



Original paper

Investigation of Survivors' Experiences of the Hanshin-Awaji Great Earthquake: a Days-before Narrative Perspective

Takashi Sugiyama^{1*} and Katsuya Yamori²

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Abstract This study investigated survivors' narratives of the Great Hanshin-Awaji Earthquake, January 17, 1995. Most notably, this research is characterized by stories told by disaster survivors, who were asked to relate their experiences during the pre-disaster period. This study labels these pre-disaster stories “days-before narratives” because they relate to the days before a critical event, unlike post-disaster narratives. Survivor narratives are often regarded as tools to learn about disasters, but they seldom focus on the pre-disaster period. A days-before perspective was applied to analyze interviews of two individuals who lost a family member in the Hanshin-Awaji Great Earthquake. One interviewee mentioned never having been interviewed about their pre-earthquake life. Moreover, the days-before narrative perspective provided new insights on these individuals' present lives.

Keywords: days-before, dominant story, qualitative psychology, Great Hanshin-Awaji Earthquake

1. RESEARCH BACKGROUND

This section explains the research background, defines the term “days-before narrative,” and outlines the research approach in this paper.

To date, numerous survivors' memoirs of natural disasters such as the Great Hanshin-Awaji Earthquake and the Great East Japan Earthquake have been published, allowing these

¹ Institute of Industrial Science (IIS), the University of Tokyo, Japan

* Corresponding author email: sugitaka.19900427@gmail.com

² Disaster Prevention Research Institute (DPRI), Kyoto University, Japan

individuals to actively pass on their own disaster experiences to future generations. Many different types of narratives exist, including stories of lessons learned from the disaster, stories of regret for actions taken during the disaster, stories of fear in the face of a sudden disaster, and stories of recovery from the damage caused by the disaster.

Despite the various and diverse disaster narratives mentioned above, all are based on real-world events of the disaster. However, some disaster narratives receive attention while, others are overlooked, such as pre-disaster narratives or those that imagine a future in which the disaster had not occurred. Overlooked narratives that reside in the shadows of many disaster stories have become “blind spots” because they are not oriented toward real-world events of the disaster and do not dare assume the reality of the disaster. In fact, we (especially researchers) lack the attitude to listen to disaster survivors who venture to talk about their pre-disaster lives. Therefore, Yamori and Sugiyama (2015) proposed a survey to listen to narratives that refer to daily life before the day of a disaster, or in other words, days-before narratives.

As a unique feature of days-before narratives, interviews are conducted not by listening to the post-disaster narrative but by utilizing life before the disaster, the days-before, as a starting point. Essentially, human life is a continuous process before and after a disaster. Nevertheless, people tend to overestimate the impact of a sudden natural disaster on their daily lives and consider their lives before and after a disaster as disconnected. Days-before narratives differ from typical disaster stories in that they do not focus only on descriptions of physical destruction (i.e., narratives about the causal effects of a disaster on people’s lives). Instead, days-before narratives involve a method of listening to the narratives with a focus on the continuity of life before and after the disaster.

To confirm whether the above remarks are in line with the current situation of disaster experience stories, we analyzed the experience stories contained in 11 commercially available disaster experience memoirs. These memoirs comprised 127 episodes of the Great Hanshin-Awaji Earthquake as recorded in four books by Sumida (1999), the Association for Recording the Great Hanshin Earthquake (1999), Hayashi *et al.* (2009), and the editorial department of the Kobe City Fire Department (2012). In addition, 253 episodes were recorded in seven volumes of memoirs of the Great East Japan Earthquake by Kanebishi (2012), Takakura *et al.* (2012), Yomiuri Shimbun (2011), Echan (2011), Matsuo (2011), Hagio (2011), and Horikomi *et al.* (2011).

Based on the results of the survey, disaster experience episodes were classified as shown in Figure 1. Most of these episodes began immediately after a disaster such as an earthquake or tsunami. For example, the Great Hanshin-Awaji Earthquake occurred at 5:46 a.m., and the earthquake’s shaking was like being pushed up from below. the Great East Japan Earthquake occurred at 2:46 p.m., and the tremors lasted a long time and a tsunami came rushing in. In contrast, only 10 to 20 percent of the episodes in the memoirs described a pre-disaster situation, such as during the day before the disaster.

According to Takamori *et al.* (2014) and Narita (1996), many memoirs and newspaper articles focused on the immediate aftermath of the Great Hanshin-Awaji Earthquake and the Great Kanto Earthquake. However, the days-before narrative represents a blind spot because it is overlooked and operates in the shadow of many disaster experience stories.

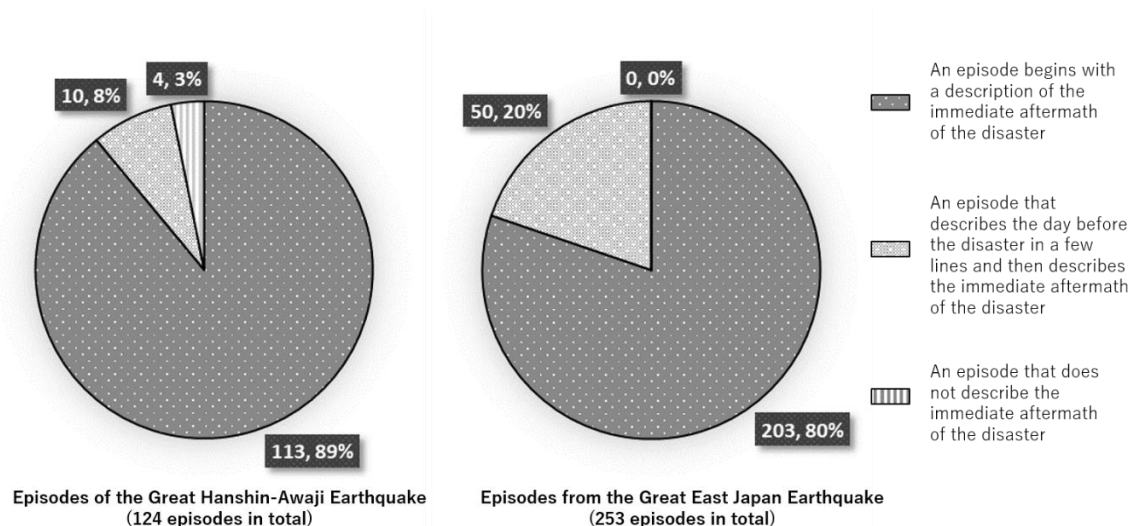


Figure 1. Survey results of the contents of 11 earthquake memoirs on the market

Despite what must be the wide range of life situations before a disaster, which include peaceful days, daily worries, and trouble-filled days without any thought of a disaster, few stories discuss the survivors’ pre-disaster lives. The narratives that emphasize the disaster experience might lead to discontinuity between survivors’ lives before and after the disaster. If repetition of disaster-based narratives excessively inhibits survivors from reflecting on their pre-disaster lives, then these narratives might also hinder their recovery and return to the kind of ordinary daily lives that they led before the disaster. As Plath (1980) points out, narrators can find special meaning and perspective even in daily life that appears unchanged at first glance; thus, the above-described current situation surrounding disaster experience stories is worrisome for extracting individual and specific stories of the narrators’ daily lives. By listening to days-before narratives, it is possible to speak continuously to the narrators about the pre- and post-disaster narratives, and as a result, this research method may help individuals recover after the disaster. For these reasons, there is a considerable need to study the narratives of disaster survivors from a days-before perspective. Therefore, this study conducted qualitative research to listen to the days-before narratives of two survivors of the Great Hanshin-Awaji Earthquake.

2. RESEARCH METHOD

2.1 Research Subjects and Interview Methods

This study aimed to explore possibilities of the days-before narrative through semi-structured interviews of two residents (one male and one female) who lost family members and were themselves affected by the Great Hanshin-Awaji Earthquake of 1995. Each interviewee was interviewed three times for approximately three hours per interview between October 2013 and January 2014. These interviewees had been in contact with the author for a long period of time and understood the study. Thus, they were selected to participate in a different type of interview from the usual ones in which the interviewer starts by saying, “Tell me about your experience of the disaster.”

In this study, we began by saying, “Please tell me about your life before the disaster.” The interview was recorded using a digital voice recorder after obtaining the interviewee’s permission. The interviewees were Ms. A, a woman in her 60s who lost her eldest daughter (Ms. a), who was in the fifth grade at the time of the earthquake, and Mr. B, a man in his 70s who lost his second son (Mr. b), who was a 20-year-old university student at the time of the earthquake. Since the survey in this study may remind the interviewees about the aftermath of the disaster, the survey was stopped even during the survey if the interviewees were mentally or physically ill or requested to do so. Ms. A and Mr. B and the author had been collaborating in storytelling activities and had established a rapport before this study. Normally, Ms. A and Mr. B related their own experiences of the disaster, which included vivid descriptions of the disaster’s immediate aftermath, with its rubble and dust, devastated landscape, changed town, and the loss of their family members. The described disaster represents the subject of their narrative and a major turning point in their lives. For example, Ms. A related her experience as follows: “Can you imagine a pitch-black world where you can't hear anything? I was so busy bearing the weight of the rubble that all I could do was encourage my daughter, who called out to me, by saying to her, ‘Your father will get you out soon’” (Yomiuri Shimbun 2010). Mr. B recalled the events as follows: “My second son, who was 20 years old at the time, was asleep on the first floor of our house after returning home from his coming-of-age ceremony. About three hours later, he was found dead in the rubble. Later that day, our house was engulfed in flames and everything burned to the ground” (Yomiuri Shimbun 2008). These excerpts are but two examples of people talking about their experiences immediately after the disaster.

This study was conducted approximately 20 years after the Great Hanshin-Awaji Earthquake. Interviewing days-before narratives is an approach that makes the narrators aware of the changes before and after the earthquake, and interviewing them immediately after the disaster may place an emotional burden on the narrators regarding the damage caused by the earthquake (Generation times and Yamori 2014). For this reason, this study was conducted with disaster survivors for whom time had passed since the occurrence of the disaster, so as not to place a heavy psychological burden on the narrators.

This study will proceed with an analysis using the approach of qualitative psychology. Qualitative psychology does not pursue generality or universality based on the number of subjects, but rather seeks to find deeper meaning by investigating the individual and specifics of each subject in depth to pursue findings with generality and universality (Otani 2017). Although there are two subjects in this study, detailed interviews will be conducted using a qualitative psychology approach to pursue findings with generality and universality.

2.2 Methods for Analyzing Interview Results

This study conducted a qualitative analysis of the interview results by the analytical method with reference to Trajectory Equifinality Model (TEM), which is a methodological framework for understanding and describing human experience in relation to temporal change and cultural and social contexts (Sato 2006). The TEM process emphasizes “the transformation of objects and phenomena as time persists” and time-related keywords (Arakawa *et al.* 2012). This study judged TEM to be the most appropriate method for analyzing results of interviews in a time series.

The basic TEM framework as described by Yasuda (2012a) was utilized as a reference, although TEM was applied in accordance with the theme of this study. According to Valsiner (2000), TEM is established by a minimum of four elements (see Fig. 2): irreversible time, bifurcation point, equilibrium point, and radial path. Yasuda (2012a) explained that TEM can be analyzed using as many concepts as necessary according to the research content. This study utilized elements of TEM according to the above four concepts in order to analyze the temporal transition of narratives in a straightforward manner.

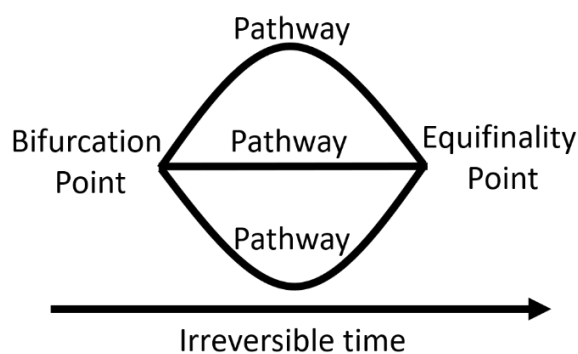


Figure 2. Basic elements of a TEM diagram (Yasuda 2012a; Valsiner 2000)

This study uses an analytical method that includes the four elements of TEM mentioned above, but does not completely rely on the TEM approach alone. For example, in TEM, it is recommended to add a perspective called polarized equilibrium point, which is opposite to equilibrium point, and adding polarized equilibrium point expands the interpretation of the analysis. However, in this study, it was already intended to elicit narratives of imaginary worlds from the interviewees by

listening from the days-before perspective, and it is not necessary to further elicit narratives of imaginary worlds from the interviewees by setting a polarized equilibrium point. Therefore, there is little need to set a polarized equilibrium point for the analysis. Therefore, while this study focuses on the TEM idea of analyzing qualitative data in time series, it does not completely rely on the TEM methodology, and instead conducts its analysis from the

theoretical perspective of cultural psychology. Arakawa et. al (2012) also pointed out that there is no one answer to the TEM method, and there is a possibility that the approach of this study will pioneer a new methodology for TEM. This study uses an analytical method that includes the elements of TEM, such as HSS (Historically Structured Sampling) and TLMG (Three Layers Model of Genesis), but does not completely rely on the TEM approach alone (Yasuda 2022).

The TEM analysis procedure in this study was as follows. After obtaining an overall understanding of the data gathered from the two interviewees, verbatim transcripts were fragmented into units of coherent meaning for each case according to the method developed by Jiro Kawakita (the eponymous KJ method) (Kawakita 2011), and headings were added to represent the content. In the TEM, the final state of the object was set as the “equilibrium point,” and a path from the starting point to the equilibrium point was drawn. A process model was drawn with the oldest point in the time series as the starting point and the closest point in the time series to the present as the equifinality point. The obligatory passage points, which is a point in time that the subject of this study must theoretically experience, was set to “the occurrence of the Great Hanshin-Awaji Earthquake” because the subject was a victim of that earthquake. The TEM diagram in this study was created based on the display method shown in Figure 3.

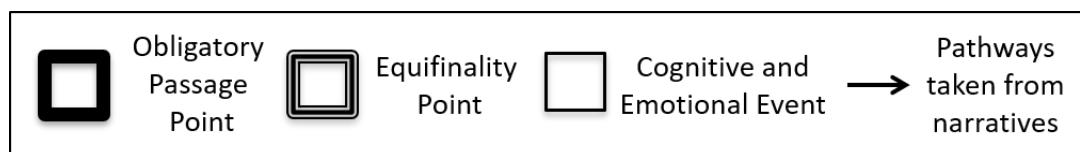


Figure 3. Display method used to create the TEM diagram

3. RESEARCH RESULT

The first section summarizes the study results and then provides a detailed description of noteworthy conclusions.

3.1 Summary of Research Results

Two TEM diagrams were created based on the research: one for Ms. A and the other for Mr. B. The following is an overview of the interview process as depicted by the TEM. First, the TEM diagram of Ms. A (see Figure 4) will be explained. Ms. A is a woman in her 60s who lost her eldest daughter (Ms. a), who was in the fifth grade at the time of the earthquake.

Ms. A’s TEM diagram is divided into five periods. The first period was before the disaster. The first period of Ms. A’s TEM diagram was before the disaster. Ms. A’s family, whose

motto was to be a cheerful family that did not need hospitals, was in good health, especially Ms. a and her brothers. Nutritious *okara* cheesecake was a regular family dish, with Ms. a and her brothers at their prime of growth eating the cheesecake made by Ms. A to fill their stomachs before meals. Growing up in such an energetic family, Ms. a was more competitive than her cousins and older brothers when they played together. As the youngest child, Ms. a received a lot of attention from her older brothers and cousins and was considered to be “spoiled.”

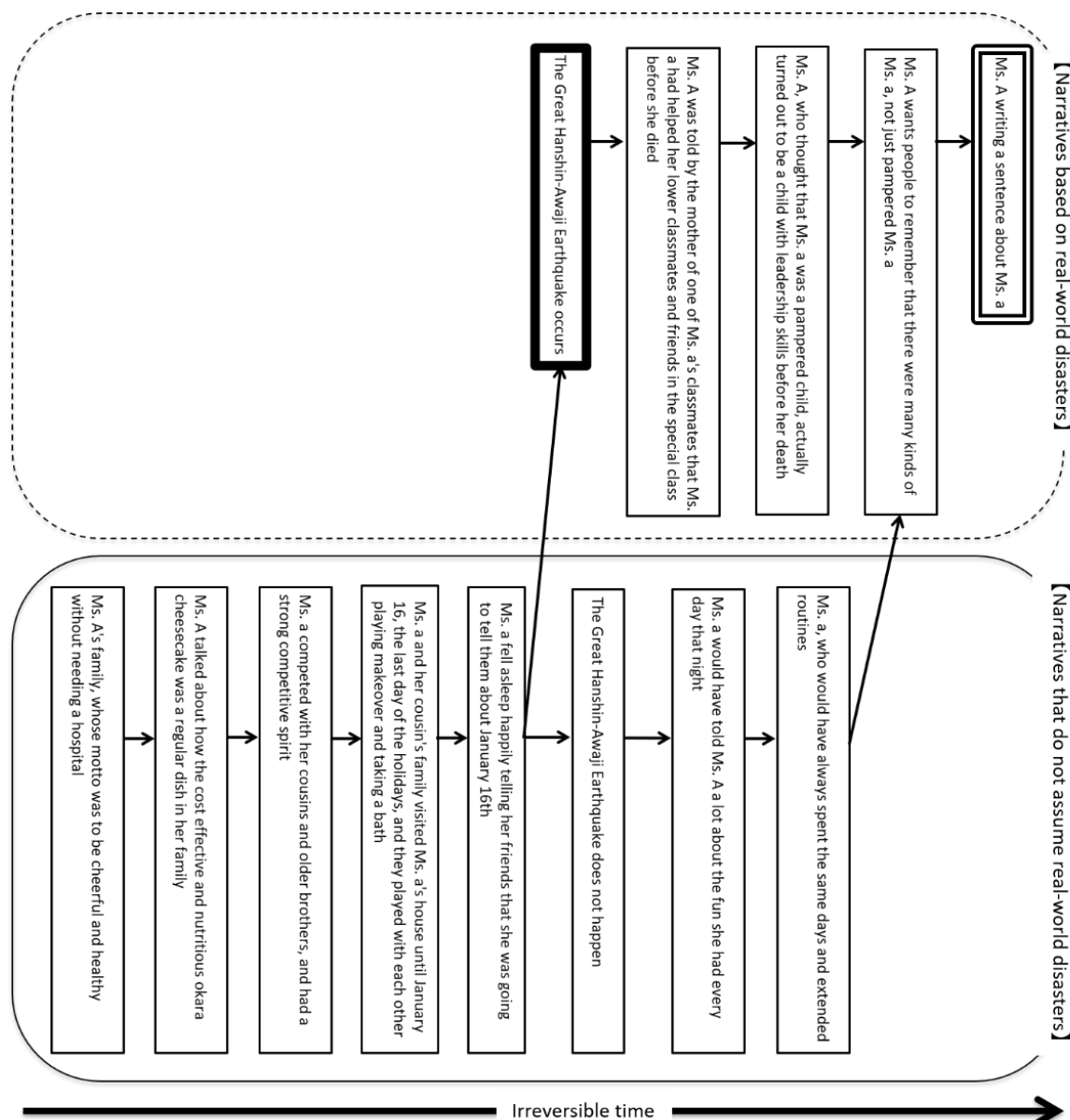


Figure 4. TEM diagram of Ms. A

The second period was the day before the disaster, or January 16, the last day of the holidays. Ms. a’s relatives were visiting that day. Ms. a and her cousin played a popular game

of hero transformation and later shouted loudly in the bathtub. After her cousin left, Ms. a got into her futon to go to bed, and talked to Ms. A about what she and her cousin had done that day. The next day, Ms. a happily told her school friends about it too.

The third period was from January 17 of an alternate timeline in which the Great Hanshin-Awaji Earthquake did not occur. Ms. A said that Ms. a would have continued to talk to Ms. A about the fun things she had done that night, and that she would have spent the rest of her life doing the same things she always did.

The fourth period was from January 17 in our timeline, in which the Great Hanshin-Awaji Earthquake did occur. After Ms. A finished telling her third period narrative, she spontaneously began to relate her fourth period narrative. After the Great Hanshin-Awaji Earthquake, the mothers of Ms. a's classmates told Ms. A that Ms. a used to help her classmates and friends in the special class by listening to them or carrying them on her back if they were in trouble. Then, Ms. A learned for the first time that Ms. a, who was the youngest and most pampered child in the family, had taken a leadership role in her class before her death.

The fifth period was the present. This period represents Ms. A's narrative about her present life, which intersects with the third and fourth periods of the TEM diagram described above. Ms. A began to think that she wanted others to remember the various aspects of Ms. a, such as how pampered Ms. A was, which would have continued if the earthquake had not happened, and how Ms. a showed leadership, which Ms. A learned about only after the disaster. Ms. A is now writing about Ms. a for people to remember her and to pass on the story of the disaster.

In summary, Ms. A's TEM diagram has five time periods: (1) before the disaster, (2) the day before the disaster, (3) a post-January 17 world in which the Great Hanshin-Awaji Earthquake did not occur, (4) a post-January 17 world in which the Great Hanshin-Awaji Earthquake did occur, and (5) the present.

The next TEM diagram represents Mr. B (see Fig. 5). Mr. B is a man in his 70s who lost his second son (Mr. b), a 20-year-old university student at the time of the earthquake.

Mr. B's TEM diagram includes the same five time periods. In the first period (before the disaster), Mr. b talked more with his mother than his father. Mr. b smoked cigarettes and played pachinko behind his father's back. During his third year of high school, he talked about his future plans with his father, saying that he wanted to attend university to become a university teacher. Mr. B wanted Mr. b to broaden his horizons, so he decided to send Mr. b to a foreign language school to study English and other foreign languages.

The second period was the day before the disaster. Earlier, Mr. b had returned to his parents' home for his coming-of-age ceremony but fell ill on January 16, the day before the disaster. As a result, Mr. b changed his original schedule by choosing to remain at his parents' home until January 17. That night, Mr. b, who was sweaty and uncomfortable, invited Mr. B

to a public bath, where they talked about Mr. b's future dream of becoming a university teacher.

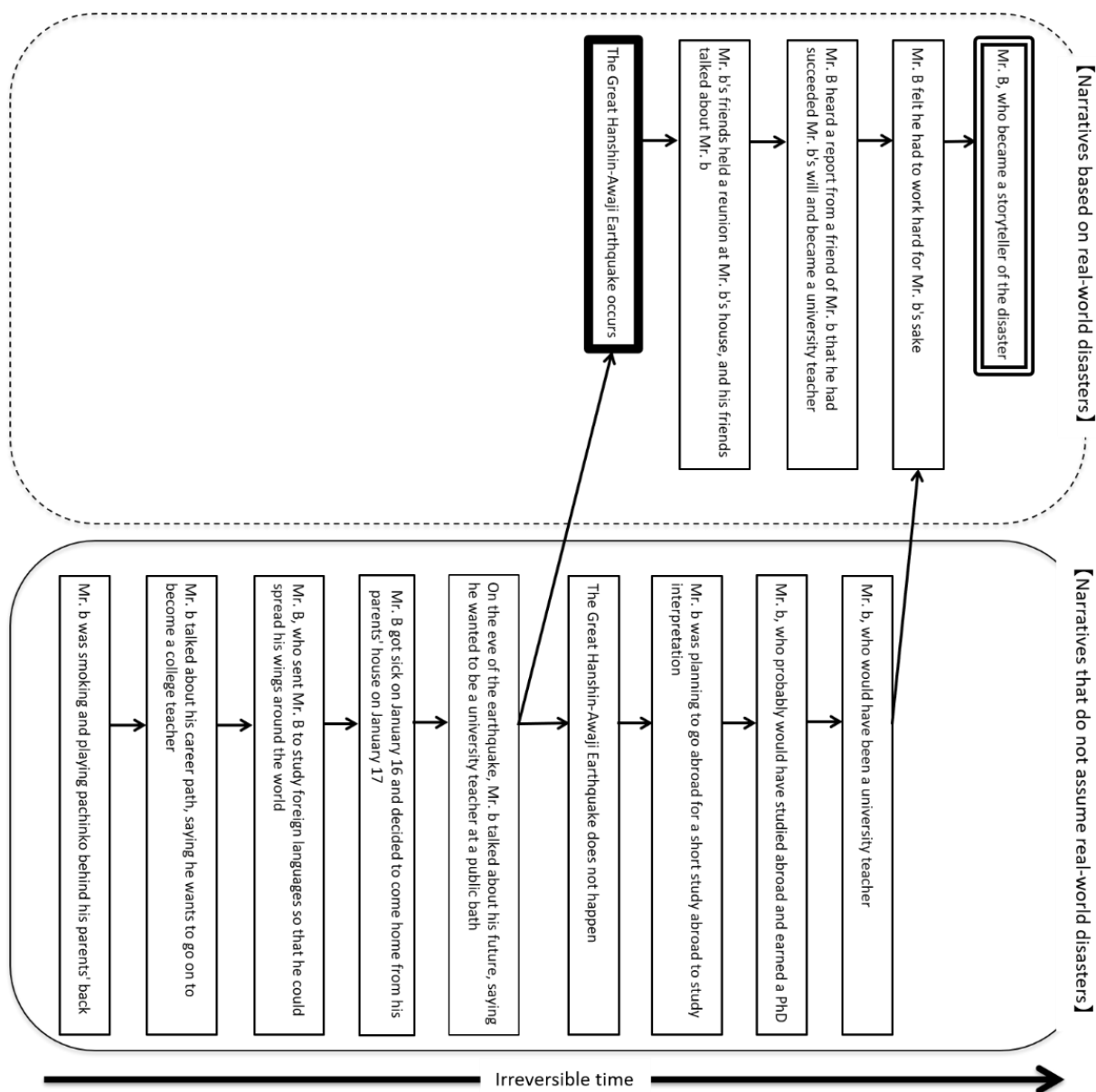


Figure 5. TEM diagram of Mr. B

The third period was from January 17 in an alternate timeline in which the earthquake did not occur. Mr. b had planned to go abroad with his classmates for a short period of time to study interpretation. Mr. B believed that Mr. b would have studied abroad as planned and then attended graduate school abroad to obtain a doctorate and become a university teacher.

The fourth period was from January 17 in our timeline in which the earthquake did occur. After Mr. B finished relating his third period narrative, he spontaneously related his fourth period narrative. After the Great Hanshin-Awaji Earthquake, Mr. b's friend, Mr. D, held a reunion at Mr. B's house, where Mr. B talked about Mr. b before his death. Mr. D then told Mr. B that he had accomplished Mr. b's dream by becoming a university teacher in his place.

The fifth period was the present. Recall that in the third period in which the earthquake did not occur, Mr. B thought that Mr. b would have studied abroad at a university, obtained a doctorate at a foreign university, and then become a university teacher. However, in the fourth period, Mr. B mentioned that Mr. D said that "his dream of becoming a university teacher came true on behalf of Mr. b." The third and fourth periods evoked in Mr. B various future possibilities for Mr. b.

Therefore, both above-described TEM diagrams comprised the same five periods: (1) before the disaster, (2) the day before the disaster, (3) a post-January 17 world in which the Great Hanshin-Awaji Earthquake did not occur, (4) a post-January 17 world in which the Great Hanshin-Awaji Earthquake did occur, and (5) the present.

3.2 Notable Results

Based on the analysis of these two TEM diagrams, the following three noteworthy results were derived.

3.2.1 Changes in Disaster Experience: The Dual Structure of the Real World in which the Disaster Happened and the Imaginary World in which the Disaster had not Happened.

The first result relates to the changed structure of the disaster experience narrative through the perspective of the days-before narrative.

The "narrative world image" has a dual structure consisting of the real world where the disaster happened and the imaginary world where it did not. The intersection between these real and imagined world narratives serves as a turning point for the survivors' entire experience and was the key point of the narratives derived from this study. This structure is illustrated by Figures 6 and 7, which were created with reference to the TEM diagrams shown in Figures 4 and 5.

As evident in Figures 6 and 7, the days-before narratives do not utilize 1.17 (i.e., the day of the disaster or "the day" in Figs. 6 and 7) as a turning point of their experience. As mentioned above, Ms. A and Mr. B usually talked about their own experiences of the disaster, which included vivid descriptions of the immediate aftermath, the rubble and dust, the drastically altered town, and the loss of their children.

However, such described scenes of devastation were barely mentioned in their days-before narratives, which dealt with various aspects, memories, and future possibilities of the deceased children and their rediscovery as a key point in the interviewees' experience. This section will explain each interviewee's narrative structure with citation of specific scripts.

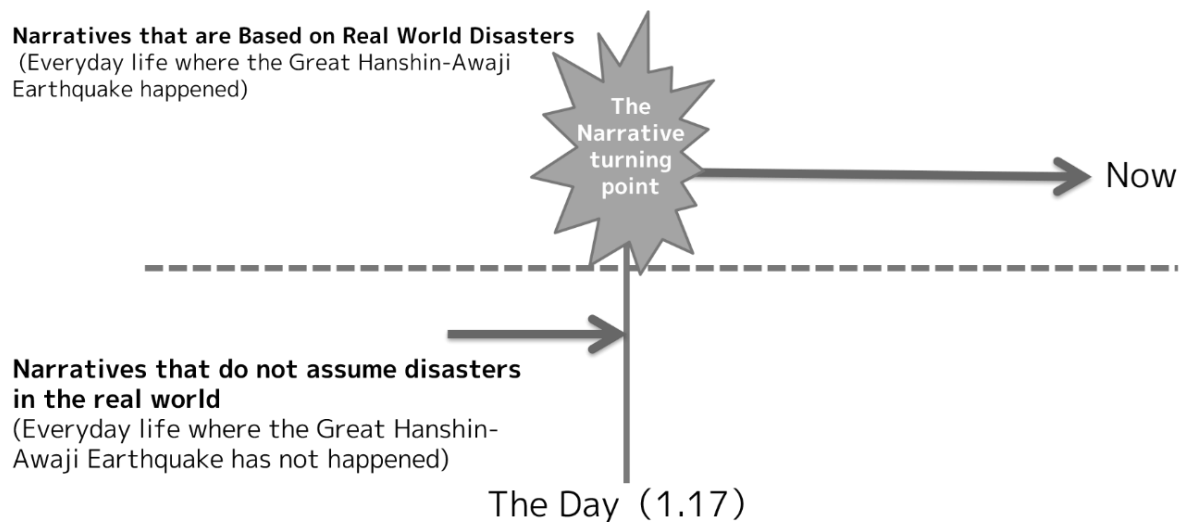


Figure 6. The structure of traditional disaster experience narratives

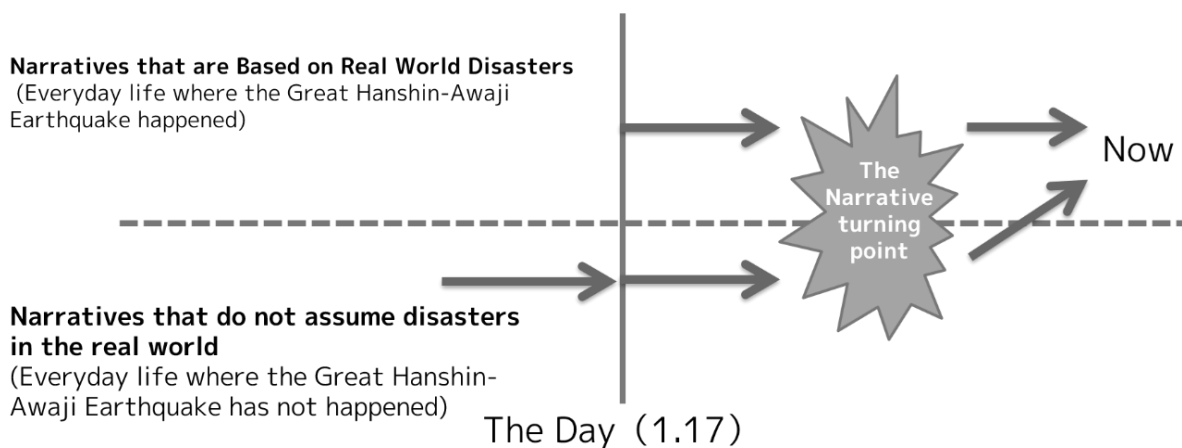


Figure 7. Days-before narrative structure

i. Ms. A's Narrative

In Ms. A's narrative structure, Ms. a is initially described as a spoiled child who always relied on her siblings and mother:

I have a daughter and a son, and they were often taught by their senior classmates, teachers, and siblings. My daughter was not treated kindly by her brother, but when she asked a question, she had someone older than her who could answer it. It's was like asking what the result of a science experiment would be before you try it. My daughter was the type of person who would write a good report and get good grades because the experiment required an answer, but in reality, the answer would not remain in her mind. That's why she relied on her brother for everything.... My daughter's school had home economics classes from about the fourth grade, and she relied on me all the time for help with that subject. Because it was an educational subject, I tried to let her do it on her own and watch what she did, but she was so bad at it that I always ended up helping her. She would do about half of the work, and I would end up having to redo it myself. My daughter had a lot of tutors, including her siblings and myself. As a result, she relied on the people around her, and I thought she was a really bad kid.

Next, Ms. A thought that if the earthquake had not happened, her daughter's ordinary life would have continued without change:

It's a normal school day, so my daughter would play with her friends in the schoolyard, maybe dodgeball or something. If it weren't for the disaster of January 17th, I don't think anything would have changed. My daughter would go to school in the morning and chatter away with a friend during the morning. Then she would go to the playground and teach the boys how to kick on the field. She would tell them to kick like this. I'm sure she's not very good at it, but she would tell them that they should kick like this anyway. My daughter would teach the boys how to kick the ball. Girls usually want nothing to do with sports. Before she died, she told me that she had talked to a boy who was good at soccer.

However, after the disaster, Ms. A learned about an unexpected aspect of her daughter from a classmate's mother:

After my daughter passed away, I heard from a mother of one of her classmates that my daughter, whom we thought was spoiled and useless, was a leader at school and a caring person. I realized that there is a difference between the way parents see their children and the way society sees them. It was the first time I became aware of the eyes of her mother after my daughter's death.

Finally, Ms. A decided to continue to share her disaster experience in order to keep her daughter's memory alive. She wanted to remember Ms. a, with her various aspects,

personalities, and characteristics that she had learned about through both the real and imaginary world narratives. In this excerpt, Ms. A talks about her present life after having written a book (a picture book) about Ms. a:

The reason I made the picture book about Ms. a was because her relatives only knew her as a spoiled child. But I wanted my relatives to know that my daughter had a different side to her. I created the picture book as a homework assignment left by my daughter.... It was difficult for me to remember my daughter, and it was my desire to leave something behind that led me to create the picture book.

As described above, Ms. A did not mention the Great Hanshin-Awaji Earthquake but rather her experience of rediscovering various aspects of Ms. a, which was the key point of her narrative.

ii. Mr. B's Narrative

In Mr. B's narrative structure, Mr. B first talks about his pre-disaster memories of Mr. b discussing his career path with Mr. B:

As my son entered his senior year of high school, I began to think about his career path. My eldest son had always wanted to go to a four-year university. He had a dream of becoming a school teacher, but because we were having financial difficulties. There was a system where he could receive an education at a C-school without having to pay tuition, but after graduation, he would be obligated to work as a teacher at a designated school for three years. And he knew that we were struggling, so he said he would go there. There's nothing wrong with becoming a teacher, but in my heart, I felt a little bad about sending my second son, Mr. b, to a two-year school when my first son went to a four-year school. So, we had a discussion. Are you sure you want to do that? I told him the truth. He said, "I really want to go to university for four years and become a university teacher." So, I made up my mind and told him that he could go to a four-year university.

Mr. B then describes their discussion about Mr. b's future dreams while they were at a public bath the day before the disaster:

Mr. b, I asked you what you want to do when you graduate from university. Mr. b answered, "I want to be a schoolteacher." It was his dream to go to university for four years and become a university teacher. So, step by step, he became the leader of the class, and in that sense, he was gaining a lot of confidence. I heard that his classmates looked up to him. We talked about this, and Mr. b said that he wanted to work hard and become a school teacher. So, I told him to go for it.

Next, Mr. B said that if the earthquake had not happened, Mr. b would have achieved his dream:

If he were still alive, I'm sure he would have worked hard to make his dream come true. At the same time, I don't know how much I could have done to help him as a parent, but if there was anything I could have done to help him, I would have tried to do so.

Although Mr. b could not actually fulfill his dream of becoming a university teacher, Mr. B related hearing after the disaster that Mr. b's friend, Mr. D, had become a university teacher in Mr. b's place.

Before Mr. b's death, Mr. b and Mr. D were good friends who shared the hardships of student life at the same university. Mr. b supported Mr. D in achieving his dream of becoming a teacher. In this excerpt, Mr. B relates Mr. D's feelings for Mr. b:

My son couldn't do it, so a man named Mr. D took over for him and became a teacher at University of E. He's now an associate professor. He was able to make his dream come true, and I think he did his best because he was more competitive than most people.... He told me that he had worked hard for my son. If my son had been there, Mr. D could have talked to him, but he couldn't, which was regrettable. It made me happy to hear him say that. I wondered if he was thinking that much about my son.

Mr. B then talked about his current life in terms of not forgetting Mr. b's great potential as understood from both the imaginary world without the disaster and the real world after the disaster:

That's how I felt when I was a storyteller about the earthquake. I have to do my best for my son. It wasn't a promise, but the day before the earthquake, I talked to my son about his dreams for the future. And then he was gone. It's hard to put into words the disappointment of not being able to make his dream come true. I can't express it in words, but I think he felt it. That's why I have to do my best for my son as well. That's what I think about every day. I have to do it for him.

The key narrative point for Mr. B was not the Great Hanshin-Awaji Earthquake but his experience of rediscovering various possibilities for Mr. b's future.

In summary, both interviewees' days-before narratives yielded reconstructed episodes whose narrative structure differed from the typical or "dominant" stories they had repeatedly told about their disaster experience.

3.2.2 Post-Disaster Narratives Guided and Enforced by the Interviewer

The second notable result relates to post-disaster narratives as guided and enforced by the interviewer. Both interviewees said that no one had ever interviewed them about their pre-

disaster lives as in this study. They explained that they were not asked or that it was not worth talking about. In fact, Ms. A explained her reason as follows:

I have never been asked about my life before the disaster. Since the disaster, people usually ask me what it was like, but before the disaster, it was just an everyday thing, so I don't think people ask me about it because they think it's a trivial thing.

Furthermore, the days-before narratives in this study had been suppressed for about 20 years by traditional narratives of post-disaster experiences. Ms. A and Mr. B were conscious of having been assigned the label “disaster survivor,” and they felt that talking about pre-disaster episodes would not meet their interviewers' needs.

These factors contributed to a paucity of days-before narratives among disaster experience narratives. The voices of these survivors stating that they had never heard about days-before narratives for almost 20 years provide proof that days-before narratives have become a blind spot in disaster experience narratives.

In addition, this blind spot appears to be largely related to the attitude of interviewers. Clearly, the survivors were forced to talk about their immediate post-disaster experiences in response to an interviewer's request. However, this study was able to derive a new narrative through a new way of asking about the time before the disaster. This new narrative structure is found not only in dialogue or conversation but also in the new way an interviewer asks questions and in the interviewer–speaker relationship.

3.2.3 Impact on Perspective of Life in the Present

The third notable result is the changed behavior of the research subjects. A post-interview visits with Ms. A and Mr. B revealed changes in their daily activities. For the first time since the disaster (almost 20 years), Ms. A made an *okara* cheesecake, which was a family staple before the disaster. With the cheesecake in front of her, Ms. A reminisced about her family before the disaster:

My family liked the *okara* cake, or rather, they didn't complain about the cake. My family could eat even a big piece of *okara* cake. The cheesecake we made at home was better than the small ones they sell in stores. It was because my daughters were growing up and they wanted to eat a lot. A whole cheesecake from the store was too expensive for us to buy. I asked them to choose between the small cheesecake sold at the store and the big *okara* cake that I could make at home.

In addition to making *okara* cheesecake, Ms. A also reported obtaining Ms. a's scissors and notebook that she had used before her death. After the days-before narrative interview, Ms. A visited Ms. a's former elementary school. Remembering Ms. a, the elementary school teacher told Ms. A that the school staff had found Ms. a's scissors by chance. They were then

delivered to Ms. A, who was very surprised to receive them. Ms. A's thoughts were later published in a newspaper article. After reading this article, one of Ms. a's former classmates located an old notebook that she recalled using to play mommy games with Ms. a. The classmate's mother gave Ms. A the notebook. In summary, after the days-before narrative, Ms. A recalled her family gatherings, tried making *okara* cheesecake for the first time since the disaster, recalled Ms. a's school life, and discovered Ms. a's notebook. In other words, the days-before narrative elicited new behaviors that Ms. A had never engaged in for 20 years after the disaster, and changed her behavior.

Thus, after the days-before narrative investigation, Ms. A's perspective of her "now" life had changed significantly.

Mr. B's behavior also changed after the interview. For the first time, he began to sort out books about Mr. b:

My son's friend entered a poetry contest, submitting a poem he had written about my son. It was just two lines. I didn't remember anything about this book until I sorted it out this time. The poem says, "I became a teacher because of you. When times are hard, I feel that I'm alive for both of us." My son's friend entered the poetry contest when he became a teacher at F school.

As described above, the interviewees' memories of their children changed their behavior after the interviews in this study. These behavioral changes were unexpected and brought about by the spontaneous will of Ms. A and Mr. B. Although these changes cannot be said to be the direct result of this study, they were triggered by the interview survey and, therefore, are considered noteworthy transformations as a secondary result of this study.

4. GENERAL DISCUSSION

Based on these results, the following three points will be considered.

4.1 Characteristics of the Days-Before Narrative Structure

This section discusses possibilities of the days-before narrative based on the characteristics of its narrative structure. A notable and important characteristic of the days-before narrative structure is the derivation of a dual "narrative world image" comprising the real world in which the disaster occurred and an imaginary world in which the disaster did not occur. Figures 4 to 7 illustrate this point. Conventional disaster experience narratives discuss only the narrative world image of the real world with the disaster. In contrast, days-before narratives focus on the narrative world image of the imaginary world without the disaster,

which is derived from pre-disaster narratives that avoid using the fact of the disaster as their trigger. This dual narrative structure offers a new perspective on each resident's narrative. In this study, addition of the imaginary world without the disaster to the narrative world image provided an opportunity to rediscover new aspects of the diverse personalities and future potential of the daughters and sons who died in the disaster.

These discoveries would have been difficult in narratives focused on the physical reality of losing daughters and sons in the disaster. Rather, repetition of conventional disaster experience narratives that define the memory of the disaster on depictions of the disaster (e.g., tragic scenes, horror of the disaster, and last moments of their daughters and sons) might excessively suppress reflection on pre-disaster life, possibly hindering survivors' recovery and return to their irreplaceable pre-disaster daily lives.

Real-world dramatic events profoundly affect those who experience them. The sheer magnitude of the impact of such events sometimes makes it impossible to tell a narrative other than that of the actual event. For example, An (2011) was affected by the Great Hanshin-Awaji Earthquake and devoted himself to psychiatric treatment at the disaster site. His experience is described in a collection of memoirs, in which he related that after the disaster, he felt as if everything was empty except for what he saw with his own eyes, and he could not think about anything other than the reality of what had happened. An described these symptoms as "real sickness," and raised doubts about the obsession with realistic depictions of disaster. Osawa (2008) points out a current trend in contemporary society in which the prevalence of thinking and discourse is overly concerned with reality. The Great Hanshin-Awaji Earthquake might have caused people who experienced it to fixate their thoughts and memories on the real world where the disaster occurred due to its enormous and destructive impact.

In contrast, the days-before narratives in this study were not concerned with the real world but rather the imaginary world, focusing on interviews that did not utilize the disaster as a trigger. Given the disaster's enormous impact on disaster survivors, the days-before narrative can effectively expose blind spots in disaster experience narratives.

A similar approach to the days-before narrative is the "Ichi-Nichi-Mae (the Day before the Disaster) Project" conducted by Cabinet Office, Government of Japan. Both activities interviewed people about the day before the earthquake, but the basic concepts of the two are very different (Cabinet Office 2022). In the days-before narrative, interviews were conducted about daily life in general in the period before the disaster, but in the "Ichi-Nichi-Mae Project," interviews were conducted in the context of disaster preparedness, asking what disaster preparedness measures people would take if they could go back to the day before the disaster. Therefore, in the "Ichi-Nichi-Mae Project," the responses are limited to narratives about disaster preparedness, but in the days-before narrative, various types of narratives about the days before the disaster can be heard in the interviews. The days-before narrative can provide survivors with a variety of discoveries, such as discovering the various personalities

of those who died in the earthquake, as in this study, and can promote their recovery. In other words, the days-before narrative and the "Ichi-Nichi-Mae Project" may have different effects on the respondents.

Moreover, deriving such an imaginary world narrative would have important implications in two ways, beyond derivation of a discourse counter to the dominant story. The first implication is its effect on the speaker of the disaster narrative. Bridging the dual real and imagined narrative worlds through days-before narratives can be a driving force to turning painful past experiences into positive ones. According to the bereavement researcher Robert Niemeyer (2009), the goal of grief therapy is generally seen as saying good-bye to the deceased and helping clients live for the future independent of their relationship with the deceased. However, Niemeyer suggests another important purpose of grief therapy, which is to help the client and the deceased rebuild their relationship and to support the deceased in living within the client's life, just like saying hello and good afternoon. The days-before narrative structure was greatly affected by various images of the deceased that were intertwined within the different real and imagined narrative worlds. In this way, the days-before narrative recalled not only the physical facts of the real world that encompassed loss of life in the disaster, but also the various aspects of the deceased daughters and sons and their future potential, which might provide clues to a new relationship with the deceased. Tarukawa (2007) reported that finding a "mission given by the dead" allows bereaved families to recover from and overcome their loss. Tarukawa's narrative of recovery and overcoming is exemplified by one of the above-mentioned relationships between the bereaved family and the deceased, and their effects were found to be the driving force behind shifting painful past experiences toward a positive direction. In the present study, instead of saying "I wish I had done this when I was there," which is the way survivors tend to talk about their disaster experiences, they said, "I will do this from now on so that I will not forget the deceased or so that I can live as hard as the deceased." In this way, painful past experiences were turned toward a positive direction (Yamada 2000).

The second implication of the imaginary world narrative is its effect on the survivor-interviewer relationship. The content of disaster survivors' experiences has been pointed out as fixed because the disaster experience is talked about as the interviewer expects (Takano *et al.* 2007). A partial explanation is that interviewers label disaster-affected residents as "disaster survivors" before interacting with them. As described in section 3.2.2, the interviewees' reasons for not providing a days-before narrative were "I was just a housewife before the disaster" and "It was just a story about normal life," thus confirming the strong effect of the "disaster survivor" label on their narratives. On the other hand, the days-before narratives strongly reflected the pre-disaster life background of the interviewees. When considering survivors' recovery from the disaster, a days-before perspective is needed in that residents of a disaster area are human beings with a life history that began before the disaster and before they were "disaster survivors." The days-before narrative in this study was a tool to reconsider the survivor-interviewer relationship. In fact, the author and Ms. A and Mr. B

were able to relate to each other beyond the disaster survivor framework throughout this study, and they continued to interact after the interview survey had concluded.

With these implications, the days-before narrative not only fills in the blind spots of disaster experience narratives but also provides clues to the developmental potential of qualitative psychology.

4.2 Perspectives on the Memory Model of Persistence

This section utilizes findings of autobiographical memory research to discuss why the days-before narrative triggered the interviewees' behavioral changes, as indicated in section 3.2.3. Autobiographical memory is an episode that a person recreates when looking back on their life. Autobiographical memories include life goals, strong emotions, and personal meanings, and they are closely related to the self and personal identity (Nakajima *et al.* 1999). This study has a high conceptual affinity with autobiographical memory because the survivors were interviewed about their life histories that spanned several decades.

Mainstream research on autobiographical memory is based on the "storage model" of memory. In this model, memories are stored somewhere in the brain and can be recalled by some cue. As such, this model emphasizes spatial cues. More recently, a new model based on the concept of "persistence" has been proposed by the ecological psychologist J. J. Gibson. In the memory model of persistence, the strangeness of memory and recall lies in temporal persistence and disconnection (Gibson 1979; Matsushima 2002). No matter how many spatial cues are presented, without temporal persistence, memory is in a state of forgetting. In other words, even if certain information exists in the brain storage of conventional memory theory, the lack of "temporal connection," or in other words, lack of temporal persistence, is equivalent to being forgotten by the subject.

In addition, Omori *et al.* (2007) utilized a thought experiment to describe how to view the present as a point time with a zero-time width:

For example, let's say that the wall turns red for a moment and then returns to normal, but it will not be red or anything. Or pain. The pain is intense for a moment. Its duration is zero. This is also meaningless. It won't hurt or itch.

In the flow of time in which humans live, it is impossible to feel a moment of point time. In other words, for a dynamic phenomenon to have any meaning for us, it must be more than a single point in time. This temporal connection, or width of time, is the essence of the concept of persistence.

The above memory model of persistence is useful for considering the utility of the days-before narrative perspective. Conventional narratives of disaster experience are produced in many ways, but they all focus on the immediate aftermath of a disaster. These are narratives

based on the real world. Accordingly, memories of life before the disaster are disconnected from memories after the disaster, and this disconnect increases as these real-world narratives are expressed. However, in the days-before narrative, pre- and post-disaster periods are bridged through a narrative in which the real-world disaster cannot function as a trigger, thus creating persistence in the survivors' autobiographical pre- and post-disaster memories. The interviewees' spontaneous change in behavior after their days-before interviews suggests that bridging the real and imaginary worlds served to create a temporal connection between their memories of life before and after the disaster. This is evidence that "temporal linkage" and "certain time range" or "persistence" of memories of life before and after the disaster were created. Due to the persistence of memories of life before and after the disaster, new perspectives were created around spatial clues of the deceased daughters and sons (e.g., items that the daughters and sons used in the past, food that the family ate) that had not been noticed for about 20 years since the disaster. The interviewee was able to rediscover clues about their deceased child.

This study suggests the usefulness of reconsidering memory and recall not only as mechanisms in the brain, but also as something that is constructed through the temporal interaction between subject and environment.

4.3 Implications for TEM

This section discusses implications related to TEM. TEM is a method for analyzing individual transformation and social relationships without abandoning the concept of time (Sato 2006). TEM has been used in many qualitative studies in recent years and is expected to become more widespread as a qualitative analysis method (Ueda 2013; Yamada 2015). One of the reasons behind TEM's popularity is its user-friendly and easy-to-understand analysis method. For example, Watanabe (2009) points out the possibility of creating "something like a TEM" from a variety of interview data and that TEM's appeal lies in its descriptive power that allows data to be organized into a time series.

Certainly, ease of analysis is one advantage of TEM. However, the fundamental appeal of the TEM methodology does not stop at this point because TEM can be used to gain insight into the multifaceted self and to discover new aspects of the self. In short, the multilinearity and diversity derived from TEM might effectively encourage research subjects to rediscover aspects of their own lives that previously had been considered self-evident.

As stated before, dramatic events such as disasters profoundly affect those who experience them, and they often prevent recall of experiences that fall outside the event. The present study has repeatedly shown that the days-before narrative provides clues for how to reconstruct the fixed stories of disaster survivors. In principle, TEM might have this transformative effect on an interviewee. TEM is not only a method of qualitative analysis in the narrow sense that it organizes the recorded scripts in a comprehensible way, but also

because it provides a strategy for promoting transformation of the speaker through rediscovery of the multifaceted self. As such, TEM is one method of “action research” (Yamori 2010) that can serve to transform the attitudes of the research subject and researcher.

In a theoretical discussion, Yasuda (2012b) drew on Hermans *et al.*'s (2010) discussion of the dialogic self to consider the possible clinical effects of TEM in exploring the multifaceted self and resolving the speaker's state of uncertainty. Like TEM's potential in action research, the above point of view might not be entirely misguided. Rather, this study provides a clue to the clinical potential of TEM, which Yasuda (2012b) had pointed out only theoretically, and which is supported by concrete qualitative results. The approach of this study was to question the obviousness of real events and encourage the narration of possible imaginary worlds, which suggests new possibilities for TEM.

4.4 Future Issues

This paper concludes with a discussion of two future issues surrounding the days-before narrative.

The first issue concerns the possible negative effects of the days-before narrative perspective. Fortunately, the participants in this study did not exhibit any negative reactions or effects from this survey, perhaps because they were interviewed 20 years or more after the Great Hanshin-Awaji Earthquake. They might have been able to talk about their disaster experiences from a more flexible perspective due to the time that had elapsed since the disaster. However, the risk remains that residents will reject or overly immerse themselves in a days-before “imaginary world.” Future research on the days-before narrative should consider this risk.

The second issue is the continuous survey of new research subjects. This study investigated two respondents who lost children in the Great Hanshin-Awaji Earthquake and who were themselves affected by the disaster. Narrative content differs greatly from one disaster area to another. Therefore, more detailed research on days-before narratives must include new and various research subjects. For example, diverse disaster prevention activities (Sugiyama *et al.* 2020; Sugiyama *et al.* 2022) are being conducted in Kochi Prefecture, where the risk of Nankai Trough earthquakes is a concern, so interviews from a days-before narrative perspective should be conducted on past Nankai earthquakes.

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