

Camp Project for Children in the Disaster Area

Tomoko Uchida – Nurse

Naru Fukuchi – Director, Doctor

Planning Division, Stem Center, MDMHCC

1. Introduction

Six years have passed since the Great East Japan Earthquake and the restoration in the disaster areas have entered the long term. Local emergency temporary housing is progressing to public housing and home rebuilding. However, changes in the living environment and the building of human relations in new communities may cause people living in the disaster areas further stress.

The Miyagi Disaster Mental Health Care Center (hereafter, MDMHCC) believes that it is important to provide parents and children living in such circumstances opportunities to remove themselves from their stressful situations, even if only for a short while, and to refresh themselves in a more unusual environment. They conducted the Camp Project for Parents and Children in Disaster Areas (hereafter, the Project), which aims to raise parents' and children's interest in mental health as well as increase their self-care ability by letting the children play freely in nature and releasing the parents from everyday child-rearing. It also aims to help them develop the ability to deal with stress by working together with various people. The Project started as part of Tohoku Fukushi University's disaster area support in FY2011 and has been continued by the Center since FY2012 on a once-a-year basis. Since FY2016, it has been conducted as part of the Children's Mental Health Care Regional Support Base Project commissioned by Miyagi Prefecture.

The following is a report about the Project since it was renewed as part of the Children's Mental Health Care Regional Support Base Project in FY2016.

2. Project Outline

(1) Aims

The Project was conducted with the aim of raising parents' and children's interest in mental health as well as increasing their self-care ability by letting the children play freely in nature and releasing the parents from everyday child-rearing, thus removing them from their stressful situations for at least a short while. It also aimed to help them develop the ability to deal with stress through working together with various people.

(2) Date and Location

Date: October 1 (Sat), 2016

Location: Matsushima Outdoor Activity Center

(3) Participants

Taking into consideration the changing situation as people are rebuilding homes and moving into public housing in the inland, the camp was not only for elementary-school children and their guardians from the coastal areas of Sendai and Natori, but also for those from Matsushima, where the camp was held. We decided to make 30 the maximum number of participants because of the staff manpower and camp capacity.

(4) Staff

Table 1 shows the staff composition. Besides staff from the Center, we had a multi-disciplinary team made up of specialists from external organizations registered with a supporters' club that endorses the Center's activities. In this way, we had about the same numbers of staff and participants

to ensure better safety. We also received planning and management support from Sendai District, Boy Scouts Miyagi Prefectural Association, whose activities aim to contribute to the healthy training of young men and who are experts in camping and other outdoor activities.

Table 1. Staff composition

Center staff, 17 persons	1 doctor, 2 public health nurses, 1 nurse, 9 psychiatric social workers, 2 clinical psychologists, 2 office workers
External helpers, 7 persons	1 doctor, 1 public health nurse, 1 psychiatric social worker, 1 clinical psychologist, 1 yoga instructor, 2 boy scouts

(5) Methods

① Questionnaires

We conducted a questionnaire survey by mail about one month before and after the Project, asking participating children and guardians how the earthquake had affected them and how their mental and physical states had changed.

a. Children's pre-camp questionnaire

We used the PTSS-15 (Post-Traumatic Stress Symptoms for Children 15 items),¹⁾ which is used to assess PTSD symptoms in children during disasters, as well as an original questionnaire created for this study. The questionnaire had several multiple-response questions. The question "Why did you decide to participate in the camp?" had six answers to choose from: having participated in the past, I myself wanted to participate, recommended by family, invited by friends, the program seemed fun, and other. The question "Which part of the program interests you?" had six answers to choose from: bus travel, cooking, the recreation, learning about the mind, making new friends, and other. The question "Is there anything you feel anxious or worried about?" had seven answers to choose from: riding a bus, participating in the camp, being with staff I don't know, being with friends I don't know, program contents, Learning about the Mind, and other. There was also a freeform question, "What is on your mind before camp?"

b. Children's post-camp questionnaire

We used the PTSS-15 and an original questionnaire. The questionnaire had several multiple-response questions. The question "How was it to participate?" had three answers to choose from: fun, normal, and not fun. The question "Did you feel that Learning about the Mind was helpful?" had two answers to choose from: yes and no. The question "What part of the program was fun?" had eight answers to choose from: the bus rides, the orientation, lighting a fire, making lunch, the recreation, Learning about the Mind (yoga), final session, and other. There were also the freeform questions, "What were your impressions from Learning about the Mind?" "Did something at the camp make you feel anxious or unhappy?" and "Write freely about your impressions from taking part in the camp."

c. Caregivers' pre-camp questionnaire

We used the Kessler Psychological Distress Scale (K6),²⁾ which is a six-item scale for measuring and assessing symptoms of depression and anxiety in the past one month, as well as an original questionnaire. The K6 was developed by Kessler and the Japanese version by Furukawa et al.,³⁾ and its reliability and validity have been verified. The questionnaire had the multiple-response question, "How would you like the program for guardians to be?," with five answers to choose from: an opportunity to talk about child-rearing and everyday troubles, a program for relieving one's own stress, really doing a lot of physical activities with my child, taking it easy by myself, and other. There was also the freeform question, "Is there anything that your or your child feels worried about?"

Moreover, we also asked the guardians to fill in an original questionnaire about their child's situation during the disaster. The question "Where were they during the earthquake?" had three answers to choose from: at home, at school, and other. The question "Who were they with?" had four answers to choose from: family, friends, alone, and other. The question "How badly damaged

was your home?” had five answers to choose from: the house and the furniture were not really damaged, the house was not damaged but the furniture was scattered, both the house and the furniture were damaged but we could still live there, both the house and the furniture were so damaged we could no longer live there, and the house was gone. There were also the yes/no questions “Were they in any life-threatening situations?,” “Were they actually hurt?,” “Did they see anybody who was hurt?,” “Did any relative or friend pass away?,” “Did they lose anything precious (toy, etc.)?,” “Did they see the tsunami with their own eyes?,” “Did they have any difficult experience prior to the earthquake?,” “Do they have a history of physical disease or hospitalization?,” and “Have they been treated with psychiatric care or psychosomatic medicine?” There were two freeform questions, “Is there anything you worry or feel anxious about as a guardian?” and “What was your address at the time of the earthquake?”

d. Caregivers’ post-camp questionnaire

We used the K6 as well as an original questionnaire. There were the freeform questions “What were your impressions from your child’s participation?,” “If a similar event is held in the future, what kind of contents would make you want to have your child participate?,” “If there were a program for guardians, what kind of contents would make you want to participate?,” “If there were a program for guardians, what kind of conditions would make you want to participate?,” and “Do you have any other comments or suggestions?”

e. Staff post-camp questionnaire

There were three freeform questions, “Did you notice anything about the participating children?” “Did you notice anything about the planning, management, or composition?” and “What are your impressions from participating?” This time, we only included items relating to the children in the results.

2. Program

Taking into consideration the wider area of eligible addresses in two cities and one town since FY2016 and the resulting burden in terms of guardians driving the children, we set up a meeting point at Sendai Station as well as on-site and split up some parts of the children’s program. This is shown in Figure 1.

During recreation, the children have fun doing physical exercises, either working together in teams or all participants taking part at once. After recreation, we had a session titled “Learning about the Mind,” which consisted of yoga centered on breathing techniques taught by an instructor who has conducted psychotherapy to

treat traumas at a national medical research institute since August 2011 and has led a yoga program at the wards of a national hospital. This allowed the children to settle down after the spirited recreation and aimed to teach them a way to calm down when something bad has happened or they are agitated.

As regards the FY2016 program for guardians, we decided to plan the contents based on the results of the pre-camp questionnaire. Since the most common answer was “I want to take it easy by myself” (9 out of 15 responses), we decided not to organize a program for guardians so that they could refresh themselves at their own pace using their time freely away from everyday life.

Program for those meeting up at Sendai Station	Program for those meeting up on-site
8:00 Assembly 8:30 Bus departs 9:20 Bus arrives	8:50 Assembly 9:00 Handicraft (making a welcome board) 9:20 Welcoming the bus, the groups meet up
9:30 Orientation 10:20 Making a fire, cooking lunch 11:30 Lunch 13:00 Recreation 15:10 Final session 16:00 Tidying up (cleaning)	Groups are balanced in terms of age and sex
16:30 Bus departs 17:30 Going home	
	16:30 Seeing friends off 16:40 Going home

Figure 1. Program overview

Photo 1. Outdoor recreation



3. Results

(1) Participation

The number of participating children in FY2016 was 10 boys and 10 girls, making a total of 20 children. They came from 15 households and their average age was 9.35 years. 12 out of the 20 children had previously participated in the Project. Moreover, since we took into consideration the changing situation as people are rebuilding homes and moving into public housing inland by expanding the areas with eligible addresses, we received applications from five children in new areas (one canceled). All of them had moved from disaster areas to rebuild their homes elsewhere. All guardians from the 15 households filled in the pre-camp questionnaire and helped drive the children.

The participating staff were 17 persons from the Center and 7 external supporters, making a total of 24 persons. By profession they consisted of two child psychiatrists, three public health nurses, one nurse, nine psychiatric social workers, one social worker, three clinical psychologists, one yoga instructor, two boy scouts, and two office workers.

(2) Questionnaire results

① Children's pre-camp questionnaire

We received responses from all 20 participating children (100% response rate). In response to the question "Why did you decide to participate in the camp?" 40.0% responded "I have participated in the past," 55.0% responded "I myself wanted to participate," 50.0% "My family recommended it," 20.0% "I was invited by friends," and 20.0% "The program seemed fun." In response to the question "Which part of the program interests you?" 31.6% responded "Bus travel," 78.9% "Cooking," 68.4% "Recreation," 21.1% "Learning about the Mind," and 31.6% "Making new friends." In response to the question "Is there anything you feel anxious or worried about?" 5.0% responded "Riding in a bus," 5.0% "Participating in the camp," 5.0% "Being with staff I don't know," and 30.0% "Being with friends I don't know." For the freeform question, we had responses like "I'm worried if I'll get used to the new friends," "Will I be able to make new friends? Worried," "Yoga seems difficult so I'm not confident," and "I hope I can make some good friends."

② Children's post-camp questionnaire

We received responses from 18 out of 20 participating children (90% response rate). In response to the question "How was it participating?" 88.9% responded "It was fun" and 11.1% "It was normal." In response to the question "What part of the program was fun?" 11.1% responded "The bus rides," 16.7% "The orientation," 72.2% "Lighting a fire," 55.6% "Making lunch," 72.2% "The recreation," 38.9% "Learning about the Mind (yoga)," 16.7% "The final session," and 5.6% "Other (eating curry)." In response to the question "Did you feel that Learning about the Mind was helpful?" 88.9% responded "Yes" and 11.1% "No." In response to the question "Did something at the camp make you feel anxious or unhappy?" 44.4% wrote "Nothing" and 55.5% did not write anything. In response to the freeform question "What were your impressions from Learning about the Mind?," they wrote things like "It was fun," "It felt good," "I thought it would difficult in the beginning but it was surprisingly easy," "It was really educational to move the body freely," and "I want to do it again." Under "Write freely about your impressions from taking part in the camp," they wrote many positive responses, such as "It was fun getting to know new friends. I want to participate again," "I'm happy I could make new friends," "I was a bit worried at the start, but everybody was kind; so it was fun," "I made many friends. We got along when we worked together," and "It was fun lighting a fire."

③ Caregivers' pre-camp questionnaire

We received responses from all 15 guardians (100% response rate). In response to the question "How would you like the program for guardians to be?," 30.0% responded "I want an opportunity to talk about child-rearing and everyday troubles," 20.0% "A program for relieving one's own stress," 10.0% "I want to really do a lot of physical activities with my child," and 80.0% "I want to take it easy by myself." In response to the freeform question "Is there anything that your or your child feels worried about?," they wrote things like "That they won't be able to initiate conversations with new friends," "I think they are sometimes persevering without letting their emotions out," and "I want them to have the ability to handle difficult situations, but don't know how to guide them."

④ Caregivers' post-camp questionnaire

We received responses from 13 out of 15 guardians (86.7% response rate). In response to the question "What were your impressions from your child's participation?" they wrote things like "I haven't been able to relax like this in a while" and "I got to do something out of the ordinary." About their children, they noted positive changes, writing things like "I felt they had good experiences participating by themselves," "I feel the one-day camp made them stronger," "They haven't participated much since starting the upper grades, but it looks like they had fun as there were more things they could do and others would rely on them," and "They looked a bit worried in the morning, but I was happy to see them come home with a smile on their face and talking about how much fun it was." They also wrote positive responses such as "They don't usually hang out with kids from other schools or cook, but it seems they had fun despite some nervousness," "It seems they could really build confidence," "Since the children participated by themselves, I think it really allowed them to express themselves without any worries," and "I'm happy you let them try out a variety of things." In response to the question "If a similar event is held in the future, what kind of contents would make you want to have your child participate?" they wrote response such as "It's fine as it is," "River and mountain activities," "Activities where you move your body to your heart's content," "Learning about our relation to water," and "Overnight stay." Moreover, in response to the question about the program for guardians and "themes you would like to see," they wrote things like "How to praise and reprimand a child," "Mindset for raising a child," and "How to deal with child psychology based on cases and by different patterns." As for "conditions that would make you participate," they responded with things like "I want it to be while the children are at day camp," "On a Saturday," and "It would be good if we could participate right after dropping the children off."

⑤ Staff post-camp questionnaire

We received responses from 18 persons out of a total of 21, consisting of the 17 Center staff as well as 1 doctor, 1 public health nurse, 1 social worker, and 1 clinical psychologist from external

organizations (85.7% response rate). In response to the question “Did you notice anything about the participating children?,” they wrote responses that hinted at the children’s growth, such as “Children who looked worried when we first gathered were brimming with confidence as they went home,” “As they worked together in groups, they became able to talk to other children and to staff as well,” “I was surprised how children who previously had been uncomfortable in the teams became engaged as they helped their juniors,” “I saw children who had participated several times giving way to and helping children here for the first time,” “Children who had been here before had grown tremendously and I saw many instances throughout the day where the children helped each other or showed consideration for younger ones,” and “I saw children who had been here before take leadership.” They also wrote about the children during the yoga, such as “I was surprised by the relaxing effect of the yoga as there were some children sleeping,” “I was amazed by how the children immediately became quiet and focused on their breathing,” “There were kids who said the yoga was the most fun,” and “It seems the yoga had a relaxing effect as it looked like they felt good.”

(3) The children’s disaster stress responses

Figure 2 shows the result of the PTSSC-15 conducted with the children before and after the day camp. We had 18 effective respondents who responded both before and after the day camp. The average value for the pre-camp PTSSC-15 was 12.2 ($SD = 11.5$) and the average post-camp was 17.6 ($SD = 13.8$), both of which were considerably lower than the average for children in regular families (29.1).⁴⁾ We conducted a corresponding t -test to investigate the change in PTSSC-15 score after the day camp, which showed a significant difference ($t(17) = 1.35, p > .10$).

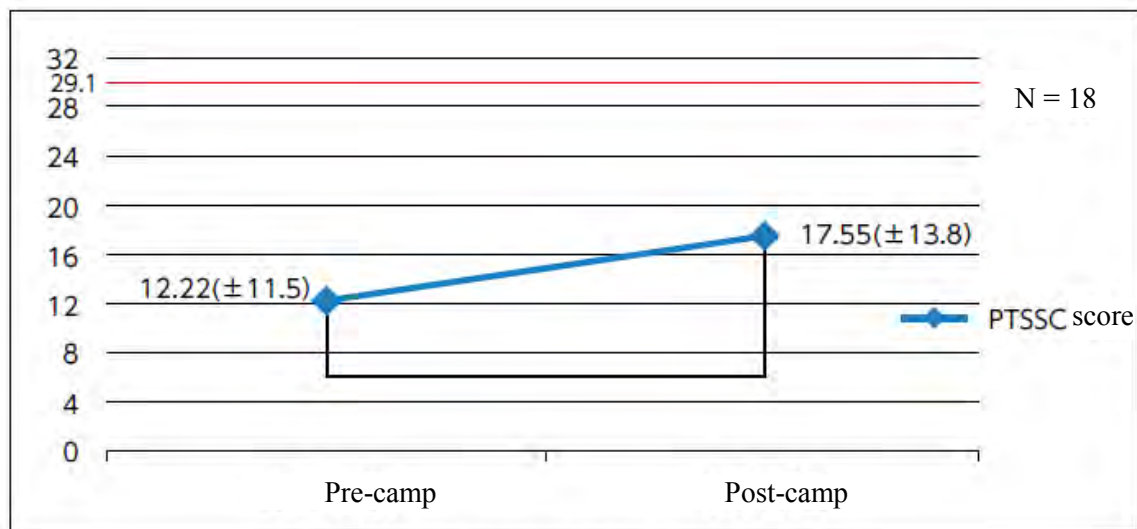


Figure 2. Before/after comparison of participating children’s PTSSC scores (SD)

(4) The guardians’ general mental health

Figure 3 shows the results of the K6 conducted with the guardians before and after the day camp. We had 13 effective respondents who responded both before and after the day camp. The average value for the pre-camp K6 was 3.54 ($SD = 2.69$) and the average post-camp was 1.23 ($SD = 1.48$), both of which were lower than the standard score for K6 general groups (5 points).⁵⁾ We conducted a corresponding t -test to investigate the change in K6 score after the day camp, which showed the post-camp score to be significantly lower than the pre-camp score at a significance level of 1% ($t(12) = 3.53, \Delta = .86, p < .01$).

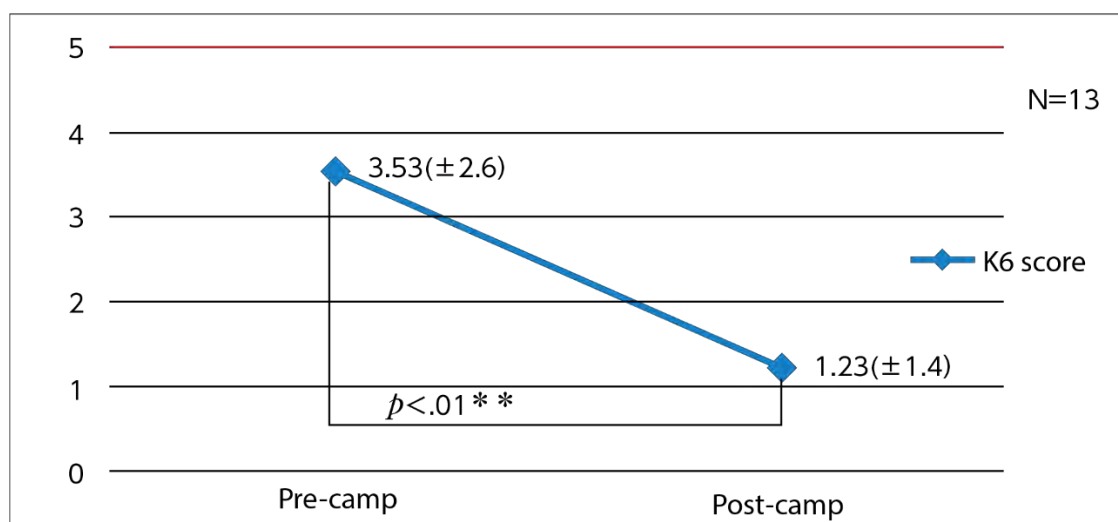


Figure 3. Before/after comparison of guardians' K6 scores (SD)

4. Discussion

In terms of the effect on the children, they were able to develop their ability to communicate with each other and build relations with others through the team discussions and team activities to reach goals they set themselves, which likely reduced the worries they had before the camp. Moreover, results from the children's questionnaire like "It was fun getting to know new friends," "I'm happy I could make new friends," "I made many friends. We got along when we worked together," and "It was fun lighting a fire" indicate that they had a sense of accomplishment and improved confidence. The children's impressions from Learning about the Mind, such as "It was fun," "It felt good," "It was really educational to move the body freely," and "I want to do it again," as well as results from the staff post-camp questionnaire, such as "I was surprised by the relaxing effect of the yoga as there were some children sleeping," "I was amazed by how the children immediately became quiet and focused on their breathing," and "It seems the yoga had a relaxing effect as it looked like they felt good," indicates that it had a relaxing effect. Moreover, responses like "I was surprised how children who previously had been uncomfortable in the teams became engaged as they helped their juniors," "I saw children who had participated several times giving way to and helping children here for the first time," "Children who had been here before had grown tremendously and I saw many instances throughout the day where the children helped each other or showed consideration for younger ones," and "I saw children who had been here before take leadership" show that many staff members felt the children's growth as repeaters actively helped first-timers, demonstrating autonomy. This might be because the children found their role through the activities and came to have a stronger awareness of being seniors.

The value for the PTSSC-15 conducted with the children pre-camp was extremely low, and while the post-camp score was higher, they were both lower than the PTSCC-15 average score of 29.5 for children in regular families as measured in a study by Tominaga et al.⁴⁾ This was six years after the earthquake and the children were young at the time of the disaster, so it might be necessary to reevaluate future questionnaire contents, assessment methods, and subject ages.

The pre-camp K6 value for the guardians was lower than the standard score for general groups (5 points),⁵⁾ and the post-camp value was even lower. This might have to do with the time they had to refresh as individuals, being able to remove themselves from daily life for the first time in a long time and spend time as they wished, as indicated by questionnaire results like "I haven't been able to relax like this in a while" and "I got to do something out of the ordinary." Moreover, responses like "I was happy to see them come home with a smile on their face and talking about how much fun it was" and "I'm happy you let them try out a variety of things" show that it made the guardians themselves happy. Responses like "I feel [it] made them stronger" and "It seems they could really build confidence" also suggest that it could alleviate some of their worries about child-rearing and have a positive effect on their mental health, which then helped reduced their K6 value.

The above suggests that continuing this camp project for parents and children in disaster areas will have the effect of assisting the children's healthy growth, reducing the parents' and children's psychological stress, and provide mental stability. In addition, the guardians gave suggestions like "How to praise and reprimand a child," "Mindset for raising a child," and "An opportunity to get tips and learn concretely about child-rearing," which confirmed that there is a strong interest in child-rearing, so that is something we want next year's program for guardians to reflect.

5. Summary

The Project was conducted with parents and children living in disaster areas with the aim of raising their interest in mental health as well as increasing their self-care ability and ability to deal with stress by removing them from their stressful situations even for a short while and allowing them to refresh themselves in an environment out of the ordinary.

We saw an increase in the children's PTSSC15 results after the camp, but it was lower than the average score of 29.1.⁴⁾ The results of the self-completion questionnaire showed that as many as 88.9% wrote "It was fun," and we received many positive responses to the freeform questions.

The results of the guardians' K6 were lower than the average score (5 points) both pre- and post-camp, with the post-camp score showing a considerable reduction. We received many responses to the self-completion questionnaire and we were able to confirm the requests that the guardians might have for future day camps.

Moreover, many of the staff perceived that the children had grown, and we believe that continuing this camp project for parents and children in disaster areas will have the effect of assisting the children's healthy growth, reducing the parents' and children's psychological stress, and provide mental stability. We hope to continue the project while reconsidering the eligible areas and ages, so that we can keep providing opportunities for socializing and refreshing to parents and children starting new lives in different areas.

References

- 1) Masahide Usami, Yoshitaka Iwadare, Kyota Watanabe, Masaki Kodaira, Hirikage Ushijima, Tetuya Tanaka, Maiko Harada, Hiromi Tanaka, Yoshinori Sasaki, Seiko Okamoto, Keisuke Sekine, and Kazuhiko Saito. *Prosocial Behaviors during School Activities among Child Survivors after the 2011 Earthquake and Tsunami in Japan: A Retrospective Observational Study*. November 21, 2014, <https://doi.org/10.1371/journal.pone.0113709>
- 2) R. C. Kessler, G. Andrews, L. J. Colpe, and E. Hiripi. Short Screening Scales to Monitor Population Prevalences and Trends in Non-Specific Psychological Distress. *Psychological Medicine*, Volume 32, Issue 6, August 2002, 959–976.
- 3) Toshi A. Furukawa, Norito Kawakami, Mari Saitoh, Yutaka Ono, Yoshibumi Nakane, Yosikazu Nakamura, Hisateru Tachimori, Noboru Iwata, Hidenori Uda, Hideyuki Nakane, Makoto Watanabe, Yoichi Naganuma, Yukihiro Hata, Masayo Kobayashi, Yuko Miyake, Tadashi Takeshima, and Takehiro Kikkawa. The performance of the Japanese Version of the K6 and K10 in the World Mental Health Survey Japan. *International Journal of Methods in Psychiatric Research*, Volume 17, Issue 3, 2008, 152–158.
- 4) Yoshiki Tominaga, Satoshi Takahashi, Ryuzo Yoshida, Katsuhiko Sumimoto, and Nobuo Kajikawa. Development and Validity of a Post-Traumatic Symptoms Scale for Children (PTSSC15): Child Abuse and Bullying. *Journal of Human Development and Clinical Psychology*, Volume 8, 2002, 29–36.
- 5) Norito Kawakami and Ayumi Takano. *Techniques for Surveying the Mental Effects of Trauma on General Residents*. Integrated Research Project on Disability Policy and Integrated Research Project on Disability Policy (Mental Disabilities) funded by the MHLW. Research to Gather Information, Verify Intervention Effects, and Improve Intervention Techniques for Mental Disabilities in Disaster Areas. AY2014 General and Assigned Research Report (Yoshiharu Kim), 2015, 93–118.