



THE EFFECTS OF RECOVERY TECHNIQUES TAUGHT TO CHILDREN AFTER TRAUMA EXPERIENCE ON THE COPING STRATEGIESⁱ

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Abstract:

The objective of this study was to examine the effects of the recovery techniques training program on children's coping strategies. This research was conducted in a state middle school in Turkey during the educational year of 2016-2017. Both the experimental and the control groups consisted of 12 students. In this research nonequivalent control group model of quasi-experimental design was used. For the students in the experimental group, a recovery training program was applied once a week for eight weeks. No training was provided for the students in the control group. 'Child Posttraumatic Stress Reaction Index' and 'Kidcope' were used to collect the data in the study. The Mann-Whitney U test was used for the significance of the difference between pretest and posttest scores. According to the findings obtained; the recovery training program applied to children was effective in increasing active coping scores and in reducing the avoidant coping and negative coping.

Keywords: trauma, posttraumatic stress, recovery techniques, coping strategies, children

1. Introduction

The book DSM-5 Diagnostic Criteria published by the American Psychiatric Association defines trauma as a real death or death threat, serious injury or exposure to sexual

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violence (Koroglu, 2018). The incidents mentioned as trauma can be experienced, witnessed, or heard by the individual or by a close friend or relative of the individual (Colak, Kokurcan, and Ozsan, 2010). Trauma is divided into types according to the incident experienced (man-made and natural disasters), the reaction to the incident, and its effects. Some of the types are natural disasters, violence, crime and terrorism, divorce, dismissal from employment, miscarriage, sudden death of a loved one and stillbirth (Herbert, 2016, 20-21). The symptoms and reactions together which occur due to sudden and unexpected death of a loved one are named as traumatic mourning (Jacobs, 1999).

Loss of a parent is a traumatic experience for children because parents are the people children trust and are in first contact with as of their birth. Their emotional world and relationship with their parents are the fundamental building blocks of children's mental and emotional development and identity formation. With parents being so important for a child's mental development, loss of any of them may cause a negative existence tendency, higher levels of symptom loads and exhibition of more limited socialness (Ruppert, 2014, 69-74). In traumatic incidents experienced, loss of a parent and negative consequences thereof have become a considerable problem. Individuals who live such traumatic incidents in childhood are highly affected by them. It is seen that these children exhibit emotional and behavioral problems twice as much as those children with complete families (Blaisure and Geasler, 2009); (as cited in Gladding, 2012). Depending on the period of development and age, children who go through a trauma may not have the sufficient language skills to speak about the stress they feel. Instead, they express their emotions through different behaviors (Herbert, 2016, 22). Some of these behaviors are shock and disbelief, grief, burst of anger, fear, anxiety, apathy, sleeplessness, lack of appetite, poor concentration, academic failure, loss of energy, dreams and nightmares, bedwetting, thumb-sucking, avoidance responses, exaggerated worries, difficulty in accepting death, self-blaming (Herbert, 2016; Jacobs, 1999; Olgun-Ozpolat & Yuksel 2001; Sezgin, Yuksel, Topcu, & Discigil, 2004). Children need professional support in dealing with a traumatic life experience. When they do not gain constructive and functional coping skills and take a specialized training, they go through serious problems in their daily lives. Coping strategies that were developed in the past against sudden and unexpected incidents in daily life help the individual to follow a more active and constructive path. Coping skills need to be emphasized and encouraged beginning from the first years of life and then the effect last lifelong (Eroglu, 2001).

According to Folkman and Lazarus (1986), coping skill is defined as the total of cognitive and behavioral strategies adopted to resolve an issue or a negative incident or to minimize their impact on the individual. Coping strategies are considered in three sub-dimensions in the scale developed by Spirito, Stark and Williams (1988). Active coping is the coping strategy that is constructive and functional. It includes positive approach to problems, definition of the problem, creation of alternative solution options, decision-making and evaluation processes. Avoidant coping includes coping behavior that is not functional in problem-solving such as walking away from or

avoiding problems instead of overcoming them. With a negative coping strategy, individuals perceive the problem as a threat, believe that they cannot resolve it, blame themselves and others, and cause damage on their environment. Children need to have coping skills in order to resolve the problems they experience in a successful and constructive way (Gomleksiz & Bozpolat, 2012). When children go through a trauma, they do not yet have the sufficient coping skills because they are highly stressed out in emotional, physical and psychological ways.

One of the psycho-education programs on coping is “recovery techniques”. Recovery education has great importance when it comes to reducing these kinds of post-traumatic behaviors in children. Children need support as early as possible to protect them from serious and permanent damages and to accelerate their recovery. The objective of recovery techniques is to prevent permanent damage and minimize the harm caused by post-traumatic stress reactions which are natural and normal after a trauma (Gupta, Perrin, Gjestad, Smith, Dyregrov, & Yule, 2001).

With the help of recovery techniques taught to children, they turn to more constructive solutions when faced with problems and move on with their psycho-social development in a healthy way (Erden & Gurdil, 2009). According to Kukuoglu (2018), psychological education programs offer services that prevent psychopathological conditions that students can experience after a traumatic incident. The research by Akar (2018) obtained the result that a psychological resilience program is an effective intervention method in increasing the resilience of adolescents under the risk of poverty, with long-lasting effects. In the study by Unuvar (2012) and Gurgan (2006), it is observed that a psycho-education program has meaningful effect on the rise of resilience levels of high school and university students. In another study, it was found out that psycho-education on 22 people with Post-Traumatic Stress Disorder resulted in lower levels of anger, better anger management and improved problem-solving skills (Senyurt, 2013).

Examining studies carried out in Turkey, this study is first of its kind as an experimental study that analyzes the effect of teaching recovery techniques to post-traumatic children on their coping strategies. This study has importance in terms of helping children who study in middle school to cope with a trauma in a constructive and healthy way, to understand that they are not alone in this period, to be free of permanent emotional and social damage, and to gain skills that can contribute to their development. The negative impacts of traumatic incidents that increase in number with each passing day show that it is a necessity to work on preventive and crisis intervention studies. “Recovery techniques education program” has an essential place in these preventive and crisis intervention studies. It is believed that the conclusions of this study would make significant contributions to literature on preventive and crisis intervention psychological counselling and guidance. Stress reactions and other problems therewith of children in the aftermath of a trauma have a vital importance in the study field of psychological counsellors. The Ministry of Education calls for the psychological counsellors to carry out psychological counselling education and psycho-education programs in order to help students to healthily cope with the trauma they

experienced. Consequently, the conclusions of this study is expected to guide psychological counsellors who serve in guidance and research centers in schools in preparing the content of “preventive” and “crisis intervention” psychological counselling and guidance education programs. Psycho-education programs applied in schools require experimental testing more frequently. Moreover, it is believed that with the help of such education programs students will be able to cope with trauma in a more constructive, healthy and active way.

In light of the information above, the objective of this study is to examine the effect of recovery techniques taught to children in post-traumatic period on their coping strategies. The dependent variable is coping strategies.

2. Method

2.1. Research Design

This study uses nonequivalent control group model involved in quasi-experimental models within experimental research types. Although inability to perform unbiased assignment is a drawback, quasi-experimental design is an important alternative design in cases where no random assignment can be performed (Buyukozturk, 2014a; Karasar, 2017). Considering factors that may affect the internal validity of the research, particular attention is given to include participants with similar values of pretest scores, gender, age, class, and parent status. Prior to starting research, the experimental and control groups were applied Post-Traumatic Stress Reaction Index and Coping Strategies Scale for Children as a pretest. Then, the experimental group was given eight sessions of “recovery techniques” education, while the control group did not go through any treatment. At the end of the education program, both experimental and control groups were applied the Coping Strategies Scale as a posttest.

2.2. Study Group

This study is carried out in a secondary school affiliated to the Ministry of Education in Sirnak. Before applying the education program, the author of the education had received in-service training “Group Psychological Counselling Course as part of Psychosocial Intervention Services”. The education was started after informing the school administration about the study to begin and taking legal permissions. The data collection tools were applied on 320 students. In order to select students to Recovery Techniques Education Program, they were given Post-Traumatic Stress Reaction Index (Frederick, 1985) and Coping Strategies Scale (Spirito, Stark, & Williams, 1988). 24 students were selected from the students who were applied the scale such that they scored highest at severe and very severe levels in the Child Post-Traumatic Stress Reaction Index, 11 months or more passed after the trauma they experienced, parent permission was obtained, they were voluntary, and they accepted the rules of the group. 12 of 24 students were placed in the experimental group and 12 in the control group.

The information related to the demographic variables of the students in the study group are given in Table 1.

Table 1. Demographic Characteristics of Research Groups

Variables		Experimental Frequency (f)	Experimental Percent (%)	Control Frequency (f)	Control Percent (%)
Gender	Girl	6	50	6	50
	Male	6	50	6	50
	N	12	100	12	100
Class	5	3	25.0	3	25.0
	6	2	16.7	2	16.7
	7	4	33.3	4	33.3
	8	3	25.0	3	25.0
	N	12	100.0	12	100.0
Age	11	3	25.0	3	25.0
	12	2	16.7	2	16.7
	13	4	33.3	4	33.3
	14	3	25.0	3	25.0
	N	12	100.0	12	100.0
Parental Status	Mother Passed	1	8.3	1	8.3
	Father Passed	7	58.3	7	58.3
	Divorced	4	33.3	4	33.3
	N	12	100.0	12	100.0

Examining Table 1, six (50%) of 12 students in the experimental group are female and six (50%) are male. Six (50%) of 12 students in the control group are female and six (50%) are male. Of the students in the experimental group, three (25%) are fifth grade, two (16.7%) are sixth grade, four (33.3%) are seventh grade, and three (25%) are eighth grade. Of the students in the control group, three (25%) are fifth grade, two (16.7%) are sixth grade, four (33.3%) are seventh grade, and three (25%) are eighth grade. The average age of the experimental group is 12 ($M=12.58$, $S=1.16$), and the average age of the control group is 12 ($M=12.58$, $S=1.16$). In the experimental group of twelve students, the mother of one (8.3%) is deceased, the father of seven (58.3%) is deceased, and parents of four students (33.3%) are divorced. In the control group, the mother of one (8.3%) is deceased, the father of seven (58.3%) is deceased, and parents of four students (33.3%) are divorced. Sub-dimensions of the coping strategies scale of the experimental and control groups are analyzed with Mann-Whitney U Test according to pretest scores to see if they are homogeneous in terms of dependent variables. The results of the analysis are given in Table 2.

Table 2: Mann Whitney U-Test Results related to Coping Strategies Pretest Scores

	Grup	n	Mean Rank	Sum of Rank	U	P
Active coping	Experimental	12	13.08	157.50	65.00	.667
	Control	12	11.92	143.00		
Avoidant coping	Experimental	12	13.79	165.50	56.50	.361
	Control	12	11.21	134.50		
Negative coping	Experimental	12	13.50	162.50	60.00	.448
	Control	12	11.50	138.00		

Examining Table 2, the analyses of the pretest scores of the experimental and control groups, specifically the scores on active coping, avoidant coping, and negative coping, show that there is no significant difference between the experimental and control groups (U: 65.00 $p > .05$; U: 56.50 $p > .05$; U: 60.00 $p > .05$). Looking at these results, the groups do not have a significant different in terms of pretest rank averages before starting the test application and they statistically equal to each other.

2.3. Data Collection

A. Personal Information Form

The personal information form prepared by the researcher includes information on gender, grade, age, and mother-father status.

B. Kidcope (Spirito et al., 1988)

Kidcope used in the study was developed by Spirito et al., (1988) and adapted into Turkish by Bedel, Işık, and Hamarta (2014) to measure the level of coping strategies of students in adolescent. Kidcope consist of 11 items and three subscales, including the active coping subscale, the avoidant coping subscales and negative coping subscale. Ratings are made on a four-point scale from Not at all (0) to Almost all the time (3). Sample items include "Thought about or did something else; tried to forget it" and "Tried to see good side of things; focused on good outcomes." The range of possible score varies from a minimum score of 0 to a maximum score of 12 for Active and Avoidant Coping and 0 to 9 for Negative Coping, higher scores reflecting the greater use of this coping behavior. The convergent validity of the Kidcope was supported by a moderate correlation between the subscales and trait anxiety. The internal consistency score of the Kidcope subscales were $\alpha = .72$ for Active Coping, $\alpha = .70$ for Avoidant Coping, and $\alpha = .65$ for Negative Coping. Test-retest reliability in an interval of three weeks were $r = .66$ for Active Coping, $r = .61$ for Avoidant Coping, and $r = .76$ for Negative Coping.. These results revealed that this scale is a valid and reliable instrument to use with Turkish 6-11 grade students as a measure of coping approaches students.

C. Post-Traumatic Stress Reaction Index (Frederick, 1985)

The index is developed by Frederick (1985) and has 20 items. The author states that the scale meets the diagnostic criteria of DSM IV. The items have scores between 0 and 4, and the expressions are frequency levels of "0: Never, 1: Rarely, 2: Sometimes, 3: Often, 4: Always". The criteria for the scores from the scale are "Mild Post-Traumatic Stress Disorder" for scores between "12-24", "Moderate Post-Traumatic Stress Disorder" for

scores between “25-39”, “Severe Post-Traumatic Stress Disorder” for scores between “40-59”, and “Very Severe Post-Traumatic Stress Disorder” for scores “60 or above”. In the reliability studies for the scale, the internal consistency coefficient (Cronbach Alfa) of the sub-dimensions of re-living, avoidance and stimulation are calculated as .80, .69, and .68, respectively (Pynoos et al., 1987). For the Turkish adaptation of the scale and its pre-validity and reliability study, Erden, Kilic, Uslu and Kerimoglu (1999) carried out a study on 243 students and calculated the “test retest” reliability of the scale as .86, internal consistency coefficient as .75, and the coefficient for consistency among evaluators coefficients (K) as .87. For the 20 items, the Cronbach Alfa internal coefficient is found to be .77.

2.4. Procedure

The scanning study for the research is conducted in the first half of 2016-2017 academic year. The scales were applied to the students by the researcher. The students were shown how to fill out the scale with examples before receiving it. They were informed that the answers they give would not be shared in any way with the school administration as per the principle of confidentiality, hence they should answer honestly in order to achieve the objective of the study. The students were informed about the education program to be applied. Then, 12 students were selected for both experimental and control groups.

Recovery Techniques Education Program involves Group Counselling Program of five sessions that will be applied to students who were affected by disasters, as part of MEB (Ministry of Education) - UNICEF Psycho-social School Project. The program is prepared by Gupta et al. (2001) with the support of Children and War Foundation. In order to better teach the techniques in the education program, and since it takes long for the students in the group to apply the techniques one by one, the education program is arranged to be eight sessions of 60 minutes without modifying the content. No addition or removal of acquisition or technique was made in the program, it was only divided into sessions. The main objective of the program is to prevent problems that will require special treatment in the future from occurring as a response to stress reactions after trauma.

2.4.1 Recovery Techniques Education Program: Sessions and Objectives

Session 1: Memories without a Call

- 1) Getting to Know Each Other and Establishing an Environment of Trust,
- 2) Introducing the Group and Agreeing on the Rules to Follow in the Group.

Session 2: Traumatic Reminders

- 1) Reactions to the Stress caused by the Disaster: Normalization and Education,
- 2) Traumatic Incidents,
- 3) Normalization of Traumatic Stress Reactions,
- 4) Treatment and Prevention.

Session 3: Stimulation

- 1) Determining a Safe Place,

- 2) Imaging Methods: Screened Methods, Hand and Distance Methods,
- 3) Framing Method: Positive Counter Image, Having the Image under Lock, Imaginative Helpers, Switching Off.

Session 4: Bad Memories

- 1) Audio Methods,
- 2) Smell Methods,
- 3) Dual Attention Tasks,
- 4) Dream Study,
- 5) Distraction.

Session 5: Physical Reactions

- 1) Reactions that Occur in Our Bodies When Bad Memories Come Back,
- 2) Breathing Exercise,
- 3) Muscle Relaxation,
- 4) Driven Imagination.

Session 6: Self-Statements that Help Coping

- 1) Self-Statements that Help Coping,
- 2) Sleep Health,
- 3) Introducing Gradual Exposure,
- 4) Classification of Traumatic Reminders.

Session 7: Exposure to Reminders

- 1) How the Procedure on Exposure to Reminders Work,
- 2) Good and Bad Avoidance: Getting Help from Adults,
- 3) Exposure to Traumatic Reminders: Draw, Write and Speak.

Session 8: Group Closure

- 1) Looking at the Future,
- 2) Closing Group Study.

2.5. Data Analysis

Nonparametric analyses are used for the statistical analysis of the data obtained from the research, since the number of the subjects in the experimental and control groups are less than 30 and the scores obtained by the groups do not have a normal distribution (Bayram, 2009). The experimental and control groups were applied a pretest and a posttest before and after the Recovery Techniques Education Program, respectively. Whether there is a significant difference between the coping strategies scores of the experimental and control groups is checked using the Mann-Whitney U test for unrelated groups. Moreover, the difference (acquisition) scores of the experimental and control groups are compared and the effect of the experiment is observed. The data obtained from the pretests and posttests of the experimental and control groups are analyzed with the packaged software SPSS-Windows 25.0.

3. Results and Discussion

The objective of the Recovery Techniques Education Program is to observe its effect on students' coping strategies. In parallel with this objective, the findings obtained as a result of the research are presented below. Before considering the findings related to the hypotheses of the research, Table 3 shows the depictive statistics of the pretest and posttest scores on the sub-dimensions of coping strategies of the experimental and control groups.

Table 3: Coping Strategies Pretest-Posttest Mean and Standard Deviation Values of Experimental and Control Groups

Scale	Group	Measurement	n	\bar{X}	S
Active coping	Experimental	Pretest	12	2.50	.90
		Posttest		6.75	1.13
	Control	Pretest	12	2.33	.98
		Posttest		2.75	1.05
Avoidant coping	Experimental	Pretest	12	4.16	2.55
		Posttest		2.91	1.24
	Control	Pretest	12	3.41	2.19
		Posttest		3.50	1.31
Negative coping	Experimental	Pretest	12	4.50	.90
		Posttest		2.66	.65
	Control	Pretest	12	4.33	.49
		Posttest		4.91	1.08

In order to test the hypotheses of the research, the posttest scores are subtracted by the pretest scores to obtain the difference scores. The Mann-Whitney U test is applied to test the significance of the difference scores of the experimental and control groups (Buyukozturk, 2014b). The results of the Mann-Whitney U test are given in Table 4.

Table 4: Mann Whitney U-Test Results related to Coping Strategies Pretest-Posttest Difference Scores of Experimental and Control Groups

	Group	n	Mean Rank	Sum of Rank	U	P
Active coping	Experimental	12	18.42	221.00	1.00	.001
	Control	12	6.58	79.00		
Avoidant coping	Experimental	12	9.29	111.50	33.50	.022
	Control	12	15.71	188.50		
Negative coping	Experimental	12	6.75	81.00	3.00	.001
	Control	12	18.25	219.00		

Examining Table 4, in terms of difference-acquisition scores in the active coping, avoidant coping and negative coping sub-dimensions of coping strategies, there is a significant difference between the experimental and control groups in favor of the experimental group (U: 1.00 p<.05; U:33.50 p<.05; U:3.00 p<.05). According to these results, it can be stated that the increase in active coping scores and decrease in

avoidant and negative coping scores of the experimental group are due to the education program applied.

4. Conclusion and Discussion

The objective of this research is to examine the effect of the recovery techniques taught to post-traumatic children on their coping skills. The findings obtained from the research show that the recovery techniques education program is effective at helping students refer to active coping skills for resolving the problems they experienced. This conclusion obtained from the research is supportive of the findings of other studies (Bedel, & Arı, 2011; Canton-Cortes, & Canton, 2010; Kutlu, 2016; Loo, DiMaggio, Gershon, & Canton, 2016; Rossouw, Yadin, Alexander, & Seedat, 2018; Spurrel, & Mcfarlane, 1993; Senyurt; 2013). Various studies also found out that psycho-education programs are effective on the psychological strength (Akar, 2018) and resilience (Gurgan, 2006; Unuvar, 2012) of individuals. It is believed that the acquisitions within the education program are influential on these results obtained. It is seen that the acquisition of active, constructive and functional coping skills against the destructive and permanent damage by traumas is possible through recovery techniques education programs. With the help of these recovery techniques, children can actively cope with the trauma they have gone through (Gupta et al., 2001). It is believed that students who can actively cope with the problems they face, positively approach to situations in life, create constructive solutions and successfully implement the solutions can also cope with traumas.

The findings on the avoidant sub-dimension of coping strategies show that the recovery techniques education program is influential in lowering the tendency of the participant students to cope with the traumas they live by avoiding them. Avoidant coping strategy is a nonfunctional approach. It involves thoughts and behavior such as waiting for problems to be solved just like that and running away from them. It is believed that the activities in the program that emphasize the importance of time, effort and persistence in dealing with problems were effective in achieving this result. This result obtained in the research is supportive of the findings of other studies (Johnson, & Johnson, 1995; Kutlu, 2016; Lane-Garon, 2000; Rossouw, et al. 2018; Spurrel, & Mcfarlane, 1993; Senyurt, 2013). Using positive coping skills more than avoidance contribute to the individual's strength in recovering (Dumont and Provost, 1999). Coping skill is a guarding factor against risky situations (Boyden and Mann, 2005; Davey, Eaker and Walters, 2003).

The last and most essential finding of the research is that the recovery techniques education program lowers the tendency of participant students to refer to negative coping. It is believed that this result was obtained through teaching positive, active, constructive coping strategies, normalizing stress reactions to traumatic life events, using positive imaging methods, controlling physical reactions, exposure to reminders, coping in a positive manner and adult help. This finding is supportive of the conclusions of other studies (Bedel, & Arı, 2011; Canton-Cortes, & Canton, 2010; Loo, et

al. 2016; Munoz, 2002; Rossouw et al., 2018; Spurrel, & Mcfarlane, 1993; Senyurt, 2013). Based on this result, it is observed that the educated students do not perceive the trauma as a threat, believe that they can resolve their problems, do not blame themselves or their environment, and do not cause damage, hence do not approach to things with a negative mindset.

One of the limitations of this study is that it only involves children. Future studies may focus on recovery techniques education program to be applied to the survived parent of children who lost a parent or, if the parents are divorced, the member of the family other than the one the child lives with. Another limitation is that no follow-up measurement is carried out to observe the permanence effect of the program. Moreover, the number of the applicators of these types of programs are still not sufficient this day. In order to extend the number and location of these programs and provide them in a more professional way, the Ministry of Education General Directorate of Special Education and Guidance Services should increase the number of educations and participant in the In-Service Education Programs. Under the preventive guidance services, recovery techniques education can be extended at all levels of education. It can be analyzed how education programs affect stress and anxiety levels of individuals.

When evaluating the research results in general, it is concluded that post-traumatic recovery techniques education program applied to the children is effective at increasing the scores of children on active coping, and lowering the scores on avoidant and negative coping. It is believed that these achievements will contribute them in coping with the traumas they experienced in a healthier manner.

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