

# Camp Project for Children in the Disaster Area

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## 1. Background and Objective

It has been pointed out that a major disaster that destroys communities across a broad geographical area has a severe physical and psychological impact on children<sup>1</sup> due to the significant changes in their living environment. As a result of the Great East Japan Earthquake in 2011, in coastal areas affected by the tsunami, the number of places where children could play freely was greatly reduced. The children were brought to an inland campground away from the coastal area, where a series of programs were conducted to get them outdoors, raise their interest in mental health, and reduce their daily psychological burden.

Additionally, by incorporating psychological education into the program, the children were helped to better understand their own minds and taught methods to help them deal with anxiety and not be overwhelmed by it.

As a part of Tohoku Welfare University's support for disaster-stricken areas, a camp project began in July 2011 with the cooperation of professionals and several volunteer organizations working in the region<sup>2</sup>. It was started as a project managed by the center beginning with its third session in 2012, and it continues to be held once a year. This paper is the eighth annual report on this project, and it concerns the camp held in October 2017.

## 2. Method

The eight camp session consisted of two parts—a program designed for elementary school children, the “Camp Project for Parents and Children in Affected Areas” (hereafter referred to as the “day camp project”), and a “Sub-leader Training Workshop for Teenagers,” (hereafter, “sub-leader workshop”)—for past participants who were teenagers. Junior high school students who took part in the sub-leader training workshop also participated as day camp staff.

### (1) Day camp project

#### ① Target audience

Among the three coastal cities that were affected, we received consent from six elementary schools and had them distribute information to the children at the schools. Beginning with the third session since the center inherited this project, we have conducted a survey on whether or not participants wished to have us send them information on the next session. We sent information about the event to 40 past participants (excluding junior high school students) who requested it.

#### ② Survey procedure

Explanations were given and agreement was obtained from the board of education of each of the three municipalities. Next, an explanation was provided to each target elementary school, and application guidelines were distributed to children in the elementary schools where consent had been obtained. The purpose of the project was explained to the families who applied, and their cooperation with the survey was requested. At the time, they were free to cooperate with the survey if they wished to do so, and we explained that they could withdraw their consent at any time.

#### ③ Survey content

To understand the topics that required attention, we conducted pre- and post- questionnaires with children and parents to verify their living situations and the effects of the disaster at the time of the earthquake. To understand their effectiveness and psychological state, children took the Pre- and Post-Traumatic Stress Symptoms for Children 15 items (hereafter referred to as PTSSC-15)<sup>3</sup>, while parents took the Kessler Psychological Distress Stress 6 (hereafter referred to as K6)<sup>4</sup>. The pre-questionnaire was conducted two weeks before the start of the parent-child camp, and the post-questionnaire was mailed around two weeks after completion. Only the data of those from whom research participation consent was obtained were analyzed.

#### ④ Implementation

The camp was held at the Matsushima Outdoor Activity Center on Saturday, October 28, 2017. We provided a series of programs for children, including psychological education, coping, and yoga for relaxation. The “alpha rice” and fire-making experiences were introduced as a part of disaster prevention education concerning outdoor food preparation. After lunch was recreation period, followed by an activity called “study of the mind,” which involved yoga practice centering on a breathing method. Another program was designed to conduct a lecture for parents on parenting and relaxation through yoga.

⑤ Evaluation methods and feedback

Evaluation of the children’s psychological state was conducted using the PTSSC-15, which was necessary to support the 23 points recommended as a cutoff value. The evaluation of parents’ psychological state was done using K6, which was necessary to support the 13 points for identifying moderate mental disorders. Children’s scores on the PTSSC-15 before and after the camp were compared and analyzed to determine whether there had been a change in psychological burden, and parents’ scores on the K6 before and after the parent-child camp were compared and analyzed to determine whether there had been a change in psychological burden. The results were explained in individual interviews to children who had been identified as needing support, and the necessary support was provided.

⑥ Ethical considerations

This research was approved by the ethics committee of the Miyagi Disaster Mental Health Care Center, and care was taken to ensure that the personal information of participants was protected.

**(2) Sub-leader training session**

① Target audience

In cases where children who are now teenagers had participated in one of the past seven camp sessions, we contacted families that had requested they be informed if similar camp sessions took place in the future.

② Survey procedures

The purpose of this project was explained to each family applying for the event, and their cooperation was requested. It was explained that participation was optional and that it was possible to withdraw consent at any time.

③ Survey contents

The questionnaire survey was conducted in advance with participating junior high and high school students to verify the effectiveness of the sub-leader training session. The PTSSC-15 was used as a measure to grasp subjects’ psychological state in advance. The questionnaire was conducted two weeks prior to the start of the sub-leader training session, and the post-questionnaire was mailed around two weeks after completion. Only the data of those who gave their consent to participate in the research were analyzed.

④ Implementation details

The session was held at the Ashinaga Sendai Rainbow House on August 9, 2017. A total of five hours of morning and afternoon training sessions were offered. In the morning, a certified facilitator conducted a workshop training session using Lego blocks<sup>6</sup>. In the afternoon, the facilitator of the international NGO Save the Children Japan gave a lecture, and the senior students conducted a training session on psychological first aid (PFA) to support the junior students.

⑤ Evaluation methods and feedback

The evaluation of junior high school students’ psychological state was conducted using the PTSSC-15; it was necessary to implement the 23 points recommended as a cutoff value. Results were delivered in the form of personal feedback given to the parents of the junior high school students who were assessed as needing support, with an evaluation according to the criteria and the observation conducted on the day of the camp. We compared the PTSSC-15 results before and after the sub-leader workshop and camp project and analyzed whether the teenagers’ psychological burden had changed.

## ⑥ Ethical considerations

This research was approved by the ethics committee of the Miyagi Disaster Mental Health Care Center, and care was taken to ensure that the personal information of participants was protected.

Table 1 Overview of day camp project and sub-leader training sessions

“Camp project for parents and children in disaster areas” (day camp project)		“Sub-leader training session for teenagers” (sub-leader workshop)	
	Children	Parents	
Target persons	Current elementary school children and their parents whose families have participated in any of the past seven sessions and have asked to receive information about the events Consent was obtained from three municipalities in stricken coastal areas		Middle school children and their parents whose families have participated in any of the past five sessions and have asked to receive information about the events
Survey content	Prequestionnaire PTSSC-15 Postquestionnaire	Prequestionnaire K6 Postquestionnaire	Prequestionnaire PTSSC-15 Postquestionnaire
Program	Programs including psychological education and coping  ● Psychology education and coping with stress  ● Yoga National Center of Neurology and Psychiatry—Ryoko Otaki	Lectures by medical specialists on relaxation through yoga  ● Lecture: “How to engage with children.” Miyagi Prefectural Children’s Center Yuki Mizumoto	“The work of knowing yourself” through Legos, preimplementation of PFA (psychological first aid) program  ● Serious Lego play NPO Takahashi Yuka, Switch (NPO)  ● Psychological first aid for senior students to support their subordinates (PFA, psychological first aid), Akasaka Miyuki, Save the Children Japan

## 3. Results

## (1) Camp project

## ① Attributes of target participants

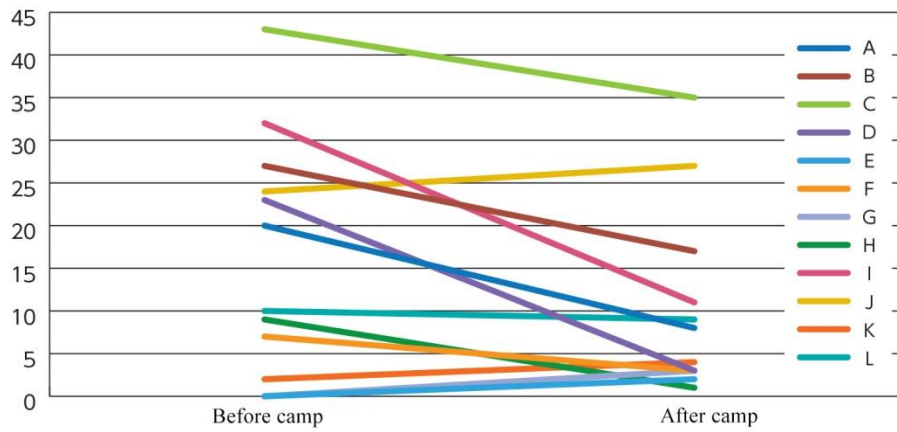
Participating children included 15 people (4 boys and 11 girls), with an average age of 10 years. Their experience during the earthquake was as follows. One person was born after the earthquake and did not suffer any direct harm as a result of it. The program for parents was cancelled because there were no applicants.

Table 2. Attributes of participating children

Type of experience	Number of people (%)
Damage to houses (destroyed or more)	Five people (33.3%)
Has or has not had a dangerous experience	Three people (20.0%)
Has witnessed an injured person	Two people (13.3%)
Loss of important object(s)	Eight people (53.3%)
Death of close relative	Four people (26.7%)
Has sighted tsunami	Five people (33.3%)

## ② Changes in children’s psychological state

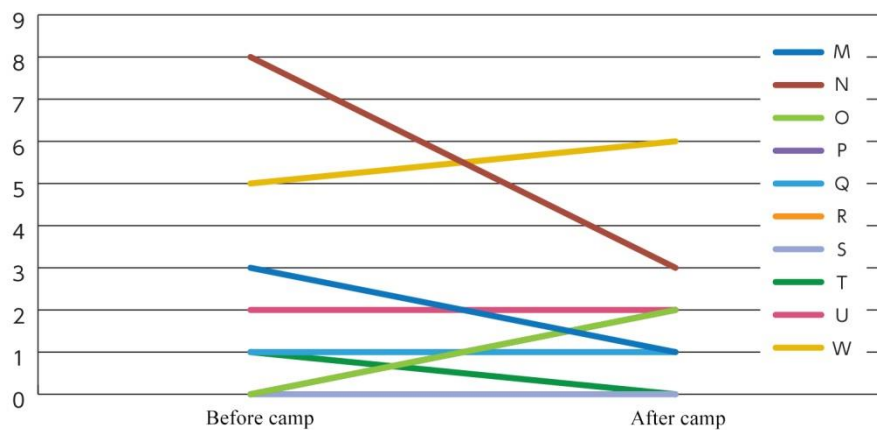
Of the 15 children who participated in the study, 12 were analyzed except for 3 who were not able to complete or who disagreed with the pre-post evaluation scales. Fig. 1 shows PTSSC-15 scores for these 12 participants before and after the camp. Before the camp, two children exceeded the 23-point cutoff value for the PTSSC-15, while afterwards, two exceeded it. The average score for the PTSSC-15 was 16.4 (12.3 SD) before the camp and 10.3 (10.4 SD) after the camp. A statistically significant difference was observed as a result of verifying pre- and post-camp scores with a corresponding t-test ( $t(11) = 2.51, \Delta = .029, p < 0.05$ ).



**Fig. 1.** Changes in children's pre- and post-camp PTSSC-15 scores

(1) Changes in parents' psychological state

Of the 15 children who participated in the study, the results for 10 were analyzed, except for the five children who had not yet completed or who disagreed with the pre-post evaluation scale. Fig. 2 shows K6 scores before and after the camp for this group of 10. For parents whose scores exceeded 13 points, the cutoff value for the K6 was not available before or after the camp. The average value of the K6 was 2.1 (2.5 SD) before the camp, and 1.8 (1.7 SD) afterwards. No statistically significant difference was observed as a result of verification of pre- and post-camp scores with a corresponding t-test ( $t(9) = (1), \Delta = .66, p < 0.05$ ).



**Fig. 2.** Changes in parents' pre- and post-camp K6 scores

(2) Subleader training

① Target audience

Five participants had registered, but only two showed up on the day of the event (three cancelled). The two participants were a ninth-grade boy and an eighth-grade boy, who had participated in the camp together several times in the past.

② Changes in participants' psychological state

We conducted an evaluation of the two participants. One participant's parent did not give consent for utilizing his information in the study, so his data were excluded from the analysis. The other's score on the PTSSC-15 was 29 before the sub-leader training and 14 after the training.

**4. Discussion**

The first camp session was held in July 2011, and the center has continued the session since that time. A total of eight sessions have been conducted to date.

Although the number of participants in the study has declined over the years, there were still many children who faced traumatic experiences during the earthquake, such as the loss of family members and sightings of the tsunami. Regarding the changes in families' situation, such as having to rebuild their homes

inland or to move to reconstructed homes, there were many new participants who wanted to expand the scope of the study to cities that had not been included in the 2010 study.

This time, because we had repeat participation from the same cities and towns as before, it was suggested that, in the future, we adjust the area of recruitment to reflect the process of recovery in new regions.

In the camp project, approximately one-third of the children exceeded the cutoff value in the pre-camp PTSSC-15, which suggests that among those wishing to participate, there were children present who still had some symptoms. Brief evaluation interviews were conducted with children and parents before and after the camp, but not to the extent that they could be considered clinical treatment. An improvement in PTSSC-15 scores from before and after the camp project was confirmed, but 1) the population studied was extremely small, 2) no control group was established, and 3) there exists the possibility of temporary or natural recovery, so it cannot be said that this method is superior to other interventions. No K6 scores exceeded the cutoff value before or after the camp project, and the number below the reference point was less than 5% compared to the general population<sup>8</sup>. No improvement in K6 scores was observed in pre- and post-camp scores. Therefore, the psychological health of the parents of participating children was considered to be unchanged. The bias in studying families with a history of participation cannot be disregarded; homes where children have been confidently entrusted in the wake of this event have a certain psychological flexibility, and there is a good chance that their life is becoming more stable.

It is necessary to research the kinds of support that can be offered to families who are not able to participate in such a project, including methods other than a camp. The sub-leader workshop was a new initiative beginning with the eighth camp session. We asked junior high school students who were past camp participants to participate as camp staff once they participated in preliminary training sessions. Junior high school students become busy with schoolwork and extracurricular activities, so there were not many who wanted to participate. As the students who participated put it after the camp, however, "This was designed for us as subleaders to enable children to enjoy themselves safely," and "I feel that teamwork is always necessary." We are planning to continue connecting with camp participants and providing sub-leader training as part of a system to nurture those who support the community.

## References

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