

## Stressors in Disaster Social Work after the Great East Japan Earthquake: An Exploratory Study

Dai Noguchi<sup>1</sup>, Masato Miyoshi<sup>2</sup>, Mizuho Watanabe<sup>3</sup>, & Takashi Fujioka<sup>4</sup>

### Abstract

---

The effects of the Great East Japan Earthquake, which involved a nuclear disaster, on the mental health of the victims and the disaster workers are tremendous and will persist. Especially, the people who are engaged in social work in the affected areas will have to continue working. However, the stressors affecting these individuals have not been examined. The study intends to explore the stressors in long-term social work following the unprecedented and complex disaster. Three years since, semi-structured interviews with 12 participants who have engaged in social work in the affected areas were conducted and qualitative analysis was performed. As a result, five categories with 12 subcategories were extracted from the qualitative results: traumatic events, losses, work-related fatigue, helplessness, and anxiety. Work-related fatigue was mentioned by most participants (N=12) followed by helplessness (N=7) and anxiety (N=7). Previous studies primarily focused on fatigue and trauma of disaster social workers. This study suggested that the development of the following is especially necessary in the future: an assessment scale and interventions for helplessness and anxiety in long-term social work. Future studies with large samples are needed to validate and refine these results. (195 words)

---

**Keywords:** social work, disaster, stress, mental health, trauma, grief and loss

### 1. Introduction

The Great East Japan Earthquake of March 11, 2011 caused considerable damage. In the aftermath of large-scale disasters, issues pertaining to mental and physical health become prominent. Many of the present literature focused on the psychological effects of disasters on primary victims. Moreover, there has been increasing concern regarding the effects on professionals who provide services to the victims (Figley, 1995). Disaster workers are significantly more distressed than non-disaster workers (Wee & Myers, 1997). Therefore, stress prevention and management for disaster workers are urgent issues.

The supporter for the disaster survivor can also be affected by compassion fatigue, which refers to the pain and suffering the supporter shares with the survivors whom the former attempts to help. Adams, Boscarino, and Figley (2006) assessed the psychometric properties of a compassion fatigue scale. Factor analyses indicated that the scale measured two key underlying dimensions—secondary trauma and job burnout; the analyses also revealed that both secondary trauma and burnout are related to psychological distress.

Figley & Nash (2007) proposed labeling traumatic reactions as “stress injuries” and divided them into three categories based on precipitating stressors: traumatic stress caused by the impact of terror, horror, or helplessness; operational fatigue, caused by the wear-and-tear of accumulated stress; and grief caused by the loss of someone or something that is highly valued.

---

<sup>1</sup> Faculty of Human Sciences, University of Tsukuba, Ibaraki, Japan

<sup>2</sup> Social Work Research Institute, Japan College of Social Work, Tokyo, Japan

<sup>3</sup> Graduate School of Japan College of Social Work, Tokyo, Japan

<sup>4</sup> Social Work Research Institute, Japan College of Social Work, Tokyo, Japan

Nash et al. (2010) reviewed the literature on operational stress and divided the stressors into four categories: potentially traumatic events involving life-threatening experiences; losses of cherished people, things, or aspects of oneself; potentially morally injurious events; and the accumulation of all stressors. They also suggested that operational stress can occur at any place where service members and their families live and work. Although their nosology have not yet been validated, categorizing stress injuries by causes or stressors facilitates the treatment of these injuries.

In the Great East Japan Earthquake, Shigemura et al. (2014) reported that discrimination/stigma experience was associated with mental health challenges among the Fukushima nuclear plant workers. Discrimination/slurs experience is one of the secondary stressors (secondary stressors are circumstances, events or policies that are indirectly related or non-inherent and consequential to the indexed extreme event (Department of Health, 2009; Lock, Rubin, Murray, Rogers, Amlôt, & Williams, 2012). Secondary stressors have attracted attention in recent years because of their long-term effect on the victims' mental health.

Today, it has been over five years since the Great East Japan Earthquake, and direct effects due to the disaster have diminished. Victims have begun vacating the temporary housings and are moving to the disaster restoration public housings. However, they are still encountering challenges related to their daily lives and the future. Thus, there is a widening gap in terms of restoration of livelihood in the affected region.

According to Norris, Friedman, and Watson (2002), the severity of psychological distress among victims of technological disasters is significantly greater than those of natural disasters in developed countries. Based on this finding, we suspect that there are considerable effects of the Great East Japan Earthquake involving an earthquake, a tsunami, and the nuclear disaster on the mental health of the victims, and may further persist. Therefore, people who are engaged in social work for the victims will have to continue to work in the future. However, the stressors affecting these social workers have not yet been examined. This study explores the stressors in disaster social work following the Great East Japan Earthquake, which has become an unprecedented and complex disaster.

## 2. Methods

### 2.1 Participants

We conducted interviews with 12 participants. They included people involved in the assistance of victims primarily in City A (anonymous), which was affected by an earthquake, tsunami, and the nuclear disaster. We intended to recruit participants who are engaged in supporting the victims, including children, elderly, and the disabled. Therefore, participants were recruited through a snowball technique wherein key informants with knowledge of social work services in the area nominated the people who were subsequently invited to participate. This technique is a common method for this type of research. The interview was conducted from December 2013 to January 2015 and was performed once per participant. Table 1 indicates the data of 12 participants.

Table 1. Data of Interview Participants

|                                 | Number of participants |
|---------------------------------|------------------------|
| Gender                          |                        |
| Female                          | 6                      |
| Male                            | 6                      |
| Occupation                      |                        |
| social worker                   | 2                      |
| public health center staff      | 2                      |
| city public servant             | 2                      |
| non-profit organization staff   | 2                      |
| teacher                         | 2                      |
| council of social welfare staff | 1                      |
| volunteer                       | 1                      |
| Total number of participants    | 12                     |

## 2.2 Interviews

After obtaining consent, we conducted individual semi-structured interviews. The length of the interview was approximately 40 to 80 minutes per session.

The interviews explored the causes of the participants' stress in a chronological order following the Great East Japan Earthquake. All interview data were recorded on a digital voice recorder, processed as verbatim proceedings, and used as a basis for analysis.

## 2.3 Analysis

First, the first author extracted all statements from the interview transcripts that were related to the study topic. The authors (DN, MW, and TF) then carefully conceptualized and classified attributes based on similarities and differences in the content to form categories and subcategories using thematic analysis. The authors repeatedly discussed the inconsistent classifications and named each subcategory and category.

To examine the reliability of the category classifications, another independent researcher-author (MM) further chose what he thought is appropriate for each attribute and subcategory among the names of categories and subcategories made by the other authors. Then, all the authors assessed the aspects of agreement.

## 3. Results

### 3.1 Categories of stressors in disaster social work

As Table 2 indicates, five categories with 12 subcategories were extracted: (i)traumatic events, (ii)losses, (iii) work-related fatigue, (iv) helplessness, and (v)anxiety.

Two subcategories were classified under traumatic events: "Fear of recurrence of an earthquake" and "Miserable scenes." Three participants talked about this category. Two subcategories were classified under losses: "disaster-related death of victims" and "the loss of hometown."Two participants mentioned this category. Five subcategories were classified under work-related fatigue: "difficulty and increase of support,""harsh and poor environments,""problems of collaboration among supporters,""lack of discretion," and "deterioration of victims' condition." Twelve participants discussed this category. Two subcategories were classified under (iv) helplessness:"lack of abilities as a supporter" and "unjust events" Seven participants talked about this category. Two subcategories were classified under anxiety: "uncertainty about the future" and "health anxiety." Seven participants addressed this category.

The inter-researcher agreement coefficient for the categories and subcategories were 92.6% and 90.4%, respectively.

**Table 2. Categories of stressors in disaster social work**

| <b>Category</b>                  | <b>Subcategory</b>                             | <b>Examples from the Interview</b>  |
|----------------------------------|--|---|
| <i>Traumatic events</i> (3)      | Fear of recurrence of an earthquake (2)        | I hardly slept because of many aftershocks. Evacuees did not go home because of many aftershocks.   |
|                                  | Miserable scenes (1)                           | I saw a miserable scene on TV.  |
| <i>Losses</i> (2)                | Disaster-related death of victims (1)          | Residents were affected by the disaster not directly but indirectly, and some of them died.   |
|                                  | Loss of hometown (1)                           | Many temporary housing are constructed in my familiar surroundings.   |
| <i>Work-related fatigue</i> (12) | Difficulty and increase of support(11)         | I worked day and night. It was difficult for me to confirm the safety of the victims.   |
|                                  | Harsh and poor environments (10)               | Lifeline remained shut. Water and gasoline were in short supply.  |
|                                  | Problems of collaboration among supporters (4) | The sharing of information among supporters is insufficient. Some supporters felt a distrust for other supporters.                              |
|                                  | Lack of discretion (2)                         | I had inner conflicts regarding my profession and my family. I could not consider the evacuation of my family.                                  |
|                                  | Deterioration of victims' condition (7)        | A victim was suddenly ill in the shelter. The number of people suffering from mental disease has increased.                                     |
| <i>Helplessness</i> (7)          | Lack of abilities as a supporter (1)           | I feel sorry that I was late in visiting shelters.  |
|                                  | Unjust events (6)                              | Some children who hailed from Fukushima were bullied. Considerable friction is generated among the residents because of the compensation issue. |
| <i>Anxiety</i> (7)               | Uncertainty about the future (3)               | Our income decreased. We have no hope for the future.   |
|                                  | Health anxiety (4)                             | I am anxious about radiation-related health damages. I am very anxious about children's health.   |

Note: The number of participants concerned for each category/subcategory is in parentheses.

#### 4. Discussion

This study explored the stressors in disaster social work following the Great East Japan Earthquake. Consequently, five categories were extracted: traumatic events, losses, work-related fatigue, helplessness, and anxiety.

Figley & Nash (2007) indicated the following three types of stress injuries: trauma, grief, and fatigue. Traumatic events, losses, and work-related fatigue from this study supported their concept. However, Figley & Nash (2007) classified helplessness as traumatic stress. We, on the other hand, made another category for helplessness in this study since we considered helplessness, such as unjust events, as different from traumatic stress. Moreover, Danieli (1985) suggested that survivor guilt may be an unconscious attempt to counteract helplessness. Therefore, the category of helplessness is similar to potentially morally injurious events of Nash et al's (2010) concept.

Shigemura et al. (2014) conducted a survey of disaster experience and mental health on the workers of Tokyo Electric Power Company (TEPCO) who were working at the Fukushima Nuclear Power Plants. Their findings revealed that the workers who experienced discrimination and stigma were more likely to exhibit long-term traumatic responses compared to those who did not.

In the present study, many participants mentioned unjust events such as bullying and conflict among residents. These stressors may also have considerable effects on the mental health of the supporters. There were many comments about anxiety in this study that were not observed in previous studies. This is because “uncertainty about the future” and “health anxiety” are distinctive stressors of a nuclear disaster. These stressors may become significant challenges in long-term social work since the effects of the Great East Japan Earthquake are expected to persist.

The category work-related fatigue was mentioned by most participants (N=12), followed by helplessness (N=7) and anxiety (N=7). Previous studies primarily focused on fatigue and trauma in disaster social work (e.g., Adams et al, 2006; Ben-Porat & Itzhaky, 2014). Therefore, we should assess helplessness and anxiety as well as the stressors mentioned in previous studies to prevent worsening of the mental health of the people who engage in long-term social work in the affected areas. Because of methodological and ethical issues, this study was conducted three years after the earthquake. Thus, the stressors immediately after the earthquake were examined through the participants’ reminiscences.

Furthermore, we conducted the interview in City A, which is an earthquake, tsunami, and nuclear disaster-affected area. However, there were more serious damages in other cities. Moreover, Lock et al. (2012) suggested that in both high and low-income countries, the secondary stressors following disasters should be explored. We carefully compared the results in this study with those of the previous studies. The lack of data in other cities was a limiting factor in determining the types of stressors. Future studies with large samples are needed to validate and refine these results.

## 5. Conclusion and implication

This study demonstrated that helplessness and anxiety are distinctive stressors in disaster social work following the Great East Japan Earthquake, which is an unprecedented and complex disaster. This suggested that the next steps would involve developing and standardizing a comprehensive scale of the disaster stressors indicated in this study and researching on effective interventions for each stressor.

## 6. Ethical approval

Ethical approval for this project was given by the research ethics committee of the Social Work Research Institute, Japan College of Social Work (receipt number: 13-0904).

## 7. Acknowledgments

We thank the people who participated in and devoted their time to this study.

## 8. Funding

This work was supported by the Health and Labour Sciences Research Grants [grant number: H24-Seishin-Shitei-001 (Hukkou)] from the Ministry of Health, Labour and Welfare of Japan.

## 9. References

- Adams, R.E., Boscarino, J.A., & Figley, C.R. (2006). Compassion fatigue and psychological distress among social workers: a validation study. *American Journal of Orthopsychiatry*, 76(1), 103–108. doi: 10.1037/0002-9432.76.1.103
- Ben-Porat, A. & Itzhaky, H. (2014). Burnout among trauma social workers: the contribution of personal and environmental resources. *Journal of Social Work*. doi: 10.1177/1468017314552158
- Danieli, Y. (1985). The treatment and prevention of the long-term effects of intergenerational transmission of victimization: a lesson from Holocaust survivors and their children. In C. Figley (Ed.), *Trauma and its wake*, (pp. 295–313). New York: Bruner-Mazel.
- Department of Health (2009). NHS emergency planning guidance: planning for the psychosocial and mental health care of people affected by major incidents and disasters: interim national strategic guidance. [online] Available: [http://www.coe.int/t/dg4/majorhazards/ressources/virtuallibrary/materials/uk/dh\\_103563.pdf](http://www.coe.int/t/dg4/majorhazards/ressources/virtuallibrary/materials/uk/dh_103563.pdf) (September 18, 2017)

- Figley, C.R. (1995). Compassion fatigue as secondary traumatic stress disorder: an overview. In Figley, C.R.(Ed.), *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized*.(pp. 1–20). New York: Brunner-Routledge.
- Figley, C.R. & Nash, W.P. (2007). *Combat stress injury: theory, research, and management*. New York: Brunner-Routledge.
- Lock, S., Rubin, G.J., Murray, V., Rogers, M.B., Amlôt, R., &Williams, R. (2012). Secondary stressors and extreme events and disasters: a systematic review of primary research from 2010-2011. *PLoS Currents*. doi: 10.1371/currents.dis.a9b76fed1b2dd5c5bfcfc13c87a2f24f.
- Nash, W.P., Vasterling, J., Ewing-Cobbs, L., Horn, S., Gaskin, T., Golden, J., Bowles, S.V., Favret, J., Lester, P., Koffman, R., Farnsworth, L. C.,&Baker, D.G. (2010). Consensus recommendations for common data elements for operational stress research and surveillance: report of a federal interagency working group. *Archives of PhysicalMedicine and Rehabilitation*, 91(11), 1673–1683. doi: 10.1016/j.apmr.2010.06.035.
- Norris, F.H., Friedman, M.J., &Watson, P.J. (2002). 60,000 disaster victims speak: part II,summary and implications of the disaster mental health research. *Psychiatry*, 65(3), 240–260.
- Shigemura, J., Tanigawa, T., Nishi, D., Matsuoka, Y., Nomura, S., &Yoshino, A. (2014). Associations between disaster exposures, peritraumatic distress, and posttraumatic stress responses in Fukushima nuclear plant workers following the 2011 nuclear accident: the Fukushima NEWS Project study. *PLoS One*,9(2), e87516. doi: 10.1371/journal.pone.0087516.
- Wee, D. & Myers, D. (1997). *Disaster mental health: Impact on workers*, In K. Johnson, *Trauma in the lives of children*(pp.257-263). Alameda, CA: Hunter House Press.