

## The Structure of the Sense of Solidarity : Notes on 2012 Solidarity Survey

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<https://doi.org/10.15017/1560265>

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出版情報 : 地球社会統合科学. 22 (2), pp.1-13, 2015-12-25. 九州大学大学院地球社会統合科学府  
バージョン :  
権利関係 :

# The Structure of the Sense of Solidarity: Notes on 2012 Solidarity Survey

2015年9月16日提出, 2015年10月26日受理

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## 1. Basic Issues of Solidarity

Many studies have suggested the importance of homophily to the bonding principles for the basis of solidarity (Fischer, 1975; McPherson et al., 2001). We will refer to solidarity based on the principle of homophily as homophilic solidarity. If we imagine a particular geographic scope, a typical example would be solidarity in a local community, oriented along the vector of localism. On the other hand, going back to Durkheim (1893), we see that the main issue of the solidarity has been the organic solidarity among different highly specialized elements. We will refer to solidarity based on this theme as heterophilic solidarity. Heterophilic solidarity is a type of solidarity related in a way to the public, oriented along the vector of universalism.

The community morale proposed by Suzuki (1978) topicalizes an attitude in which feeling of local attachment is combined with public norms. The solidarity problem has a similar composition, expressed clearly as the coexistence between homophilic solidarity and heterophilic solidarity. Even though community essentially is an elastic concept, the concept of community morale highlights a regional community that has reality for people as living space. Compared with this, when topicalizing solidarity it is easier for the geographic scope to extend beyond the residential community, moreover it is not uncommon to topicalize solidarity in a national or global context. We can describe such cases as issues of solidarity among heterogeneous communities. While this can be treated as an extension of community morale, it might include some kinds of emergent prop-

erties, which suggests the theoretical potentiality of solidarity. In this sense, the issue of coexistence of homophilic solidarity and heterophilic solidarity connotes issues of macro-micro linkage.

While considering the above-mentioned theoretical meanings of solidarity, this paper will start with an experiential consideration of the structure of the sense of solidarity. That is, together with seeking out the chief internal factors related to coexistence of homophilic solidarity and heterophilic solidarity, we also will consider the state of the effects of external factors at a macro level. We will use data from an Internet survey conducted by the author with the assistance of a grant in aid for scientific research. This survey randomly selected a designed sample of 6000 Kyushu residents aged 25–55, from the monitors registered with Rakuten Research, a partner of the research company contracted to conduct the survey. However, since the gender ratio is quite skewed in case of internet surveys in particular, we employed random sampling using equal proportions of male and female respondents. The actual survey was conducted via the Internet in November-December 2012. Once the number of responses exceeded 900, we designated a deadline and reminded participants to reply, and then we finally stopped accepting by the deadline. As a result, we obtained 970 valid responses (for a response rate of 16.2%). Hereinafter, this survey will be referred to as “2012 Solidarity Survey.” (See Misumi,[2014] for more in details including questionnaire).

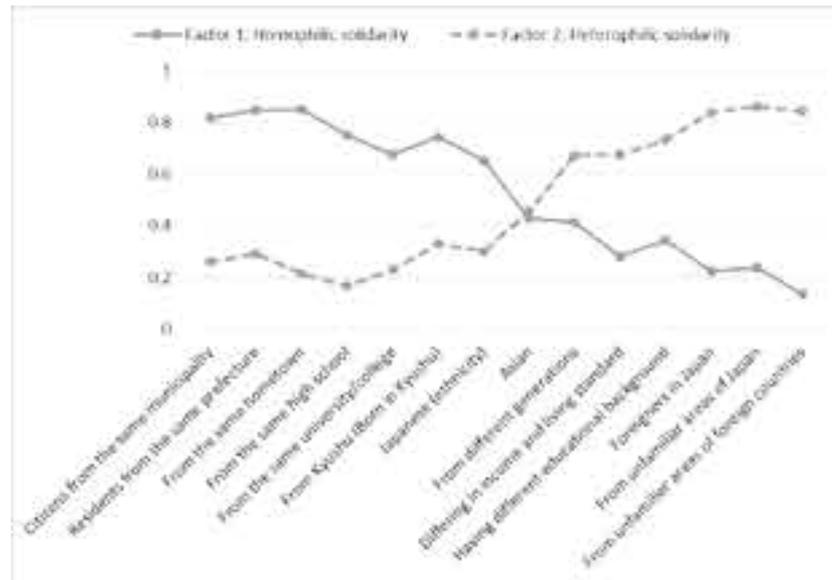


Figure 1. Factor Analysis of Sense of Solidarity (Contributions)

## 2. Analysis of Types of Senses of Solidarity

### 2-1. Types of Senses of Solidarity

The perspective of solidarity used in this paper follows that of Misumi (2010, 2013). It is defined as *we-relation* consciousness built up among people based on sharing of a highly abstract net-base. A net-base refers to shared attributes that serve as the foundation for people's social relations. This paper describes solidarity as a neutral concept regardless of social or political contexts, with a practical purpose of treating it as a type of social capital and searching for the mechanisms by which it forms.

Operationalization of solidarity variables in the 2012 Solidarity Survey is as follows. Questions on homophilic solidarity took the form of asking whether respondents could sympathy with the idea of "helping each other because we belong to the same \_\_\_\_." The net-bases inserted into the blank are the first eight items, counting from the left, in Figure 1. Questions on heterophilic solidarity took the form of asking whether respondents could sympathy with the idea of "helping each other with people whose positions differ in terms such as \_\_\_\_." The terms inserted into this blank are the first six items, counting from the right, in Figure 1. Since respondents were asked in their answers to grade whether or not they could sympathy with the statement on a four-point scale for each item, we conducted a factor analysis (maximum likelihood estimation, varimax rotation) for all 14 items after scoring

them on a scale of 1 (could not sympathy) to 4 (could sympathy). The result was a two-factor structure as shown in Figure 1 (loading: 65%). (See Appendix A1 at the end of this paper for a table of numerical values.)<sup>1</sup> Figure 1 depicts the contribution of each item along the Y axis. Overall, relations with factors at both ends were clear, while a number of items in the center, starting with "Asians," were highly ambiguous. Viewed in light of these contributions, it is appropriate to interpret each of these two factors as homophilic solidarity and heterophilic solidarity. As this result suggests, the vectors of homophilic solidarity and heterophilic solidarity differ in people's actual senses of solidarity, and these two may have a paradoxical relationship. Therefore, it has significance to empirically investigate the conditions that facilitate their coexistence.

Accordingly, we will focus on the three items at either end of Figure 1 that contributed at least 0.8 to one of the factors. Since each of these items concerns geographical scopes or abstractness of groupings of people, we are able to distinguish these two item-groups on either end of the spectrum as localism and universalism. Furthermore, by deriving the total scores of each of these two item-groups and combining them after dividing into two groups by high and low scores, we can define four types of sense of solidarity as shown in Table 1. As the cutoff value for 'high' is nine for localism, which accounted for 51.1%, and it is seven for universalism, accounting for 54.0% of the total, people are successfully divide in two almost equal

parts, respectively. Then, we see that concentration on two types, coexistence (37.3% of the total) and non-solidarity (31.2% of the total), is a distinguishing feature of sense of solidarity. While the coexistence type may be paradoxical, it definitely is not something that would be difficult to express as an actual sense of solidarity.

Table 1. Four Types of Sense of Solidarity

Localism (homophilic regional solidarity)	Universalism (heterophilic regional solidarity)	
	High	Low
High	Coexistence (294)	Localism (118)
Low	Universalism (131)	Non-solidarity (246)

But what kinds of basic attributes does this coexistence sense of solidarity relate to? Let's take a look at Table 2. The figures for the categorical variables on the left show their percentages of the categories at the top of the table, while the quantitative variables at the

right show average values. One thing that we can anticipate easily is that the coexistence type should have properties that contrast with those of the non-solidarity type. In fact, this tendency is apparent for percentages of women, percentages of married, household income, and social expenses, and this contrast shows that the coexistence type is characterized by married women in high-income households. However, at the same time the coexistence type shows some aspects that contrast with the localism type. In particular, the high percentage of women and low percentage of having occupation clearly show its properties in contrast to the localism type. Simply, the typical profile for the coexistence type should be wealthy housewives. Since years of living in the current municipality shows no significant correlation to this type, there is little likelihood that this property of wealthy housewives is related to their experiences of moving.

Table 2. Properties of Solidarity Types

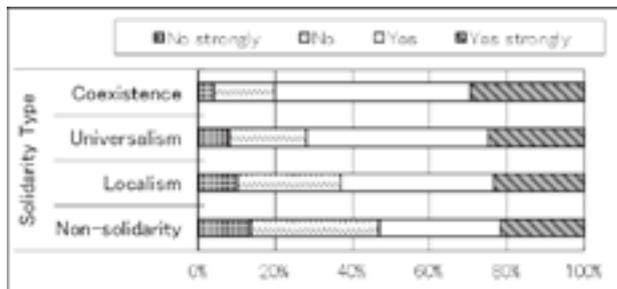
	Proportion of -				Average of -		
	Women	Married	Living with parents	Having occupation	Total years living in current municipality	Household income (Ten-thou. yen)	Social Expenses (Ten-thou. yen)
Non-solidarity	40.7%	67.1%	26.4%	82.3%	21.51	481.06	8.33
Localism	31.4%	76.3%	22.0%	90.7%	18.69	606.09	10.17
Universalism	49.6%	64.9%	31.3%	80.6%	19.34	509.50	9.05
Coexistence	51.7%	74.1%	32.0%	79.9%	21.51	553.28	10.44
	$\chi^2=17.2^{**}$	$\chi^2=7.2+$	$\chi^2=5.2$	$\chi^2=7.1+$	F=1.6	F=4.7 <sup>**</sup>	F=2.3+

※ Statistical significance is based on chi-square for categorical variables in the left column and ANOVA (F-test) for quantitative variables in the right.

2-2. Social Consciousness and Social Participation of the Coexistence Type

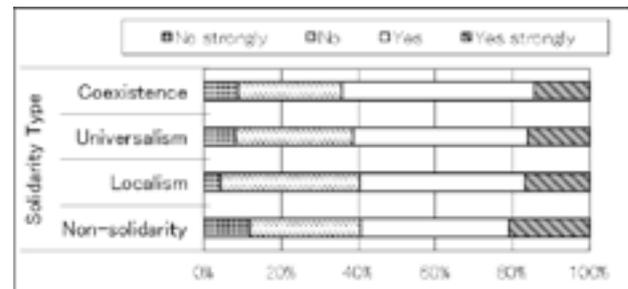
Next let's look at the relationship of senses of solidarity to some social consciousness. Figure 2-1 compares the responses to a question asking about support for

welfare-state policies from views on redistribution of income. In this case, the coexistence type contrasts most with the non-solidarity type by showing a tendency to strongly support welfare-state policies. Since the universalism type shows a similar tendency, we can consider



Opinion against 'the government should enhance welfare for the underprivileged even if it means raising taxes on the wealthy.'  $\chi^2=48.2^{**}$

Figure 2-1. Solidarity Type and Welfare Policy



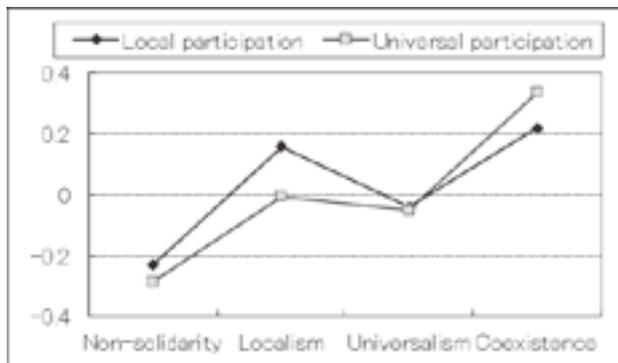
Opinion against 'some wealth disparity is an unavoidable result of competition when given equal opportunities.'  $\chi^2=14.6$

Figure 2-2. Solidarity Type and Neoliberalism

heterophilic solidarity to serve as more of a grounding for welfare-state solidarity than homophilic solidarity.

Figure 2-2 compares the responses to a question asking about acceptance of disparities resulting from fair competition. Roughly speaking, this question is to ask about support for neoliberals; however, no significant correlation is found in fact. A noteworthy point would be that there is a tendency toward a split between yes and no answers in the non-solidarity type.

Whatever the case, probably we can confirm at a minimum that the social consciousness characteristic of the coexistence type can be described as one that agrees with welfare-state solidarity but does not uniformly tend to oppose neoliberalism.



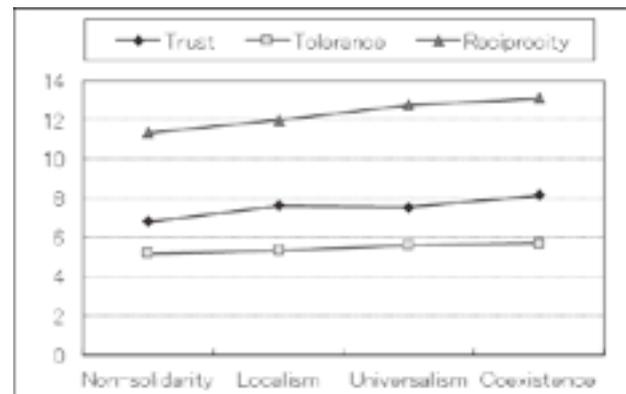
**Multiple comparison by Tukey**  
 Local participation (F=12.8\*\*) :  
 Coexistence > Non-solidarity, Universalism  
 Localism > Non-solidarity  
 Universal participation (F=26.1\*\*) :  
 Coexistence > Non-solidarity, Universalism, Localism  
 Universalism, Localism > Non-solidarity

Figure 3. Solidarity Type and Social Participation

But how would these types be characterized at a behavioral level? The 2012 Solidarity Survey presented eight categories of social participation and asked respondents to rank these on a five-point scale from “always participate” to “never participate.” We assigned responses on this five-point scale scores of 1–5 and conducted a factor analysis (maximum likelihood estimation, varimax rotation). (See Appendix A2 for details with the list of categories.) We identified two factors as a result, interpreting these based on their contribution patterns as local participation and universal participation factors.

Figure 3 plots the average scores of these factors by type of solidarity. A look at this figure shows that the respondents who have the coexistence and localism

types actively take part in various activities. Especially, the coexistence type seems more strongly connected with universal participation. In contrast, the respondents who have the non-solidarity type do not participate very actively in social activities. The respondents who have the universalism type neither actively participate in local activities, nor to make up for this with extra-local activities. Thus, the social participation of the coexistence type suggests that this type of solidarity is based on interest in the public spheres to some extent.



**Multiple comparison by Tukey**  
 Trust (F=11.1\*\*) :  
 Coexistence, Localism > Non-solidarity  
 Tolerance (F=5.0\*\*) :  
 Coexistence > Non-solidarity  
 Reciprocity (F=16.9\*\*) :  
 Coexistence > Non-solidarity, Localism  
 Universalism > Non-solidarity

Figure 4. Solidarity Type and Citizenship

Now let’s examine the citizenship of this coexistence type. Figure 4 looks at the three kinds of citizenship consciousness of general trust, tolerance, and generalized reciprocity, comparing the average scores on each by solidarity type. General trust was measured using the three items of “I tend to trust people,” “Most people can be trusted,” and “Most people are basically good and kind,” with a maximum total score of 12 points. Tolerance was measured using the two items of “It does not bother me to be with people whose opinions differ from mine” and “I do not mind if people have opinions that differ from mine,” with a maximum total score of eight points. Generalized reciprocity was measured using the four items of “Acts of kindness will come back to help you later,” “When people are treated with kindness, they are kind to others as well,”

“I tend to value small encounters,” and “You never know where people might connect with each other,” with a maximum total score of 16 points.

As is shown clearly in the results of multiple comparison on the right-hand side of the figure, the coexistence type is the only type that uniformly differs significantly from the non-solidarity type. On generalized reciprocity in particular, its gaps are statistically significant not just with the non-solidarity type but with localism as well. Accordingly, we can confirm that the coexistence type relatively strongly involves these basic consciousnesses of citizenship.

The universalism type also shows a statistically significant difference with the non-solidarity type with regard to generalized reciprocity, suggesting its closeness to the coexistence type. However, when viewed overall together with the results in Figure 3 above, only heterophilic solidarity would appear to be insufficient for fostering the consciousnesses and attitudes of citizenship.

### 2-3. Determining Factors of the Coexistence Type

Based on the above analysis, we seek to identify the factors that enhance the appearance of sense of solidarity as the coexistence type. To do so, we conduct logistic regression analysis by taking the dependent variable for a binary variable representing the value 1 for the coexistence type and 0 for any other types.

First, we seek to identify the determining factors from basic attributes, referring to the results of analysis in Table 2. Since the effects of a respondent being a woman are persistent, we add gender to the model as an independent determining factor. Since the effects of family or household structure are somewhat divergent, we group them into a single dummy variable “not living alone” (married, with children, or living with parents). As this new variable shows a stable, statistically significant effect, we add it to the final model. Since no statistically significant effects were identified for the class variables of income or years of education, we eliminated them from the model confirming that the elimination would not influence on the overall determinant structure. The same was true for years of residence. Looking at the final model in Table 3, it is apparent that being a women and not living alone greatly increase the odds ratio to be the coexistence type.

In addition to the above basic attributes, we also examine diversity of net-base as a determining factor in this regression model. The 2012 Solidarity Survey asked about numbers of close friends “such as those with whom you dine or take part in leisure activities together several times a year,” asking respondents to choose which of 15 types of net-bases describes their ties to such persons. The number of net-bases chosen here was used as the diversity score of the respondent’s net-base of friends. Another factor is group net-base diversity. We scored this by the number of categories chosen when respondents were asked to describe the groups and organizations of which they are members and had “participated in meetings over the past two years” by choosing from 19 categories of groups by type. These two types of net-base diversity also had relatively stable effects, and as shown in the final model in Table 3 each was a positive determinant on sense of solidarity as the coexistence type.

We also examined the effects of an “unforgettable experience of being helped by a stranger” as experience being helped in connection with network imagination as described by Misumi (2010). While this variable reacted well to the coexistence type in individual correlation analysis, it was excluded from the final model because it was absorbed into the effects of other factors.

Table 3. Determinants of Coexistence Type Solidarity  
【Logistic regression for Coexistence=1】

	Exp (B)	Significance
Sex (Female=1)	1.49	0.009
Marital status (No single=1)	1.98	0.007
Friend net-base diversity	1.13	0.021
Group net-base diversity	1.16	0.010
Constant	0.17	0.000
-2 Log Likelihood		1003.561
Cox-Snell R <sup>2</sup>		0.048
Nagelkerke R <sup>2</sup>		0.065

### 2-4. Conclusions of Analysis of Types of Sense of Solidarity

The homophilic solidarity orientation (localism) and heterophilic solidarity orientation (universalism) differs in their nature within people’s actual consciousness; on the other hand, we have found that it is not necessarily difficult to combine them as sense of solidarity. A typi-

cal respondent in whom this coexistence consciousness was easily expressed was that of an upper-class housewife. A look at correlation with other variables showed that overall the coexistence type demonstrated distinguishing features that contrasted to the non-solidarity and the localism types. In regard with social consciousness, people who have the coexistence type appeared to have somewhat contradictory opinions in that, while they agree with welfare-state policies to support the vulnerable, they do not necessarily oppose the abandonment of the vulnerable through competition. We saw that those exhibiting this type took part actively in social activities and showed particular involvement in the public spheres through universal participation. This type also reacted well to citizenship consciousness, particularly generalized reciprocity.

As determining factors of having the coexistence type, we focused on the respondent being a woman, not living alone, and having a diverse net-base through relationships with friends and participation in groups.

From the above-mentioned consciousness properties and determinant structure, it is possible to surmise the following: The coexistence mechanism of homophilic solidarity and heterophilic solidarity is related to a diverse net-base based on family unity. This intersects with gender and social class, and it is conditional on sufficient leeway in terms of livelihood and time to make it possible. At the same time, this requirement of true coexistence is positively correlated to fostering of citizenship.

### 3. The Social Impact of the Kyushu Shinkansen

#### 3-1. Hypotheses of Strengthening and Weakening Solidarity

While sense of solidarity is based on the general determining mechanisms seen in the preceding section, its level and direction may be affected by various social factors. In this study, we will look at the social impact of the beginning of service on the Kyushu Shinkansen high-speed rail line as a way of examining this point.

Full service on the entire line of the Kyushu Shinkansen began on March 12, 2011, which by chance was the day after the Great East Japan Earthquake. As such, many events planned to celebrate the start of service were cancelled voluntarily. Amid these circum-

stances, the “*Shuku! Kyushu Judan Wave*” television commercial, that was made to recode a celebration activity carried out before 3.11, had considerable repercussions.<sup>2</sup> While this commercial had been based on the basic concept of a united Kyushu, similar events extended it to the resumption of full operation of the Tohoku and Akita Shinkansen lines and expanded further to the concept of a united Japan. It is anticipated that this continuous buildup of the concept would have overlapped with the direct effects of the Kyushu Shinkansen to have some impact on the sense of solidarity of Kyushu residents.

One anticipated effect, of course, is that of strengthening solidarity. In this case, geographical scope would issue. Since many of the comments about the commercial from viewers on the Internet mention “Kyushu,” it might have had the effect of directly increasing the sense of unity on Kyushu. In fact, at the time this study began with funding from a grant in aid for scientific research the author had envisioned this hypothesis of strengthening Kyushu solidarity. However, it became linked to the unforeseen event of the Great East Japan Earthquake. As a result, this “phantom commercial” resonated with the discourse of “*kizuna*” and the resonance push suddenly the geographical scope of solidarity to cover all of Japan. If so, then the strengthening of solidarity might express itself better at the level of Japan rather than just Kyushu alone. For this reason, a key point regarding the hypothesis of strengthening solidarity is comparison of its effects in Kyushu and in Japan as a whole.<sup>3</sup>

At the same time, there also is a possibility that the effect would be to weaken solidarity. Even though it was claimed that the direct effect on people’s lives of the Kyushu Shinkansen would be to unite Kyushu, basically its effects might be limited to communities on the rail line. In addition, since the line would strengthen the existing disparities in transportation convenience in Kyushu, it might instead promote the breakdown or collapse of solidarity as Kyushu between areas along the rail line and others, or between communities where new Shinkansen stations would open and those where they would not.<sup>4</sup>

#### 3-2. Changes in sense of solidarity

In 2007, the author conducted an Internet survey of

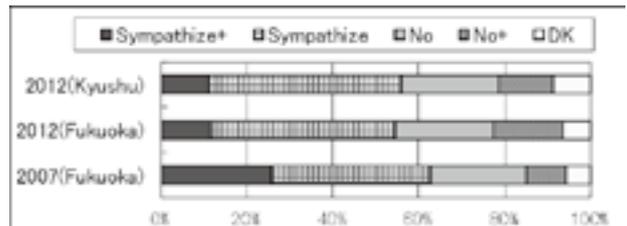
respondents residing in the city of Fukuoka using the same framework as that of the 2012 Solidarity Survey (hereinafter referred to as the 2007 Solidarity Survey; see Misumi [2009] for details of this survey). While this survey employed the same sample as the 2012 Solidarity Survey of volunteers registered with Rakuten Research, in the same age ranges, it was limited to residents of the city of Fukuoka. In addition, since it did not employ random sampling it cannot be compared strictly with the 2012 survey. But despite these limitations, it is possible to compare the two surveys directly on a number of questions regarding sense of solidarity. Accordingly, we will start by comparing the findings of these two surveys to investigate, on a provisional basis, the effects on sense of solidarity of the Kyushu Shinkansen and the spread of solidarity to include the response to the Great East Japan Earthquake.

Figure 5 compares the responses to both surveys on the following topics related to homophilic solidarity discussed in the previous section: “citizens from the same municipality” (“citizens of Fukuoka/Hakata [ ‘Hakatakko’ ]” in the 2007 Survey), “people from Kyushu,” and “Japanese.” In the figure “2012 (Fukuoka)” indicates responses of Fukuoka-city residents extracted from the 2012 Solidarity Survey. For reference, results for all of Kyushu (i.e., the entire sample) are shown under “2012 (Kyushu).”

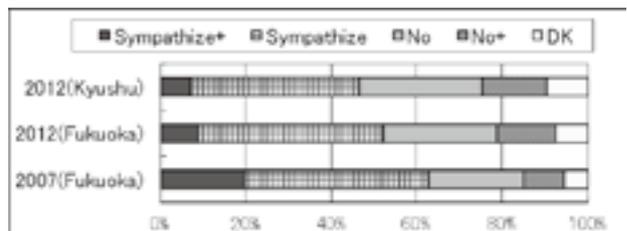
From this comparison, it appears that sense of solidarity (particularly strong sympathy) with “municipality” and “Kyushu” clearly has weakened. In contrast, for sense of solidarity as “Japanese” the level of sympathy remains largely unchanged. Before discussing the relationship between these time variations and the above-mentioned hypotheses, we should take into consideration some biases in the sample. As noted earlier, the 2007 Solidarity Survey was not random sampling. Instead, it employed the usual first-come, first-served method of an Internet marketing survey. In fact, the survey ended after reaching the designed sample size of 600 persons in two days. When we consider the fact that the randomly sampled 2012 Solidarity Survey took two months to collect 970 responses, it is highly likely that the 2007 sample may include some systematic biases. One could suppose that the responses to the 2007 Solidarity Survey came from volunteers who took the initiative in responding because they were interested

in the survey’s subject of “ties between people” and they had enough free time to answer the survey. The latter point is highly possibly related to gender. In fact, women made up 61% of the sample in the 2007 Solidarity Survey, and people with no occupation made up 27%, both percentages that differed greatly from those of 45% women and 17% unemployed in the 2012 Solidarity Survey.

(1) Solidarity of Municipality (Fukuoka)



(2) Solidarity of Kyushu



(3) Solidarity of Japanese

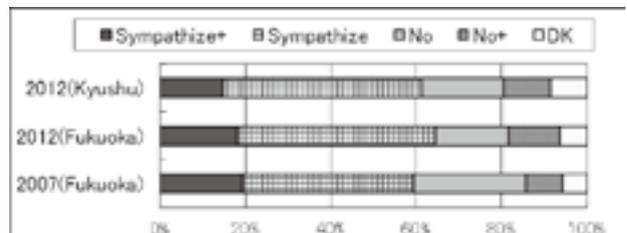
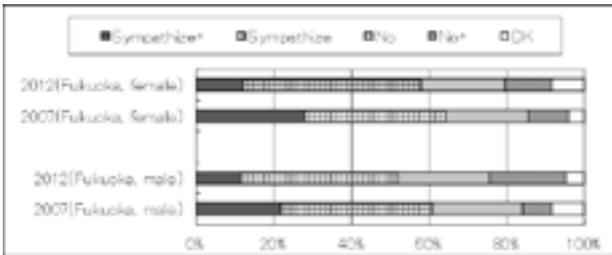


Figure 5. Change of Sense of Solidarity between 2007 and 2012

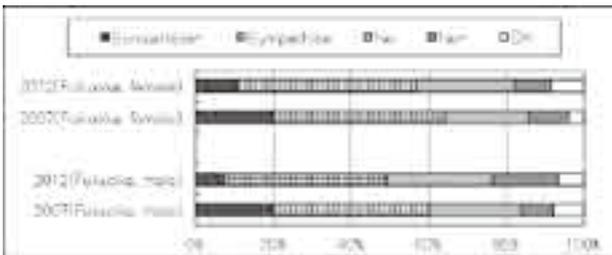
Accordingly, Figure 6 shows the same series of comparisons on sense of solidarity broken down by gender (only responses of Fukuoka-city residents are indicated for the 2012 Solidarity Survey). Male respondents show a uniform pattern of change pointing to a weakening of solidarity with regard to strong yes-or-no responses, while at the same time the percentage of weak sympathy as “Japanese” is larger in 2012. On the other hand, female respondents show the same pattern as men of weakening of solidarity with their “municipality” and “Kyushu,” in contrast their responses show a pattern of strengthening of solidarity as “Japanese.” Thus, except a difference with regard to solidarity as

“Japanese,” both men and women commonly show a pattern of weakening for other types of solidarity.

(1) Solidarity of Municipality (Fukuoka)



(2) Solidarity of Kyushu



(3) Solidarity of Japanese

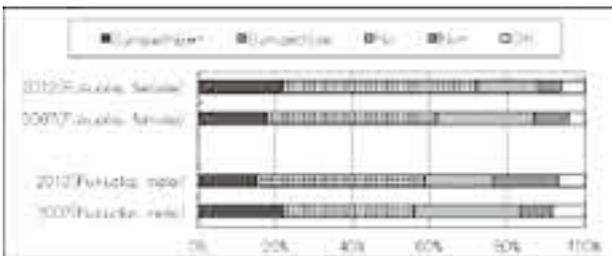


Figure 6. Gender and Change of Sense of Solidarity between 2007 and 2012

While this time variation common to men and women may in fact reflect the weakening of solidarity as a change over the years, at the same time they may be due to the sample bias noted above. This is the bias under which the 2007 Solidarity Survey would tend to have higher average levels of sense of solidarity overall because respondents who liked its subject of solidarity would take the initiative in responding to it (regardless of gender). Although it is not possible to check this bias any further, there is something that can be said regardless. It is that solidarity as “Japanese” shows a different pattern of change than those of “municipality” and “Kyushu,” even if it includes some partial differences by gender. If the above bias was present, then the 2007 solidarity levels would need to be estimated lower overall, so that we need to consider the 2012 level of solidarity as “Japanese” to have increased due to some other factor. On the other hand, if the overall

weakening of solidarity represented a real change in consciousness rather than a bias, then we can interpret this weakening of solidarity to have been held in check by some other factor for solidarity as “Japanese,” so that its levels of sympathy remained stable.

Returning to the hypotheses posited at the start of this section, the above discussion supports not the hypothesis of a strengthening of a sense of solidarity in “Kyushu” but that of a strengthening of a sense of solidarity in Japan. Certainly it is not beyond the realm of possibility that a cause of this strengthening of solidarity is the synergistic effect of both the Kyushu Shinkansen and the Great East Japan Earthquake. However, when we consider the fact that there are absolutely no signs of a strengthening of a sense of solidarity in “Kyushu,” it is difficult to identify a salient independent effect of the Kyushu Shinkansen. On the contrary, if the overall weakening of solidarity indicates a real change in consciousness rather than a sampling bias, we might say that the hypothesis of weakening of solidarity is supported in even more of a direct sense than originally thought. Whatever the case, what we have confirmed here is at most the effect of the Great East Japan Earthquake on solidarity as “Japanese,” and the degree to which the start of service on the Kyushu Shinkansen contributed remains uncertain.

3-3. Regional Comparison of Sense of Solidarity

Next we will attempt further to identify the possibility of independent effects of the start of service on the Kyushu Shinkansen through comparison among regions within Kyushu. This approach should make it possible to examine the breakdown of solidarity that is an essential issue behind the hypothesis of weakening of solidarity. Accordingly, we will split the results of the 2012 Solidarity Survey into those from communities where new Shinkansen stations were opened (Station cities), seen as the direct beneficiary-community from the Kyushu Shinkansen, and other communities, similarly comparing sense of solidarity on the three items compared above.<sup>5</sup> The results are shown in Figure 7.

Since no statistically significant correlations were found among any of these using the chi-square test, basically we conclude that there is no difference in sense of solidarity between station cities and others. In particular, from the lack of any such regional differences

in solidarity in “Kyushu” we can say that nothing like a breakdown of solidarity as described in the weakening-solidarity hypothesis occurred. At the same time, since no regional differences were found in sense of solidarity in “municipality” or as “Japanese,” this regional comparison provides no clues that would help identify any effects of the start of service on the Kyushu Shinkansen.

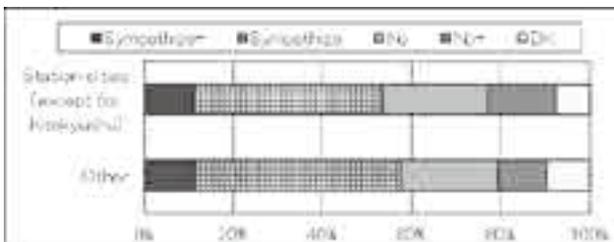
Whether a community to be or not to be the station city is significantly correlated to the type of sense of solidarity described in the previous section. As seen in the cross tabulation of Table 4, this correlation results mainly from differences in the shares of the non-solidarity type and the localism type. However, these probably should be seen in reference to degree of urbanization rather than the effect of the Shinkansen. Among respondents from station cities, 15.7% are unmarried and living alone, higher than the percentage of 10.6% in the rest of Kyushu, but among those reporting the non-solidarity type in station cities their percentage is 20.6% (roughly 80% of whom are men). At the same time, there is a substantial difference in

percentages of married women not living alone among those reporting the localism type. Such respondents accounted for 14.3% of those in station cities, much lower than the figure of 28.1% for the rest of Kyushu. In these ways, the high number of urban-type single-person households in station cities, intersecting with gender differences, seems to impact the way these two types of solidarity are exhibited.

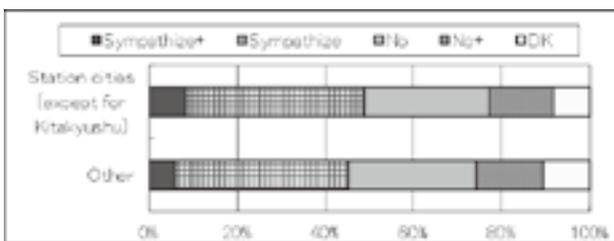
It should be noted that station cities, while including relatively numerous cases of the non-solidarity type, also show high levels of sympathy similarly as the rest of Kyushu on the homophilic solidarity types seen in Figure 7. Since types of sense of solidarity were defined by using the first three items on either end of Figure 1 and “Kyushu resident” and “Japanese” were not used directly, it would be meaningful to examine the relationships among these senses of solidarity anew. Accordingly, Table 4-2 shows the percentages of people sympathizing with each type of solidarity (regardless of strength or weakness) as “Kyushu” or “Japanese” from the corresponding persons in each cell of Table 4-1.

A look at Table 4-2 shows that although there are a number of exceptions, generally percentages of sympathizing are a little bit higher in station cities than in the rest of Kyushu. For “Kyushu” solidarity, on which the Shinkansen had been expected to have a direct impact, the difference is greatest for the universalism

(1) Solidarity of Municipality (Fukuoka)



(2) Solidarity of Kyushu



(3) Solidarity of Japanese

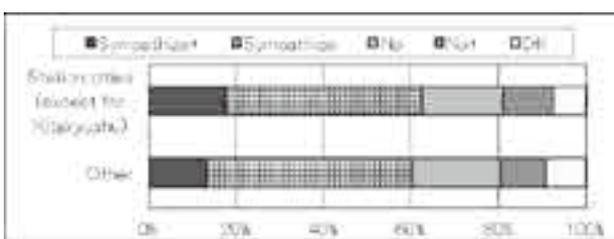


Figure 7. Comparison of Sense of Solidarity by Station City or Not

Table 4-1. Proportion of Solidarity Types by Station City or Not (percentage)

	Non-solidarity	Localism	Universalism	Coexistence
Station city (n=305)	35.1	9.2	17.0	38.7
Other (n=479)	28.6	18.6	16.3	36.5

$\chi^2=13.8$  (p=0.003)

Table 4-2. Rates of Sympathy with ‘Kyushu’ and ‘Japanese’ in Each Solidarity Type: Comparison between Station Cities and Others

		Non-solidarity	Localism	Universalism	Coexistence
Kyushu	Station city	18.1	71.4	42.3	88.8
	Other	14.7	71.3	24.7	81.7
Japanese	Station city	36.4	89.3	63.4	94.0
	Other	36.0	77.5	53.3	91.4

type. For solidarity as “Japanese,” differences are large for both the localism and universalism types. Although we need to investigate more deeply the meanings of these difference patterns, they could include hints as to the direct effects of the start of service on the Kyushu Shinkansen affecting these specific types of sense of solidarity.

#### 4. Conclusions

At the start of this paper, citing Suzuki (1978), we described solidarity as an issue of solidarity among different communities above all, pointing out that it might include some kind of emergent properties that were more than just extensions of community morale. The main objective of this paper has been to seek out empirical approaches to exploring this theoretical issue.

As a result, we confirmed that family unity and diversity of net-base are related with coexistence between homophilic solidarity and heterophilic solidarity. To use the terminology of social capital, a general framework of this study, family unity is seen as the most basic place where bonding social capital is accumulated. On the other hand, involvement with a diverse net-base through friends and participation in groups can be considered to be related to accumulation of bridging social capital. Namely, our findings suggest that issues of coordination of bonding and bridging (Burt, 2005; Misumi, 2013) are involved in the above-mentioned emergent properties. Of course, since most such social capital is unlikely to be related directly to solidarity, an important topic for analysis is how these accumulate in solidarity as social capital.

In addition we should note the fact that manifestation of a sense of solidarity as coexistence type was determined by gender and social class. This is because it shows the possibility that the extension of solidarity might not be able to overcome these barriers of difference. While the coexistence type inherently includes elements of heterophilic solidarity, since it has been defined using the three items at either end of Figure 1 we have not directly employed items of heterophilic solidarity beyond class. For this point too, more detailed analysis is needed, such as analysis of relations among senses of solidarity as conducted in Table 4-2.

Our analysis of the impact of the Kyushu Shinkan-

sen suggested that, by being resonated with the impact of other external event, in this case the Great East Japan Earthquake, through the discourse space, it could extend beyond the boundaries of concrete regional solidarity to determine a sense of solidarity at the national level. Although the mechanism of solidarity to create this kind of generalization is of note, in this paper we were unable to extend our analysis to that level. Our finding that the influence of an external event could vary by type of sense of solidarity may be a valuable clue for future study.

Although the analysis in this paper was able to partly confirm that the sense of solidarity seen here entails a certain degree of citizenship, there is a need for further study, including looking at whether the meanings of universalism and localism are proper to begin with. We would like to return to this paper again following repeated study of the specific forms in which community morale manifests itself at the national level.

**Acknowledgement:** The Japanese version of this paper appears in Misumi (2014: 19-35), which is the report of study supported by 2011-2013 JSPS Grant-in-Aid for Scientific Research: Scientific Research (C) 23530621 (representative: Kazuto Misumi). Parts of this paper were presented at the 125th (July 2013, Hiroshima University) and 126th (December 2013, Taketa Chamber of Commerce and Industry) conferences of Japan Sociological Association for Social Analysis. I extend my gratitude for valuable comments received. I present this paper to pay a tribute to the memory of Professor Hiroshi Suzuki.

#### Notes

- 1) Although the propriety of the general scoring was checked using principal component analysis and principal factor method, no major changes in the factor structure resulted.
- 2) The “*Shuku! Kyushu Judan Wave*” (“The 250-km wave”) television commercial was filmed on February 20 using a special train running on the line on a trial basis, and the resulting footage was used to produce a number of versions of the commercial. The 180-second “Full Version” was an exceptionally long commercial. The commercials were released on March 4, but then as numerous commemora-

tive events were cancelled voluntarily after the Great East Japan Earthquake on March 11 broadcast of the long commercial also was suspended. However, it remained viewable on YouTube, and as word spread gradually that the commercial was proving inspirational to people in the earthquake-affected Tohoku region it was broadcast April 22 on national television. A similar event took place on April 29 when the Tohoku and Akita Shinkansen lines resumed full service. As a result of this impact, the project and the commercial won a number of awards, including the gold prize in the outdoor section of the Cannes Lions international advertising festival.

- 3) Another event unforeseen by this study that occurred between March 11 and the 2012 Solidarity Survey was the deepening of antagonism between Japan and China concerning the Senkaku Islands. While it is conceivable that this had an effect on Japanese people's sense of solidarity, particularly at the national level, unfortunately there is no way to identify such an effect within the framework of this survey. However, unlike in the case of the Great East Japan Earthquake there is no evidence that the Senkaku Islands issue clearly resonated in the discourse space with the Kyushu Shinkansen commercial. Accordingly, consideration of its impact probably could be limited to sense of solidarity at a national level.
- 4) A further possibility is that the economic impact of the start of Shinkansen service could strengthen anomie overall. However, since it is hard to conceive of such an effect appearing to a marked extent amid the mood of self restraint that accompanied the slowdown in the Japanese economy overall and the Great East Japan Earthquake, it is not included as a hypothesis in this paper.
- 5) New stations were opened for the Shinkansen in Fukuoka, Tosu, Kurume, Chikugo, Omuta, Tamana, Kumamoto, Yatsushiro, Minamata, Izumi, Satsumasendai, and Kagoshima. Although we also conducted analysis that included other cities among those along the Shinkansen line, including Kitakyushu, which has a station on the Sanyo Shinkansen, and cities where the Shinkansen does not stop, no major differences resulted, so that in this paper we present the results

of analysis only for cities where new stations were opened.

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## 【Appendix】

Table A1. Factor Analysis of Sense of Solidarity (Likelihood method, Varimax rotation)

Sympathy for solidarity of _____	Factor 1: Homophilic solidarity	Factor 2: Heterophilic solidarity
Citizens from the same municipality	0.82	0.26
Residents from the same prefecture	0.85	0.29
People from the same hometown	0.85	0.22
People from the same high school	0.75	0.17
People from the same university/college	0.67	0.23
People from Kyushu (Born in Kyushu)	0.74	0.33
Japanese (ethnicity)	0.65	0.30
Asian	0.43	0.46
People from different generations	0.41	0.67
People differing in income and living standard	0.28	0.67
People having different educational background	0.35	0.73
Foreigners in Japan	0.22	0.84
People from unfamiliar areas of Japan	0.24	0.86
People from unfamiliar areas of foreign countries	0.14	0.84
Loading	34.2	30.6

Table A2. Factor Analysis of Social Participations (Likelihood method, Varimax rotation)

	Factor 1: Local participation	Factor 2: Universal participation
Neighborhood activities, local festivals	0.50	0.26
Organize alumni meeting, gatherings of people from your region	0.50	0.21
Vote for the national/local election	0.19	0.41
Support for political activities/election campaign (including signature fundraising campaign)	0.55	0.20
Citizens movement	0.78	0.20
Volunteer activities	0.58	0.42
Fund-raising and donation	0.20	0.80
Offering help to someone who is in trouble	0.32	0.61
Loading	24.2	19.3

## The Structure of the Sense of Solidarity: Notes on 2012 Solidarity Survey

Kazuto MISUMI

### Abstract

In studying solidarity theoretically interesting question is extended solidarity among different communities, because this extension process should include some kind of emergent properties. In this paper we seek out empirical approaches to exploring this theoretical issue. For data, we mainly use 2012 Solidarity Survey in Kyushu area and additionally use 2007 Solidarity Survey in Fukuoka for comparison, both of which the author conducted under the similar framework.

At first, in terms of factor analysis we extract two basic axes of solidarity, homophilic and heterophilic, and fix four types of sense of solidarity based on the combination patterns between the two. Considering the above-mentioned extension process, the most attracting type is the coexistence type that indicates high scores both for homophilic solidarity and heterophilic solidarity. We will find two important factors, family unity and diversity of net-base, that determine this type of coexistence, suggesting that issues of coordination of bonding and bridging social capital are related to the above-mentioned emergent properties. Since coexistence type is also determined by gender and social class, the extension of solidarity can be related with these barriers of difference.

Secondly, we explore the extension process of solidarity from the viewpoint of impact of external factors, in this case, the Kyushu Shinkansen and the Great East Japan Earthquake. Unforeseen overlapping of these two events and resonance of their impacts through the discourse space seemed to strengthen Japanese people's sense of solidarity at the national level beyond the boundaries of concrete regional solidarity. In fact, we will find some empirical evidence that solidarity as Japanese people was strengthened between 2007 and 2012. We will also find that the Kyushu Shinkansen did not cause breakdown of solidarity as Kyushu, however it is difficult to identify its unique effect of strengthening it.

**Keywords:** Homophilic solidarity, heterophilic solidarity, social capital, Kyushu Shinkansen, Great East Japan Earthquake