, it is important to develop positive relationships in positive psychology (Seligman, 2012). Life skills, on the other hand, are defined as those that aid the individual to establish healthy relationships, problem-solving skills, make effective decisions, cope with difficult life events, and empathize and it is stated that the content of their education includes topics such as friendship and human relations, conflict resolution skills, healthy lifestyles, family and community participation (Education, Scientific and Cultural Organization [UNESCO], 2008). When gleaned in this light, these two programs

may have contributed to the conduct of the construction of healthy interpersonal relationships. In this way, the use of the cognitive emotion regulation strategy of other-blame may have decreased.

Some researchers have commented that the individual may perceive the behavior of those involved in the experience as a threat and, therefore, blame others (Dodge & Price, 1994; Lochman & Dodge, 1994; Crick & Dodge, 1996; Garnefski et al., 2001; Schultz et al., 2004). With this in mind, the use of methods and techniques for a realistic assessment of the threat element in incidents may reduce the use of this strategy.

As observed, there are some differences between the findings of experimental studies covering cognitive emotion regulation strategies in the literature. The same is true for the findings of the experimental study conducted within the scope of this research. If a general evaluation is made about the differences in the findings according to the studies, this may also be due to the different characteristics of the study groups in which the studies were conducted. For example, while Yaman (2016) conducted their research on mothers with twins, Mirzei and Hasani (2015) conducted their own on adolescents, and Claro et al. (2015) conducted theirs on adolescents in the risk group. Considering the characteristics of the study groups, the reason for the differences between the findings may also be cultural differences because research (De Leersnyder et al., 2013; Matsumoto et al., 2008; Potthoff et al., 2016) shows that cross-cultural differences may be effective in the use of cognitive emotion regulation strategies. In addition, it should not be forgotten that the strategies that individuals prefer to use may differ according to the experience, and the functionality of the strategies used may depend on what kind of experience they are used against (Garnefski et al., 2001). As a matter of fact, the awareness program applied in this research focused on which strategies individuals use against experiences, not on the strategies they use for specific situations. For this reason, the strategies preferred by individuals against some specific situations may not be compatible with the findings of this study.

This investigation is intended to be a pilot study. To generalize the outcome of this study, the program is recommended to be tested in terms of effectiveness by implementing it on different sample groups. The findings obtained in this study give clues about some other future researches that can be done on this matter. For example, the interactions of cognitive emotion regulation strategies used by individuals in middle childhood can be examined in a larger sample group. Given the importance of emotion socialization, family education programs that aim to contribute to healthy cognitive emotion regulation strategies in children can be developed in the light of the study. Furthermore, research can be conducted to evaluate the functionality of the short-term and long-term use of the positive refocusing of cognitive emotion regulation strategy. Experimental research can be conducted comparing the functionality of two different conceptual dimensions of the cognitive emotion regulation strategy of acceptance, by

which feelings and thoughts about an event are encouraged to come and go without intervention, thus allowing for a focus on what can be done through acceptance of the unchangeable. In addition, factors affecting the use of rumination and other-blame cognitive emotion regulation strategies in children of this age group can be a subject for further investigation.

5. Conclusion

In this study, the effect of the Cognitive Emotion Regulation Strategies Awareness Program on the level of use of cognitive emotion regulation strategies by those in middle childhood was investigated. As a result of the research, the program brought about a decrease in the children's self-blame strategy which was persistent during the five-month period until the follow-up measurement. The program led to an increase in the level of use of the refocusing on planning, positive reappraisal, and putting into perspective strategies and these increases were persistent during the five months until the follow-up measurement. Additionally, it is revealed that the program increased the use of positive refocusing, but this increase failed to maintain its effect until the follow-up measurement. Moreover, the use of the catastrophizing strategy is found to decrease, but this decrease partially preserved its effect in the period until follow-up measurement. Finally, it was concluded that the program did not affect the level of use of the strategies of acceptance, rumination, and other-blame.

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