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RESEARCH ARTICLE

The Efficacy of EMDR-Focused Group Counseling Program Applied to Primary School Students with PTSD Symptoms in Grief Process

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ABSTRACT

The purpose of the paper is to examine the efficacy of the EMDR-focused group counseling program applied to primary school students who show PTSD symptoms in grief process. The research is quasi-experimental, pretest posttest and follow-up design with a control group. Participants were 12 students; each of the experimental group and the control group consisted of 6 students. Child PTSD Symptom Scale (CPSS) was utilized in the research. EMDR-focused group counseling program was applied to the experimental group students. For data analysis, Mann Whitney U Test was used for intergroup comparisons; Friedman Test and Wilcoxon Signed Rank Test were used for intragroup comparisons. The result of the analysis revealed that in intragroup comparisons, the mean scores of the entire subscales of CPSS, which are reexperiencing ($p<0.05$), avoidance ($p<0.05$) and hyperarousal ($p<0.05$), of the experimental group students who participated in the EMDR-focused group counseling program differed significantly. In order to identify the measurements causing the difference, multiple comparison tests were conducted. It is detected that the reexperiencing ($p<0.05$) and hyperarousal ($p<0.05$) subscales score means of the experimental group students decreased significantly from the pretest to the follow-up test, the mean score of the avoidance ($p<0.05$) subscale decreased significantly from the pretest to the posttest. Regarding the intragroup comparisons, it was found that follow-up measures of reexperiencing ($p<0.05$), avoidance ($p<0.05$) and hyperarousal ($p<0.05$) scores of the experimental group decreased significantly. Based on the results, the EMDR-focused group counseling program is effective in reducing the symptoms of primary school students who show PTSD symptoms in grief process. The current study ought to be examined and supported by further research.

Three concepts are noticeable for the process experienced following the loss of a beloved one; bereavement, mourning and grief. Although these concepts are used interchangeably, they differ from each other in sense (Gordon, 2013). The first concept bereavement is the expression of loss of a beloved one (Gizir, 2006). It is being in a distressing situation and the realization of the deficiency of something important which devastate one's life. The second concept is mourning which is the outer reflection of inner grief experience. Mourning is socially and culturally constructed, as every society has its own methods and rituals for expressing sadness. The final concept, grief is both a process and a consequence. It is deprivation and painful separation from a beloved one unexpectedly (Abi-Hashem, 2017). Besides, mourning is a natural reaction of individuals following a loss (Avcı, 2019; Bildik, 2013; Dyregrov & Dyregrov, 2008; Önal & Yalçın, 2019; Savaş, 2020).

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Loss responses are universal since it concerns all the people to lose someone loved which is an unavoidable experience that frequently occurs. However the responses may vary in some way such as length and intensity. Because the form and course of grief is individual (Neria & Litz, 2004). To illustrate; the closeness of the people (Balcı & Korkmaz, 2020), the type of loss experienced, the personality traits of the people who are grieving, their coping levels and methods, the quality of the relationship with the deceased person, how the death occurred and the age of the mourner (Savaş, 2020) can be effective in the formation of individual differences and the diversification of the responses of individuals.

Reactions of people can be emotional, physical, cognitive and behavioral in grief process (Bildik, 2013; Di Ciacco, 2008). In general, emotional reactions such as shock, denial, sadness, anxiety, loneliness, anger, helplessness, guilt, hopelessness; physical symptoms such as heart ache, sensitivity to noise, shortness of breath, weakness; cognitive responses such as hallucinations, forgetfulness, distraction, negative thoughts; behavioral reactions such as sleeping and eating problems, using alcohol or another substance (drugs), avoiding social environment and stimuli reminding the deceased person and/or not being able to separate from these stimuli, rejecting the fact of death and seek the deceased person can be seen (Fitzgerald, 2013; Oltjenbruns, 2013; Talwar, 2011; Zara, 2011). In addition; social interpersonal dynamics as well as financial changes; search for spiritual meaning and existential suffering can be seen (Winokuer & Harris, 2016).

The variety of people's reactions caused the formation of concepts, such as normal grief, complex grief and traumatic grief defined in the literature (Balcı & Korkmaz, 2020). Grief is natural and as a natural consequence of loss, various reactions are seen in individuals which means normal grief. However, cases in which the normal grief process is incomplete and cannot be completed, normal grief can evolve into complex grief or disordered psychiatric conditions (for example, severe depression and anxiety) (Abi-Hashem, 2017). Occasionally; sudden, unexpected, terrible losses affect the normal grief process and traumatic grief occur as a consequence (Parkes, 2001). In such cases, adults and children may show post-traumatic stress disorder (PTSD) symptoms after losses (Hall, 2014; Kissane & Parnes, 2014). Post-traumatic stress disorder is the disorder that individuls expose a traumatic event through witnessing or experiencing as well as experience the trauma with the initial day intensity even after a long period (Davison & Neale, 2004; Deblinger et al., 1999), and the situation becomes chronic (Işıklı & Keser, 2020).

Children, in particular, may experience many traumatic experiences because their coping skills are not well developed and they are vulnerable (Gordon & Wraith, 1993; Li & Cui, 2020) and they may show signs of PTSD (Molero et al., 2019; Olivier et al., 2022). For children, the death of a beloved one is a difficult situation to cope with. In addition, children who witness the traumatic death of their beloved ones may develop PTSD symptoms (Banoğlu & Korkmazlar, 2022; Jarero et al., 2008; Jayatunge, 2008). The meaning they attribute to the trauma and the developmental periods they are in can be effective on these symptoms developed by children (Zara, 2011).

Primary school children can experience intense feelings during trauma. Hesitation can be seen on cognitive functions due to their death threat perceptions. The children may find it difficult to distinguish the fears and other feelings they experience. They may state that they do not feel anything and may show post-traumatic avoidance symptoms (Uslu & Kılıç, 2000). In addition to avoiding reminders of the deceased person (such as their birthday, talking about them), children may relive the traumatic memory (such as recurrent thoughts or dreams regarding the troubling memory, how the person died), and may show hyperarousal reactions (e.g., increased timidity, reaction to loud noises and anger). Furthermore, children may suffer from emotional, behavioral and cognitive disorders (such as pessimism, difficulty in concentrating, having new fears), blame themselves hence their school performance may decrease (Cohen & Mannarino, 2011). Because of the fact that the children's coping skills are underdeveloped and vulnerable (Gordon & Wraith, 1993; Li & Cui, 2020), they need support in reducing PTSD symptoms in grief process (Zara, 2011).

The grief has been extensively studied in recent years. Many studies have focused on effectiveness of therapies on grief. For instance; narrative therapy in the grieving process (Neimeyer, 1999), acceptance and commitment therapy (Davis et al., 2020; Jones et al., 2022), emotion-focused therapy (Jianxiu, 2009), cognitive-behavioral therapy (Lacasta & Cruzado, 2023; Treml, 2021) and EMDR therapy (Solomon & Rando, 2007). In particular,

EMDR stands out as an effective approach in reducing PTSD symptoms in a meaningful way in grief process and in reaching positive memories regarding the deceased person (Sprang, 2001).

EMDR therapy refers to the psychological counselor's imaginative revealing the past or traumatic experiences of the clients via eye movements and other bilateral stimuli (two-way sound or tactile stimuli) (Denizli, 2008). The therapy desensitizes individuals to traumatic events and enables them to reprocess their traumatic memories and create new meanings (Korkmazlar et al., 2020). EMDR utilizes different therapy approaches and possesses standard treatment procedures (Gomez, 2020). Developed by Shapiro, the therapy method enables simultaneous cognitive, emotional and somatic information processing via accessing different aspects of trauma memories (Gomez, 2020). EMDR therapy can be performed on both adults and children (Merdan-Yıldız et al., 2021).

Application of EMDR on children, diverse to adults, is performed in a more flexible manner, considering their developmental periods. "Developmental EMDR" protocol is used in applications implemented regarding the developmental levels of children (Banoğlu & Korkmazlar, 2022). In applications for children, it is significant to develop their resources. In addition, attention spans of children vary depending on their developmental level, and their attention spans are shorter in comparison to adults. Hence short bilateral stimulation (BLS) sets are applied in the studies. Meanwhile, families are also included in the studies conducted with children (Gomez, 2020), and the process involves the use of various techniques, including play therapy, family therapy, and art therapy. (Korkmazlar & Uğurlu, 2021).

The EMDR therapy is implemented in eight phases (Shapiro, 1999; Solomon & Shapiro, 2008). The phases are; taking the client's story, preparation, assessment, desensitization, installation, body scanning, completion and reevaluation (Kavakcı et al., 2010; Shapiro, 2016). The eight phases of EMDR therapy followed in individual counseling are identically followed in group EMDR counseling. In this context, the first step of the eight phases followed in the EMDR Group Protocol (EMDR-GP/C) developed for children is acquaintance. At this phase, children are informed on the nature of the trauma and group rules. The second phase is the preparation phase. At this phase, resource studies are fulfilled to develop children's support systems. In the third phase, the assessment phase, the worst image is drawn and the current feelings, sensations and thoughts of the client are taken. SUD and VOC levels are determined. In the fourth phase, desensitization, drawings are made on different papers accompanied by bidirectional stimuli. In the installation phase which is the fifth phase, placement is performed with a healing story. In the sixth phase, body scanning, positive body sensations are reprocessed. In the seventh phase, the completion and the future template phase, is the phase of strong closure with artwork. The eighth phase is the phase of reevaluation (Banoğlu & Korkmazlar, 2022).

EMDR provides a rapid and effective treatment in reducing the negative symptoms observed in children after critical events. Lack of effective treatment cause their personalities to be shaped around the traumatic event and their risk of developing psychological disorders increases in the later stages of life. Even after a long period since the traumatic event, the experiences may have a serious negative effect on their psychological functioning (Fernandez, 2007). Therefore it is essential to approach the situation both professionally and promptly.

Numerous national and international evaluations have demonstrated the efficacy of EMDR therapy (Abdi et al., 2021; Acartürk et al., 2015; Aduriz et al., 2011; Aydın, 2015; Barron et al., 2019; Chen et al., 2018; Denizli, 2008; Edmond et al., 1999; Every-Palmer et al., 2019; Fernandez et al., 2003; Güçlü & Alkar, 2021; Jarero et al., 2006; Karadağ et al., 2021; Karadağ et al., 2010; Lehnung et al., 2017; Meentken et al., 2020; Mukba et al., 2020; Perilli et al., 2019; Tarquinio et al. ., 2012; Yurtsever et al., 2018; Zaghrout-Hodali et al., 2008). Besides, individual and group EMDR studies with children, involving bereaved children, report that EMDR is effective in reducing PTSD symptoms (Ahmad at al., 2007; Bayhan et al., 2022; Hurn & Barron, 2018; Jarero et al., 2008; Korkmazlar-Oral & Pamuk, 2002; Korkmazlar et al., 2020). Moreover, several studies have reported that EMDR therapy provides effective treatment and assert that its implementation in schools can be significant in terms of reaching a substantial number of children promptly (Chemtob et al., 2002; Fernandez et al., 2003).

Studies have reported that disasters and epidemic periods can lead to adverse outcomes together with traumatic experiences (Goldmann & Galea, 2014) and EMDR therapy is suggested to be employed for post-traumatic counseling practices at schools (Denizli, 2008).In this context, considering the losses experienced following the earthquake and flood disasters that deeply affected our country, as well as the COVID-19 epidemic, and the PTSD symptoms that emerged in grief process following the losses, the importance of the intervention studies to be implemented in schools for disaster and epidemic periods is realized. In this case, the current study can be suggested as a qualified model for intervention studies to be performed in schools.

Examining the research in the literature in which the EMDR group protocol was applied for children it is evident that these research were generally carried out in disaster areas. Moreover, group work in these regions is generally completed in three hours, with a break every ninety minutes (Korkmazlar-Oral & Pamuk, 2002). However, this study, in which an EMDR-focused group counseling program applied to students who showed signs of PTSD in grief process, was carried out in a primary school. The sessions involved comprehensive reference work, activities were organized considering the requirements of the students and the problem situation. The implementations were seven-week sessions and each session lasted for 50 minutes. In this aspect, the research is considered to be a significant resource for researchers and consultants for further studies. In addition, via applying this study in schools, countless number of students can be reached, as well as the positive effects of the group (individual's feeling not being alone, feeling of confidence and comfort, learning and practicing new behaviors) can be benefited by participants. As a result, the aim of this paper is to examine the efficacy of the EMDR-focused group counseling program applied to primary school students showing PTSD symptoms during the grief process.

Methodology

Study Design

This paper aims to examine the efficacy of the EMDR-focused group counseling program applied to primary school students who show PTSD symptoms in grief process. The research is quasi-experimental, pretest posttest and follow-up design with a control group. In the 2x3 split-plot design, used in the research, independent treatment groups (experimental and control) are shown in the first factor, and repeated measurements of the dependent variables (pretest-posttest-follow up test) are shown in the second factor (Büyüköztürk et al., 2012). The model used in the research is given in Table 1.

Table 1. Research Model

Group	Pretest	Process	Posttest	Follow-up test (Three months later)
Experiment	CPSS implementation	EMDR-focused group counseling program	CPSS implementation	CPSS implementation
Control	CPSS implementation	---	CPSS implementation	CPSS implementation

Note. CPSS: Child PTSD Symptom Scale

The independent variable of the research is EMDR-focused group counseling program while the PTSD symptom levels of primary school students in grief process is the dependent variable. Following the experimental and control groups were formed in the research, pretests were administered to all participants in the groups. Subsequently the students in the experimental group were applied an EMDR-focused group counseling program for a 7-week period and following the completion of the experimental process, posttests were administered to all the participants. The follow-up tests were administered to all participants three months following the posttest measurements.

Participants

The research population was formed with 3th and 4th grade primary school students from Selçuklu, Konya in the 2021-2022 academic year. To be able to determine the subjects to participate in the study, a trauma screening was conducted initially. In this regard, the researcher explained the term "trauma" at classrooms, subsequently requested the students to write their any traumatic experiences on the papers distributed in advance. 86 students out of 305 students wrote down their traumatic experiences on the papers. 54 of the

students stated death (mother, father, uncle, grandfather, grandmother, death of a pet and so forth) as a traumatic experience. The researcher administered the personal information form and Child PTSD Symptom Scale to all 41 students who wrote the death of their mother, father, grandmother and grandfather as a single trauma, with whom they had an attachment relationship.

Following the administration of the scales, the score of each student was computed and the scores were listed. The psychometric properties of the scale were considered for the assessment of the scale scores and the students in the experimental and control groups were determined by random assignment among the students with high scores. The opinions of the teachers and the families of the students were taken and the students who might have a high PTSD symptom level were clarified. Consequently, there were six students in both experimental group and in the control group.

Inclusion criteria were also considered for the determination of the subjects within the scope of the study. Inclusion criteria were determined as "volunteering to work", "not using medication", “not having any diagnosis” and “not receiving precedent treatment”. However, it is a considerable point that in experimental studies, controlling the possible effects of confounding factors, of which effects are not investigated in the research, affect dependent variables (Ulaşan, 2018). Thus, the risk was tried to be eliminated by using a control group that could be comparable to the experimental group in the study.

The study ensured that there was balance between students in the experimental and control groups in terms of age, grade levels, traumatic experiences and genders. In this context, four female and two male students were recruited in both experimental group and control group. Table 2 shows how the students in the study sample are distributed by gender.

Table 2. Distribution of The Students According to the Experimental and Control Groups

Groups	**Female**		**Male**		**Total**	
	N	%	N	%	N	%
Experimental Group	4	66.7	2	33.3	6	100
Control Group	4	66.7	2	33.3	6	100

As presented in Table 2, four (66.7%) of the six students in the experimental group were female and two (33.3%) were male students. Likewise, four (66.7%) of the six students in the control group were female and two (33.3%) were male students.

The initial analysis involved using the Mann Whitney U Test to ascertain any significant differences between the experimental and control groups so as to be able to select eligible students to the experimental group and control group for the research. The Mann Whitney U Test scores of the Child PTSD Symptom Scale pretest scores administered to the experimental and control groups are presented in Table 3.

Table 3. Mann Whitney U Test Results Regarding the Pretest Scores of the Experimental and Control Groups

Dependent Variable	**Group**	**N**	**Rank Mean**	**Rank Total**	**U**	**z**	**p**
Reexperiencing	Experimental	6	7.50	45.00	12.00	-0.978	0.394
	Control	6	5.50	33.00			
Avoidance	Experimental	6	6.08	36.50	15.50	-0.405	0.699
	Control	6	6.92	41.50			
Hyperarousal	Experimental	6	6.08	36.50	15.50	-0.408	0.699
	Control	6	6.92	41.50			

As observed in the Table 3; there is no significant difference between the scores of reexperiencing (U=12.00, p>.05), avoidance (U=15.50, p>.05) and hyperarousal (U=15.50, p>.05), which are the subscales of the Child PTSD Symptom Scale administered as pretests to the experimental and control groups. The findings emphasized that the students in the experimental group and control group were equivalent prior to the experimental implementation in terms of pretest scores so that they fulfilled the prerequisite of the experimental implementation.

Instruments

Personal Information Form and Child PTSD Symptom Scale were utilized to collect data for the research.

Personal Information Form. It was created by the researchers for demographic information of the students. The personal information form involves information regarding the gender, age, grade level and traumatic experiences of the students.

Child PTSD Symptom Scale (CPSS). The scale was developed by Foa et al. (2001) and adapted to Turkish by Kadak et al. (2014). The scale is for children and adolescents aged between 8 and 18. It consists of three subscales: avoidance, hyperarousal and reexperiencing. The Cronbach Alpha internal consistency coefficient of the scale was 0.89 for the overall score of the scale; for the subscales it was calculated; 0.77 for reexperiencing, 0.77 for avoidance, and 0.70 for hyperarousal. The CPSS showed not only good convergent validity with PTSD Response index scores but also good divergent validity with the State-Trait Anxiety Inventory for Children and the Child Depression Inventory. The CPSS was able distinguish individuals with low PTSD symptoms from those with high PTSD symptoms which is evidence for a significant discriminant validity (Kadak et al., 2014).

Development and Administration Process of EMDR-Focused Group Counseling Program

The main purpose of the EMDR-focused group psychological counseling program is to decrease the PTSD symptom levels of primary school students who show symptoms of PTSD in grief process. The program has been prepared based on the "EMDR Group Protocol for Children" developed by Ümran Korkmazlar. In addition, the program is structured considering "Worden's Grief Tasks Model" as well as the avoidance, hyperarousal and reexperiencing subscales of PTSD.

Prior to developing the EMDR-focused group counseling program, the researcher received EMDR adult and child training, supervision and EMDR Group Protocol training. Subsequently considering the age and developmental characteristics of the students, the "EMDR Group Protocol for Children" developed by Ümran Korkmamazlar and the studies and group sessions on EMDR, PTSD and grief were examined and the relevant national and international evaluations were reviewed (Adler-Tapia & Settle, 2020; Banoğlu & Korkmazlar, 2022; Bayhan et al., 2022; Çitil Akyol, 2021; Gençtürk, 2019; Gomez, 2020; Heegaard, 2011; Knipe, 2020; Korkmazlar, 2017; Korkmazlar-Oral & Pamuk, 2002; Korkmazlar et al., 2020; Külahçıoğlu, 2017; Olivier et al., 2022; Önel & Yalçın, 2019; Shapiro, 2016; Van der Kolk, 2000; Worden, 2003; Yılmaz Dinç, 2021). Following the reviews, a further supervision from Ümran Korkmazlar was received and the draft of the program was created. In addition, the draft of the program was presented to school counselors working with primary school students as well as to faculty members of different universities working on EMDR and group counseling. In this context, the target behaviors in the program, the activities included in the program, the duration and the general flow of the sessions were examined by experts. As a result of their feedback several amendments were fulfilled. Consequently, the preliminary application of the developed program was performed.

Following the preliminary application, the necessary revisions were carried out with the aid of expert opinion. Due to the fact that some activities wasted plenty of time, they were shortened. In addition, it was observed that the instructions of some activities were not entirely comprehended and necessary arrangements were fulfilled. Moreover, in the evaluations conducted at the end of each session, it was detected that the targeted behaviors were acquired however some activities were not sufficient in terms of suitability for the goals, and thus the activities were re-arranged. Some of the activities used in this context were selected and adjusted from original activities, while some were developed by the researcher.

Following the revision studies, the main program was developed. Each session of the program is designed in line with the determined goals and target behaviors. The program consisted of 7 sessions and per session was 50 minutes. Table 4 shows the brief content covered in the 7 sessions for the experimental group.

Table 4. Content of the EMDR-Focused Group Counseling Program

Session	Contents
Session 1	– "Introduce yourself" activities – Informing group members concerning group counseling sessions – Determination of group rules – "Extend a hand" story – Information concerning the association between grief and traumatic processes and EMDR – Dance cubes
Session 2	– "Building bonds" game – "Altering is natural" exercise – Breathing exercise – "Safe place" exercise
Session 3	– "Guess the feeling" exercise – "Vitalize the feeling" exercise – The Gingerbread person feelings map – "Bond of love" exercise
Session 4	– Circle the feelings – Feelings in grief process – Support box
Session 5	– EMDR-GP/C- Assessment and desensitization phase – Box exercise – "Safe place" exercise – Assessment
Session 6	– Healing story: "baby green tree that continues its life" – Farewell letter – Body scan – Assessment
Session 7	– Six-piece story making – Goodbye cards – Assessment

The implementation of the program, presented in Table 4, to the experimental group took approximately one and a half months. Following completion of the sessions, a posttest was administered to the experimental group and control group. Besides, the opinions and observations of the teachers and parents regarding students (concerning the emotional and behavioral alteration of the students, the differences in the eating and sleeping patterns, and so forth) were obtained. Also students rated their SUD levels prior to the desensitization phase, following the desensitization phase and in the final session. Consequently, the students in the experimental group and control group were administered the follow-up test three months following the research.

Measures

In line with the research; initially, trauma screening was performed to the third and fourth grade students, studying in a primary school. Students with similar traumas (mourning) were identified following the trauma screening and the Personal Information Form and Child PTSD Symptom Scale (CPSS) were administered to the cited students.

For the implementation, the students were allocated groups of ten people and provided with informative explanations. Every group of students completed the scale and the Personal Information Form in 20 minutes approximately. Trauma screening and administration of scales were completed within a week at different course hours.

Among the students with high PTSD symptom levels, 6 students formed each the experimental group and the control group. In the study, the experimental group was applied EMDR-focused group counseling program, as 50-minute sessions. Following the administration of the program, immediate CPSS was applied to the

experimental and control groups thus the posttest scores of the students were obtained.

Following the implementation of the program, opinions and observations of teachers and parents (concerning the emotional and behavioral alteration of the students, the differences in the eating and sleeping patterns, and so forth) were obtained. Also students rated their SUD levels prior to the desensitization, following the desensitization phase and in the final session. Consequently, the follow-up test was administered to the students in the experimental group and control group three months following the research.

Data Analysis

The pretest scores of the students were achieved by applying Child PTSD Symptom Scale. Following the sessions the scale was reapplied and thus the posttest scores of the groups were obtained. Three months following the posttest, follow-up test scores were obtained by reapplying the scale. The data of the research were computed and analyzed by the "SPSS 25.0" package program.

Initially, the data was tested in terms of distribution for normality. Since the sample size was less than 50, Shapiro-Wilks test was used for normality analysis (Büyüköztürk, 2010). The results of the analysis of whether the pretest, posttest and follow-up test scores of the groups meet the normal distribution assumption are presented in Table 5.

Table 5. Distribution of the Scores of the Students in the Experimental and Control Groups From the Pretest, Posttest And Follow-Up Tests and the Results of the Normality Test

Dependent variable	Measurement	Group	N	$\bar{X}$	SS	Skewness	Kurtosis	Shapio Wilks
Reexperiencing	Pretest	Experimental	6	9.67	3.08	1.03	1.57	0.57
		Control	6	8.17	1.72	0.68	0.81	0.83
Avoidance	Pretest	Experimental	6	10.00	4.15	1.19	0.34	0.12
		Control	6	9.50	2.07	-0.81	1.10	0.70
Hyperarousal	Pretest	Experimental	6	6.83	1.72	0.03	-2.37	0.22
		Control	6	7.17	1.94	0.64	-1.24	0.45
Reexperiencing	Posttest	Experimental	6	3.66	3.08	0.78	-1.68	0.11
		Control	6	9.50	1.64	0.81	-1.03	0.20
Avoidance	Posttest	Experimental	6	4.33	1.97	1.68	2.67	0.03
		Control	6	10.67	2.50	-1.62	2.85	0.14
Hyperarousal	Posttest	Experimental	6	5.17	2.40	0.88	-0.50	0.32
		Control	6	7.83	2.40	1.20	0.85	0.10
Reexperiencing	Follow-up test	Experimental	6	1.83	1.72	1.44	2.72	0.21
		Control	6	10.00	1.90	0.00	-2.69	0.11
Avoidance	Follow-up test	Experimental	6	3.00	1.41	0.00	0.30	0.96
		Control	6	13.17	2.79	0.99	1.51	0.53
Hyperarousal	Follow-up test	Experimental	6	3.00	1.90	0.00	2.69	0.11
		Control	6	8.17	2.31	0.86	0.14	0.30

Note. $\bar{X}$: Arithmetic mean; SS: Standard deviation

As presented in Table 5; examining the pretest, posttest and follow-up test as well as the normality tests of the experimental and control groups, the distribution of the scores indicate that the value obtained from the avoidance subscale of the experimental group is significant (0.03, $p<0.05$). In addition, the data was not normally distributed because the kurtosis (2.67) value was above the recommended threshold value of ± 1.96 for normal distribution (Mayers, 2013).

For data analysis non-parametric tests were employed because of the non-normal data distribution and the low number of participants ($n<30$) (Karasar, 2009; Kul, 2014). In this context, availability of significance between the pretest, posttest and follow-up measurements of the experimental and control groups was analyzed via the Friedman Test. Wilcoxon Signed Ranks Test was employed for pairwise comparisons to determine the possible difference between the measurements. The Mann Whitney U Test, was utilized to compare the test scores between the experimental and control groups.

Results

As data analysis, the test results of the students in experimental and control groups, regarding time dependent intragroup as well as intergroup alteration of the reexperiencing subscale scores of the Child PTSD Symptom Scale are presented in Table 6.

Table 6. Intragroup And Intergroup Analysis of the Time Dependent Alteration of the Reexperiencing Mean Scores of the Experimental and Control Groups

			Experimental Group (n=6)			Control Group (n=6)			Intergroup Analysis	
	Measurement		x̄	SD	Median	x̄	SD	Median	U	P
Reexperiencing	1. Pretest		9.67	3.08	9.00	8.17	1.72	8.00	12.00	0.394
	2. Posttest		3.67	3.08	2.50	9.50	1.64	9.00	1.00	0.004
	3. Follow-up test		1.83	1.72	1.50	10.00	1.90	10.00	0.00	0.002
	Intragroup Analysis	sd	2			2				
		χ^2	11.57			6.62				
		p	0.003			0.037				
		Significant Difference[a]	1-2	1-3	2-3	1-2	1-3	2-3		
		p	0.027	0.027	0.039	0.109	0.066	0.180		

Note. x̄: Arithmetic mean; SD: Standard deviation; [a]Wilcoxon Signed Rank Test was used for multiple comparisons.

The Friedman test results are presented in Table 6 regarding whether the mean scores of the pretest, posttest and follow-up test of the reexperiencing subscale of the Child PTSD Symptom Scale of the experimental and control group students, who showed symptoms of PTSD in grief process, differed significantly. The analysis showed that the mean of the reexperiencing scores of the experimental group students, who participated in the EMDR-focused group counseling program, differed significantly ($p<0.01$). Conducting Wilcoxon Signed Rank Test to identify the measurements causing the difference, a significant decrease in the mean reexperiencing scores of the experimental group students was detected from the pretest to the follow-up ($p<0.05$). In addition, the Mann Whitney U Test results, used for the intergroup comparison, showed statistically significant difference between reexperiencing, posttest and follow-up test scores of students in favor of the experimental group ($p<0.01$). Consequently, the result reveals the significant decrease in the mean re-experiencing scores of the experimental group students, who participated in the EMDR-focused group counseling program, compared to the control group students who were not in the program, and the decrease continued in the follow-up measurements.

The results of the analysis concerning the time-dependent intragroup and intergroup alteration of the avoidance subscale score of the Child PTSD Symptom Scale of the students, participating in both groups, are presented in Table 7.

Table 7. Intragroup And Intergroup Analysis of The Time-Dependent Alteration of the Avoidance Mean Scores of the Experimental and Control Groups

			Experimental Group (n=6)			Control Group (n=6)			Intergroup Analysis	
	Measurement		x̄	SD	Median	x̄	SD	Median	U	p
Avoidance	1. Pretest		10.00	4.15	8.00	9.50	2.07	9.50	15.50	0.699
	2. Posttest		4.33	1.97	3.50	10.67	2.50	11.50	1.00	0.004
	3. Follow-up test		3.00	1.41	3.00	13.17	2.79	13.00	0.00	0.002
	Intragroup Analysis	sd	2			2				
		χ^2	11.14			9.29				
		p	0.004			0.010				
		Significant Difference [a]	1-2	1-3	2-3	1-2	1-3	2-3		
		p	0.027	0.027	0.109	0.180	0.043	0.041		

Note. x̄: Arithmetic mean; SD: Standard deviation; [a]Wilcoxon Signed Rank Test was used for multiple comparisons.

The Friedman test results are presented in Table 7 regarding whether the mean scores of the pretest, posttest and follow-up test of the avoidance subscale of the Child PTSD Symptom Scale of the experimental and control group students, who showed symptoms of PTSD in grief process, showed significant difference. The analysis showed that the mean of the avoidance scores of the experimental group students differed significantly ($p<0.01$). In order to identify which measurements caused the difference, Wilcoxon Signed Rank Test was

used and it was revealed that the mean of the avoidance scores of the experimental group students decreased significantly from the pretest to the posttest ($p<0.05$). Additionally; the results of the Mann Whitney U Test, conducted for the intergroup comparison of experimental and control group students, showed statistically significant difference between avoidance posttest and follow-up test scores of students in favor of the experimental group ($p<0.01$). Consequently, the result reveals a significant decrease in the mean avoidance scores of the experimental group students, participated in the EMDR-focused group counseling program, compared to the control group students who were not in the program.

The results of the analysis regarding the time-dependent intragroup and intergroup alteration of the hyperarousal subscale score of the Child PTSD Symptom Scale of the students, participating in the experimental group and control group, are presented in Table 8.

Table 8. Intragroup And Intergroup Analysis of the Time-Dependent Variation of the Hyperarousal Mean Scores of the Experimental and Control Groups

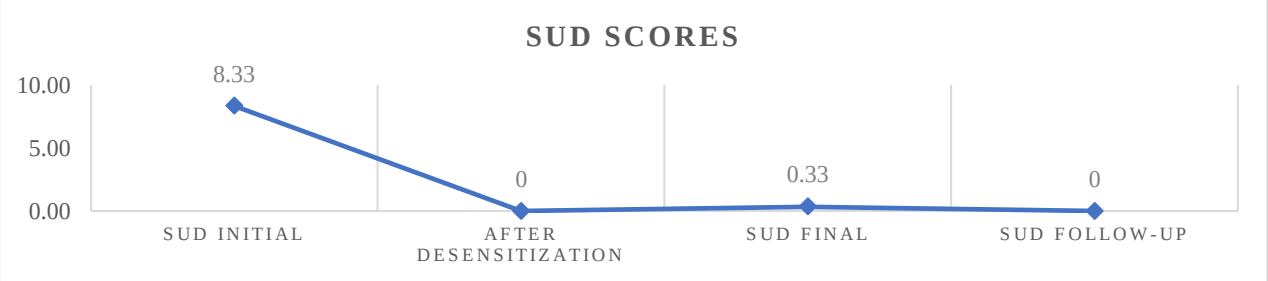
			Experimental Group (n=6)			**Control Group (n=6)**			**Intergroup Analysis**	
	Measurement		x̄	SD	Median	x̄	SD	Median	U	p
Hyperarousal	1. Pretest		6.83	1.72	7.00	7.17	1.94	6.50	15.50	0.699
	2. Posttest		5.17	2.40	4.50	7.83	2.40	7.00	7.50	0.093
	3. Follow-up test		3.00	1.90	3.00	8.17	2.32	8.00	0.00	0.002
	Intragroup Analysis	sd	2			2				
		χ^2	11.00			6.62				
		p	0.004			0.037				
		Significant Difference [a]	1-2	1-3	2-3	1-2	1-3	2-3		
		p	0.039	0.020	0.039	0.102	0.063	0.157		

Note. x̄: Arithmetic mean; SD: Standard deviation; [a]Wilcoxon Signed Rank Test was used for multiple comparisons.

The Friedman test results are presented in Table 8 regarding whether the pretest, posttest and follow-up test mean scores of the hyperarousal subscale of the Child PTSD Symptom Scale of the experimental and control group students, who showed symptoms of PTSD in grief process, showed significant difference. The analysis showed that the mean of the hyperarousal scores of the experimental group students differed significantly ($p<0.01$). In order to identify which measurements caused the difference, Wilcoxon Signed Rank Test was used and the mean of the hyperarousal scores of the experimental group students was detected to decrease significantly from the pretest to the follow-up test ($p<0.05$). Besides; the Mann Whitney U Test results, conducted for the intergroup comparison of experimental and control group students, showed statistically significant difference for hyperarousal follow-up test scores of students in favor of the experimental group ($p<0.01$). The result shows that the EMDR-focused group counseling program is permanent in decreasing the individuals' hyperarousal levels who were administered the experimental procedure.

The change in SUD scores obtained from the experimental group students at the beginning of EMDR applications after desensitization and in the final session are presented in Figure 1.

Figure 1. Change in SUD scores of students



The change between the average of SUD initial (x̄=8.33), after desensitization (x̄=0.00), SUD final (x̄=0.33) and SUD follow-up (x̄=0.00) scores of the students in experimental group is seen in Figure 1. It was observed that the average of SUD scores obtained from students at four different times decreased from SUD initial to SUD follow-up.

Following the implementation of the EMDR-focused group counseling program, the statements of the class teachers and parents of the students regarding the changes they observed concerning the students are presented in Table 9.

Table 9. Teacher-Parent Opinions

Student 1	Teacher	He is more compliant, obeys the classroom rules, acts more harmoniously in class and with his friends. He did not use to tell about his feelings but now he can express her feelings and open himself up. He can talk about himself. He learned to control his emotions. He used to cry when he got bad grades and mess up, now he is not. He greets more calmly and his outbursts of anger are over.
	Parent	Thank you very much, he has changed a lot. He used to hide his feelings, now he is expressing his feelings. He says now I feel it. Also when he is broken, he tells us about it, too. The “chest” is so special to him, he put it in his room. Normally, he doesn't let us check the chest, however even if I don't ask; “Would you like to read the contents?” he said. He opened the chest and showed the contents one by one. There is a picture of his grandfather in his room, he used to be very sad to see him. But now he accepts the situation.
Student 2	Teacher	He expresses himself better now. Generally he was not an active child and he was introverted, now he is not. He expresses himself well and defends his rights. He did very well in the BILSEM exam and his school success increased.
	Parent	He speaks more comfortably with others now, opens himself up and expresses his feelings. He used to ask a lot of questions about his father's death, now his questions are over, he accepted... It's as if he said goodbye to him. Outbursts of anger used to happen occasionally when I was at home, no more. His sleeping and eating patterns are better.
Student 3	Teacher	He was already a good student. His compatibility contunies, but he seems to be getting better at opening up his own feelings.
	Parent	He used to express himself before. Now he express even more comfortably. He used to have nightmares about his grandfather, saying that his grandfather wanted something from him and scared him. He doesn't have such dreams anymore. His sleep pattern is very good at the moment.
Student 4	Teacher	He became more comfortable about expressing himself. He expresses his feelings. He hugs me. Before your investigation, he had sudden reactions, anger, resentments, and outbursts of anger. Now that he is compatible, these reactions are over.
	Parent	In the beginning he had become aggressive, now it is over. In the last two weeks, there have been changes in this direction in particular. He was probably suppressing his grandfather's death before. We were also suppressing and at the beginning of the process, his emotions came out. Recently, he started to make his own decisions saying, "I want it this way, I'm going to wear this." It was as if he was starting to feel more confident and stronger. He used to eat a lot, now his eating pattern has improved.
Student 5	Teacher	He is happier, he can tell that his mother is dead. Now he is more active, he used to sit in physical education class, he did not want to move, now he plays with his friends.
	Parent	When he saw the pain (that others are experiencing) as well; "Something like this have happened to others," he said. He normalized it, accepted it a little bit. He can say that “my mother is dead” even to people he has just met. He comes to school more comfortably. He had problems with his friends, he overcame it. His timidity lessened. If he has a different opinion, he says, "No, it will be like this." The number of friends increased. When he has trouble with someone, he doesn't say he won't go to school, he can play with the other friends.
Student 6	Teacher	She was already a good student. Her compatibility contunies, but she seems to be getting better at opening up her own feelings.
	Parent	He was already a calm child, but now he is more willing to open his emotions. He used to pass it off, used to shut himself down, reacted harshly, and he blushed. Now he speaks longer, expresses his feelings. He tells in more detail. He used to have a lot of nightmares; wars, fights, etc. He no longer has nightmares, his sleep is more regular.

Evaluating the statements of the teachers and parents in Table 9, it is seen that the adaptation, acceptance, self-expression, self-disclosure, emotional awareness levels and emotion regulation skills of students increased after the sessions. While negative behaviors decreased, academic performances improved. Besides it is indicated that the problems related to eating and sleeping decreased, and the nightmares disappeared.

Discussion and Conclusion

The present study aimed to assess the efficacy of the EMDR-focused group counseling program applied to primary school students showing PTSD symptoms in grief process. The basic hypothesis of the research conducted for this purpose was expressed as "statistically significant decrease will be found in the PTSD scores

of the experimental group students, who participated in the EMDR-focused group counseling program, compared to the control group students, who were out of the program, and the decrease will also be detected in the follow-up measurement". As a result of the research, it was revealed that the students in the experimental group who participated in the EMDR-focused group counseling program had a decrease in their PTSD scores and the decrease continued in the follow-up measurements.

Many studies in the literature have reported that EMDR therapy is efficient in reducing PTSD symptoms (Abdi et al., 2021; Acartürk et al., 2015; Aydın, 2015; Barron et al., 2019; Chen et al., 2018; Denizli, 2008; Every-Palmer et al. ., 2019; Güçlü & Alkar, 2021; Karadağ et al., 2021; Kavakcı et al., 2010; Lehnung et al., 2017; Meentken et al., 2020; Tarquinio et al., 2012; Yurtsever et al., 2018; Zaghrout-Hodali et al. ., 2008) and that this effectiveness continues after therapy (Çitil Akyol, 2021; Edmond et al., 1999; Fernandez et al., 2003; Jarero et al., 2006; Molero et al., 2019). The results are in line with the conclusions drawn from our research.

Bayhan et al. (2022) regarding children who lost their fathers in the mine accident and mothers who lost their husbands, Korkmazlar-Oral and Pamuk (2002) regarding 16 children aged between 10 and 11 who survived the earthquake, Hurn and Barron (2018) regarding eight children exposed to various traumas such as the death of the father, Perilli et al. (2019) regarding 14 child refugees, Korkmazlar et al. (2020) regarding 41 children in early intervention, 25 children in late intervention who lost their fathers, Aduriz et al. (2011) 124 children in grief process and Jarero et al. (2008)) 16 children in grief process; found that the EMDR group studies they conducted were effective in reducing the children's PTSD symptoms. Notably, in parallel with the stated results, in the current study, an EMDR-focused group counseling program was applied to primary school students and it was found that the program was effective in reducing PTSD symptoms in grief process.

In the study, in which the efficacy of the EMDR-focused group counseling program applied to primary school students showing PTSD symptoms in grief process was assessed, sub-hypotheses were proposed based on the subscales of PTSD reexperiencing, avoidance, and hyperarousal. In the analysis performed following testing the hypotheses, a significant difference was found in the reexperiencing subscale in all pairwise intragroup comparisons and in all the intergroup measurements of the posttest and follow-up. Accordingly, the most effective results were found in the reexperiencing sub-subscale. Likewise, Ahmad et al. (2007) reached a similar result in their study. The reason for similar results may be due to the fact that EMDR allows the memories stored in original form to reprocess (Loewenthal, 2022; Shapiro & Maxfield, 2002; Vucina, 2021).

Although considerable research has been devoted to EMDR, rather less attention has been paid to EMDR group studies on students. Besides no recent studies have focused on group practices in schools. On the other hand, several previous research have concentrated on children in disaster areas implemented in a single day (Korkmazlar-Oral & Pamuk, 2002). The current study which was designed as seven sessions and applied in a primary school can be accepted as a guide for subsequent EMDR-focused group counselling program in schools.

Among group-focused EMDR evaluations in the literature, the studies that use the EMDR Integrative Group Protocol (EMDR IGTP) and the EMDR Group with Children Protocol (EMDR GP/C) are noticeable. Although both EMDR-GP/C and EMDR-IGTP contain eight phases of the standard EMDR protocol, the content of the phases of EMDR-GP/C acquaintance, preparation, installation and closure is divergent from EMDR-IGTP and is built on according to the traumatic event. For example, ice breaker games and resource exercises are selected according to the nature of the trauma during the acquaintance and preparation phases. In the installation phase an original story is prepared for the trauma. In the closure phase; for experiencing trauma, different artworks are selected (Korkmazlar et al., 2020). The present study was designed and implemented considering the EMDR GP/C procedure developed by Korkmazlar. The sessions were completed in seven weeks and resource exercise was comprehensively held. Emotion-based activities were created for students to develop insights concerning themselves, express themselves clearly, and realize their emotions. In addition, a healing story peculiar to the traumatic event was developed by the implementer. As in the present study, EMDR GP/C was concluded with different populations and it was detected to be effective (Banoğlu & Korkmazlar, 2022; Bayhan et al., 2022; Korkmazlar-Oral & Pamuk, 2002; Korkmazlar et al., 2020). The current study yielded effective results in parallel with the studies in the literature.

Examining the relevant studies focusing the implementation of the EMDR group protocol, it is noticed that the participants of the studies are those who have experienced different traumas (Banoğlu and Korkmazlar, 2022; Hurn and Barron, 2018; Olivier et al., 2022). However the participants of the current study are confined to the individuals experiencing grief. Thus via the study, the efficacy of the EMDR-focused group counseling program on the PTSD symptom levels of students in the grief process can be assessed.

The current paper argues that the cited EMDR-focused group counseling sessions reduced the symptoms of PTSD in a short period, and the findings of the study are coherent with the results of national and international research (Abdi et al., 2021; Acartürk et al., 2015; Aydın, 2015; Chen et al., 2018; Denizli, 2008; Edmond et al., 1999; Every-Palmer et al., 2019; Karadağ et al., 2021; Kavakcı et al., 2021 ., 2010; Lehnung et al., 2017; Tarquinio et al., 2012; Yurtsever et al., 2018).

SUD (Subjective Units of Disturbance) scores of the students were obtained, prior to desensitization phase, following the desensitization phase, and in the final session. Students rated their subjective disturbance level from 0 (no disturbance) to 10 (severe disturbance). The students' SUD scores prior to desensitization phase, following the desensitization phase, and in the final session are respectively as follows; 8-0-0; 10-0-0; 6-0-0; 10-0-2; 9-0-0; 7-0-0. In addition, in the follow-up test students were required to rate by a score that would precisely reflect the severity of their disturbance. It was seen that SUD scores of all students were "0". Regarding the evaluation based on feedbacks of students, resetting their Subjective Units of Disturbance (removal of the disturbance) is consistent with the results of the research and parallel with previous studies in the literature (Banoğlu & Korkmazlar, 2022; Korkmazlar et al., 2020; Mukba et al., 2020).

After the sessions; in the interviews, the teachers and parents stated that in general the adaptation of students, acceptance, self-expression, self-disclosure, emotional awareness levels and emotion regulation skills increased; negative behaviors decreased; academic performance improved; school, eating and sleep related problems lessened and nightmares have disappeared. The statements of teachers and parents supported the findings of the research. It also showed compatibility with the findings in the literature (Çitil Akyol, 2021; Olivier et al., 2021).

Decreased SUD scores of students, positive feedback from teachers and parents, positive observed alterations of students during the sessions, positive session indicators such as acceptance, adaptation and improvement of students, significant difference in pretest, posttest and follow-up test scores of students who participated the program; revealed that the study was effective and that the effect continued in the long term.

Implication

The EMDR-focused group counseling program was applied to students with PTSD symptoms in grief process in a primary school and the program was found to be effective. In this regard, school counselors can apply these sessions to students who are observed to have PTSD symptoms in grief process.

The study consisted of an experimental group participating in the EMDR-focused group counseling program and a control group participating merely in pretest, posttest and follow-up test applications with no intervention. By forming a placebo control group within the research, unrelated activities can be performed and the results can be compared.

Limitations

In terms of evaluating the results of the research, it should be considered that the research has limitations. To illustrate, the study is limited with the experimental and control groups consisting of six participants for each. Further research can be conducted with larger study groups which may be useful to generalize the results and evaluate their effectiveness. Thus, the current program can contribute to reducing the PTSD symptoms of primary school students during the grief process. Consequently the program can be an effective instrument, especially for school counselors.

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the research process and provided feedback and reviewed the paper. All authors read and approved the final manuscript

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Data Availability: The datasets generated and analyzed during the current study are available from the corresponding author on request.

Ethics Approval and Consent to Participate: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and its later amendments or comparable ethical standards. This study was approved by the University of Necmettin Erbakan Social and Humanitarian Sciences Scientific Research and Publication Ethics Committee on 10.09.2021 (Decission No: 2021/450).

Author's Note: This article is produced from the doctoral thesis of the first author, conducted under the supervision of second author, who guided first author in all stages of the study.

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