

Paper:

Formation of Third Place by Evacuees from Nuclear Accident: Case Study of Wide Area Residents' Association of Tomioka Town, Futaba County, Fukushima Prefecture

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This paper conducted a questionnaire survey of evacuees (residents of public-funded rented housing, home buyers, etc.) from Tomioka Town, who were displaced because of the nuclear accident in Fukushima in 2011. It aimed to understand the characteristics of the wide area residents' associations as the "Third Place" by examining the relationship among the neighborhood association before and after the disaster, the neighborhood association at the evacuation district, and wide area residents' associations. It was revealed that wide area residents' associations could function as a relative Third Place, because the evacuees had a weak connection with the places they live in after evacuation, although they continue to have strong links with the neighborhood associations in the places where they lived before the disaster.

Keywords: nuclear accident, evacuation, wide area residents' association, Third Place

1. Introduction

Tomioka Town is located in Hamadori District (coastal areas) in the southern part of Futaba County, Fukushima Prefecture. It has a population of about 16,000. The Fukushima Daini nuclear power plant of the Tokyo Electric Power Company (TEPCO) is located between Tomioka Town and the neighboring Naraha Town in Fukushima. Because of the Fukushima Daiichi nuclear power plant accident in March 2011, all the residents of the town had to be evacuated (Table 1).

To accommodate the evacuees, temporary housing was built on three sites in Koriyama City where the town office was relocated, on one site in the neighboring Otama Village, on six sites in Miharu Town, and on three sites in Iwaki City. The residents gradually moved into the temporary housing from the summer of 2011. Many inhabitants in the temporary housing, who had lived in large houses before the disaster, inevitably caused trouble for

others, for example by creating too much noise, because the temporary housing was small and its walls were thin. On the other hand, there were fewer troubles from those who lived in public-funded rented housing or from those who bought new houses.

Regarding the acquisition of information on the movements in the town or the compensation offered by the municipalities, the prefecture, and the central government, and the demands for the Town etc., the inhabitants in the temporary housing etc., who "lived together" have an advantage. On the contrary, residents of public-funded rented housing had difficulty acquiring information on these matters, although there were not many complaints about the living arrangements.²

In the temporary housing areas, a "residents' association for temporary housing" was established in each municipality, although there was a difference in the dates of establishment. These residents' associations functioned as a point of contact within the temporary housing area for the municipality offices and support groups from outside. In contrast, there was no such contact point for residents of public-funded rented housing and other modes of accommodation for evacuees. Some evacuees considered it necessary to establish an association to prevent isolation, and sought to do so through mutual friendship and sharing of information with other evacuees. The "wide area residents' association" mentioned and reviewed in this paper was founded for this very purpose.

Residence in the temporary housing area was mandatory for admission into the residents' association of that particular temporary housing area. The requirement for

2. The main problems encountered in daily life revealed at the time of the survey in 2012 are "concerned about the noise from the neighboring housing" and "room is small" for those living in temporary housing facilities, and "there is no acquaintance in the neighborhood" and "difficult to acquire information" for those living in public-funded rented housing. In temporary housing facilities, the residents from the same municipality lived together. However, the inhabitants in the public-funded rented housing lived separately. The inhabitants in the public-funded rented housing in Iwaki City and Koriyama City, to where many residents from Naraha and Tomioka Towns evacuated, may have acquired information related to the towns. However, those living in areas other than Aizu Misato Town (which was temporarily the foothold of Naraha Town and Koriyama City where the Tomioka Town office is still located) in Fukushima Prefecture, and outside Fukushima Prefecture, may have been isolated from the information network. To solve this problem the wide area residents' associations were established, as discussed in this paper. As for the detailed survey results, please refer to [2].

1. This paper includes the situation as it was until March 2018 to the situation presented in [1].

Table 1. Number of residents of Tomioka Town based on areas evacuated.³

	Total	Total population outside the prefecture	Hokkaido	Miyagi	Tokyo, Kanagawa, Chiba, Saitama	Ibaraki, Tochigi, Gunma	Niigata
21. March, 2012	15,683	5,032	69	194	2,555	1,042	435
1. March, 2013	15,537	4,509	66	213	2,244	968	356
1. March, 2014	15,387	4,403	70	232	2,194	981	314
1. March, 2015	15,258	4,350	71	243	2,136	982	295
1. March, 2016	15,131	4,329	66	253	2,089	1,031	263
1. March, 2017	14,964	4,243	67	257	2,062	986	263
1. March, 2018	12,730	2,766	31	152	1,382	779	166

	Subtotal	Fukushima Prefecture					
		Fukushima City	Koriyama City	Otama Village	Miharu Town	Aizu Wakamatsu City	Iwaki City
21. March, 2012	10,651	489	3,200	325	499	208	4,863
1. March, 2013	11,028	432	3,150	307	450	185	5,512
1. March, 2014	10,984	414	3,052	286	397	177	5,671
1. March, 2015	10,908	414	2,894	229	345	176	5,849
1. March, 2016	10,802	391	2,771	182	290	162	6,004
1. March, 2017	10,721	354	2,648	162	251	153	6,051
1. March, 2018	9,964	224	2,407	159	215	86	5,907

admission to the wide area residents' association was more relaxed. "Citizenship of the town" was the only prerequisite for admission⁴ into the residents' association in the case of Tomioka Town. Most evacuees were admitted to the neighborhood associations⁵ before the disaster. Many of them were also admitted to neighborhood associations (ku-kai, chonai-kai, and jichi-kai)⁶ in the areas they had been evacuated from, except in the case of collective housing, such as apartments. From the perspective of involvement with the community, the inhabitants of temporary housing areas belonged to two kinds of associations: the neighborhood association and the residents' associations of temporary housing areas. The members of the wide area residents' association belonged to three kinds of associations: the neighborhood association in Tomioka town before the disaster, the neighborhood association in the evacuation area, and the wide area residents' association.

Oldenburg uses the term "Third Place" meaning a place that was neither one's own home nor one's working place [3].⁷ The Third Place is characterized by neutrality,

equality, and openness of access. It is like a salon "with no (or few) constraints."⁸ The wide area residents' associations analyzed in this paper are thought to exhibit such characteristics.⁹

However, this study discusses the Third Place in peacetime. It begins by presenting the problems in forming the Third Place in emergency situations, such as living in shelters. In such cases, as Yoshihara [9] indicated, the Third Place is not established totally afresh. Rather, it relies on resources depending on an established route,¹⁰ even in relationships with "new neighbors" (Yoshihara [9]).

Tomioka Town is the main focus area in this study.¹¹

3. This table is prepared by the author based on the information found on the homepage of the Tomioka Town website. It offers details on the "number of residents inside and outside the prefecture."
4. This requirement has changed over time. In the Koriyama District Inhabitants' Association, the requirement of "those who live in public-funded rented housing" has been excluded from the articles of association that was adopted at the general meeting in May 2014. The name was changed from "the Koriyama District Public Funded Rented Housing Inhabitants' Association" to its current name. The Sakura no kai has added the requirement of the area within Futaba County to the place of residence of its members since 2017. The self-government body for public housing took similar measures. For example, (a part of) the Adatara temporary housing established in Otama Village was reorganized, and Yokoboridaira public housing was built on its site. The inhabitants' association for public housing has also admitted "those who occupied temporary housing but do not live in public housing now" to the association.
5. Twenty-seven administrative wards (neighborhood associations) were established in Tomioka Town.
6. These three are considered the same for the purposes of this paper.
7. The Third Place and its functions in forming the community are discussed, for example, by Kataoka and Ishikawa [4]. They divided the Third Place into "My Place type" and "Friendship type" and the latter was subdivided into "Sociable Friendship" and "Purpose type Friend-

ship." Furthermore, ad hoc café is also referred to as the Third Place. They analyzed two associations that are Third Places of the "Purpose type Friendship," and drew the following conclusions: First, a key person continued to have some awareness of the problems and took actions while considering and adding any revisions, if necessary. Second, those who wished to be admitted could select a mode of admission for themselves. Lastly, "building a woman's career" and "local revitalization" were considered an effect of the Third Place. The wide area residents' associations discussed in this paper are categorized as "Friendship type," because they have sociable characteristics, such as mutual communication and friendship, while also including "Purpose type" such as explanatory and study meetings for nuclear accident compensation.
8. In forming a salon, the evacuees were influenced by a support network for evacuees. Nishikido and Harada [5], Nishikido and Harada [6], Takahashi [7], and Takahashi [8] focused on such support networks. A series of studies conducted by Yoshihara [9–11] investigated salons by reviewing the evacuees from Okuma Town where the Fukushima Daiichi nuclear power plant is located. Takahashi, Taguchi, and Matsui [12] and Matsui [13] also discuss both the support offered for the salon, and the salon itself, which had been established on the basis of the experiences gained after the Mid Niigata Prefecture Earthquake, by reviewing the evacuees within Niigata Prefecture.
9. The words "a place like a salon" is used, because it does not always indicate a salon facility. Salon facilities have been also developed in Tomioka Town. For example, "friendship salon" was founded in Yotsukura, Taira, and Izumitamatsuyu districts in Iwaki City. In October 2015, "town salon" was established for temporary returnees in Tomioka Town. For more information on the development of a friendship salon, please refer to [14].
10. Social capital can be considered an example. Aldrich [15] discussed restoration after disaster and such forms of social capital in detail. For example, Fujimi, Kakimoto, Yamada, Matsuo, and Yamamoto [16] discuss this theme in relation to the awareness of disaster prevention during peacetime.
11. As for the literature written in English, studies covering the communi-

The aim of this study was to understand the characteristics of the wide area residents' association as a Third Place by reviewing the relationship among the neighborhood association before and after the disaster, the neighborhood association at the evacuation district, and the wide area residents' association.

The rest of this paper is divided into the following chapters. Section 2 outlines the wide area residents' associations covered in this study. In Section 3, based on the questionnaire survey conducted during the period between autumn 2015 and winter 2016, the involvement with the neighborhood association before and after the disaster, and the acknowledgment of the wide area residents' association and present-day involvement with it are presented. Section 4 examines the relationship among the neighborhood association before and after the disaster, residence in the evacuation district, and the wide area residents' association using Covariance Structure Analysis (SEM: structural evaluation models). Section 5 concludes the paper, and presents limitations in the study, alongside directions for future research.

2. The Wide Area Residents' Association

The wide area residents' associations organized by the evacuees from Tomioka Town were mainly based in Iwaki City, Koriyama City, and Fukushima City. The Sakura (cherry blossom) no kai was founded in May 2011. The Sumire (violet) kai was founded in September 2011. Both associations were located in Iwaki City. The Koriyama District Inhabitants' Association was founded in May 2012 in Koriyama City. The Residents' Association for residents in Fukushima City and Northern Part of Prefecture was founded in November 2011 in Fukushima City. The Aizu Tomioka Sakura kai was founded in January 2012 in the Aizu region. The Tomioka Sakura kai in Kashiwazaki was founded in March 2012 in Niigata Prefecture.¹² Each association was located in an area containing several evacuees. They were all founded within almost a year of the occurrence of the nuclear disaster in Fukushima. Most individual members of the Sakura no kai and the Sumire kai were residents of Iwaki City. In the context of the Koriyama District Inhabitants' Association, most individual members had their bases in Iwaki

City and Koriyama City.

In this study, questionnaire and hearing surveys were conducted for the Sakura no kai, the Sumire kai, and the Koriyama District Inhabitants' Association. The study discusses the data derived from these surveys. **Table 2** summarizes the findings on these three residents' associations.

The purposes of the foundation of these three wide area residents' associations were networking, coverage of lack of information, and prevention of isolation. The associations focused on information sharing and mutual friendship among the evacuees. The Sakura no kai had 200 members, the Sumire kai more than 100 households as its members, and the Koriyama District Inhabitants' Association comprised 131 households as its members, at the time of the survey. As for the activities conducted in each association, in addition to the regular events such as general meetings, New Year's parties, and travel with lodging, each residents' association held events unique and characteristic to each of them. For example, ground golf and park golf tournaments were held at the Sakura no kai. Flower planting was conducted in Tomioka Town at the Sumire kai. A tour of nuclear power plants was conducted at the Koriyama District Inhabitants' Association.

The attributes of the presidents of each of these associations were different, too. The first president of the Sakura no kai was an official of the Tomioka Town office before the disaster and the vice head of the neighborhood association and a welfare commissioner in the residence ward. The second president was a member of the board of education of Tomioka Town and the head of the neighborhood association. The vice president was an official of the Japan National Railways and the vice head of the neighborhood association. The president of the Sumire kai was a manager of a wedding hall and the president of the Rotary Club. The president of the Koriyama District Inhabitants' Association worked at an agricultural cooperative and was the head of the neighborhood association. Each president of the association represented their respective towns. These individuals played the role of a "hub." The wide area residents' associations spread by word-of-mouth.¹³

The movements, problems, and development of each wide area residents' association since 2015 are summarized in **Table 3**. The most noteworthy points pertaining to the Sakura no kai are "mutual friendship with the citizens of Iwaki City" (2015) and the revision of "the articles of association" (2017). The former was the result of a request by a public office in Fukushima Prefecture. The request soon grew into "an original event" (2016) hosted by the association without depending on subsidy. This indicates a transition from a state of "confrontation" with the evacuees to mutual friendship. It was widely publicized by the media as "coexistence" through mutual friendship at the residents' organization level. The latter, that is, the articles of association, was a measure taken for members who moved into (or returned to) Tomioka Town because

ties in and around Futaba County have been conducted by Japanese researchers, but are not many in number. For example, Furutani et al. [17] discusses the measurement of radiation and restoration efforts in Ota district, Haramachi Ward, Minami-Soma City. Matsumoto [18] discusses the evacuation of the residents of Naraha and Tomioka Towns. On the other hand, issues at the social level, including energy policies, are studied mainly by foreign researchers. Kingston [19] covered "Fukushima" in general, and discussed volunteer, civil society, media, the energy problems after the nuclear accident and reconstruction. Such studies review various problems in relation to Fukushima where the nuclear accident occurred, rather than Fukushima itself. For example, issues relating to engineering and social governance were discussed in Yoshizawa [20]. Sand [21] presented a comparison between the fire response in Edo (old name of Tokyo) and the fire response in Fukushima where the nuclear accident occurred from the standpoint of management on risk, uncertainty, and safety. Bennett [22] mentioned the nuclear policies in the social system in Japan.

12. For more details on the movements until 2014, please refer to [14]. The Tomioka Sakura kai in Kashiwazaki was dissolved in April 2015. The circumstances leading to the dissolution are explained in [23].

13. Matsumoto [14] presents the detailed founding process.

Table 2. Outlines of wide area residents' associations covered in this paper.

Name	Time of foundation	Purposes	Main district for activity	Salon for base
The Sakura no kai	May-11	<ul style="list-style-type: none"> • Networking of residents of public funded rented housing • Communication with the isolated elderly persons 	Iwaki district	Taira friendship salon etc.
The Sumire kai	Sep-11	<ul style="list-style-type: none"> • Coverage of lack of sociability, information and acquaintance 		Yotsukura friendship salon etc.
The Koriyama District Inhabitants' Association	May-12	<ul style="list-style-type: none"> • Residents of public funded rented housing would not feel solitude 	Koriyama district	No (utilization of public facility like community hall)

Name	Number of members (approximate)	Main activities (examples during period from 2016 to 2017)
The Sakura no kai	40 persons (at the time of foundation), 150 persons (October 2012), 180 persons (July 2013), 160 persons (June 2014), 150 persons (August 2015), 180 persons (June 2016), 200 persons (September 2017)	General meeting, New Year's party, Travel with lodging, Ground golf and park golf tournament
The Sumire kai	73 households 150 persons (January 2013), more than 90 households 160 persons (November 2014), more than 100 households 200 persons (July 2015), 119 households 200 persons (September 2016), more than 100 households (December 2017)	General meeting, Making of rice cake and New Year's party, Flower planting in Tomioka Town, Travel with lodging
The Koriyama District Inhabitants' Association	74 households at the time of foundation, 167 households 253 persons (end of the fiscal year 2012), 165 households 240 persons (October 2014), 164 households 260 persons (end of the fiscal year 2015), 131 households (September 2017)	General meeting, Karaoke competition and cooking class, Travel with lodging, Ground golf and bowling tournament, Tour of the Fukushima Daiichi and second nuclear power plants

the evacuation order was canceled in the town, except for a part of it that remained valid in April 2017. "Address change" (2017) is mentioned as a problem in the table. Various discussions have addressed the problem of residence certificates.¹⁴ The transition of a residence certificate becomes a major problem because of the time limit involved in seeking compensation. The officials of the associations seemed to think that the subtleties of this problem would be discussed.

The objective of the Sumire kai was to "spend the time happily for all." Therefore, it was different when compared to the other two associations, where people with experience as leaders played central roles. This may lead to the main movements that "the explanatory meeting on compensation has not been held for a while" (2016). They pursued activities that were different from those of other associations, such as "cooperation with the town through

activities such as flower planting" (2017).

Koriyama City, where the Koriyama District Inhabitants' Association is based, is located about 70 km inland from Iwaki City, and is relatively distant from Tomioka Town. Thus, the point that "some members resigned from the association while returning to Tomioka Town" (2017) is different from the points pertaining to the Sakura no kai and the Sumire kai. On the other hand, it is recognized that the number of members "has remained unchanged, offsetting admissions with resignations" (2017), because "some who moved from the temporary housing to the restoration (public) housing were also admitted to the association" (2015). As for future developments, the Koriyama District Inhabitants' Association paid attention to "training on nuclear power plant and radiation" (2017) to enable their return to town with information.

Thus, it can be confirmed that the three wide area residents' associations have distinct individual characteristics. In the next chapter, the results of the questionnaire

14. Imai [24] and Okada [25] discuss the details of the problems in double resident registration among other things.

Table 3. Movements, problems, and development of each wide area residents' association.

Name	Year	(1) Main movements	(2) Problems of association	(3) Development in the future
The Sakura no kai	2015	<ul style="list-style-type: none"> • A public office issued a notification which urges mutual friendship with the citizens of Iwaki City. 	<ul style="list-style-type: none"> • Certain members come to the events. Some do not come to them. All members attend the general meeting, but a small number of them New Year party and travel. 	<ul style="list-style-type: none"> • There are some changes in the living environments such as purchase of house. Even if some bought new houses, they become isolated different from at the time of the temporary housing. It is thought that contact should be taken among the members of the Sakura no kai not to be isolated.
	2016	<ul style="list-style-type: none"> • The ground golf tournament with friendship party was held as an original event of the Sakura no kai and the budget for the event was appropriated. • Number of new members has increased due to promotion of mutual friendship. 	<ul style="list-style-type: none"> • If any event is held, it is notified to all the members by sending envelope, but some said "it is enough only to send a notification." There are some 50 members who did not attend any event. 	<ul style="list-style-type: none"> • Some citizens of Iwaki City wish to attend a mutual friendship through ground golf.
	2017	<ul style="list-style-type: none"> • Because the evacuation order was canceled in the town except for a part of it on 1. April, the articles of the association was revised. Namely, the residence of the member was extended to include "the area within Futaba County." • The direction of the association have remained unchanged, but the number of the member has increased. 	<ul style="list-style-type: none"> • More than 90% sought a new place for living and those who moved into the public housing in Iwaki City are also the members of the association. • There is a problem of compensation and residence certificate. The problem is whether a member would transfer the residence certificate to Iwaki City or not and whether the linkage among the townspeople could be maintained or not. 	<ul style="list-style-type: none"> • The development in the future should be discussed, when all the members attend the meeting. The issue on address change must be discussed someday.
The Sumire kai	2015	<ul style="list-style-type: none"> • Certain members attend the events. Some go in and out, but new members also join the events. Recently, the members in their 50s come to the event, too. 	<ul style="list-style-type: none"> • The initial objective of the association is to "spend the time happily for all" and not this association but the town and the Central Government should tackle the issues of politics and administration. It is desirable that all the members could conduct the matters relaxed as much as possible. 	<ul style="list-style-type: none"> • The residents of the temporary housing said to the association, "I'm going to leave the temporary housing soon, so please consider my admission to the association." Accordingly, the status of associate member is considered for such person. A person living in Tokyo also said, "I would like to be admitted to the association."
	2016	<ul style="list-style-type: none"> • The explanatory meeting on compensation has not been held for a while. The reason why is that there is no member who operates any shop, so that ADR is not necessary and some bought new houses to settle in Iwaki City. 	<ul style="list-style-type: none"> • If the members returned to the town, nobody knows how this association would go. It is not clear how long this organization would continue. If the members returned to the town, the subsidy could be suspended. 	<ul style="list-style-type: none"> • Many visited the association and supported it. Now, we would like to visit them to express our gratitude toward them.
	2017	<ul style="list-style-type: none"> • No subsidy is not delivered in this fiscal year. "The association is operated as much as we can do" and it was decided that subsidy would no be claimed in this fiscal year. 	<ul style="list-style-type: none"> • The same members attend the meetings and some are the members in name only. Increasing members take it for granted that others would complete the arrangement for the events. Certain members tackles everything with all their efforts. 	<ul style="list-style-type: none"> • Six year will have passed since the foundation next year. It seems that time has passed like surging waves. The Sumire kai cooperates with the town through the activities such as flower planting.
The Koriyama District Inhabitants' Association	2015	<ul style="list-style-type: none"> • Some who moved from the temporary housing to the restoration housing were also admitted to the residents' association. Because the individual members moved into Koriyama City scattered, they seem to be concerned about new building of relationship. 	-	<ul style="list-style-type: none"> • It is wished that the event like ground golf would be organized gradually to have mutual friendship with the citizens of Koriyama City.
	2016	<ul style="list-style-type: none"> • Even an official of the association wants to move into the restoration housing in Tomioka Town. 	<ul style="list-style-type: none"> • Some do not reply at all, although they pay the membership fees. Certain members ranging some 60 to 70 attend the events. • It is a hard task to find a place for the event. 	<ul style="list-style-type: none"> • Toward returning to the town it is needed to review what the association should be.
	2017	<ul style="list-style-type: none"> • The number of members has remained unchanged offsetting admissions with resignations. Some resigned members returned to Tomioka Town. 99 households resigned the association since its foundation in all. 	<ul style="list-style-type: none"> • An official moved into Tomioka Town and some members Minami Soma City. Then, who will become the next officials? What will become of the association, if the president resigns? 	<ul style="list-style-type: none"> • "Training on nuclear power plant and radiation" is needed to relieve the anxiety about return to the town in the future. And the usual events will be also repeated. This is the extent of our ability.

survey are outlined to help present the differences among the above associations quantitatively. The results are reviewed using Covariance Structure Analysis to determine whether a wide area residents' association qualifies as a Third Place away from the neighborhood association and the place of the current residence. In other words, the goal is to see whether there are any common structures among

the three wide area residents' associations.

3. Current Situation of the Wide Area Residents' Association

3.1. Survey Outlines and Setting of Analysis

The survey was conducted among the members of the wide area residents' associations (the Sakura no kai, the Sumire kai, and the Koriyama District Inhabitants' Association) during the period October 2015 to January 2016. A total of 140 people responded to the survey (38 from the Sakura no kai, 24 from the Sumire kai, and 78 from the Koriyama District Inhabitants' Association). The attributes of the respondents considered in the study are sex (male 58.6%, female 39.3%, unknown 2.1%) and age (50s: 7.1%, 60s: 33.6%, 70s: 44.3%, 80s and above: 12.1%, unknown: 2.9%).¹⁵

The survey contents¹⁶ focused on: 1) involvement with the neighborhood association and the district before the disaster, 2) involvement with the neighborhood association and the district after the disaster, 3) attendance at events and participation in activities in the wide area residents' association, 4) the living situation after relocation, 5) intention to return to the town and collective relocation, and 6) basic attributes.

ASSUM for windows was used in aggregate to test the difference in the percentage from the total. The test results are shown using ▲▼ with a significance level of 1%, △▽ with 5%, ↑↓ with 10% and with ∴ with 20%. The analysis axis comprises the three residents' associations where the survey was conducted. The objective was to show the differences among the wide area residents' associations. The analysis was conducted on the items reviewed in Section 4, namely: activities in the neighborhood association where the respondents lived before the disaster, the relationship with the neighborhood association during the period from the occurrence of the disaster to the time of the survey, and involvement with a residents' association such as a neighborhood association at the place of the evacuation residence and the wide area residents' association.

3.2. Survey Results

3.2.1. Neighborhood Association Before the Disaster

In this section, the involvement of the members of the wide area residents' association with the neighborhood association where they lived before the disaster is confirmed.

(1) Experience of a Person in an Official Position (Based on the Members of the Neighborhood Association)

Out of the 140 persons, 138 were admitted to the neighborhood association before the disaster. A little more than 20% had experience being the president or vice president (head or vice head) of a neighborhood association (see **Table 4**). Nearly 60% had experience being the head of a neighborhood unit, a position that was rotated among the members. Accordingly, those who had no experience holding an official position accounted for less than 20%. Seeing the characteristics of each residents' association, it is clear that more residents had experience holding "official positions such as accounts etc." and "president of neighborhood association" at the Sakura no kai.

(2) Attendance at Activities and Participation in Events (Based on the Members of the Neighborhood Association)

"General meeting" (86.8%), "seasonal event" (80.1%), and "cleanup activities" (74.3%) are presented in decreasing order (see **Table 5**). Most respondents attended "seasonal events" and "ceremonial occasions" at the Sumire kai, while very few attended "seasonal events," "athletic activities," and "resource recovery and collection of unwanted articles" at the Koriyama District Inhabitants' Association.

(3) Involvement with Associations Inside and Outside the Ward

Involvement with associations other than the neighborhood association before the disaster is confirmed (see **Table 6**). "meeting for shrine parishioners" (35.7%), and "club for the aged" (33.6%) accounted for a little more than 30%. "Nothing" (12.1%) accounted for about 10%. Nearly 90% of the members were involved with some association or the other. Most members were involved in the "club for the aged" at the Sakura no kai. Most members were involved in the "women's association" at the Sumire kai. Most members were involved with "nothing" at the Koriyama District Inhabitants' Association. This shows the characteristics by sex and age among the members of the residents' association.

3.2.2. Relationship with the Neighborhood Association After the Disaster

Next, the relationship with the neighborhood association while living in evacuation shelters since spring 2011 is confirmed. The "neighborhood association" in this context refers to the ward in which respondents lived before the disaster.

15. Here, the bias of the respondents is taken into consideration. Since the wide area residents' association was founded with the aim of exchanging information among the evacuees and with the public office [14], the members of the wide area residents' association were different from the general residents in Tomioka Town at least at this point. For example, those who "had not been appointed to" the official position of the neighborhood association before the disaster and the neighborhood association etc. account for 18.4%, while the corresponding figure was 27.7% in the results of the survey (130s) conducted for the Tomioka townspeople living in temporary housing facilities during almost the same period from October to November 2015 and 58.0% in the results (1,189s) of a survey covering all the Tomioka townspeople during the period August to September 2012. Furthermore, as for the process of admission to the association (single answer), word-of-mouth communication such as "person of neighbor, neighborhood association and neighborhood association where you lived before the earthquake disaster" (43.3%) and "person with whom you become acquainted after the earthquake disaster" (16.3%) accounts for more than a half. This suggests a strong desire on part of the respondents in this survey for information exchange and communication with people outside. It is important to bear in mind that the discussions below are based on these respondents.

16. This survey is based on a survey of neighborhood associations conducted by the author and others across six cities in the Tohoku Region [26].

Table 4. Experience holding an official position at the neighborhood association before the disaster.¹⁷

	Num	Pre	Vic	Off	Hea	Oth	Not
Total	136	13.2	11.8	35.3	56.6	5.9	18.4
Sakura	38	∴21.1	18.4	↑50.0	50.0	7.9	18.4
Sumire	23	13.0	13.0	∴21.7	69.6	8.7	13.0
Koriyama	75	9.3	8.0	32.0	56.0	4.0	20.0

Num: Number of samples,
 Pre: President,
 Vic: Vice president,
 Off: Official position such as accounts etc.,
 Hea: Head of neighborhood group and unit,
 Oth: Others,
 Not: Not experienced official position.

Table 5. Attendance at activities and participation in events at neighborhood association before the disaster.

	Num	Gen	Sea	Gar	Cer	Dri	Ath	Res
Total	136	86.8	80.1	74.3	62.5	50.0	44.1	40.4
Sakura	38	92.1	∴89.5	68.4	68.4	∴63.2	∴55.3	∴52.6
Sumire	23	95.7	↑95.7	∴87.0	△82.6	43.5	56.5	52.2
Koriyama	75	∴81.3	▽70.7	73.3	∴53.3	45.3	↓34.7	↓30.7

	Num	Shr	Cri	Man	Eme	Sup	Wel
Total	136	40.4	37.5	33.8	29.4	21.3	17.6
Sakura	38	39.5	36.8	42.1	31.6	28.9	∴26.3
Sumire	23	39.1	∴52.2	34.8	26.1	21.7	↓4.3
Koriyama	75	41.3	33.3	29.3	29.3	17.3	17.3

Num: Number of samples,
 Gen: General meeting of neighborhood association,
 Sea: Seasonal event such as New Year party etc.,
 Gar: Garbage collection for disposal and local cleanup activities,
 Cer: Ceremonial occasions,
 Dri: Drinking and dinner meeting,
 Ath: Athletic activities such as radio gymnastic exercises etc.,
 Res: Resource recovery and collection of unwanted articles,
 Shr: Shrine festival,
 Cri: Crime and fire prevention patrol etc.,
 Man: Management of facility such as meeting hall etc.,
 Eme: Emergency drill,
 Sup: Support for infants and childcare, and education etc.,
 Wel: Welfare for the elderly and the handicapped.

Table 6. Involvement with associations inside and outside the ward before the disaster.

	Num	Mee	Clu	Pub	Wom	Ass	Org	Cou
Total	140	35.7	33.6	27.1	20.7	19.3	18.6	17.1
Sakura	38	39.5	△52.6	34.2	15.8	15.8	26.3	23.7
Sumire	24	33.3	∴20.8	16.7	△41.7	16.7	25.0	–
Koriyama	78	34.6	28.2	26.9	16.7	21.8	∴12.8	19.2

	Num	Spo	Fir	Wel	Juv	You	Not
Total	140	14.3	10.0	6.4	2.9	2.9	12.1
Sakura	38	21.1	10.5	7.9	5.3	5.3	↓2.6
Sumire	24	12.5	8.3	4.2	–	–	4.2
Koriyama	78	11.5	10.3	6.4	2.6	2.6	↑19.2

Num: Number of samples,
 Mee: Meeting for shrine parishioners etc.,
 Clu: Club for the aged,
 Pub: Public organization such as town office,
 Wom: Woman's association,
 Ass: Association for crime prevention
 Org: Organization for local children
 Cou: Council of social welfare,
 Spo: Sports association,
 Fir: Fire brigade (branch),
 Wel: Welfare commission and child welfare commission,
 Juv: Juvenile guidance committee,
 You: Young men's association,
 Not: Nothing.

Table 7. Attendance at activities and participation in events at the neighborhood association after the disaster.

	Num	Gen	Exp	Day	New	Not
Total	140	61.4	54.3	54.3	45.0	10.7
Sakura	38	68.4	↑68.4	63.2	↑60.5	∴2.6
Sumire	24	66.7	45.8	62.5	∴29.2	4.2
Koriyama	78	56.4	50.0	47.4	42.3	↑16.7

Num: Number of samples,
Gen: General meeting of neighborhood association,
Exp: Explanatory meeting and study for compensation and return to town etc.,
Day: Day trip, travel with lodging,
New: New Year and year-end party,
Not: Nothing.

Table 8. Expectations of the neighborhood associations after the disaster.

	Num	Pro-de	Pro-cu	Pro-co	Pro-re	Neg	Eve	Cre	Con-li	Con-cu	Not
Total	140	48.6	47.9	45.0	37.9	31.4	27.9	27.1	25.0	18.6	4.3
Sakura	38	↑63.2	57.9	△65.8	39.5	↑44.7	∴39.5	21.1	21.1	23.7	7.9
Sumire	24	45.8	54.2	33.3	33.3	25.0	25.0	29.2	16.7	25.0	–
Koriyama	78	42.3	41.0	38.5	38.5	26.9	23.1	29.5	29.5	14.1	3.8

Num: Number of samples,
Pro-de: Provision of information on decontamination,
Pro-cu: Provision of information on current situation of ward and town,
Pro-co: Provision of information on compensation,
Pro-re: Provision of information on relocation such as return to town and collective relocation,
Neg: Negotiation with the Central Government, municipalities, and others on compensation, etc.,
Eve: Event of mutual friendship such as drinking party and travel,
Cre: Creation of vision on ward and town after returning or collective relocation,
Con-li: Consultation on living at the time of relocation such as return to home and collective relocation,
Con-cu: Consultation on current situation of living,
Not: Nothing.

(1) Attendance at Activities and Participation in Events

All the Tomioka townspeople had to evacuate the town after the nuclear accident. They were cut off from the neighborhood association until the time of the survey in that they were all no longer “sharing the same space.” “General meeting” (61.4%), “explanatory meeting for compensation etc.,” and “day trip, travel with lodging” (each 54.3%) are presented in decreasing order. “Nothing” (10.7%) accounted for about 10%, which means that nearly 90% of the members attended some event or the other (see **Table 7**). Most members of the Sakura no kai attended “explanatory meetings for compensation etc.” and “New Year and year-end party,” indicating a greater involvement with the neighborhood association in comparison with the situation in the other two residents’ associations.

(2) Expectations of the Neighborhood Association

The expectations of the neighborhood association were confirmed during autumn 2015, when the survey was administered (see **Table 8**). “Provision of information on decontamination” (48.6%), “provision of information on the current situation of the ward etc.” (47.9%), and “provision of information on compensation” (45.0%) accounted for more than 40% each. Most members of the

Sakura no kai expected the neighborhood association to be involved in the “provision of information on decontamination,” “provision of information on compensation,” and “negotiation with the Central Government, municipalities, and others on compensation, etc.” In other words, the provision of information and negotiation on compensation were emphasized more for the Sakura no kai, when compared to the other two residents’ associations.

3.2.3. Residents’ Association at the Current Place of Residence

Most members of the wide area residents’ association did not live in temporary housing. Rather, they lived in public-funded rented houses or houses they purchased with the intent of founding the association. Most current places of residence have some form of residents’ association, like the neighborhood association. The involvement of members with such associations is confirmed.

(1) Admission to the Neighborhood Association and Residents’ Association (Based on Those Who Acknowledge the Presence of Such Neighborhood Associations)

The respondents who acknowledged the neighborhood association and the residents’ association at their current places of residence as their area of settlement at the time of survey amounted to 78.7%. Among this number, 80.9% were admitted as members, and 16.2% were not admitted.

17. The figures in the tables in Section 3 indicate percentage values unless otherwise noted.

Table 9. Admission to a neighborhood association at the current place of residence.

	Number of samples	Admitted	Not admitted	Unknown
Total	111	80.2	16.2	3.6
Sakura	31	90.3	9.7	–
Sumire	20	85.0	10.0	5.0
Koriyama	60	73.3	21.7	5.0

Table 10. Experience holding public positions at the current place of residence.

	Num	Pre	Vic	Off	Hea	Not	Don
Total	89	–	3.4	7.9	13.5	69.7	11.2
Sakura	28	–	3.6	7.1	17.9	71.4	7.1
Sumire	17	–	5.9	11.8	17.6	64.7	11.8
Koriyama	44	–	2.3	6.8	9.1	70.5	13.6

Num: Number of samples,
 Pre: President,
 Vic: Vice president,
 Off: Official position such as accounts and delegate,
 Hea: Head of neighborhood group and unit,
 Not: Not experienced holding an official position,
 Don: Don't Know.

This indicates that most members of the wide area residents' association were admitted to the neighborhood association at their current places of residence (see **Table 9**). The respondents belonged to one or more of three associations: the neighborhood association before the disaster, the neighborhood association at their current place of residence, and the wide area residents' association. "Admission" of the members of the Sakura no kai accounts for about 90%, the highest rate among the three residents' associations. There is a difference of 17 points between the Sakura no kai and the Koriyama District Inhabitants' Association with a corresponding rate of about 70%.

(2) Experience Holding a Public Post (Based on Acknowledgment and Admission by the Responds)

The number of members holding public posts is presented in **Table 10**. Since only a few years had passed since the relocation, most respondents answered saying that they had "not experienced holding an official position" (69.7%). No one had held the position of president among the respondents. On the other hand, the results pertaining to the positions of "vice president of the neighborhood association" (3.4%) and "accounts etc." (7.9%) reveal that the evacuees had gradually integrated into the local area. Several members had experience holding office as the "vice president of a neighborhood association" and "accounts etc." at the Sakura no kai.

(3) Attendance at Activities and Participation in Events

Regardless of whether or not the members were admitted to the neighborhood association, they were involved with local activities and events. One member was told, "It is not time for you to be admitted to the neighborhood association because you are still at the stage of evacuation." "Cleanup activities" (62.9%) accounted for more than 60%, and was one of the events that most people

responded to. The second most popular activities were "garbage collection" and "general meetings of the neighborhood association" (each 28.6%) (see **Table 11**). Most members of the Sakura no kai were interested in the "management of the facility and equipment." Most members of the Sumire kai were interested in "cleanup activities." And there is a little more answers to "garbage collection" and "nothing" at the Koriyama District Inhabitants' Association.

(4) Problems Experienced in Everyday Life

Lastly, problems experienced in daily life at the current place of residence stand confirmed (see **Table 12**). Most members picked the following as their main problems: "many persons whose name you do not know" (43.6%), "no friendship with local residents" (32.1%), and "don't know about the residential district" (25.7%). This indicates that they did not know much about their surroundings at the time of the survey. In the Sakura no kai, more respondents considered the "shortage of or no partner for consultation" and "problems on movement and traffic" as their main problems, a little more answers of "don't know about district of residence" at the Sumire kai. On the other hand, the number of complaints was much lower in the Koriyama District Inhabitants' Association.

3.2.4. Wide Area Residents' Association

The involvement of each member with their wide area residents' association stands confirmed.

(1) Route of Acknowledgment

Wide area residents' associations have been widespread initially from several key persons in a totally arbitrary stage via word-of-mouth communication, as discussed in Section 2. As seen in **Table 13**, "neighborhood and neighborhood association etc., where you lived before the dis-

Table 11. Attendance at activities and participation in events at the current place of residence.

	Num	Gar	Res	Gen	Sea	Fri	Man	Cer
Total	140	62.9	28.6	28.6	22.9	17.1	12.9	12.9
Sakura	38	71.1	↓15.8	36.8	28.9	18.4	△26.3	18.4
Sumire	24	↑79.2	25.0	∴41.7	16.7	12.5	–	12.5
Koriyama	78	↓53.8	∴35.9	∴20.5	21.8	17.9	10.3	10.3
	Num	Ath	Eme	Cri	Wel	Sup	Not	
Total	140	10.7	8.6	6.4	4.3	1.4	16.4	
Sakura	38	∴2.6	7.9	5.3	5.3	2.6	10.5	
Sumire	24	12.5	12.5	4.2	–	–	∴4.2	
Koriyama	78	14.1	7.7	7.7	5.1	1.3	∴23.1	

Num: Number of samples,
Gar: Garbage collection for disposal and local cleanup activities,
Res: Resource recovery and collection of unwanted articles,
Gen: General meeting of neighborhood association,
Sea: Seasonal event such as New Year party etc.,
Fri: Friendship event such as dinner meeting etc.,
Man: Management of facility such as meeting hall and outdoor light,
Cer: Ceremonial occasions,
Ath: Athletic activities such as radio gymnastic exercises,
Eme: Emergency drill,
Cri: Crime and fire prevention patrol,
Wel: Welfare for the elderly and the handicapped,
Sup: Support for infants and childcare,
Not: Nothing.

Table 12. Problems experienced in daily life at the current place of residence.

	Num	Man	Nof	Don-di	Dif	Don-ru	Sho-pa	Pro
Total	140	43.6	32.1	25.7	16.4	15.7	12.1	8.6
Sakura	38	52.6	39.5	26.3	13.2	13.2	△23.7	△18.4
Sumire	24	41.7	41.7	∴37.5	25.0	8.3	8.3	8.3
Koriyama	78	39.7	25.6	21.8	15.4	19.2	7.7	∴3.8
	Num	Agi	Sho-sh	Iso	Gap	Res	Sho-me	Not
Total	140	8.6	7.9	6.4	6.4	5.0	5.0	19.3
Sakura	38	10.5	↑15.8	7.9	2.6	2.6	∴10.5	13.2
Sumire	24	12.5	12.5	4.2	4.2	–	8.3	12.5
Koriyama	78	6.4	↓2.6	6.4	9.0	7.7	∴1.3	24.4

Num: Number of samples,
Man: Many persons whose name you don't know,
Nof: No friendship with local residents,
Don-di: Don't know about district of residence,
Dif: Difficult to attend event held by neighborhood association,
Don-ru: Don't know about rules of neighborhood association,
Sho-pa: Shortage of or no partner for consultation,
Pro: Problems on movement and traffic,
Agi: Aging of residents,
Sho-sh: Shortage of shopping facilities such as supermarket,
Iso: Isolation of the aged and the singles,
Gap: Gap among generations,
Res: Response to different natural environment (removal of snow),
Sho-me: Shortage of medical and welfare facilities,
Not: Nothing.

aster” (43.6%) accounted for more than 40%, indicating that the association was acknowledged via the presence of familiar faces. There were no major differences among the associations in this context. However, more members of the Koriyama District Inhabitants' Association picked “homepage and public relations of town office etc.” when compared to those of the other two associations.

(2) Reason for Admission

Confirming the reason for admission (Table 14), many respondents picked “communication and friendship among evacuees” (87.1%) and “sharing of information

which cannot be acquired from town and public relations” (70.0%). The reasons in terms of “sharing of information” are also given in other items. In the Sakura no kai, most respondents picked “sharing of information which cannot be acquired from town and public relations,” “sharing of information on compensation etc.,” and “contact point for negotiation with central and local governments on compensation etc.” Few respondents picked “sharing of information on compensation etc.” and “contact point for negotiation with central and local governments on compensation etc.” at the Koriyama District Inhabitants' Association when compared to other residents' associations.

Table 13. Mode of acknowledgment of the wide area residents' association.

	Num	Nei	Fri	Acq	Hom	Own	Off	Per	Inf
Total	140	43.6	18.6	16.4	7.9	7.1	0.7	0.7	0.7
Sakura	38	52.6	21.1	10.5	2.6	7.9	–	–	–
Sumire	24	45.8	25.0	20.8	–	4.2	–	–	–
Koriyama	78	38.5	15.4	17.9	12.8	7.7	1.3	1.3	1.3

Num: Number of samples,
 Nei: Neighborhood and neighborhood association where they lived before the disaster,
 Fri: Friend or acquaintance other than neighborhood association and acquaintance after the disaster,
 Acq: Acquaintance after disaster disaster,
 Hom: Homepage and public relations of town office etc.,
 Own: Own family and relatives,
 Off: Official of town office,
 Per: Person of organization such as NPO,
 Inf: Information of newspaper, magazine, TV and radio.

Table 14. Reasons for admission to the wide area residents' association.

	Num	Com	Sha-ca	Sha-ow	Sha-com	Sha-re	Con	Cou-cu	Cou-re
Total	140	87.1	70.0	42.1	38.6	32.1	20.0	15.0	9.3
Sakura	38	89.5	△86.8	44.7	▲71.1	34.2	▲42.1	21.1	13.2
Sumire	24	95.8	62.5	37.5	33.3	25.0	20.8	20.8	8.3
Koriyama	78	83.3	64.1	42.3	▽24.4	33.3	▽9.0	10.3	7.7

Num: Number of samples,
 Com: Communication and friendship among evacuees,
 Sha-ca: Sharing of information which cannot be acquired from town and public relations,
 Sha-ow: Sharing of information on own living,
 Sha-com: Sharing of information on compensation etc.,
 Sha-re: Sharing of information on relocation such as return to town and collective relocation,
 Con: Contact point for negotiation with governments on compensation etc.,
 Cou-cu: Counselling service for current life,
 Cou-re: Counselling service for relocation such as return to town and collective relocation.

Table 15. Involvement in activities and events at the wide area residents' association.

	Num	Gen	New	Day	Eve	Com	Dri	Not
Total	140	75.0	62.9	55.7	37.9	35.7	22.9	1.4
Sakura	38	▲94.7	△81.6	60.5	39.5	39.5	28.9	–
Sumire	24	↓58.3	58.3	▲91.7	△62.5	37.5	↓8.3	–
Koriyama	78	70.5	55.1	▽42.3	29.5	33.3	24.4	2.6

Num: Number of samples,
 Gen: General meeting of residents' association,
 New: New Year and year-end parties,
 Day: Day trips and overnight trips,
 Eve: Event at friendship salon,
 Com: Communication and friendship event with neighboring residents,
 Dri: Drinking and dinner meeting,
 Not: Nothing.

Accordingly, the Sakura no kai and the Koriyama District Inhabitants' Association show contrary results except for "communication and friendship."

(3) Involvement in Activities and Events

The main reasons for admission as mentioned by the respondents are "communication and friendship" and "sharing of information." However, the actual modes of involvement preferred by the members in the wide area residents' association have been confirmed, as seen in **Table 15**. "General meeting" (75.0%), "New Year and year-end parties" (62.9%), and "day trips and overnight trips" (55.7%) are presented in decreasing order. Thus, 60%

of the respondents chose "communication and friendship." In the Sakura no kai, most respondents chose "general meeting" and "New Year and year-end parties." In the Sumire kai, most respondents chose "day trips and overnight trips" and "events at the friendship salon."¹⁸ In comparison, few respondents picked "communication and friendship" at the Koriyama District Inhabitants' Association in comparison with the other associations.

18. As mentioned in Section 2, this is why the Sumire kai is engaged in activities based on the friendship salon in Yotsukura District.

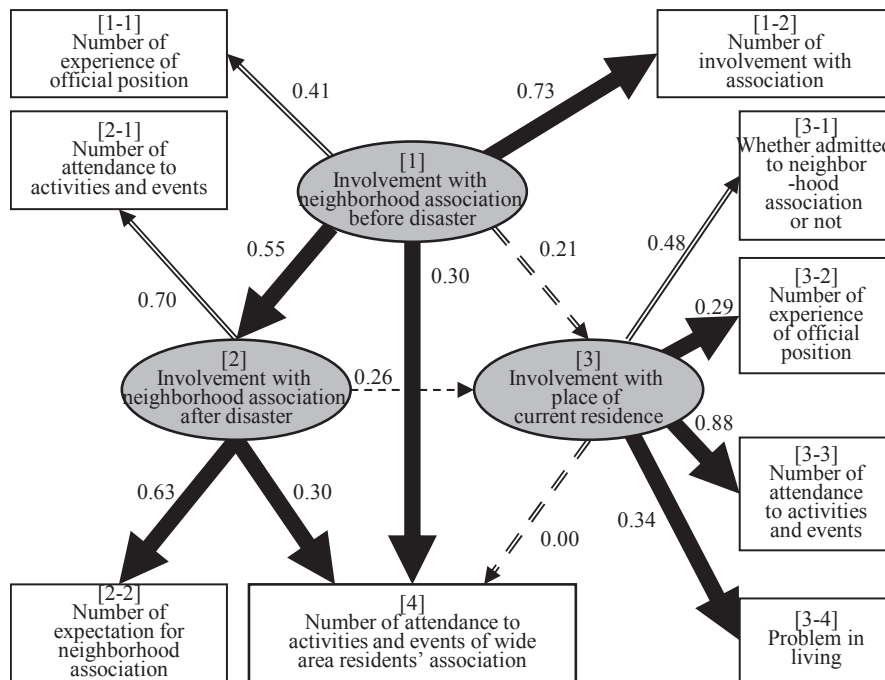


Fig. 1. Relationship among the neighborhood association before and after the disaster, the current place of residence, and the wide area residents' association.

4 The Wide Area Residents' Association as a Third Place

4.1. Variables Used in the Model

The fundamental objective of the study was to understand how the activities of the neighborhood association before the disaster influenced the involvement with the neighborhood association after the disaster, the neighborhood association at the place of residence, and the wide area residents' association. The study clarified the kind of relationship that the involvement of the neighborhood association in "peacetime," that is, before the disaster (which is regarded as social capital), had with the "emergency situation," that is livelihood rehabilitation after evacuation (focusing on the involvement with community among others in this paper).¹⁹

The setting of each variable is explained as follows. The latent variable of "involvement with neighborhood association before the disaster" consists of observable variables such as "number of official positions held" and "number of instances of involvement with the association." The number of official positions held and instances of involvement are counted in each case. "Involvement with the neighborhood association after the disaster" consists of observable variables such as "number of activities

attended and events participated in" and "number of expectations from the neighborhood association." The variables are calculated based on the numbers in each case. The latent variable of "involvement with the current place of residence" is explained by the observable variables of "whether admitted to the neighborhood association or not" (admitted = 2, not admitted = 1), "number of official positions held," "number of activities attended and events participated in," and "problems experienced in daily life." Other variables are counted based on the numbers in each case. "Number of official positions held" is set as -1 if there is no experience. Lastly, "number of activities attended and events participated in, in the wide area residents' association" is an objective variable and is counted in the same way as the "number of activities attended and events participated in" as mentioned above.

The treatment of missing values is as follows. If no answer is received in response to "number of official positions held," it is considered that there was no experience holding an official position. For other observable variables, such as the "number of activities attended and events participated in" and the "number of instances of involvement with the association," if there was no answer, the number was treated as 0.

4.2. Result of Analysis

The goodness of fit was as follows: RMR = 0.20, GFI = 0.96, AGFI = 0.92, CFI = 0.98, and RMSEA = 0.03. Thus, the model can be considered fit.

Each path showed in **Fig. 1** is tested as follows. The bold line indicates significance at the 1% or less than 1% level. The thin line shows significance at the 10% level

19. The model should be built for each wide area residents' association, as discussed in Section 3. However, because the model is common to three residents' associations, setting each Residents' association as an aggregate unit cannot be done because of constraints of the number of samples. Thus, the three residents' associations are set as aggregate units as the second best to discuss the common characteristics as the "Third Place" of the wide area residents' associations. The common point for each wide area residents' association is to found below. However, different points discussed in Section 3 will be examined in future research.

Table 16. Results of the Covariance Structure Analysis.²⁰

Path	Estimated value	t-value	Probability	Path	Estimated value	t-value	Probability
[2] ← [1]	0.55	2.72	0.01	[1-2] ← [1]	0.73	2.75	0.01
[3] ← [1]	0.21	1.11	0.27	[2-1] ← [2]	0.70	—	—
[4] ← [1]	0.30	1.76	0.08	[2-2] ← [2]	0.63	4.21	***
[3] ← [2]	0.26	1.39	0.17	[3-1] ← [3]	0.48	—	—
[4] ← [2]	0.30	1.81	0.07	[3-2] ← [3]	0.29	2.76	0.01
[4] ← [3]	0.00	-0.04	0.97	[3-3] ← [3]	0.88	3.42	***
[1-1] ← [1]	0.41	—	—	[3-4] ← [3]	0.34	3.12	0.00

(there is no applicable path). The dotted line shows significance at the 20% level. The double line shows a path without significant difference. The coefficient of the double line is set as 1 because of the constraints.

First, each latent variable is confirmed (see **Fig. 1** and **Table 16**). The “number of instances of involvement with the association” is strongly related with the “involvement with the neighborhood association before the disaster.” The “number of activities attended and events participated in” is a little strongly related with “involvement with the neighborhood association after the disaster.” The “number of activities attended and events participated in” is related with the “involvement with the current place of residence.” Summarizing the above, the “width of the network” is strongly related before the disaster, while it is limited after the disaster. Therefore, it seems that the “number of activities attended” is related, but with a sense of narrowness and deepness.

The evaluation of the latent variables as follows. The dotted line indicates a path that “is not significant at the 10% level” and the relationship through the path is not recognized. The relationship can be explained by the path of “involvement with the neighborhood association before the disaster” → “involvement with the neighborhood association after the disaster” → “number of activities attended in the wide area residents’ association” and the direct path of “involvement with the neighborhood association before the disaster” → “number of activities attended in the wide area residents’ association.” “Involvement with the current place of residence” is not related to the other latent variables in any case. Therefore, it can be said that the current place of residence is isolated from the triangular network: neighborhood association before the disaster–neighborhood association after the disaster–wide area residents’ association.

4.3. Interpretation of the Model

Based on the analysis in the previous section, the wide area residents’ association as a Third Place is examined. Judging from the model, the wide area residents’ association is related to the “neighborhood association before and after the disaster;” but is not related to being “involved in the association at the current place of residence.” The

characteristics of a Third Place are examined from the two perspectives of “neighborhood association before the disaster” and the “current place of residence.”

Since the wide area residents’ association depends on the connections of the neighborhood association, the wide area residents’ association cannot be “completely” considered as “another place = Third Place” without fetters in relation to the neighborhood association before the disaster. Almost half the respondents picked “via neighborhood association” as the route of acknowledgment of the wide area residents’ association. The profile of each president mentioned in Section 2 suggests that the presidents played large roles before the disaster and word-of-mouth communication was significantly effective. This contributed to the “relative” nature of the wide area residents’ association. However, taking into consideration the fact that the Tomioka townspeople were reorganized around a man of influence before the disaster at the site of evacuation (Iwaki City and Koriyama City), it may be said that “new neighbors” would emerge. This is the Third Place, in a broad sense.

The current place of residence is examined next. The neighborhood association to which each member belongs at the current place of residence and the wide area residents’ association are different in terms of the form of organization, the base, and place of activity. Thus, the wide area residents’ association may be considered as “another place = Third Place” from the perspective of the current place of residence. This is the Third Place in the original sense.

Summarizing the above, a wide area residents’ association may be considered a Third Place with a “relative” characteristic. The reason for this is that the wide area residents’ association keeps the relationship with the neighborhood association before and after the disaster. However, this is not a relationship within the specific geographical area before the disaster. A new association is reorganized through the attribute of the Tomioka townspeople at the place of settlement. The wide area residents’ association can be described as the “Third Place,” because it exhibits the characteristics of the Third Place in the original sense, while being related to the neighborhood association so that it has the “relative” characteristic and therefore, a broader nature.

20. t-value is the test statistic. For example, $t = 1.95$ means a significance level of 5% in the two-sided test, indicating probability = 0.05 in the table. “****” means significance level of less than 1%. “—” means that t-value cannot be calculated, as the path coefficient is set as “1” because of the constraint of model building.

5. Closing Remarks: Significance of the Wide Area Residents' Association Facing Lifting of the Evacuation Order

This study aimed to understand the characteristics of the wide area residents' associations as a Third Place by examining the relationship among the neighborhood association before and after the disaster, the residents' association, and the wide area residents' association. A summary of the discussions is presented below. In Section 2, three wide area residents' associations, namely, the Sakura no kai, the Sumire kai, and the Koriyama District Inhabitants Association, are analyzed. Each has a different type of Residents' association having been founded differently based on the Residents' association in the temporary housing area. Section 3 is based on the findings of the questionnaire survey conducted among the members of the three wide area residents' associations on their involvement with the neighborhood association and their acknowledgment of the wide area residents' association. Their involvement with the neighborhood association is confirmed. The differences between the current circumstances in each wide area residents' association are clarified. For example, more respondents indicated that they participated in events such as the "general meeting" and "New Year and year-end parties" in the Sakura no kai, and indicated "day trips and overnight trips" and "events at the friendship salon" in the Sumire kai. On the contrary, fewer respondents opted for "communication and friendship" in the Koriyama District Inhabitants' Association. In Section 4, the relationship among the neighborhood association before and after the disaster, the residence association, and the wide area residents' association has been examined by using Covariance Structure Analysis to understand the characteristics of the "Third Place" that is common to the three wide area residents' associations. The relationship between the "involvement with the neighborhood association before the disaster," the "involvement with the neighborhood association after the disaster" and the "involvement with the current place of residence" set as latent variables and the "number of instances of attendance at the wide area residents' association" set as the observable variable, was examined. The wide area residents' association was considered the relative "Third Place" in the sense that it was still related with the neighborhood association where the residents lived before the disaster, but was weakly involved with the current place of residence, at the time of the survey.

It should be borne in mind that the situation as of April 2018, at the time of writing of this paper, may have changed since. This is because the questionnaire survey was conducted prior to April 1, 2017. However, the problems that the wide area residents' associations would face after the lifting of the evacuation order will remain unchanged. Thus, the following are provided: a response to those who return to Tomioka Town; transition of residence certificates which implies concern for the fact that a resident is not a Tomioka townsman; the problem of

the next president and officials of the association; and settlement at the current place of residence in the evacuation district. To promote communication and friendship among the Tomioka townspeople, the wide area residents' associations were originally founded actively by those who live in public-funded rented housing or purchased houses, and are likely to be more isolated than those who live in the temporary housing areas, where the evacuees live together. Almost seven years have passed since the occurrence of the disaster. Issues of compensation and living have been solved to some degree. Thus, the significance of the wide area residents' association is being questioned.

This study has certain limitations. Since the questionnaire survey was conducted from autumn 2015 to winter 2016, it is possible that the relationship with the neighborhood association before and after the disaster may have weakened, and may have continued to weaken by April 2018, which was the time of writing of this paper. The wide area residents' association may be transformed into the "Third Place" in the original sense. This may be a problem in future studies, and may need a follow-up survey using a similar questionnaire.

As for the proposal for disaster statistics, based on the structure of the questionnaire survey, it is obvious that grappling with local activities in peacetime before the disaster may influence the behaviors after the disaster significantly. In peacetime, it would also be necessary to regularly conduct, for example, comprehensive surveys covering the associations among the local residents, such as neighborhood associations or residents' associations. Conducting a questionnaire survey among the general residents, including the president and officials of the association, and collecting and compiling the database on the annual report (the materials of the general meeting held at the end of the fiscal year) are recommended. Through such activities, the constellation²¹ of the local resources, such as social capital, can be understood, so that the neighborhood associations that may act alone with greater difficulty because of the decreasing birthrate and the aging population, may cooperate mutually during peacetime. Furthermore, they may respond to emergency situations in a more appropriate manner.

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21. This means "advantage" and "disadvantage."

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