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# A Qualitative Tool for Detecting and Approaching Psychological Trauma in Children Victims of the 2009 Italian Earthquake

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## Abstract

Expressive therapies are considered effective intervention modalities with children who have experienced traumatic events such as natural disasters. Particularly, drawing consent to trauma affected children to convey the complexity of traumatic feelings by giving them a shape and a sense. But the efficacy of art therapies with children exposed to natural disasters, has not been research proved. This chapter present an exploratory and pilot study on the use of the specific technique “Test de trois dessins: avant, pendant et avenir” (Three Pictures Test: Past, Present, and Future), which may accomplish the double function of diagnostic instrument, for detecting the presence of psychological trauma, and therapeutic technique, for facilitating recovery from psychological distress, with children exposed to natural disasters. The graphic tool has been employed with children victims of the Italian earthquake which affected the region of Abruzzi, on the 6th April 2009. The case studies analysis illustrates the efficacy of the test in both detecting the presence and the extent of the psychological trauma, and in enhancing the trauma recovery process. Further researches need to be done in order to validate the use of the “Three Pictures Test: Past, Present, and Future” as a validated technique with children experiencing disasters.

**Keywords:** trauma, child, earthquake, drawing test, test de trois dessins

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## 1. Introduction

The Centre for Research on Epidemiology of Disasters (CRED) [1] defines disaster as “a situation or event which overwhelms local capacity, necessitating a request to a national or

international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction and human suffering.” Disasters can be caused by nature or by men’s action. The transdisciplinary nature of disasters has given different perspectives to their study. In particular, engineers and physicians observe the structural proprieties, economists estimate the direct and indirect economic damages, sociologists investigate their impact on the social organization, doctors examine their consequences on the population health, and psychologists study the emotional, cognitive, and behavioral dynamics.

Through the psychological studies, a special attention has been given to the traumatic effects of disasters. Psychological trauma occurs as a response to a threatening event, such as natural disasters, in which the psyche surrenders to a situation of terror and of personal death perception [2]. In order to preserve a sense of safety, control, and gratification linked to the self, the parts of the self associated with the trauma are encapsulated and segregated out of the consciousness [2]. Emotions, feelings, and perceptions, which constitute the memory of the traumatic event, assume the form of a “corps étranger (...) qui menace le système dans son ensemble” [3], as they may suddenly break through the consciousness in the forms of nightmares, flashbacks, hallucinations, and unconscious trauma reenactments [4, 5]. The segregation of the traumatic memory out of the consciousness and its threatening nature block the process of symbolization, as cognition linking affects may lead to re-experiencing the trauma [2, 6]. Crocq [7] has defined the main effect of a psychological trauma as a “trou noir où un panne psychique par défaut de parole et de pensée.”

Children exposed to disasters are considered a particularly vulnerable group for developing psychiatric disorders [8–11]. In particular, several studies have been reported in youth who have experienced natural disasters; negative outcomes, such as anxiety and depression [12, 13]; and posttraumatic stress disorder (PTSD) symptoms [14, 15], which include re-experiencing, avoidance, emotional numbing, and hyperarousal [16]. The reason is that the energy that is supposed to be used for accomplishing the developmental tasks is employed by the child for defending the self against recurring threatening thoughts [2, 17]. Therefore, it is important to develop appropriate and effective interventions aimed at helping children to recovery from trauma and preventing the development of posttraumatic pathologies.

### **1.1. The use of drawing technique following traumatic events**

Following the rise of experimental psychology between the end of the nineteenth century and the beginning of the twentieth century, several psychologists and scholars in Europe and in North America started to explore the relationship between children’s drawing and their own emotional, social and cognitive functioning, as a result of which children’s drawings ended up to be used as a tool for projective testing. The first graphical tests were aimed to measure child’s intelligence, assuming that the graphical acts develop in parallel with the cognitive development [18]. Gradually, authors started considering drawings as precious informants on the child’s personality and his internal world [19].

House [20–22], family [23], and self [24–27] have been considered the main objects of analysis in projective drawing tests. They have been largely employed even in the specific kinetic

drawing approaches, such as Burns and Kaufman's [28] research on the Kinetic Family Drawing, the Kinetic House-Tree-Person [29], the Kinetic School Drawings [30], House-Tree-Person-Test [31], and the Draw-a-Person-Test [32].

In scientific literature, drawing techniques appeared to be employed with children victims of traumatic experiences, in double functions: as therapeutic techniques that lead to overpass the defensive mechanisms and to promote the symbolization process and as diagnostic tools that provide traumatic contents with representations.

Projective tests are based on the idea of the presence of structural and symbolical elements that illustrate psychological sufferance [33]. Drawing gives a way to express needs, thoughts, and feelings that are hardly communicable because of their traumatic nature. Children victims of traumatic experiences often do not manage to express their internal feelings through verbal communication. Therefore, projective tests may represent a way to understand and diagnose childrens' internal world [34]. Drake et al. [35] affirm that through the information transmitted by the projective tool, it is possible to evaluate the anxiety not expressed and not elaborated, the child's coping style, and the presence of traumatic issue that influence on his/her self-image and on relations.

Concerning therapeutic value, several scholars affirm that art therapy is a successful technique for treating children who have experienced trauma [36–42]. In particular, expressive therapies:

- Provide a means of communication by which the child can express grief, loss, feelings, perceptions, thoughts, and memories linked to traumatic events and, as a result, succeed in bridging language barriers [6, 43, 44].
- Offer a "protected environment," within the external and internal chaos, where the child can take distance from the intense affect associated with the disaster, funnel his energy into the art by examining, exploring and giving meaning to threatening thoughts, and, consequently, interrupt the cycle of disruptive thinking, acting out, and symptoms [17];
- Present a way for children to become active participants in their own healing process and to see themselves as "survivors," rather than "victims" [6, 45]
- Bring to the surface, through the employing of drawings, issues relevant to treatment and accelerate, as a result, the capacity of helping professionals to intervene and assist traumatized children [26]. Furthermore, drawing is considered a useful tool in trauma debriefing as it provides sensory-based methods, which have been proved to be helpful in disclosure and crisis resolution [46–48].
- Stimulate the resilience process by promoting internal resources, such as creativity, self-reliance, and problem-solving, and external resources, such as the client-therapist relationship, which is one of the most important predictors of traumatized client outcomes [6, 43, 45, 49]

Even though art therapy is widely used as a treatment regimen for traumatized children, its efficacy has not been scientifically demonstrated. Researches that have been conducted on this theme turn out to have several limits [43]: lack of precision on the nature of the psychosocial symptoms and on the diagnosis of the sample who took part in the research; lack of methodological specificity of the type of art therapy employed; mostly limited on the qualitative outcome, which do not permit empirical inquiry. Notwithstanding these limitations, scholars [6, 43, 50] agree to encouraging further investigation that may establish and validate art therapy as an effective interventions modality in disaster situations.

The aim of this research is to present an exploratory and pilot study on the use of the specific technique “Three Pictures Test: Past, Present, and Future,” which may accomplish the functions of *diagnostic instrument*, for detecting the presence of psychological trauma, and of *therapeutic technique*, for facilitating recovery from psychological distress, with children exposed to natural disasters.

## 2. Methods

The sample is composed of 14 children (seven boys and seven girls), aged between 8 and 12, who have experienced directly the earthquake, measuring 5.8 on the Richter scale, which took place on 6 April 2009, in the Italian Region of Abruzzi, and killed 300 civilians. All of them have been living most of their life in the affected area. Six of them were born in Macedonia, one comes from Morocco, and the other seven are Italians. Since the day after the earthquake, all of them had to leave their houses, which have been partly or completely destroyed by the seism, and they have been hosted in the two refugee camps “Monticchio1” and “Paganica5” set up by the Italian Civil Protection in the two provinces of L’Aquila: Monticchio and Paganica. None of the children suffered any family losses or serious injury after the earthquake.

Since the beginning of May 2009, the children have been attending the psycho-social intervention, conducted by a team of psychologists and educators from the Resilience Research Unit of the Catholic University of Milan. The objective of the intervention was to provide them with a temporary protection and structured setting, in contrast with the chaos and the fragility of the external environments, where resilience processes may be enhanced and stimulated by several actions, based on the use of creative-expressive languages. Consequently, creative expressive languages became familiar to children.

The test was administered on August 2009, after two months of psycho-social activities by the psychologists who have conducted most of the activities since the beginning of the project. There by, the interviewers have already built a trusting relation with each child. Furthermore, the test has been administered individually in the tent where all the other psychosocial activities took place.

The tool that has been used is a drawing test named “test de trois dessins: avant, pendant et avenir” (Three Pictures Test: Past, Present, and Future). It has been developed by the psychiatry Crocq [51], following the interventions conducted with child victims of war and natural catastrophes. The test is composed by three tasks:

1. Draw your house, your family, and yourself before the earthquake.
2. Draw your house, your family, and yourself during the earthquake.
3. Draw your house, your family, and yourself how you would like them to be in the future.

The first drawing illustrates the representation of the child's life before the earthquake. The second drawing is aimed at tackling the block in the expression of traumatic thoughts and emotions by promoting the sense-making process of the experience lived. The third drawing invites the child to detach from the traumatic event and to project himself/herself in a desired future.

Each drawing is followed by an interview, where the interviewer encourages the child to talk about what he/she has drawn. The data analysis is based on a nonstatistical qualitative observation and takes into consideration both the graphical and the verbal levels. The test has not been standardized by the author.

This research is a study pilot, aimed at validating the two hypothesis speculated by Crocq [52], on the possible functions of the Three Pictures Test: Past, Present, and Future.

The first one considers it as a *diagnostic technique* for detecting the presence and the impact of the psychological trauma. Particularly, the administration of the test may permit to examine whether the traumatic event has distorted the mental representations of the three significant objects, house, family, and self, in the three temporal phases, before and during the traumatic event, and in the future, when it will be over.

The second hypothesis affirms that the tool may be employed as a *therapeutic technique*, with traumatized children. Drawing and talking about thoughts, perceptions, feelings, and emotions directly or indirectly linked to the traumatic event, with the guide and the support of the interviewer, may contrast the expressive block, caused by the absence of symbolic representations referred to the event, and, at the same time, it may facilitate the sense-making process.

### 3. Results and discussion

In order to answer the first hypothesis on the tool efficacy in detecting the presence and the level of psychological trauma, we tried to identify any traumatic mark in each one of the three tasks. No case study has been diagnosed with PTSD, as the test has been administered only few (two to three) months after the earthquake. But some children exhibited symptoms linked to the posttraumatic stress disorder (PTSD) or comorbidity, as described in the following case study presentations.

#### 3.1. Draw your family, your house, and yourself before the earthquake

Case study No.1: Francesco is a 9-year-old boy. He has been hosted in the camp since the day after the earthquake, with his family: mother, father, and elder sister. His academic performance used to be good, but since the earthquake, he has shown difficulties in listening, concentrating, and a low motivation in accomplishing any task. He often exhibits hyperactive behaviors, attitudes of defiance, and difficulties in respecting rules.

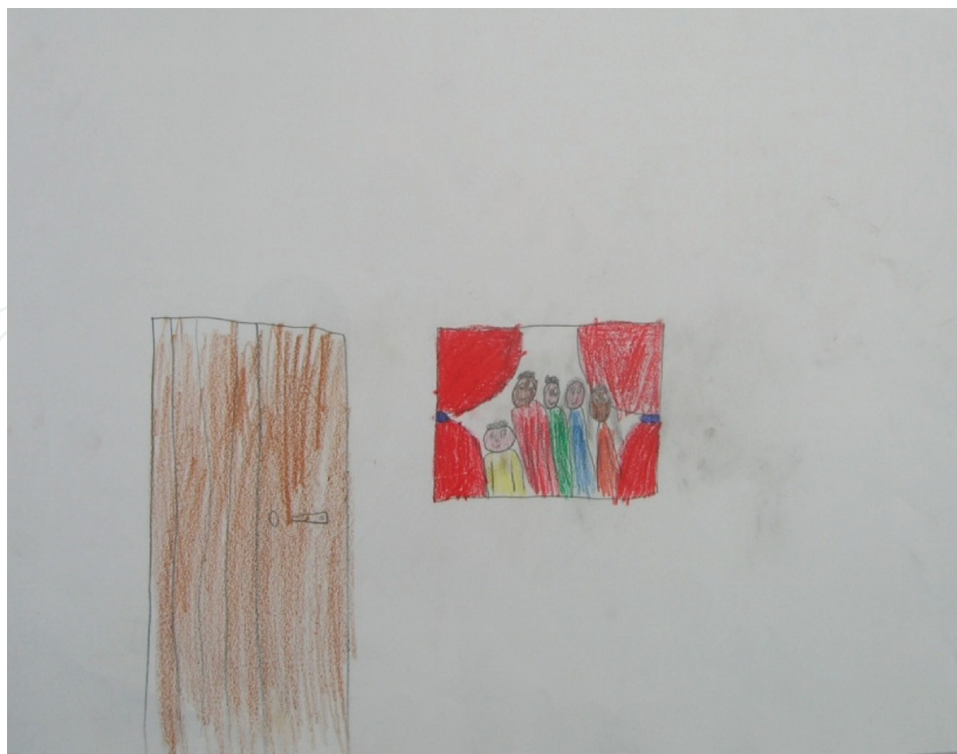


In **Figure 1**, Francesco draws as house details, the door and the window, which are very much related to the traumatic event: both of them are the ways out that lead to run away from a house during the earthquake. After having drawn the door, he affirms that it was made by iron, and that during the earthquake it was blocked, therefore, they did not manage to open it. The door occupies a lot of space in the drawing; it is seen from the front and has iron bars, which manages to transmit the idea of closure and imprisonment.

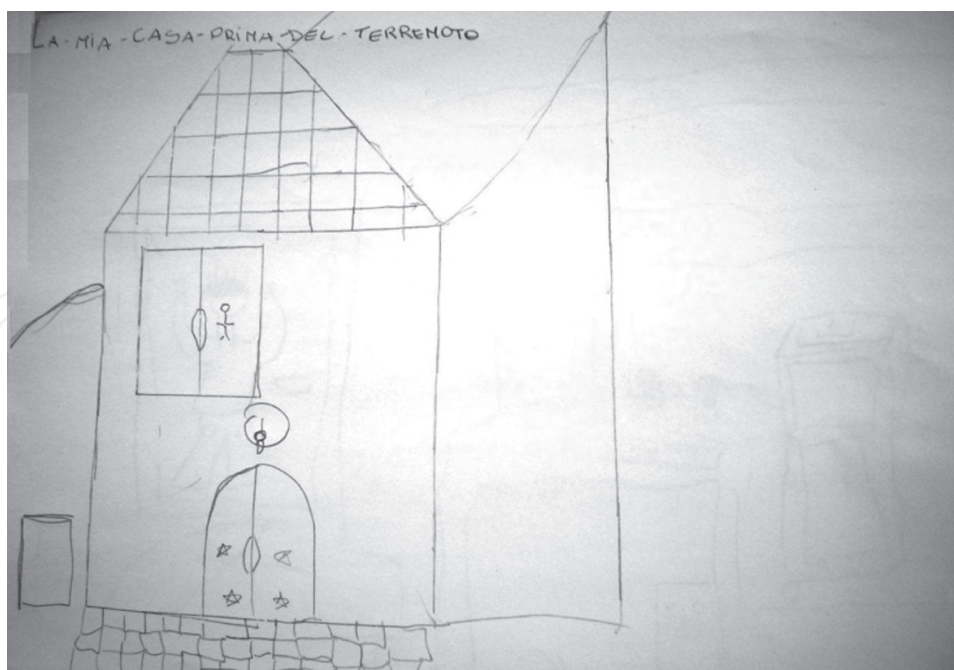
Case study No. 2: Alessio is a 12-year-old boy. He often shows a hyperactive and exuberant behavior. But at the same time, he takes part in the activities proposed by educators and collaborates well in team works. He is very much engaged in the tasks that stimulate his fantasy and creativity such as artistic workshops. His family consists of father, mother, and little four-year-old brother. He lives with his mother, brother, and paternal grandmother since the day of the earthquake (6 April 2009).

In Alessio's drawing (**Figure 2**), the house becomes the only protagonist of the past before the earthquake. The empty space at the right side of the house was probably supposed to be used by the family members, but in the end, he did not draw them. The boy decided to reformulate the task in "My house before the earthquake" and wrote it on the top of the sheet.

Case study No. 3: Giada is an ethnic Macedonian 9-year-old girl. She lived through a very hard experience during the earthquake night: she was exposed to death as her room floor fell on the ground floor and she has been staying under rubbles for few hours before fireman came to save her. Since then, her finger has been permanently injured as she could not bend it anymore. Giada shows several difficulties in elaborating the traumatic memories, especially



**Figure 1.** Draw your house, your family, and yourself before the earthquake—Francesco, 9 year old.



**Figure 2.** Draw your house, your family, and yourself before the earthquake—Alessio, 12 year old.

in accepting the loss of her house. She has struggled during several workshops that she has been doing in the camp. In particular, during the house thematic workshops, Giada could not draw a house spontaneously, but she copied the castle image represented on the colors pencils box. When educators asked her the reason why she decided to draw the castle, she said that it's her dream house, where she would like to live forever.

Furthermore, she showed difficulties in joining sport activities, in particular volleyball: when the ball goes toward her instead of playing, she immediately tries to protect herself from it. It seems that the image of the ball coming toward her is a kind of traumatic reviviscence related to rubbles which fell on her, during the earthquake.

For Giada (9 year old) (**Figure 3**), the past memory is inaccessible: the house is installed in an empty space, without any context detail that could situate it in a temporal and spatial setting. The window and the door are closed and the handles are very prominent, it reinforces the idea of lack of access. The sidewalk around the house is sharply interrupted by the outline of the house: it is not supposed to lead anywhere.

### **3.2. Draw your family, your house, and yourself during the earthquake**

In the second task, Giada (**Figure 4**) expressed the confrontation with the reality of death. The child kept on repeating that if she had fallen asleep in front of the television, like she used to, now she would be dead. During the earthquake, her room floor fell onto the ground floor, where the sitting room and the television were located. The child spent several hours under the rubbles, until firemen managed to get her out. The only object that she managed to draw while she was speaking was the television, but then she tried to erase it as if it was too complicated to access the memory.





**Figure 3.** Draw your house, your family, and yourself before the earthquake—Francesco, 9 year old.

Case study No. 4: Rebecca is a cheerful, bright 9-year-old girl. She enjoys taking part in educational activities and collaborating with other kids. She behaves in an appropriate way in different situations. Her family, composed of her parents, a 10-year-old sister, and a 5-year-old brother, is Muslim Macedonian, but she was born in Italy. Her father risked dying because of a work accident, happened after the earthquake. But fortunately during the test administration, he was no more at risk of death. She did not exhibit specific psychological difficulties following the earthquake. She used to spend most of the time playing with her sisters and with the other kids from the camp.

Rebecca made three drawings for the second task. In the first two (**Figures 5 and 6**), she drew her parents' bedroom and the bedroom she shares with her sister. The black color occupies the whole paper and seems to invade both bedrooms, and all objects look as if they are floating in the terrifying blackness.



**Figure 4.** Draw your house, your family, and yourself during the earthquake—Giada, 9 year old.

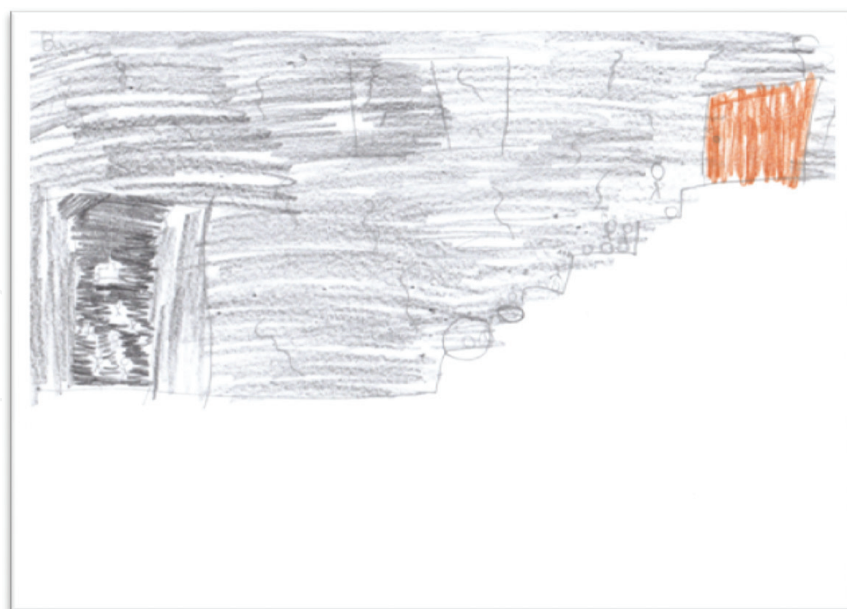


**Figure 5.** Draw your house, your family, and yourself during the earthquake—Rebecca, 10 year old, first drawing.

In the third drawing (**Figure 7**), the floor line divides it in two parts: the upper part still invaded by the terrifying blackness and the lower part which is left completely white. She could not find any way to represent what was happening in the earth. The lack of symbolic representations of the traumatic event of the earthquake leads Rebecca to leave the half of the draw uncolored.



**Figure 6.** Draw your house, your family, and yourself during the earthquake—Rebecca, 10 year old, second drawing.



**Figure 7.** Draw your house, your family, and yourself during the earthquake—Rebecca, 10 year old, third drawing.

### 3.3. Draw your family, your house, and yourself, how you would like them to be in future

Two of the sample children did not manage to accomplish the third task. The lack of the third drawing can be due to the fixation on the traumatic moment, which does not let the children detach from it and figure out a positive future.

In other cases, the need for security prevailed and seemed to be the unavoidable/essential base for building up a future. Several children have figured out different solutions for a safe future. In particular:

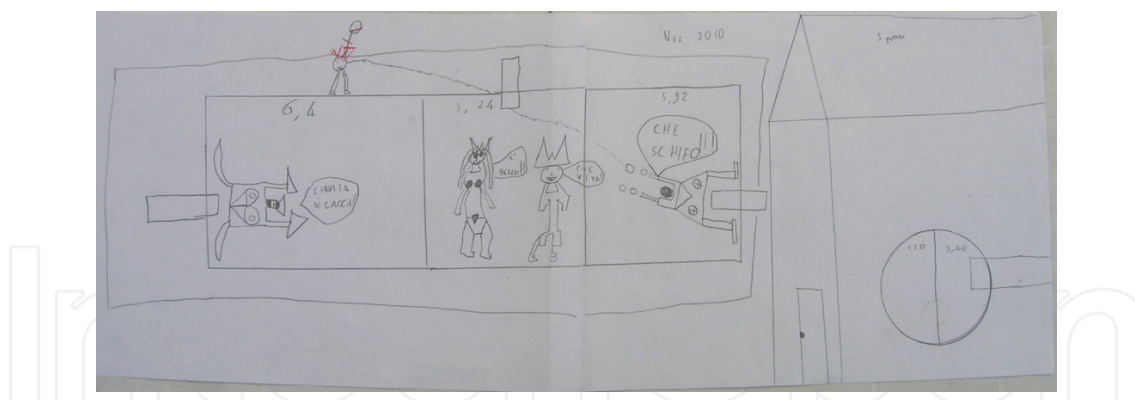
#### 1. A five-floor house drawn by Giacomo (**Figure 8**).

Case study No. 5: Giacomo is a 9-year-old boy. He lives in the camp with his mother, his two aunts, and his grandmother. He exhibits an aggressive attitude, with low frustration tolerance and frequent bouts of anger that lead him assuming rough and sometimes violent behaviors against the others. His mother says that those behaviors have increased following the earthquake. The frequent fights with the other children lead him to get away from the educational activities and to cry alone, in a corner. If someone tries to comfort him, Giacomo says that he would have rather died under rubbles. During the earthquake, he got trapped in his bunk bed; his parents took his brother, who was sleeping in the upper bed, and ran out of the house, without him. He has been taken out of the rubbles by his uncle and firemen, few hours later.

#### 2. A house in another country, far away from the earthquake threat, but still without any inhabitants (Rebecca) (**Figure 9**)

#### 3. A magic solution as reality is still too much threatening and cannot offer any safe solution. Luca (8 years old) (**Figure 10**) left the drawing pencil, took the gray-colored pencil and started drawing all objects « made of iron » : the house with nails strengthening the wall, himself, and his mother. At the end of the task he added: “She wont like the dress, but at least we will all be safe.”





**Figure 8.** Draw your house, your family, and yourself how you would like them to be in the future—Giacomo, 9 year old.

Case study No. 6: Luca is a 8-year-old boy. His father was alcohol addicted and died one year before the earthquake due to a serious illness linked to his addiction. He lives with his mother, his grandmother, and his uncle. Luca was really attached to his father and he suffered a lot because of his death. He still shows several difficulties in facing this sufferance: if a child teases him mentioning his father, he exhibits bursts of uncontrollable rage and can become very violent. He manages to calm down only with the help of the educator. Since the earthquake he moved to the camp with his grandmother and his uncle, as his mother did not accept to live in the tent because of the multiethnic population that live in the camp. She keeps on living in her house, despite the danger. Luca is very attached to his mother. Since the earthquake anxious attitudes have increased: if his mother or his grandmother do not answer the mobile, he gets worried very quickly and does not manage to go on with the activity. But in general, he enjoys taking part in the educational workshops, where he shows independency in the individual task and collaborating skills in team works.



**Figure 9.** Draw your house, your family, and yourself how you would like them to be in the future—Rebecca, 10 year old.



**Figure 10.** Draw your house, your family, and yourself how you would like them to be in the future—Luca, 8 year old.

Concerning the second hypothesis, on the “Three Pictures Test: Past, Present, and Future” capacity of promoting meaning attribution process to the traumatic event, two main functions assumed by the test have been identified:

1. **Mediating role between child’s conscious and unconscious mind:** drawing has assumed the role of prelanguage, as it allowed the child to access the traumatic memory and to share it with the interviewer. The graphical language difficulty in following the rhythm of narration, which appeared to be very rich and full of details, has generated in some children a sort of frustration that annoyed them and provided them with several self-critics on their own tasks. Therefore, we can affirm that the test has allowed the child to get in contact and explore the raw traumatic memory and to provide it with both a verbal and graphical form that permitted him to share it through drawings and narration.
2. **Mediating role between the child and the interviewer:** In particular, the test has let the interviewer assume the role of a guide for the child in accessing his/her own traumatic memory and in giving a first order to the traumatic memory. Some children exhibited defenses and resistances in accomplishing the tasks, which obstructed or blocked expressive channels. In those cases, the task reformulation, aimed at re-inscribing the memory in a defined moment, helped the child to break it up and therefore, to start providing it with a sort of order and form. Furthermore, the containing and encouraging role of the interviewer has been fundamental, especially for those children who experienced loneliness and abandonment during the traumatic event due to the lack of their parents’ protecting role. Building up a trusting relationship with the interviewer has allowed them to face the loss of trust on the protecting solidity of external world and on the illusion of the other’s capability to



provide him with the sense of safety [53]. The inter-relation with the interviewer led him to co-create a new image of himself and of the external world. In the second task, several children demanded for more papers, in order to represent the complexity of the memories that little by little came to their mind, in a crescendo of emotionality. The protecting frame offered by the interviewer has allowed to embrace and answer to this need.

Finally, the test structure, divided into the “before,” “during,” and “after” the earthquake, has allowed a gradual access to the memories of the event and has stimulated the integration process of the traumatic experience in the childrens’ life story.

## 4. Conclusion

This pilot study has succeeded in investigating the two functions of diagnostic tool and therapeutic technique of the “Three Pictures Test: Past, Present, and Future”, through a non-statistical qualitative observation, which has taken into consideration a small group of participants. The results that have been brought out through the case study analyses encourage further researches, which may validate scientifically the efficacy of this technique through the employment of both qualitative and quantitative methodology. The use of standardized questionnaires would allow to collect statistical findings, which may be generalized and adopted in different contexts. Particularly, the scientific validation of the tool may provide art therapists with standard criteria that can be employed for detecting the presence of psychological trauma in both the graphical and the verbal data, and with instructions on the most appropriate and effective practices that should be adopted for promoting the uncovering of traumatic memories and for fostering reintegration of the traumatic event in the childrens’ life story.

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