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Effects of Social Capital on Residents' Interest in Community Revitalization in an Isolated Island: Focusing on the Difference between Locals and Migrants on Rebun Island, Japan

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Explanatory Note

With declining birth rates, aging population, and population outflow, the sustainability of depopulated areas has become a problem. Consequently, there are calls for community revitalization. Previous studies have pointed out that residents' commitment is important for community revitalization. Here, using social capital theory, I explore the factors that induce the interest of the residents of Rebun Island, Japan, in community revitalization. I analyzed data from a questionnaire survey conducted in 2017 using ordinal logistic regression. The results showed that social capital (residents' community trust) positively influenced the residents' interest in community revitalization. Second, it was only among local residents that community trust positively affected interest in community revitalization. This effect was not observed among migrants. Therefore, I conclude that the effect of community trust, which is conventionally regarded as vital social capital for community revitalization, on interest in community revitalization may differ qualitatively depending on whether the resident is a local or migrant. However, further research on the nature of community trust is necessary.

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I. Introduction

1.1 Research Background

The problem of depopulated areas due to a declining birthrate, aging population, and population outflow has been raised persistently over the past decades, as expressed in the term "rural extinction (*chihou shometsu*)" (Masuda 2014). In Japan, the percentage of depopulated areas is 59.7% of the total land area, while the number of depopulated municipalities is 817 (47.5% of the total number of municipalities)[1]. Today's depopulated areas face a variety of problems that cannot be overlooked, such as the decline of agriculture, forestry, and fisheries, threats to the maintenance of villages, lack of transportation, and a crisis of local medical care (Ministry of Internal Affairs and Communications of Japan 2017). As a measure against such problems, the national government and local governments have set up regional development as an important policy issue under the terms of "*chiikiokoshi*," "*chiikizukuri*," or "*chihousousei*," which mean community revitalization or regional development. They have also implemented various regional development measures such as the local vitalization cooperator "*Chiikiokoshi-Kyoryokutai*."

According to Odagiri (2014), until the early 1990s, regional development referred to the introduction and attraction of external capital, such as resort development. However, with the collapse of the bubble economy in the early 1990s, external capital either withdrew or stopped participating. The land left behind was devastated, and the region was scarred. Since then, regional development has continued to be an important issue against the backdrop

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of rural exhaustion and decline; however, the condition of this issue has changed. Until the early 1990s, regional development policies emphasized the economic development of tangible factors. Thereafter, these policies have shifted toward emphasizing the "endogeneity" of residents, the "diversity" of each region, and the "innovativeness" of regions to "reorganize regional management systems and create new systems by themselves, assuming a smaller population" (Odagiri 2014:54). Odagiri (2014) mentioned that it was important for residents to have "a sense of commitment that it is their own problem to create the community" (p.72). Odagiri (2014) pointed out that regional development, which depends on a few prominent leaders, is difficult to sustain due to generational changes and other factors. Therefore, ordinary residents need to have a broad sense of commitment (p. 72).

Watanabe (2000) defined "community revitalization" as "a grassroots movement aimed at revitalizing communities and attracting people to them in rural villages where local resources are not utilized, employment opportunities are scarce, and the outflow of young people continues" (p. 40). On a par with Odagiri (2014), Watanabe (2000:40) also emphasized the commitment of local residents.

As described, studies have pointed out that the commitment of residents, not just the government, is important for community revitalization. To get residents committed to community revitalization, they should first be interested in the community revitalization of their own area. Subsequently, they should be able to participate in their communities. Therefore, this article analyzes the factors that motivate residents of depopulated areas to be interested in community revitalization.

1.2 Literature Review

Prior research on community revitalization was dominated by the social capital theory. There were two types of research on social capital: individual and group levels [2]. While individuals were the beneficiaries of returns in the former, both individuals and groups (communities) were the beneficiaries of returns in the latter. In this article, the beneficiaries of the returns of community revitalization are considered to be individuals and local communities. Thus, like many studies on community revitalization (e.g., Misumi 2017; Morioka 2011), this article can be positioned in the genealogy of group-level social capital research. Putnam (1993), one of the leading researchers of group-level social capital research, defined social capital as "features of social organization, such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated actions" (p. 167). Several studies that applied Putnam's discussions to community development in Japan have been conducted since the 2003 study by the Cabinet Office Quality-of-Life Policy Bureau of Japan (2013). While such research has been accumulated, Misumi (2017), who worked on community revitalization and social capital from the theoretical and empirical perspectives, states that community trust [3] rooted in a specific community is important for community revitalization. Misumi (2017) conceptualized community trust as "*trust as a mediator between local communities and citizens*" (p. 72) and distinguished it from a generalized trust by data, which Putnam also emphasized (Misumi 2017). Misumi (2017)'s findings, using multiple regression analysis based on a questionnaire survey, showed that community trust had a positive impact on community participation rather than generalized trust. Morioka (2011), examining group-level social capital in community revitalization, also emphasized community trust rather than generalized trust, saying that "Putnam emphasizes the degree of generalized trust in society, but it would be better to ask about community trust" (p. 3)[4]. Although quantitative studies that utilized residents' interest in community revitalization as an outcome were not observed, Morioka (2011) analyzed the residents' willingness to participate in the local community as a similar variable, and statistically showed that the higher the index of social capital, including community trust, the higher the willingness to participate in the community.

In quantitative research using community trust, as shown in Misumi (2017), community trust was used as a single variable for questionnaire respondents. Meanwhile, the relationship with other variables, such as community participation, was analyzed using correlation and regression analyses. Such analyses implicitly assumed that community trust had the same meaning for all residents and had similar effects on the other variables. However, as noted in the next section, the sense of distance from the local community actually varies depending on residents' attributes and personalities, including local residents who were born and raised in the area and migrants who moved from outside the area. In such a situation, is the trust, accumulated in the local community, social capital that has the same

meaning and effect for the collective action of community revitalization for everyone? Abe (2014) noted the following regarding the relationship between migrants, local residents, and local-level social capital: "*A community with strong social capital and high social inclusion among local people may be a difficult community for migrants to live in*" (p. 14). Thus, there is still room to consider whether the availability of social capital (i.e. community trust) can be assumed to be uniform for all residents in situations where it is used.

1.3 Observations based on field experience

This study focuses on Rebun Island in Hokkaido, where the author relocated to and became a member of a *Chiikiokoshi-Kyoryokutai* [5] for two years from 2016. The reason for selecting the target area is that the island has the typical problems of depopulated areas, such as a declining birthrate, an aging population, and a declining population, making it suitable for community revitalization research. There is a qualitative difference between people born on the island and those from outside who came to the island by ferry; thus, this study area is suitable for research that examines the relationship between the residents' attributes and social capital related to community revitalization.

Rebun Island in the Hokkaido Prefecture, is a large, isolated island located at the northernmost limit of Japan [6], and is approximately two hours by ferry from Wakkanai City. The population is 2,435 in 1,270 households [7], and the predominant industries are fishing and tourism. The entire island is crowded with tourists in the summer and deserted during severe snowy winters. Rebun Island is a depopulated area with a declining and aging population. The island suffers from problems such as lack of transportation and medical care, common in depopulated areas. Two villages, Kafuka and Funadomari, merged in 1956 and formed the present Rebun Town in 1959 [8]. This town governs the entire island.

The present local residents are said to be descendants of people who migrated from the main island of Japan (*Honshu*) for herring fishing around the Meiji era. As the name "Tsugaru-machi" (Tsugaru Town) suggests, many Islanders have roots in the Tohoku region, and many speak a language similar to the Tsugaru dialect. On Rebun Island, people from and outside the island refer to those born on the island as "Islanders (*Shimano-hito*)." The term "Islander" has a specific image, such as speaking a dialect similar to the Tsugaru dialect. For example, "there are no bad Islanders," "Islanders are ~ so," or non-Islanders ridiculing Islanders' informal organizational operations as "Islanders' rules"[9]. The social categories of "Islanders" and "non-Islanders" are symbols that distinguish the two. Seemingly, there is a qualitative difference in the relationship with the local community between those who are from the island and those from outside. For example, those from outside talk about the sense of distance from the residents' association (*jichikai*) [10].

Prior to the analysis mentioned in this article, after retiring from *Chiikiokoshi-Kyoryokutai* in 2018, the author revisited Rebun Island in August 2019 and conducted an interview based on the awareness of the issues described in the previous subsection. Two people were interviewed: Mr. L from the island and Mr. M from outside the island, both with a strong interest in community revitalization and who are enthusiastically involved in community revitalization activities on the island. Mr. L was a man in his 60s from the island. After retiring from the town office, he managed a rural migration facility on Rebun Island and promoted rural migration. Mr. M was a man in his 40s from outside the island, working on community welfare issues as a social worker at the town office. From the interviews, I found that the community revitalization activities of both individuals were in contrast to each other: Mr. L based his community revitalization activities on trusting relationships with the residents and their social network, while Mr. M utilized his own expertise and did not rely on the residents' social capital. To connect the results of the interviews with the analysis of the questionnaire survey, in December 2019, I asked both respondents via the Internet about their community trust and their interest in community revitalization, similar to how they were asked in the questionnaire survey. They were also asked about the reasons for their choices in the free answers. The results showed that the interest in community revitalization was "4" (range 1-4; a higher value indicates higher interest; this is the same variable as in Section 2.2 (1) of this article) for both respondents, which was the maximum value. However, when asked about community trust (range 1-4; a higher value indicates greater community trust; this is the same variable as in Section 2.2 (2) of this article), Mr. L chose 4 and gave the reason as "because I know the people in the community well [11]" and recalled specific members of the community. In contrast, Mr. M chose 2, responding,

"Surprisingly, Islanders live only with preconceptions [12]" and spoke of "Islanders" in terms of images, which was not connected to his interest in community revitalization. Based on these results, I hypothesized that there are two types of residents: those from the island who utilize the social capital accumulated on the island, such as community trust, to promote community revitalization, and those from outside the island who do not (or cannot) rely on this social capital. Community trust, which had been implicitly assumed to be uniform for all residents as social capital at the local level by previous studies, may actually be interpreted in qualitatively different ways by local residents and migrants and may have qualitatively different effects on the community revitalization. To test this hypothesis, this study statistically analyzed the difference in the effect of community trust on residents' interest in community revitalization. This depended on whether the residents were from inside or outside the island.

1.4 Research Question and Hypothesis

Based on the awareness of the issues described in the preceding section, a review of previous studies, and ideas from the field, the following two questions were formulated:

RQ1) What are the social factors that influence interest in community revitalization among residents of remote islands?

RQ2) If community trust is an answer to RQ1, does the influence of community trust on residents' interest in community revitalization differ between Islanders and non-Islanders?

For RQ1, based on previous studies, I hypothesized the following: H1 - the social capital of community trust leads to the residents' interest in community revitalization. For RQ2, I hypothesized the following: H2 - The effect of social capital on revitalization at the local level differs qualitatively depending on whether a resident is an Islander or non-Islander.

II. Data and Methods

2.1 Data

This study utilized data from the "FY2017 Survey on Residents' Attitudes toward Community Revitalization in Rebun Town (II)," which was conducted in 2017 by *Chiikiokoshi-Kyoryokutai*, including the author, with the cooperation of the Rebun Town Office [13]. This survey aimed to investigate residents' attitudes toward community revitalization in Rebun Town and to analyze the determinants of residents' interest in community revitalization in order to provide information for revitalization to *Chiikiokoshi-Kyoryokutai* and all the residents engaged in community revitalization. This survey was conducted after consulting with a staff member (an Islander), in charge of *Chiikiokoshi-Kyoryokutai* at the Rebun Town Office, about how to distribute and collect the questionnaires on the island. The survey targeted residents aged over 18 years living in the Tsugaru-machi, Kaishomae, Irifune, and Shakunin community associations (the central area of the former Kafuka Village, including the main office of the town office), and the O-sonae Dai-ichi, O-sonae Chuou, O-sonae Dai-san, and O-sonae Kohan community associations (the central area of the former Funadomari Village, including the Funadomari branch office of the town office). These were selected by the judgment sampling method as the central areas of the Kafuka and Funadomari districts of the former village, respectively. The questionnaires were distributed through the circular board of community associations (*kairanban*) and collected by mail. There were 1,238 distributions in 619 households (two copies were distributed per household, with a maximum of two representatives responding [14]). The response rate per household was 33.1%. Since the main community associations of the islands where the main and branch offices are located were purposively selected, the population assumed in this study is limited to the districts of a remote island that includes relatively diverse occupations besides fishing.

2.2 Variables

(1) Dependent variables

The dependent variable was interest in community revitalization. For this variable, I used alternatives 1 to 4 for the question, "Are you interested in 'community revitalization' on Rebun Island?" (Responses: 1. interested,....., 4. not interested, 5. do not know), as an inverse scale, and excluded alternative 5 from the analysis. The analysis of the questionnaires showed that the perception-level variable of interest in community revitalization used here was correlated with the action-level variable of residents' actual participation in local activities ["Are there any local activities (events) that you are currently planning, carrying out, or participating in?" (Responses: 1. yes, 2. no)]. The results of the uncorrelation test using Spearman's rank correlation coefficient showed a positive correlation of $\rho = 0.23$ ($N = 253$, $p = 0.00$). Similarly, interest in community revitalization was measured by excluding alternative 5 from residents' expectations of external human resources such as *Chiikiokoshi-Kyoryokutai* ("Do you have high expectations of external human resources such as *Chiikiokoshi-Kyoryokutai* ?" (Responses: 1. agree, 2. agree somewhat, 3. disagree somewhat, 4. disagree, and 5. do not know). There was a positive correlation ($\rho = 0.57$) between residents' interest in community revitalization and expectations for external human resources ($N = 214$, $p = 0.00$). These results suggest that residents' interest in community revitalization is linked to their actual participation in the community. In addition, interest in community revitalization has been strongly associated with the expectation of external human resources, such as *Chiikiokoshi-Kyoryokutai* [15].

(2) Independent variables

Community trust was an independent variable. For this, I utilized alternatives 1 to 4 from the item, "People in this community can be trusted" (Responses: 1. yes … 4. no, 5. do not know) as the inversion scale and excluded alternative 5 from the analysis.

The control variables were age (1. Teens … 7. Over 70), male dummy (1 for males, 0 for females), Islander dummy (1 for Islanders, 0 for non-Islanders), Kafuka village dummy (1 for residents of Kafuka village, 0 for residents of Funadomari village), occupation (primary industry dummy for "fishing industry," secondary industry dummy for "construction industry," tertiary industry dummy for "tourism, transportation, postal service, wholesale and retail trade, accommodation, food, and beverage service, education and learning support (excluding school staff), medical care and welfare, public administration (town office and board of education), schools, self-defense forces, and public service (excluding those classified as other)" and an unemployed dummy for "unemployed." I excluded "other" from the analysis [16].

2.3 Analytic approach

Since the dependent variable in this analysis was an ordinal scale, an ordinal logistic regression analysis was employed.

(1) Interest in community revitalization and community trust

To examine hypothesis H1, I set up model (1) with interest in community revitalization as the dependent variable and community trust as the independent variable.

(2) Interaction effect

To analyze the difference in the effect of community trust on the interest in community revitalization among Islanders and non-Islanders, the interaction and main effects of community trust from model (1) multiplied by an Islander dummy were examined in model (2). The linear predictor of the ordinal logistic model expressing the operating hypothesis of H2 was as follows:

$$Y_i = \beta_1 X + \beta_2 DX + \sum_{j=1}^{m} \gamma_j Z_j$$

Transforming the above equation, I obtained the following result:

$$Y_i = (\beta_1 + \beta_2 D)X + \sum_{j=1}^{m} \gamma_j Z_j$$

where i is an individual, X is community trust, Y is interest in community revitalization, D is an Islander dummy, Z is a covariate, and β and γ are coefficients.

If both the main effect of X, β_1, and the interaction, β_2, are statistically significant, then the coefficient of community trust X, $(\beta_1 + \beta_2 D)$, will be β_1 when i is a non-Islander and $(\beta_1 + \beta_2)$ when i is an Islander. Then, I can state that the magnitude of the effect of community trust on interest in community revitalization differs quantitatively between Islanders and non-Islanders. If the null hypothesis of the main effect $\beta_1$is adopted and the null hypothesis of the interaction β_2 is rejected, then the coefficient of X will be $\beta_2 D$ alone. This could be interpreted to mean that community trust affects residents' interest in community revitalization only in the case of Islanders, but not in the case of non-Islanders. Then, the effect of community trust on community revitalization qualitatively differs between Islanders and non-Islanders.

To confirm the validity of the results of the analysis of the interaction, I also conducted a subgroup analysis for the Islanders and non-Islanders. Model (3) used only non-Islander data, and model (4) used only Islander data.

Python3 was used for data manipulation, R4.0.3, for statistical analysis, and the R package ordinal (2019.12.10) for ordinal logistic regression analysis.

III. Results

3.1 Descriptive statistics

Table 1. Descriptive statistics of the variables utilized in the ordinal logistic regression analysis (N = 183)

	Mean	SD	Min	Max	Range
Age	4.89	1.41	2	7	5
Male dummy	0.5	0.5	0	1	1
Islander dummy	0.6	0.49	0	1	1
Kafuka village dummy	0.62	0.49	0	1	1
Primary industry dummy	0.1	0.3	0	1	1
Secondary industry dummy	0.03	0.18	0	1	1
Tertiary industry dummy	0.64	0.48	0	1	1
Unemployed dummy	0.22	0.42	0	1	1
Community trust	2.99	0.9	1	4	3
Interest in community revitalization	2.7	0.98	1	4	3

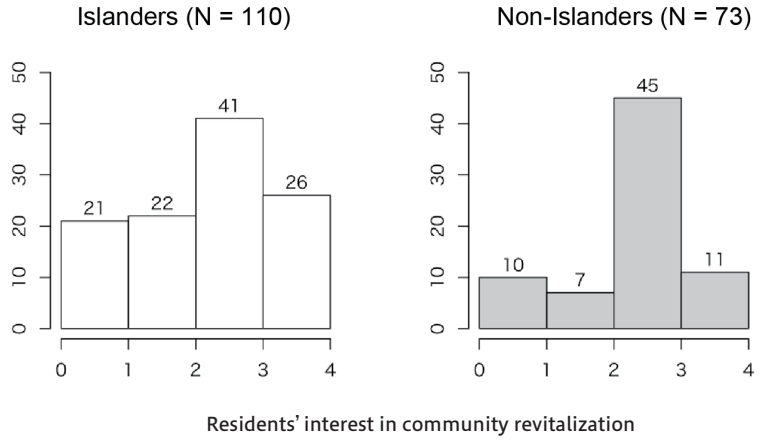

Figure 1. Distribution of interest in community revitalization by Islanders and non-Islanders

Descriptive statistics are presented in Table 1. From the survey data, only the variables used in the ordinal logistic regression analysis were selected. The rows that contained missing values were removed. All analyses that follow were based on this dataset.

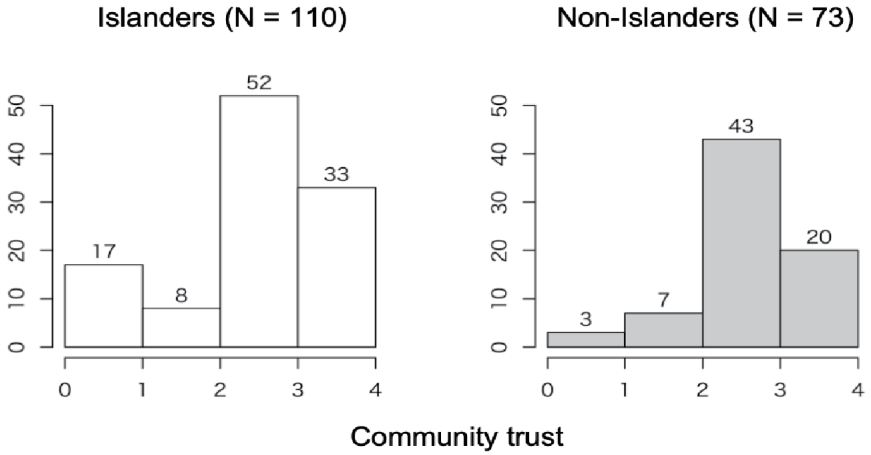

Figure 2. Distribution of community trust in Islanders and non-Islanders

Figure 1 shows the distribution of interest in community revitalization by Islanders and non-Islanders. A χ^2 test on the two variables showed that the Islander dummy and interest in community revitalization [$\chi^2(3) = 10.893$, $p = 0.12$] did not significantly differ between Islanders and non-Islanders.

Figure 2 shows the distribution of community trust in Islanders and non-Islanders. A χ^2 test of independence for the Islander dummy and interest in community revitalization [$\chi^2(3) = 6.70$, $p = 0.08$] found a significant difference at the 10% significance level for these variables between Islanders and non-Islanders. However, the distribution itself had a similar tendency between the two groups, with "3" being the most common answer, followed by "4." Therefore, it was not the case that Islanders had a lot of trust in the community and non-Islanders had none at all. Rather, a certain number of residents, both Islanders and non-Islanders had community trust.

Table 2. Correlation between interest in community revitalization and community trust by Islanders and non-Islanders

	ρ	p value	
All	0.338	0.000	***
Only Islanders	0.455	0.000	***
Only non-Islanders	0.085	0.455	

Note: ρ values are Spearman's rank-correlation coefficients. *** $p < 0.01$

Table 2 displays Spearman's rank correlation coefficients of interest in community revitalization and community trust for Islanders and non-Islanders. When the data for all residents were included, a positive correlation of $\rho = 0.338$ at 1% significance was found between residents' interest in community revitalization and community trust. When the data for Islanders and non-Islanders were split, the value of the correlation coefficient increased to $\rho = 0.455$ for Islanders, which was significant at the 1% level. Meanwhile, it decreased substantially to $\rho = 0.085$ for non-Islanders, which was not significant. This suggests that community trust and interest in community revitalization were strongly correlated for Islanders, while no such correlation was found for non-Islanders.

The results of these analyses suggest that although there was not much difference in the distribution of the two variables between Islanders and non-Islanders (Figures 1 and 2), there was a difference in the way the two variables were correlated (Table 2). Next, an ordinal logistic regression analysis was conducted with control variables and interactions to examine the results in Table 2 in more detail.

Table 3. Results of ordinal logistic regression analysis with interest in community revitalization as dependent variable

	(1) Without Interaction term	(2) With Interaction term	(3) Only non-Islanders	(4) Only Islanders
Age	0.10	0.09	0.09	0.07
	(0.11)	(0.11)	(0.20)	(0.15)
Male dummy	0.23	0.26	0.74	0.07
	(0.29)	(0.29)	(0.52)	(0.36)
Islander dummy	-0.18	-0.23		
	(0.31)	(0.31)		
Kafuka village dummy	0.14	0.20	0.28	0.18
	(0.29)	(0.30)	(0.51)	(0.39)
Primary Industry dummy	0.94*	0.94*	0.63	1.12*
(ref. Unemployed dummy)	(0.54)	(0.55)	(1.32)	(0.61)
Secondary Industry dummy	-0.45	-0.89	-1.40	-1.23
(ref. Unemployed dummy)	(0.82)	(0.82)	(1.21)	(1.22)
Tertiary Industry dummy	0.55	0.53	-0.28	0.83*
(ref. Unemployed dummy)	(0.37)	(0.38)	(0.75)	(0.45)
community trust	0.90***		0.27	1.15***
	(0.18)		(0.35)	(0.22)
community trust centering		0.23		
		(0.33)		
(Islander dummy) x (community trust centering)		0.93**		
		(0.38)		
1|2	1.83**	-0.98	-0.44	2.63***
	(0.80)	(0.70)	(1.66)	(0.99)
2|3	2.86***	0.10	0.24	3.98***
	(0.81)	(0.68)	(1.65)	(1.03)
3|4	5.25***	2.51***	3.33*	5.98***
	(0.87)	(0.71)	(1.71)	(1.11)
Observations	183	183	73	110
Log likelihood	-214.72	-211.71	-76.42	-129.97
AIC	451.43	447.41	172.83	279.94

Notes: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. The numbers in the table are coefficients, and the numbers in parentheses are standard errors. ref：Reference Category

3.2 Results of ordinal logistic regression analysis

The results of the ordinal logistic regression analysis are shown in Table 3.

First, I describe the effect of community trust on interest in community revitalization. Model (1) did not include an interaction term between the Islander dummy and community trust. In this model, community trust had a positive effect on Islanders' interest in community revitalization at the 1% significance level. In model (2), where the interaction term with the Islander dummy was added, the interaction term had 5% significance and a positive effect on interest in community revitalization, while the main effect of community trust was not significant [17]. In other words, the results statistically indicate that community trust affects the interest in community revitalization only when the Islander dummy is 1.

The value of AIC, which was a criterion for model selection, for model (1) without the interaction term was 451.43, and for model (2) with the interaction term was 447.41, indicating a slight improvement in model (2). A likelihood ratio test demonstrated that model (2) was an improvement over model (1) at the 5% significance level (LR.stat = 6.023, df = 1, p = 0.014). As for models (3) and (4), in which subgroup analysis was conducted for Islanders and non-Islanders, community trust did not have a significant effect on interest in community revitalization in model (3) for non-Islanders but had a positive effect at the 1% significance level in Model (4) for only Islanders. This indicates that the results of the subgroup analysis were consistent with the results of model (2), which used an interaction term.

Finally, I mention the results of the control variables in models (1)–(4). Age, male dummy, and Islander dummy did not have a statistically significant effect on interest in community revitalization. As for occupation, the primary industry dummy, with unemployed as the reference category, had a positive effect on interest in community revitalization at the 10% significance level in models (1), (2), and (4). In model (4) of only Islanders, the tertiary industry dummy positively influenced interest in community revitalization and was significant at the 10% level.

These results indicate that even after controlling for the variables, community trust had a positive effect on interest in community revitalization for Islanders, but not for non-Islanders.

IV. Discussion

4.1 Interpreting the analysis results

This section presents the interpretations of the analysis results of the research questions and hypotheses.

Regarding RQ1, from the results of model (1), it was confirmed that community trust as social capital was one of the factors. Thus, Hypothesis H1 is supported. This result is consistent with those of previous studies (Misumi 2017; Morioka 2011).

Regarding RQ2, the results of models (2), (3), and (4) were used to interpret the results of RQ2. In model (2), the interaction term of "(Islander dummy) × (community trust)" had a positive effect at the 5% significance level. This interaction term showed that the effect of community trust on community revitalization was only observed in Islanders. However, the main effect of community trust in model (2) was not statistically significant. Thus, there was no effect of community trust on interest in community revitalization when I considered both Islanders and non-Islanders. Hence, social capital in the form of community trust was associated with interest in community revitalization only for Islanders but not for non-Islanders. The results imply that the effect of community trust on interest in community revitalization differs qualitatively, not quantitatively, between Islanders and non-Islanders, as described in the analysis method. Interestingly, as shown in Figures 1 and 2, non-Islanders showed a certain level of community trust and interest in community revitalization, similar to Islanders. It was not that non-Islanders did not have any community trust, but that despite non-Islanders having the same level of community trust as Islanders, it was only Islanders who were influenced in terms of interest in community revitalization. In the case of Islanders, "community trust" is associated with the concrete social network of local residents, while non-Islanders think of "Islanders" as an abstract symbol and may not connect with actual residents. This difference in the meaning and background of the variable "community trust" between Islanders and non-Islanders could be linked to the difference in the association with an interest in community revitalization. Previous studies have pointed out that community trust is associated

with community participation (Misumi 2017) and that social capital is associated with the exclusion of migrants (Abe 2014). However, the results of this study suggest that while community trust itself can be held by both migrants and locals, it is not associated with a collective interest in community revitalization in the case of migrants. Although this study is not an interventional study and further research is needed to definitively describe the utilization of social capital, the results indicate that only local residents can increase their interest in community revitalization using the social capital of community trust.

With regard to the results of the control variables in the ordinal logistic regression analysis, the primary industry dummy in models (1) and (2) for both Islanders and non-Islanders, and the tertiary industry dummy in Model (4) for Islanders only had a positive effect on interest in community revitalization at the 10% significance level. These results suggest that two groups have a high level of interest in community revitalization: 1) all residents who engage in the primary industry, including fishing, which is the island's core industry, and 2) Islanders who engage in tertiary industries, including tourism, such as accommodation, which is another core industry. Therefore, residents' interest in community revitalization may differ depending on their occupational status. There were no statistically significant variables for age, gender, Islander, and Kafuka village dummies. This suggests that these attributes and residential areas were not related to differences in interest in community revitalization. In model (3), which includes only non-Islanders, no factors were captured by the analysis. Other factors besides attributes, occupation, residential area, and social capital may have influenced their interest in community revitalization.

4.2 Implications

This study of social capital in the context of community revitalization has some implications. It was first perceived that the meaning of community trust could differ between Islanders and non-Islanders through fieldwork interviews. Then, through data analysis using a questionnaire survey of residents, it was statistically shown that the impact of community trust on interest in community revitalization differed qualitatively, but not quantitatively, between Islanders and non-Islanders. This qualitative difference in the effect of community trust has been overlooked in the quantitative analysis of social capital at the community level. It is necessary to combine both qualitative and quantitative analyses to study differences in the meanings of social capital for each attribute of residents and the differences in the effects on community revitalization.

Furthermore, the effect of social capital (community trust) on interest in community revitalization, which is related to actual community participation, may differ between local residents and migrants. When residents use their community trust, it is possible that only local residents, but not migrants, can use it for community revitalization, even if the latter possess it. This suggests that local residents and migrants may need different approaches when considering social capital for community revitalization.

4.3 Limitations and Future Research

This study has some limitations. First, it only analyzed the remote islands of Hokkaido. It is possible that this study's discussion is valid only on islands because locals and migrants can be easily distinguished. Therefore, it is necessary to test whether the findings can be applied to other regions, such as farming villages, mountain villages, and urban areas. This would clarify the extent to which the findings presented in this article depend on the local context. Second, this was an observational study owing to the limitation of research resources. It is not an interventional study in which a third party intervenes in the social capital of the residents' community trust and then tests whether residents' interest in community revitalization becomes higher or lower. Future studies may test the hypotheses derived from the analysis of this article, which is a retrospective study, using the methods of a prospective study to examine the actual intervention effects. Finally, this article did not find a strong reason for migrants' interest in community revitalization. These issues can be addressed in future studies.

V. Conclusion

This study examined the determinants of residents' interest in community revitalization through a statistical analysis of questionnaire survey data based on ideas obtained during field research on Rebun Island, Hokkaido. The results of ordinal logistic regression analysis utilizing residents' interest in community revitalization as the dependent variable showed that community trust as a part of community-level social capital had a positive impact on interest in community revitalization. However, a more detailed analysis demonstrated that although both Islanders and non-Islanders had a certain degree of community trust, only Islanders' trust had a positive effect on interest in community revitalization. This study suggests that the effect of social capital (i.e. community trust) on interest in community revitalization may qualitatively differ between local residents and migrants.

Future research on community revitalization targeting residents, especially in quantitative research, should consider the possibility that the meaning of community trust, which has been assumed to be a social capital that can be used by anyone, differs qualitatively depending on the attributes of local residents and migrants.

Notes

1. The source of the numbers is Yamamoto (2019:53).
2. For example, Kawachi et al. (2008) summarize the previous studies on social capital theory by naming the research of Putnam and others as the "social cohesion" school which studies social capital at the group level, and the "network" school which studies networks such as individuals' hierarchical attainment and job change.
3. In Misumi (2017), the term "trust in community" is used.
4. Morioka (2011) tackles the same question of community trust in this article and shows that it is positively correlated with community participation.
5. "*Chiikiokoshi-Kyoryokutai*" is a national program in which local governments appoint people who have moved their resident registration from urban areas to depopulated areas or other disadvantaged areas as "*Chiikiokoshi-Kyoryokutai*." The members live in rural areas for a certain period and engage in "community revitalization activities," such as supporting community revitalization by developing, selling, and promoting local brands and products, engaging in agriculture, forestry, fisheries, and supporting the livelihood of local residents (Ministry of Internal Affairs and Communications of Japan 2020).
6. The Third Remote Islands Promotion Plan of 1973 categorized islands into five types according to population size and distance from the central city: "inland sea, remote islands near mainland (remote islands with calm seas with few ferry cancellations, close to central Japanese cities)," "open sea, remote islands near mainland (remote islands in not-so-calm seas with occasional ferry cancellations, close to central Japanese cities)," "archipelago (A large island with a population of approximately 5,000 or more, and several other islands within one hour's sailing distance from the large island.)," "large isolated (remote islands with a population of approximately 5,000 or more that are far from the central city.)," and "small isolated (remote islands with a population of less than about 5,000, far from the central city)" (Sawa et al. 2007:99).
7. At the end of October 2020. Rebun Town HP: http://www.town.rebun.hokkaido.jp/hotnews/detail/00000165.html (retrieved November 16, 2020).
8. Rebun Town Office HP: http://www.town.rebun.hokkaido.jp/hotnews/detail/00000300.html (retrieved November 16, 2020).
9. Based on the author's experience of staying on the island from April 2016 to March 2017.
10. From the interview with Mr. M on August 13, 2019.
11. From Mr. L's answer through Google Forms on December 13, 2019.
12. The answer from Mr. M was received through Google Forms on December 13, 2019.
13. The simple tabulation results of the survey are available at http://*chiikiokoshi*.hatenablog.com/ (Japanese).
14. Two copies of the survey were distributed per household, and anyone in the household could respond. Strictly speaking, the possibility of bias based on who answered in the household is undeniable.
15. An ordinal logistic regression analysis was conducted with the residents' interest in community revitalization as the independent variable, and age, gender, Islander dummy, and occupation as the control variables. As in the results of the regression analysis, interest in community revitalization had a significant positive effect on the dependent variables of actual participation in the community and expectations of external human resources, such as *Chiikiokoshi-Kyoryokutai*, at the 1% level. These results are consistent with the results of the test, with no correlation.

16. "Number of years of residence" was a question only for non-Islanders, and data were not available for Islanders. Therefore, they were excluded from the analysis. In addition, since the questions in this survey did not include "education history" and "income," they were not included in the analysis.

17. In the regression analysis with the Islander dummy and community trust in the non-centralized model, the main effect was not significant, as in model (2). The interaction effect was significant at the 5% level. The values of the two coefficients are the same as those in Model (2).

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