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Examination of the Effectiveness of EMDR Intervention in Children with Animal Phobias: A Case Study

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Abstract

Children's experiences of animal fears can be caused by direct conditioning, experiencing negative events, or modeling others' fears or situations. The fear of an animal that develops in a child as a result of various experiences may turn into an animal phobia over time. This study aims to examine the effectiveness of EMDR interventions for two different children with animal phobias through case studies. In the interventions conducted with the children in this study, facilitative techniques such as allowing the children to express themselves through drawings were utilized in addition to EMDR procedures. The study utilized a multiple-case study design, which is among qualitative research methods. One of the cases is a 9-year-old boy who developed a phobic condition related to dogs after being attacked by a dog and experiencing psychological distress associated with his dog phobia in daily life (such as running towards home, increased heart rate, and screaming when seeing a dog on his way home from school). The second case is a 10-year-old boy who developed a phobic condition related to insects after being stung by a bug while sleeping, experiencing fear of bugs in nature, such as during a picnic, and having difficulties sleeping alone. In this study, narrative analysis was utilized in the data analysis to describe the experiences of Client-1 and Client-2 regarding their phobic conditions and to present their narratives related to EMDR intervention in a chronological and holistic manner. According to the research findings, EMDR interventions conducted with two children (C1 and C2) who had animal phobias were found to have a positive impact on their phobic conditions. The current study revealed findings related to negative cognition as "*I am afraid*" and positive cognitions as "*I am brave*" and "*I can overcome it*" regarding children's phobic conditions, along with the expressions provided by the children during the interventions. In future studies, presenting the outcomes of EMDR interventions for children's phobic conditions in a qualitative design would allow for a more in-depth analysis of the prominent cognitions and expressions of the children.

Keywords: Animal phobia in children, EMDR intervention, Case study

Introduction

When examining phobias in the DSM-5, five main types of specific phobias stand out: 1. animal-related phobias (such as dogs, cats, and spiders); 2. natural environment-related phobias (such as heights and water phobia); 3. situational phobias (such as enclosed spaces, driving, flying, and elevators); 4. blood-injection-injury phobias (such as fear of seeing blood); and 5. other phobias (such as fear of illness) (American Psychiatric Association-DSM-5, 2014). Phobias can be observed in many children at an early age, just as they may occur in adults. Common phobias in children include fears of being in the dark, nightmares, falling into empty spaces, heights, and animal fears. These fears can be associated with anxiety-related distress and may involve fear and avoidance of an object, regardless of age (Farrell et al., 2021; Ferrari, 1986; King, Muris, & Ollendick, 2005; Ollendick, King, & Muris, 2002; Weems et al., 1999).

Traumatic experiences related to a specific fear object during childhood can lead to various fears in the form of phobic conditions later in life (van Dijke, Hopman, & Ford, 2018). For example, being chased by a dog can be a reason for a child to develop a fear of dogs for an extended period of time (Bal, 2010). Children's experiences of animal fears, as in the given example, can be caused by direct conditioning, experiencing negative events, or modeling others' fears or situations (King, Clowes-Hollins, & Ollendick, 1997).

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Studies examining interventions for children's phobic experiences in psychological counseling sessions show various interventions being implemented. In one study, single-session therapy, which is a type of cognitive-behavioral therapy (CBT), was suggested for children and adolescents with various phobic conditions. This therapy was reported to include psychoeducation, CBT techniques, exposure, cognitive challenges, skills training, and reinforcement. The single-session therapy intervention may last up to three hours, and it was emphasized by researchers that it was effective for phobias in children and adolescents (Davis, Ollendick, & Öst, 2009). In another study, it was predicted that enhanced evidence-based exposure therapy, rather than traditional cognitive-behavioral therapy, would be more appropriate in working with dog phobias in young children. 10–13-session exposure therapy significantly reduced the children's phobias in two cases (May et al., 2013).

Apart from studies on CBT approaches to phobic conditions, there have also been studies comparing CBT with EMDR interventions, which have shown no difference in their effectiveness. In both cases, it was found that individuals started to function better in their daily lives, and their distress was reduced (de Jongh et al., 2011). In this context, it can be said that both CBT, or exposure therapy, and EMDR interventions facilitate the reprocessing of cognition and emotions related to phobic conditions. It has been noted in the literature that EMDR is an effective intervention for specific phobic conditions in children, such as animal fears, and it can be applied practically (Tinker & Wilson, 1999). De Roos and de Jongh (2008) stated in their study that children with drowning phobia experienced distressing situations related to drowning and that these situations were associated with traumatic experiences. They further mentioned that EMDR was used to reprocess the memories, cognitions, emotions, and bodily sensations associated with these experiences, and that EMDR proved to be an effective intervention for such phobic conditions. Similarly, Vuřina (2021) reported that a 12-year-old child who developed a phobic condition related to sleep due to nightmares experienced positive outcomes in overcoming this phobic condition with EMDR intervention.

When examining phobic cases, it is observed that individuals can avoid the feared situation and its associated triggers. According to explanations regarding the emergence and maintenance of fear, fear initially arises through dependent learning and is sustained through fear conditioning. Essentially, threat evaluation requires an accurate prediction of a deterrent consequence from the current environmental signals. Therefore, fear conditioning is considered a powerful tool to investigate emotional learning and the neurobiology supporting fear expression in both human and non-human subjects. Fear conditioning studies have identified the critical roles of the amygdala, hippocampus, and cerebral cortex in regulating fear memory and behavioral expression (Gilmartin, Balderston, & Helmstetter, 2014). Particularly, the amygdala is generally accepted to be involved in various forms of emotional learning and memory, such as Pavlovian fear conditioning (Helmstetter, 1992; Maren, 2003). Any behavior that assists the individual in avoiding situations that elicit conditioned responses will be reinforced over time. In this context, when looking at the prominent aspects of EMDR when working with phobic conditions, the technique can focus on desensitizing the individual's negative experiences through bilateral stimulation and replacing them with pleasant memories (Sheikhi et al., 2020). EMDR therapy is also found to contribute to restoring disruptions occurring in the amygdala-temporal network and facilitating the process of fear extinction, leading to the placement of positive emotions instead of negative emotions (Rousseau et al., 2019).

EMDR intervention consists of a series of steps, including history taking, client preparation, assessment, desensitization, installation, body scan, closure, and reevaluation (Greenwald, 2004; Shapiro, 2012). EMDR intervention can enhance accessing the details of disturbing memories and accelerate their reprocessing by focusing on the sensory components (affective, cognitive, and somatic) in the experience (Shapiro, 2002), and it continues until the traumatic memory no longer brings emotional distress and a positive and adaptive perspective towards the traumatic memory is established (Ten Hoor, 2013). In conclusion, with EMDR, it is possible for individuals to strengthen their positive cognitions instead of negative cognitions, replace negative emotions with positive emotions, and reprocess a memory related to a phobic condition by emphasizing a clear beginning. The aim of this study is to demonstrate the applicability of the EMDR technique to children with animal phobia.

EMDR Intervention Protocol

EMDR consists of eight phases: history-taking, preparation, assessment, desensitization, installation, body scan, closure, and re-evaluation. The "history-taking phase" involves obtaining information about the client's distressing situations, bodily sensations, onset, how they have intensified, coping resources, and previous psychological history. The "preparation phase" focuses on preparing the client for what to expect during the EMDR session, and it may involve conducting a "safe place" exercise. During the preparation phase, the

procedure for performing eye movements with bilateral stimulation is explained, highlighting their significance in reducing negative emotions and facilitating the reprocessing of positive emotions.

In the "assessment phase," the client's negative cognition, positive cognition, degree of belief in positive cognition (VOC), emotions related to the issue, level of belief in negative cognition (SUD), and bodily sensations are identified. During the "desensitization phase," sets of eye movement stimulation are performed based on the assessment of the distressing image. The therapist takes a less active role in this phase. The desensitization process continues until the distress level decreases to 0 or 1 on a scale of 10.

Next, the "installation phase" is conducted. The client is asked about the credibility of the positive belief identified during the assessment phase, such as "How do you feel about yourself (stating the positive belief)? Is it appropriate?" Eye movement sets are continued until the credibility level of the positive belief reaches 7 on a scale of 1-7. In the "body scan phase," the client is instructed to focus on any bodily sensations and continue with eye movement sets until the discomfort level reaches 0 or 1. During the "closure phase," the effects of the previous session on the client over the week are explored, including any experienced discomfort.

The "re-evaluation" phase involves reviewing the goals addressed in the previous session, reassessing the distress level associated with the most vivid image, and checking if current triggers or reminders of the trauma are distressing the client. If any discomfort is present with current triggers, it is addressed in this phase. Additionally, a future template is worked on to prepare the client for future scenarios (Jarero, Artigas, & Hartung, 2006, pp. 122-123; Kavakçı, 2012, pp. 27-69).

Children often find it easier to express their thoughts and feelings through drawings rather than verbal expressions (Burris, 2005; Steele & Kuban, 2013). Therefore, in addition to all the above-mentioned EMDR intervention stages conducted with children, additional activities involving drawings are utilized. During the "preparation phase," children may create drawings of safe places. During the "desensitization" phase, they can draw or paint the images that come to their minds or any new images that arise between sets. In the "installation" phase, they may engage in drawing or painting activities related to positive images. Drawings may also be used during the body scan phase (Bayhan et al., 2022, p. 4). When working with children, bilateral stimulation does not necessarily have to involve eye movements. Alternative methods, such as following a "rhythmic machine" (Adler-Tapia & Settle, 2008, p. 24) or the child engaging in "rhythmic tapping on their own knees" or rhythmic stimuli like a "butterfly hug" (Bayhan et al., 2022, p. 4), can be chosen. In this case, the child can be given the following instruction: "During EMDR, we can use these tools. We can try various methods and find the one that suits you best. By doing this, we can minimize what bothers us and increase positive feelings while decreasing the negative ones" (Adler-Tapia & Settle, 2008, p. 24).

Method

The study utilized the multiple-case study design, which is one of the qualitative research methods. One of the cases involved a 9-year-old male child who developed a phobic condition towards dogs after being attacked by a dog and experiencing fear of dogs that led to psychological distress in his daily life (e.g., running towards home when seeing a dog on the way from school, increased heart rate, screaming). The second case involved a 10-year-old male child who developed a phobic condition towards insects after being bitten by a bug while sleeping, experienced fear of insects in outdoor settings, such as picnics, and had difficulty sleeping alone. In case studies, which are among qualitative research methods, elements related to a case, such as individuals, places, events, and temporal processes, are examined holistically (Yıldırım & Şimşek, 2013, p.83). The aim is to reveal what children experience regarding their animal fears through EMDR intervention. Additionally, similarities and differences in the experiences children report during the EMDR intervention for animal fears are thoroughly examined and described. Therefore, the multiple-case approach, which highlights the similarities and differences in the descriptions of cases, is considered suitable for this research (Creswell, 2018).

Ethical Aspects of the Research

To conduct this study, ethical approval was obtained from the Van Yüzüncü Yıl University Social and Humanities Ethics Board Presidency, dated April 25, 2018 and numbered 2018/05. Additionally, written consent forms were obtained from the mothers, ensuring that no identifying information would be used in presenting the research. At the conclusion of the interviews with the children, it was discussed that the study could be presented in a manner that would be beneficial for other children and psychological counselors without utilizing any identifying information.

The Data Collection Tool

The data collection tool for this study consisted of interviews. The interviews were conducted with two different children at different times, with each session lasting between 45 and 50 minutes. When there was a psychological demand from mothers regarding their children's phobic conditions, psychological counseling interviews were conducted with the children. The children willingly agreed to participate in the sessions. The mothers were not involved in the interventions. A total of seven interview sessions were conducted with Client-1, and eight sessions were conducted with Client-2. Additionally, "The Child Posttraumatic Stress Disorder Reaction Index (CPTS-RI)" was used to examine the effectiveness of EMDR intervention on the phobic symptoms of the clients (it was observed that their phobic symptoms were associated with traumatically experienced situations). The questionnaire information is provided below.

The Child Posttraumatic Stress Disorder Reaction Index (CPTS-RI)

The Child Posttraumatic Stress Disorder Reaction Index (CPTS-RI) is a scale developed by Pynoos et al. (1987) and adapted to Turkish culture by Erden et al. (1999). The researchers established criteria for scale scores based on studies conducted with children who have experienced different traumas. They categorized the scores as follows: scores between 12 and 24 indicate mild symptoms; scores between 25 and 39 indicate moderate symptoms; scores between 40 and 59 indicate severe symptoms; and scores of 60 and above indicate very severe symptoms, indicating the presence of posttraumatic stress disorder. The researchers obtained a test-retest reliability of .86 and a Cronbach's alpha coefficient of .75 for the scale. The scale consists of 20 items, rated on a 0-4 scale, ranging from "never" to "very often," using a 5-point Likert-type scale (Erden et al., 1999, pp. 144–149).

Data Analysis

In this study, narrative analysis was utilized for the data analysis, as the objective was to describe and present the EMDR intervention on the phobic experiences of Client-1 (C1) and Client-2 (C2) in a chronological and comprehensive narrative format. Narrative analysis involves examining the data in terms of actions, factual situations, and the resulting descriptions, and it generates stories as a method of analysis. For instance, these stories can be derived from the cases studied in the research (Uğuz Arsu & Tekindal, 2021).

Case-1

In Case-1, it was reported that a dog ran towards a 10-year-old boy (C1) while he was alone, barking and showing its open mouth with visible saliva. With the help of neighbors, C1 managed to move away from the dog and ran back home. After this incident, C1 expressed fear and anxiety whenever he saw a dog, with an increased heart rate. He also developed a fear of going to school alone and hesitated to go outside by himself. C1 mentioned that this event had occurred a few months before the interview. C1 expressed the desire to overcome his general fear of dogs and even mentioned that seeing a dog with his friends after school made him feel better. Even when observing that dog from a distance without approaching it, he felt partially hopeful and believed that he could overcome his fear of dogs in this way, stating, *"Not only fear, but I also know that I can love them. I can show mercy. With my two friends, I can get a little closer to a dog named Alaca (a cute dog that doesn't bark). My self-confidence increases; I can do it."*

C1 indicated that he did not want to feel a sense of difficulty when encountering animals, desired to go outside comfortably on his own, and wanted to overcome his phobic condition. C1 mentioned that situations involving encountering dogs could happen in various places; for example, when a relative's hunting dog tried to jump on him to play, C1 would cry and quickly give up, believing that he couldn't succeed in such situations. The possibility of implementing an EMDR intervention for C1's developed fear was explained to him through metaphors. A total of seven sessions were conducted with C1.

Case-2

In Case-2, a 10-year-old boy (C2) reported that while sleeping in his bed, a bug stung him, and he developed a general fear of bugs. C2 also experienced a jumping sensation in his bed when sleeping alone in his room. Similar to C1, C2 mentioned that this incident had occurred a few months before the interview. C2 expressed that he had repetitive thoughts about seeing bugs again while spending time alone in his room. Additionally, C2 stated that he could only spend 10 minutes alone in his room and couldn't push himself further.

Following this event, C2 exhibited attitudes indicating avoidance of nature, such as avoiding picnics, and when lying in bed at night to sleep, repetitive thoughts came to the fore about the bug that stung him. It was reported by him that one night, C2 was suddenly stung by a bug and woke up by jumping. C2 expressed hesitation due to the fear developed towards bugs (phobic condition), which caused fear of staying alone in the room and sleeping alone. C2 stated, *"I think about the bug while lying down. I want my father to stay with me when I go to bed."* The possibility of implementing an EMDR intervention for C2's developed fear was explained to him through metaphors. A total of eight sessions were conducted with C2.

Results and Discussion

The findings obtained are presented below according to the sequence of EMDR intervention stages.

Findings Related to the EMDR History-Taking Phase

A total of three sessions were held with C1 for the history-taking phase. C1 mentioned that his school was close to his home, and one day he felt anxious when dogs started barking while he was sitting on a bench after school. According to C1, a dog growled and ran towards him, causing him to start running towards home. C1 stated that a neighbor noticed him and chased the dog away. C1 said, *"The neighbor came and left me at home. The dog was still following us."* C1 mentioned that he continued to tremble when he arrived home. Several months later, C1 gave examples of instances such as when he wanted to go out for a bike ride but ended up returning home without riding because he saw a dog. He also mentioned being affected by rumors of dogs attacking others. C1 further stated that even seeing pet animals outside made him uncomfortable.

C1 exceptionally expressed that seeing a black-and-white-spotted dog with his friends after school made him feel good. Even from a distance without approaching the dog, he felt partially hopeful and believed that he could overcome his fear of dogs in this way. He emphasized feeling good when he saw that dog with his friends while going to school. This situation gave C1 hope, and he stated, *"I can overcome 50% of my fear."* In the third session, it was observed that C1 drew a picture of the spotted dog and his friends. The drawing can be seen in Figure 1 below.



Figure 1. Drawing made by C1 in the third session

It was observed that C1 expressed his belief in overcoming the fear he experienced. C1 exceptionally didn't run away when he saw the black-and-white spotted dog (which he found cute) outdoors, but rather had an affection for it from a distance. Among C1's sources of strength, it was mentioned by him as follows: playing basketball, riding a bike, playing outside with friends, reading books, going for walks with his parents, playing board games like Monopoly with his family, and being engaged in technology lessons such as robotic coding and projects such as building a sensor-controlled car.

A total of three sessions were completed with C2 during the history-taking phase. When discussing with C2, it was expressed that C2 was stung by a bug while sleeping in his bed and developed a general fear of bugs. For

instance, C2 started to experience a jumping sensation in his bed when sleeping alone in his room. Especially when getting ready to sleep in the evening, he talked to himself with the thought of *“bugs coming to mind; bugs might appear again.”* C2 mentioned that he had never seen such a bug before; the sting caused a lot of pain, and he (with his father) even went to the hospital, where he felt better. C2 stated that when the bug bit him, he screamed and jumped out of bed, and at that moment, his father came into the room, took the bug away, and immediately took C2 to the emergency room. C2 mentioned that going to the hospital made him feel better and that his father comforted him while they were there. C2 added that he received a serum at the hospital. C2 expressed that the image of the bug occasionally comes to his mind, saying, *“The image of the bug is big; it bothers me.”* Among C2's sources of strength, he mentioned that he enjoys drawing, school projects, taking care of plants at home, and playing basketball with his friends. Similar to C1, C2's views on feeling hope, peace, and feeling good were obtained, and it was seen that he wrote a note as follows: *“When we talk about feeling good, the first things that come to mind are happiness, joy, and peace. Could we live without peace and feeling good? Of course not, because if life was all about boredom, we couldn't live. Peace is actually the reflection of life in the mirror. We should start our lives with this word, always. We should feel good about ourselves.”*

It is observed that both C1 and C2 share similarities in their sources of strength, including playing basketball, playing with friends, and developing projects at school.

Findings Related to the EMDR Preparation Phase

In the fourth session, during the preparation phase, both C1 and C2 were explained how EMDR intervention is applied and what it serves through metaphors. The practitioner (who is also the researcher) provided the following instruction: *“Moments related to the event you experienced can flow in front of your eyes like a movie reel. It might be uncomfortable at times, like a train entering a tunnel, but I am here with you. There is light at the end of the tunnel, and when you tap your knees rhythmically like this, the uncomfortable feelings will decrease and the relaxing, positive feelings will increase. We will reorganize the disturbing memories, just like rearranging books in a library on a train, and our state of well-being will improve.”*

Both C1 and C2 found *“knee tapping”* appropriate as bilateral stimulation. A safe-place exercise was conducted with both C1 and C2. During the safe place exercise, the practitioner gave the following instruction to both C1 and C2: *“I want you to imagine yourself in a safe and peaceful place. It can be a real or imaginary place. What images do you see? What sounds do you hear? What tastes do you experience? If you want to give a clue name to this place, what name would you choose?”* Regarding the safe place, C1 described the following place: *“It's a square place. There are pictures of things I love, like a sailboat and the sea. I can hear my mother's voice. I can also hear the voices of my friends. My aunt's voice is audible too. It's a place of fun moments; everyone is happy, and I am the one with play dough. Clue name: Memory Room.”* C1's depiction of the safe place is shown below in Figure 2.

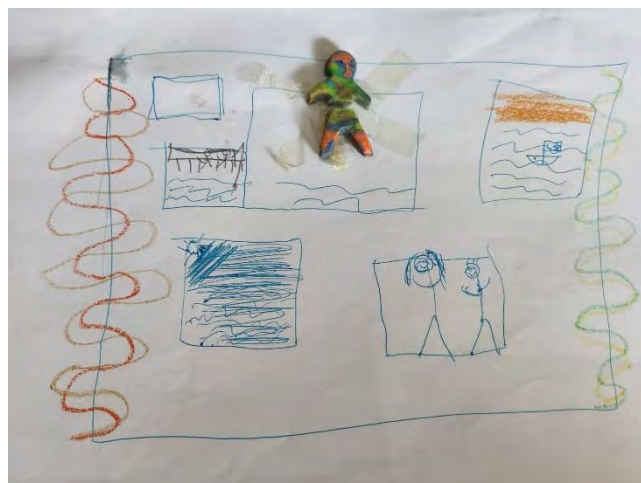


Figure 2. The safe place picture that C1 drew during the EMDR preparation phase, the “memory box”

C2, on the other hand, shared the following about the safe place during the fourth session: *“A place by the seaside. Only me; I'm the only one on the island. The sound of my footsteps Blue everywhere is deep blue. Birds*

are flying around. Very beautiful and relaxing. I have a lively, joyful feeling in my hands. Clue name: Magical Island. Very happy and soothing. Full of liveliness and joy.”

Both C1 and C2 depicted sea-related imagery in their descriptions of the safe place, but with some differences. C1 referred to the clue name as a memory box, while C2 used the depiction of a magical island. C1 emphasized other important people in their safe place, whereas C2 emphasized being the only person in the safe place and the presence of birds. C1 utilized drawings to depict the safe place, while C2 did not make any specific drawings. C1 mentioned the voices of their friends in relation to the safe place, while C2 focused on the sound of his own footsteps. C1 did not provide any expression related to bodily sensations in the safe place, whereas C2 mentioned experiencing a pleasant sensation in his hands.

Findings Related to the EMDR Assessment Phase

The information obtained regarding the assessment phase (fifth session) with C1 and C2 is presented in Table 1 below.

Table 1. Information regarding C1 and C2's EMDR assessment phase

	The clearest image related to the memory.	NC (Negative Cognition)	PC (Positive Cognition)	Degree of belief in positive cognition (VOC) (1-7 rating scale)	Emotions related to the memory	Sud (Belief level regarding negative cognition and emotion)	Somatic Sensation
C1	The moment when the dog first opened its mouth and started running	I am scared	I can be brave	1	Feeling teary-eyed	10	A tingling sensation in my head
C2	The moment when the bug stung	I am scared	I can be brave	3	Fear	5	Tingling sensation in my finger

As seen in Table 1, both C1 and C2 emphasized images related to the attack of the animal they experienced in their most vivid image regarding the traumatic event. Both C1 and C2 included the negative cognition “*I am scared*” and the positive cognition “*I can be brave*” in relation to the memory. C1 had a higher belief level in negative cognition (SUD) compared to C2 (C1 gave the highest belief level score to negative cognition), while C1 had a lower belief level in positive cognition (VOC) compared to C2. C1's emotional response to the memory was feeling teary, while C2's emotional response was fear. Both C1 and C2 experienced tingling sensations in their bodies, with C1 emphasizing tingling in the head and C2 in the finger.

Findings Related to the EMDR Desensitization Phase

Immediately following the assessment phase in the fifth session, both C1 and C2 underwent the EMDR desensitization phase. During this phase, bilateral stimulations were applied, and the initial and final SUD values for both C1 and C2 were graphically presented in Figure 3. The relevant explanations for both C1 and C2 are provided below.



Figure 3. SUD values of C1 and C2 during EMDR desensitization phases

During the desensitization phase of EMDR conducted with bilateral stimulation sets related to the moment when the dog first opened its mouth and ran, C1's level of distress (SUD) was 10 at the beginning and remained at 10 at the end. However, during the 6th session, when discussed with C1, he mentioned that the moment of the dog opening its mouth and running no longer bothered him (SUD level was reported as 0). Therefore, a desensitization phase was completed with C1. In the desensitization phase of the 5th session, C1 provided the following statements within the sets:

*"The dog opened its mouth and barked loudly."
 "It started running."
 "Another dog came from behind..."
 "In fact, that other dog was trying to save me; it barked at him."
 "Our neighbor came."
 "I went home."
 "SUD 10."*

After the EMDR assessment statements, during the 5th session, C2 underwent the first desensitization phase with bilateral stimulation sets related to the moment when the bug stung. The level of distress (SUD) associated with that moment was initially 5 and decreased to 3 at the end (Figure 4 shows the drawing made by C2 during the first desensitization phase).

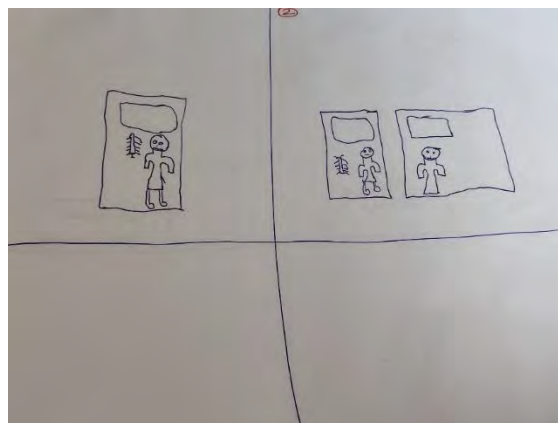


Figure 4. Drawing made by C2 during the first desensitization phase in the 5th session

C2 engaged in drawing activities during the first desensitization phase. The drawings made by C2 during the first desensitization phase are as follows:

"I cried because I was anxious."
 "My father said there was nothing to fear."
 "I was scared because of what I saw."
 "I was so frightened."
 "My father killed it."
 "I felt relieved when my father killed it."
 "My father got rid of it."
 "SUD 3."

During the second desensitization phase conducted with bilateral stimulation sets related to the moment when the bug stung, C2's level of distress (SUD) was 2 at the beginning and reached 0 at the end (Figure 5 shows the drawing made by C2 during the second desensitization phase).

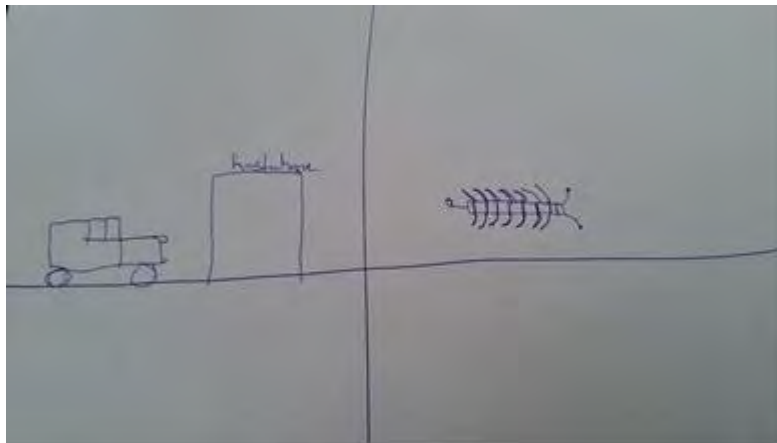


Figure 5. The picture drawn by C2 during the second desensitization phase in the 6th session

The statements provided by C2 within the sets during the second desensitization phase in the 6th session were as follows:

"I feel a bit of fear. I can feel it in my finger."
 "That bug shouldn't have scared me; it's just an ordinary bug."
 "Going to the hospital helped."
 "I was with my father. It also made me happy that my father killed the bug."
 "I felt good at the hospital."
 "My father comforts me."
 "The sight of the bug scared me a lot."
 "I screamed when the bug bit me."
 "Now there's nothing."
 "SUD 0."

During the desensitization phase, C1 had one session of desensitization sets, while C2 had two separate sessions. In the sixth session, C1 expressed that the visual image no longer bothered him (SUD=0). Both C1 and C2 mentioned visual images of the supportive resources and people during the desensitization phase. For example, C1 described that, besides the chasing dog, another dog tried to protect him and emphasized the presence of their neighbor. C2, on the other hand, highlighted being with his father and feeling relieved when his father killed the bug during both desensitization sets. C1 did not express any specific emotions (such as fear) during the desensitization sets, while C2 displayed expressions of fear during both the first and second desensitization sets.

Findings Related to the EMDR Installation Phase

During the installation phase, in the sixth session, C1 expressed a positive cognition of "I am courageous" regarding the moment when the dog first opened its mouth and ran. C1 rated his belief in the cognition (VOC) on a scale of 1-7 as 6 and mentioned that with the installation sets, his belief increased to 7. C1's statements during the installation phase were as follows:

"I could have been braver."
"Instead of running away, I could have chased."
"There's not much to it."
"Can you chase? Be brave."

In the seventh session, during the installation phase, C2 expressed a positive cognition of *"I can overcome it"* regarding the moment when the bug bit him. C2 rated his belief in cognition (VOC) on a scale of 1-7) as 3 and mentioned that with the installation sets, his belief increased to 7. C2's statements during the installation phase were as follows:

"I would tell them to handle it like an ordinary ant."
"I can remove the bug without causing harm."
"It's not frightening."

During the installation phase, C1 expressed the positive cognition of *"I am courageous,"* while C2 expressed the cognition of *"I can overcome it."* Both C1 and C2 mentioned that they could actively engage in effective actions during the most vivid image. For example, C1 stated that instead of running away, he could chase the dog, while C2 expressed the belief that he could remove the bug without causing harm.

Findings Related to the EMDR Body Scan and Closure Phase

During the body scan phase in the sixth session, C1 reported a discomfort level (SUD) of 1 related to a sensation of numbness in the head. Through the sets (bilateral stimulation sets), C1 stated that the discomfort related to body sensations had reduced to 0. In the seventh session, during the closure phase, C1 was asked about the impact of the previous session's work throughout the week (such as any remaining discomfort). C1 mentioned that there was no discomfort. The practitioner or researcher acknowledged C1's excellent progress during the closure phase.

In the seventh session, C2 reported no discomfort during the body scan phase. In the eighth session, during the closure phase, C2 was asked about the impact of the previous session's work throughout the week, such as any remaining discomfort. C2 mentioned that there is no discomfort experienced. The practitioner or researcher acknowledged C2's excellent progress during the closure phase. In contrast to C1, who had discomfort related to body sensations during the body scan phase, C2 expressed that there was no discomfort during the body scan phase.

Findings Related to the EMDR Re-evaluation Phase

During the re-evaluation phase, both C1 and C2 were asked if there were any daily triggers that currently bothered them. Both C1 and C2 reported that they did not have any distressing triggers. In the re-evaluation phase, positive cognition related to a hypothetical future template can be targeted using desensitization sets. Both C1 and C2 underwent desensitization sets for positive cognition related to the future template. During the seventh session, the results of the re-evaluation phase for C1 are as follows:

In the future, template exercises will be conducted with C1:
 The envisioned image related to the future was reported as *"being attacked by a dog"* by C1. He expressed the positive cognition of *"I am brave"* regarding this image. C1 rated his belief in this positive cognition on a scale of 1-7, giving it a level of 6, and with the desensitization sets, his belief was reaffirmed at level 7. Some statements made by C1 during the "re-evaluation phase" of the "future template exercise" are as follows:

"I have my guitar; I can use it to keep the dog away."
"I would ask for help."
"There's a guy waiting at the service station; he gets out of the car and helps."
"If there's a stray dog, it will come to attack."
"My father's car has a remote lock/unlock button."
"I also have a dog repellent that I can activate."

C2 underwent the re-evaluation phase in the eighth session, and the results of the re-evaluation phase regarding the future template are presented below.

During the future template exercise with C2, the mental image of the future scenario was described as “*a spider appearing on the bed.*” C2 expressed a positive cognition related to this scenario as “*I am brave.*” He rated his belief in this positive cognition on a scale of 1-7 and gave it a score of 7, indicating a high level of belief. With the implementation of the installation sets, his belief level of 7 was reaffirmed. C2 provided the following statements during the re-evaluation phase of the future template exercise:

“*I will quietly tell my father.*”

“*My father will remove the spider and take it outside.*”

“*I will go back to bed peacefully.*”

C1 and C2 both showed similarities in selecting the positive belief of being “*brave*” during the future template work. Both C1 and C2 expressed the view that they received support from another source in relation to the future template work. For instance, C1 mentioned the support he could receive from his father's car or the bus driver, while C2 mentioned the possibility of his father taking action. However, C1 differed from C2 in that C1 expressed the belief that he could take active actions in relation to the hypothetical scene in the future template. C1 mentioned using his own guitar to ward off the dog or activating his dog repellent, indicating a sense of agency and self-efficacy in dealing with the situation.

Findings Regarding Pre-Test and Post-Test Results of CPTS-RI

The findings regarding the pre-test and post-test results of C1 and C2 on CPTS-RI scores are shown in Figure 6 below.

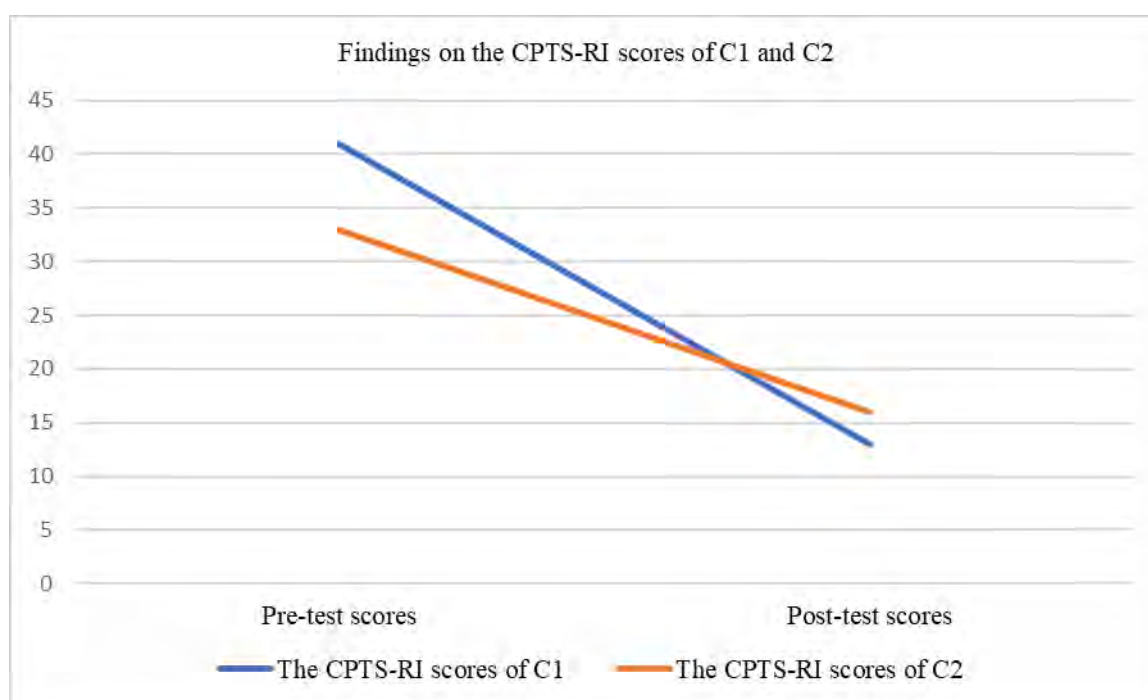


Figure 6. Findings on the CPTS-RI scores of C1 and C2

As seen in Figure 6, C1's CPTS-RI score decreased from 41 to 13. On the other hand, C2's pre-test CPTS-RI score was 33, while his post-test score was 16.

Conclusion

In this study, it was found that EMDR interventions conducted with two children (C1 and C2) who had animal phobias had a positive effect on their phobic conditions. This conclusion can be drawn from both the children's narratives and the findings of the pre-test and post-test scores of the CPTS-RI. When the literature is examined, supporting studies for this result can be found. In a study investigating the short-term effect of EMDR intervention for hospital-related needle and blood phobia in children aged 4-15 receiving treatment in the hospital, it was found that collective EMDR intervention along with group therapy significantly differentiated or

reduced the children's hospital-related phobias (Meentken et al., 2020). There are also studies indicating that EMDR is an effective intervention for different phobic conditions in various age groups (Faretta & Dal Farra, 2019; Qorbanpoor Lafmejani, Samadi Biniaz, & Rezaei, 2020).

It was noticed from the narratives of both C1 and C2 that they had beliefs and hopes about overcoming their phobic conditions during the history-taking and preparation phases. C1, during the history-taking phase, mentioned that unlike the fear of a specific dog that created a phobic condition, he was not afraid of a spotted dog and felt good when he saw that dog from a distance with his friends. In this context, he expressed his belief in overcoming the fear of dogs. C2, on the other hand, made statements during the history-taking phase emphasizing the importance of being hopeful. During the EMDR preparation phase, in the "safe place" exercise, C1 described and drew a box that represented positive memories (good memories with his mother, aunt, and friends) and included seaside locations, while C2 depicted a magical island with birds and a sea. When looking at the literature, it is stated that children often include meaningful experiences with important individuals in their lives, such as their mothers, or depict memorable experiences in their safe place exercises during the EMDR protocol (Wizansky, 2007).

In this study, during the EMDR assessment phase, both C1 and C2 emphasized the moments when animals initially frightened them as their "most vivid image memory" and the negative cognition "I am scared" stood out. There are studies indicating the presence of negative cognitions such as I am scared regarding disturbing images during the assessment phase of EMDR interventions with children with various phobic conditions (Klaff, 2016; Schmidt, 1999). This study also highlighted the emotional experiences of fear and tearfulness among children during the assessment phase of their phobic conditions. In a study conducted with an individual suffering from childhood phobia and fear of losing loved ones, it was noted that the assessment phase of the EMDR intervention revealed prominent feelings of fear and the negative cognition that I am weak (Imširović, Omeragić, & Hasanović, 2021).

During the desensitization phase of the EMDR interventions with the children in this study, C2 utilized drawings while reprocessing the images that came to their mind. C2 occasionally expressed the images that came to their mind through drawings and sometimes verbally, which shows similarity to systematic desensitization interventions presented in cognitive-behavioral therapy. When looking at the literature, studies can be found that utilize systematic desensitization interventions (interventions involving thinking about disturbing memories) for children's phobias and the use of children's drawings. In a study involving a 6-year-old child with swallowing and choking phobia (chewing food but not swallowing) who developed PTSD due to medical examinations and treatment related to their stomach in the hospital and attempted to avoid hospitals and doctors, it was mentioned that systematic desensitization interventions (interventions involving thinking about negative images in the hospital) and adapted diagrams and drawings were used for the child's phobic condition, and the child overcame their phobic condition as a result of the interventions (Rachidi et al., 2022).

In this study, C2 utilized drawings to express his experiences during the desensitization phases (Desensitization 1 and Desensitization 2), while C1 did not make use of drawings during the desensitization phase. C2's initial drawing depicted the disturbing insect and their worst memory of being stung by the insect. In a study by Kokanović and Barron (2021), they conducted EMDR interventions with a 4-year-old child who developed a solid food phobia due to a fishbone getting stuck in his or her throat. During the EMDR assessment phase, the child reported the moment when the food got stuck as the most distressing image and shared the imagery of scribbling the food in his or her throat. The researchers noted that during the installation phase, the child exhibited positive cognitions of "I am brave" and "I am strong." They mentioned that the child created a clay container during the installation phase where they could discard their fears and used a key to lock away all their fears, indicating that she or he was now strong and safe and capable of coping with fear (Kokanović & Barron, 2021, pp. 36-38). This finding is similar to the EMDR installation phases related to animal fears in this study, in which both children (C1 and C2) exhibited positive cognitions such as "I am brave" (C1) and "I can overcome" (C2) cognitions, as well as coping statements like "I have a dog repellent, I can activate it" (C1) and "I can remove the insect without harming it" (C2).

In the re-assessment phase of this study, both C1 and C2 emphasized their positive cognition of "I am brave" regarding a hypothetical future situation, such as encountering the animal that previously bothered them, and both had a high level of belief in this cognition. C1 reported current and future coping resources, such as "the guy is waiting in the school bus, getting off the bus, and helping," "if there's a spotted dog, it will come to attack," and "my father's car has a button to open and close the car." C2 also expressed the resources in their surroundings for present and future coping situations, such as "I will quietly tell my dad," "my dad will remove the insect and throw it outside," and "I will turn my bed to a better position." While C2's environmental coping

resources partially resemble those of C1, C1 also emphasized the resources where he himself would take active action (e.g., chasing the dog with his guitar). Similar to this study, Klaff (2016) stated that a child with chronic heart-related health problems emphasized effective coping resources in the re-assessment phase of EMDR intervention, such as I will do and continue to do the healthiest things for my life in the future.

Recommendations

The findings of this study provide some recommendations for practical application when conducting EMDR interventions with children. The researcher suggests that children can be offered the option to draw pictures during EMDR phases, but it should not be insisted upon. In fact, in this study, one child expressed the desire to draw during the safe place and history-taking phase but did not want to draw during the desensitization phase or other stages. During the desensitization phase, children can be supported by incorporating safe-place exercises when they become tired. In this study, during the EMDR installation and re-evaluation phases, it was observed that children exhibited creative, active, and social coping resources. In this regard, EMDR interventions with children can be further supported by incorporating creative supplementary activities that relate to the coping resources identified during the strengthening-oriented installation and re-evaluation phases. Encouraging children to create hypothetical stories about their coping strategies and how they can apply them to their daily lives may be highlighted as a valuable approach.

For future research, EMDR interventions for children with phobic conditions can be conducted in a group setting, and the research findings can be presented in an experimental design for scientific purposes. The current study revealed findings related to negative cognition as “I am afraid” and positive cognitions as “I am brave” and “I can overcome it” regarding children's phobic conditions, along with the expressions provided by the children during the interventions. In future studies, presenting the outcomes of EMDR interventions for children's phobic conditions in a qualitative design would allow for a more in-depth analysis of the prominent cognitions and expressions of the children. Additionally, the relationship between these cognitions and phobic conditions can be re-evaluated in the context of existing literature. During the EMDR installation and reprocessing phases, children's coping statements regarding their phobic conditions highlighted both problem-focused coping strategies and environmental coping resources. In future research, comparative qualitative and quantitative studies can be conducted on EMDR interventions for children with phobic or distressing conditions, focusing on coping strategies during these phases. These studies can be linked to existing literature in the field.

Conflicts of Interest

The author declares that she has no personal or financial conflict of interest associated with this publication to disclose.

Ethical Approval

Ethical permission (2018/05) was obtained from Van Yüzüncü Yıl University Social and Humanities Ethics Board Presidency for this research.

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