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Community participation in Tokyo and its suburbs: the importance of savings and interaction effects

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Abstract

In community participation, people are involved in defining the issues of concern to them and try to resolve them. This study tries to understand what kind of people choose to take part actively in community groups and to what extent their characteristics may interact between them. People are more likely to participate in community groups when they live for many years in the community, have more savings, don't work and live in the suburbs rather than live in Tokyo. Women with work and people with a higher education living alone are less involved in the community life. It seems that interaction effects are more important in the choice of participating than direct effects.

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1. Introduction

Community participation is one of the forms of volunteering. Volunteering was studied a lot. Volunteering means any activity in which time is given freely to benefit another person, group or organization. Volunteering differs from community participation concerning the scale, the goal and people involved. Indeed community participation is a process by which people are enabled to become actively and genuinely involved in defining the issues of concern to them, in making decisions about factors that affect their lives, in formulating and implementing policies, in planning, developing and delivering services and in taking action to achieve change (Breuer, 1999). This article focuses on some characteristics of people who participate in community associations; this paper examines particularly economic and household status.

One of the reasons for residents to participate in community groups is the local community attachment they may feel. This attachment has two main different origins: the increasing of population or density of the community and also the length of residence and the friendship, kinship and associational networks (Kasarda and Janowitz, 1974). Several recent studies confirm the link between rootedness, living longer in the community, and involvement in community groups (Wandersman *et al.*, 1987; Taniguchi, 2010), whereas Reingold (1995) considers that the number of years lived in the neighborhood is not at all significant contrary to the number of families known in the neighborhood. Another point to note is that independently the length of residence in the community, the living environment itself is inconsequential on the choice of participating whether people live in an urban area or in a rural area (Babchuk and Booth, 1969).

Setting aside the environment and the link to it, other reasons can be taken into account as demographic or economic characteristics. Indeed if at first sight, living alone or be aged appear to be incentive to participate in community life, studies prove that they don't. Persons in couples and those who live with children are more likely to be embedded in a community group than single or more generally people living alone (Babchuk and Booth, 1969; Wandersman *et al.*, 1987; Taniguchi, 2010). Reingold complete these results in an analysis comparing community participation according to the housing tenure status proving that owners are more involved in community due to the desire to prevent its deterioration.

Concerning the last demographic variables, age and gender seem not to have influence (Olsen, Perlstadt, Fonseca, *et al.*, 1989), but this affirmation is contradicted in some cases. For example, in Japan, it appears that older Japanese, and women living alone, not working are more likely to participate (Lee *et al.*, 2008). Moreover, part-time employment encourages women's volunteer work (Taniguchi, 2006).

Employment is one of the variables contained in the economic status. It is also complex to study because it contains different aspects related them: income, working status, occupation, education. Thus the former studies show that education has an influence on the participation in community groups; high school graduated and above residents are more likely to participate in community

organizations. (Reingold, 1995; Foskett, 1955; Rochelle and Shardlow, 2012; Wilson and Musick, 1997). As a consequence, the same research found that underemployment or unemployed and people those with low income are less involved in community affairs. On the contrary, according to Taniguchi (2010), the level of household incomes plays no significant role in explaining hours volunteered.

Thus, findings concerning economic status differ between studies and though a lot have been studied, the amount of savings has not been taken in consideration against age, or our sample contains a majority of elderly who work less or not at all, so their income can be less significant than the amount of their bank account concerning their effective participation in community groups. However, savings can have an importance because it can explain the need to work and so the household income. It is both cause and consequence of several others variables studied. That's why the role of savings will be studied more closely in the choice of participating in community groups.

2. Data

Data used for this study have been taken from a questionnaire submitted within the framework of the “Urban Reformation Program for Realization of Bright Low Carbon Society”⁴ by the City Planning research group.

The questionnaire was sent in February and September 2011 to 4,920 people aged 40-44 and aged 65 or older, who lived in Tokyo's 23 wards and in two suburbs, Hachioji and Kashiwa.

The response rate for this survey was 39.6%. Completed questionnaires were obtained from 1,946 respondents. Among them, 45.4% (N=884) of whom lived in Tokyo, 27.8% (N=541) in Hachioji and 26.7% (N=519) in Kashiwa. Two respondents lived outside our study area. They were suppressed of the sample for this study. 91 people had not informed the work status question. They were also removed from the analysis sample. Indeed, the relations work/ savings cannot be neglected for the further analysis. So the following study was realized with 1,853 respondents. Table 1 shows the characteristics of the sample. Women represent 52.7% of the sample. The mean age is 64.1 despite the greater sample of elderly (71.0%) due to the absence of persons between 45 and 64 years old. 83% of the respondents had completed high school, less than half had pursued further studies, but almost a quarter of respondents are undergraduate. Only 2.9% respondents had been to graduate school. Nevertheless, 42.5% respondents work whatever age or education. The questions about community participation contained in the survey were about the participation, its frequency and the reasons of non-participation. Note that 27.5%

⁴<http://low-carbon.k.u-tokyo.ac.jp/en/outline/index.html>

of the respondents told they participate in the community. Most of them live with one (37.8%) or two (22.2%) people, only 10.8% live alone.

Table 1. Characteristics of the sample ($N=1,853$)

<i>Variables</i>	<i>Percent frequency</i>
<i>Gender</i>	
Male	47.3%
Female	52.7%
<i>Age (64.1 ± 15.0)</i>	
40-44	29.0%
65-74	44.7%
75 or older	26.3%
<i>Currently Employed</i>	
Yes	42.5%
No	57.5%
<i>Education</i>	
Junior High School	15.9%
High school	37.7%
Vocational School	10.1%
Junior School	8.7%
Undergraduate school	24.0%
Graduate school	2.9%
No answer	1.5%
<i>Location</i>	
Tokyo's 23 wards	45.3%
Hachiōji	27.9%
Kashiwa	26.8%
<i>Community Participation</i>	
Yes	27.5%
No	68.8%
No answer	3.8%
<i>Number of people they live with</i>	
0	10.8%
1	37.8%
2	22.2%
3	16.4%
4	6.2%
5	3.2%
6 or more	1.9%
No answer	1.6%
<i>Number of years living in the community</i>	
less than one year	3.0%
1-2 years	4.4%
3-4 years	7.4%
5-9 years	15.0%
10-19 years	20.7%
more than 20 years	49.3%
No answer	0.2%
<i>Bank account</i>	
Less than 1 million yen	13.2%
1-2 million yen	7.2%
2-3 million yen	6.6%
3-4 million yen	3.7%
4-5 million yen	5.0%
5-10 million yen	14.0%
10-20 million yen	13.4%
20-30 million yen	8.0%
More than 30 million yen	13.2%
Don't know or No answer	15.7%

3. Results

In order to understand better the characteristics of people participating in community affairs and discover the most significant characteristics, we analyze the questionnaire survey data described above. First we use a logistic regression in order to merely compare our results with the literatures but also to see a relationship between community participation and savings. The most of studies take place out of Japan or Asia which can present a difference due to cultural difference, and some studies are quite old. Moreover, according to the review of literatures, the amount of savings has not been considered. It could be interesting to see if this variable has or hasn't an influence upon the community participation.

Second, in order to distinguish direct and indirect effects, we analyze the data through a structural equation modeling; this analysis allows to separate real effects to compound effects of several variables on community participation.

Influence of savings and living environment

Logistic regression analysis was conducted using SPSS 12.0 for Windows.

Community participants and non-participants' characteristics are compared by a logistic regression analysis with the community participation (reference: positive) as a dependent variable.

Independent variables are included when they show a significant direct effect with the dependent variable or if an interaction effect is found when compounded with another variable.

Table 2. Coefficients of logistic regression analysis

	Coef.	Std Error	p-value
Work	-.197	.173	.255
Tokyo	-.307**	.121	.011
Savings	.050**	.023	.034
Number of years living in the community	.232***	.054	.000
Education	-.027	.044	.532
Living alone	.823**	.414	.047
Gender (Woman)	.245	.153	.109
Gender (Woman) * Work	-.643**	.255	.012
Live alone * Education	-.323**	.147	.028

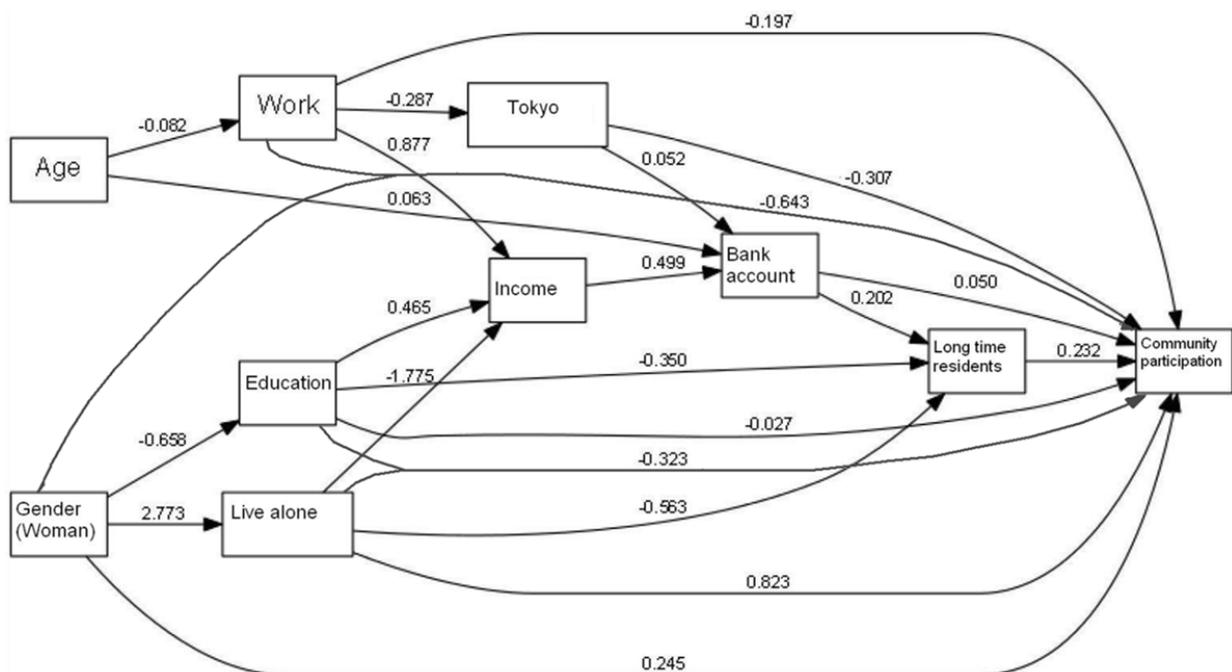
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Chi-square: 92.114, $df=9$

As shown in Table 2 above, logistic regression suggests that the main direct effects which induce a participation in community affairs are the city of residence and the number of years living in the community. Indeed people living in the suburbs and those who live in the community for many years are more likely to participate in community life. The amount of savings or living alone impact also positively. Not compounded with work, living alone has also a strong effect. It

appears that gender has no significant effect as Wilson and Musick found in 1997. However women who work are significantly less likely to be active in the community.

Contrary to literature, education doesn't appear to be an important element in the choice of participating. Nonetheless people living alone have less chance to participate if they are well-educated.

But most of the direct effect is influenced by others relations that we can see on Figure 1. Some of these indirect effects can result in inaccurate interpretations. To what extent indirect effects can influence, maybe change the impact of the independent variable on the dependent variable? To consider a Structural Equation Modeling (SEM) approach permits further analysis to find it



out.

Figure 1. Results of logistic regression analysis

Limited direct effects in participating choice

The data are now analyzed using Structural Equation Modeling (SEM). SEM is a set of statistical techniques to test causal relations between one or more independent variables and one or more dependent variables. These variables can be either continuous or discrete. It allows confirmatory and exploratory modeling. Confirmatory modeling usually starts out with a hypothesis that gets represented in a causal model. With an initial theory SEM can be used by specifying a corresponding model and using data to estimate the values of free parameters.

We use here the model defined previously. The results of SEM analysis permit to show only direct effects between two variables removing indirect effects and allow understanding better the reasons why people participate in community groups. In literature, most of studies use only logistic regression and don't separate direct and indirect effects, which might change or influence interpretations and conclusions. We obtain thus an estimation of the free parameters.

Table 3. Coefficients of structural equation modeling analysis

	Coef.	Std Error	p-value
Work	-.100***	.021	.000
Tokyo	-.055***	.021	.008
Savings	.010***	.004	.006
Number of years living in the community	.035***	.008	.000
Education	-.010	.007	.157
Live alone	.019	.033	.560
Gender (Woman)	.003	.021	.871

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Chi-square: 799.3095, df=25

For this purpose, this analysis is realized using the statistics software R including the SEM package. The resulting coefficients of the SEM analysis are collected in Table 3 and represented in Figure 2 shown below.

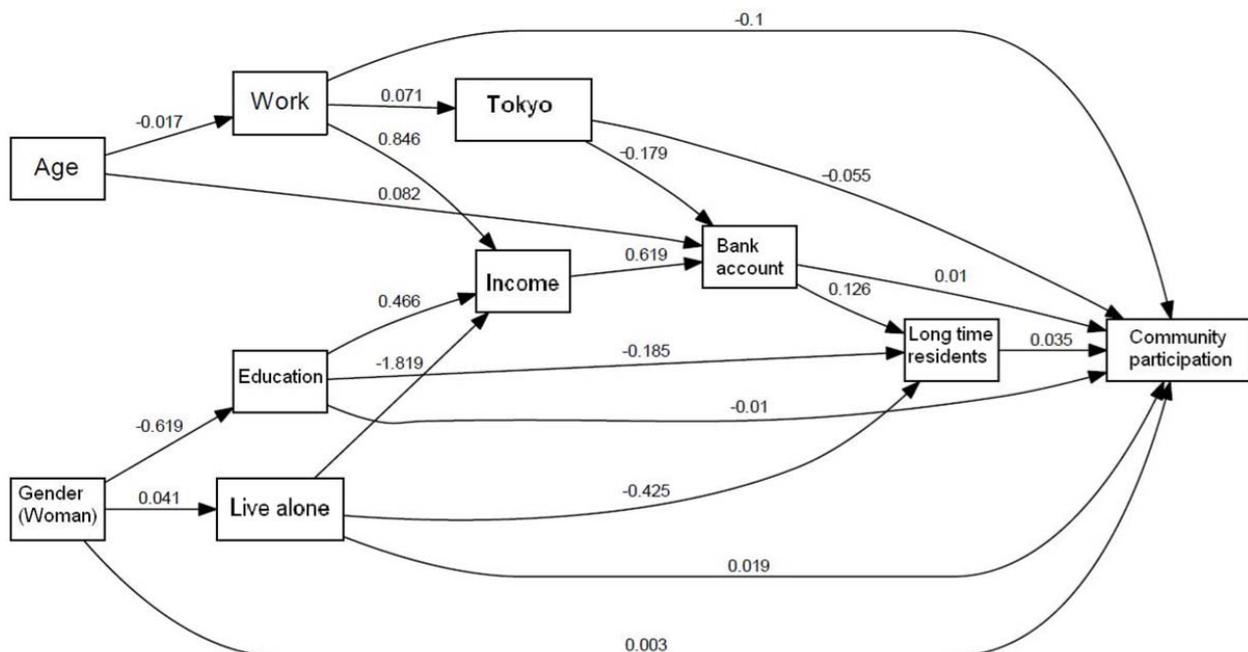


Figure 2. Results of structural equation modeling analysis

Comparing the signs of the different parameters used in this analysis, no major influence appears in the sign of the coefficients compared with the first table of coefficients in the logistic

regression, which means that the direct effects have more impact than indirect effects. Note that no interaction effects could be entered in this model. So there is a large difference in some coefficients but not an inversion of the effects. The second model is consistent with the first one.

However some differences exist when comparing the results of the SEM analysis with the results of logistic regression analysis concerning the significant variables. In the two analyses, the living location, the amount of the savings and the numbers of years living in the community are significant. But work appears now to be a significant variable whereas living alone isn't significant any more. But this second analysis confirms that education and gender have no significant direct effect.

Thus people are more likely to participate in community groups when they live for many years in the community, have more savings in the bank, don't work and live in the suburbs rather than live in Tokyo. The variable concerning work is the most significant. But the coefficients leading to community participation are quite low, which means that direct effects are not so important and are emphasized by indirect effects.

4. Discussion

At first sight, almost all independent variables seem to cause a participation in community except for those living in Tokyo and those well-educated contrary what literature says. Different reasons can explain these differences. Babchuk and Booth (1969) find no difference between people living in rural or urban areas, but this study took place in Nebraska where is a Midwestern state of the United States sparsely populated (9 inhabitants per square kilometer) and cannot be compared to Japanese cities. Because, the two suburbs cannot be treated as rural areas. Concerning education, if the coefficients are negative in this study, further analysis shows that till undergraduate studies, the more people are educated, the more they participate. Only the graduate participate less than the other groups, which can be explain by the little size of this group, or by the lack of time due to higher responsibilities in their work.

It appears that people who have lived in the community longer participate more in a significant way as found by previous studies (Taniguchi, 2010; Lee *et al.*, 2008), contradicting the results of Reingold (1995). However, he finds that the number of knowledge in the community is important, so he differentiates these two variables. This last variable is not present in the questionnaire survey data that we used, it is possible that the number of knowledge is here a latent variable induced by the length of residence in the community and which influences positively the involvement in the community life.

Then the analysis demonstrates that gender has no influence confirming the findings of Olsen *et al.* (1989). However, this study does not study the correlation between part-time employment of the women and community participation. But, women with a job are less likely to take part in the community affairs which is consistent with the results of Lee *et al.* (2008).

The analysis of the household status reveals that people living alone potentially participate more to the community life. This result contradicts research findings about people married who would participate more (Babchuk and Booth, 1969; Wandersman *et al.*, 1987). Findings here can be the results of interaction effect which influence direct effect coefficients and which are not used in the other studies. However, when crossed with educational level, the trend is reversed. An explanation can be that people with a high level of education have a job with greater responsibilities than the others as said before; moreover if they live alone, they must assume their work and the housework which don't let them much time to participate. Another possible explanation is that with their responsibilities, they can within their work take part in a way or another to the welfare of community so they don't feel an obligation to have another form of participation.

Have money influence on participation? That is what we can ask. It appears that the amount of savings impacts positively participation in community, both in logistic regression and SEM analysis which implies that it is really money possessed and not the fact of working and earn money which helps the choice of participation. There are several possible explanations. In this sample, the majority of people are elderly, so most of them don't work or work less depending of the amount of their savings. They are not busy, they have time and no problems with their job. It would be interesting to look their housing tenure to support this assumption. Another explanation can be that people having more savings may feel more liable to their community, they might want to protect and help their community and therefore themselves as a part of this community.

5. Conclusions

Findings show that people are more likely to participate in community groups when they live for many years in the community, have more savings, don't work and live in the suburbs rather than live in Tokyo. But women with work and people with a higher education living alone are less involved in the community life.

These findings are globally consistent with the previous studies, and it appears that interaction effects are more important in the choice to participate than direct effects considered separately. The amount of savings has a positive but small effect in this choice. This study shows the importance of considering the interaction effects to really understand the phenomena of community participation.

Nonetheless these findings must be taken in the context of the survey. Only people aged 40-44 and 65 or older were studied, so some characteristics like work or savings cannot be expanded to every category of age. Moreover, only logistic regression takes care of interaction effect in this study, further studies should try to enlarge SEM analysis in order to have comparable data.

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References

- Babchuk, N., Booth, A. (1969) Voluntary association membership: A longitudinal analysis. *American sociological review*, 34(1), pp. 31-45.
- Breuer, D. (1999) Community participation in local health and sustainable development, A working document on approaches and techniques European Sustainable Development and Health Series, World Health Organization, pp.9-10.
- Fenzel, L. M., Peyrot, M.(2005) Comparing college community participation and future service behaviors and attitudes, *Michigan Journal of Community Service Learning*, 12(1), pp. 23-31.
- Foskett, J. M. (1955) Social structure and social participation, *American Sociological Review*, 20(4), pp. 431-438.
- Kasarda, J. D., Janowitz, M. (1974) Community attachment in mass society, *American Sociological Review*, 39, pp. 328-339.
- Lee, S., Saito, T., Takahashi, M., Kai, I. (2008) Volunteer participation among older adults in Japan: An analysis of the determinants of participation and reasons for non-participation, *Archives of gerontology and geriatrics*, 47(2), pp. 173-187.
- Olsen, M., Perlstadt, H., Fonseca, V., Hogan, J. (1989) Participation in neighborhood associations, *Sociological Focus*, 22(1), pp. 1-17.
- Reingold, D. A. (1995) Public housing, home ownership, and community participation in Chicago's inner city, *Housing Studies*, 10(4), pp. 445-469.
- Rochelle, T. L., Shardlow, S. M. (2012) Involvement in volunteer work and social participation among UK Chinese, *International Journal of Intercultural Relations*, 36(5), pp. 728-736.
- Taniguchi, H. (2010) Who are volunteers in Japan?, *Nonprofit and Voluntary Sector Quarterly*, 39(1), pp. 161-179.
- Taniguchi, H. (2006) Men's and women's volunteering: Gender differences in the effects of employment and family characteristics, *Nonprofit and Voluntary Sector Quarterly*, 2006, 35(1), pp. 83-101.

Wandersman, A., Florin, P., Friedmann, R., Meier, R. (1987) Who participates, who does not, and why? An analysis of voluntary neighborhood organizations in the United States and Israel. *Sociological Forum*, 2(3), pp.534-555.

Wilson, J., Musick, M. (1997) Who cares? Toward an integrated theory of volunteer work, *American Sociological Review*, 62(5), pp. 694-713.

Zadeh, B. S., Ahmad, No. (2010) Participation and community development, *Current Research Journal of Social Sciences*, 2(1), pp. 13-14.