

Predictors of volunteerism: A study of older adults in Japan

Li-Mei Chen¹², NanakoTamiya^{2*}, Gohei Kato², Yui Yamaoka², Tomoko Ito², AkemiMatsuzawa², Hideki Yamamoto³

1. Department of Social Work, School of Human Welfare Studies, Kwansai Gakuin University, 1-155 Ichiban-Cho Hyogo, Japan
2. Department of Health Services Research, Faculty of Medicine, University of Tsukuba, 1-1-1Tsukuba, Ibaraki, Japan
3. School of Public Health, Teikyo University 2-11-1 Kaga Itabashi Tokyo, Japan

* E-mail of the corresponding author: ntamiya@md.tsukuba.ac.jp

Abstract

Volunteerism has risen steadily as a viable activity at old age in Japan for it gives older adults ways to contribute to society as well as enhancing their quality of life. It has also been addressed by the national government and adopted by many local municipalities under the long-term care insurance program as a health promotion and preventive care activity.

However, studies examining why older adults volunteer and why some don't are limited. Using a modified version of Baltes and colleagues' model of competence, this study examines the predictors of volunteerism among older adults in Japan. Data from a city located northeast of Tokyo was used (n=703). Results indicated that basic competence does not predict volunteerism, but rather competence gained from experiences. To increase the number of older volunteers, the study suggests that civic engagement must start at an earlier age coupled with financial stability.

Keywords: volunteerism, older adults, Japan, competence, long-term care insurance

1. Introduction

There are good reasons for Japan to promote senior volunteerism. Reasons to promote senior volunteerism are a by-product of three intersecting points. First, Japan's aging population has reached 23% and has become a super-aging society. Moreover, Japanese are living longer with better health, which means that there will be older adults who are capable of being independent and productive. Today, approximately one out of every five adults ages 50 years and above volunteers in Japan, a higher rate than for their younger counterparts. Volunteerism is concentrated mainly among older adults in their 50s and 60s (25.2% and 25.1%), and the rate declines for those 70 years and older (14.1%) (Ministry of Health Welfare and Labour, 2002).

Second, volunteerism may become the solution to a decreasing national social spending. Japan's real spending growth has outpaced sluggish real GDP-growth since 1990, so much that the public social expenditure-to-GDP ratio increased from 11.3% in 1990 to 18.7% in 2007 (Adema, Fron, & Maxime, 2011). The government foresees that older volunteers will play an important role in providing community-based social services (Ministry of Health Welfare and Labour, 1999). According to the White Paper on Older Adult's Lifestyle and Social Contribution by the Cabinet Office (2006), areas of interest for volunteering include nature and environmental protection, local and neighborhood activities, and caring for older adults and persons with disabilities.

Thirdly, volunteerism is considered as a healthy activity. Studies conducted in the United States show that volunteering decreases depressive symptomatology among older adults (Musick & Wilson, 2003). Local municipalities – responsible for planning and implementing long-term care insurance services – have increasingly added older adults' volunteerism as an activity to promote health and prevent long-term care needs.

When compared to older adults in other countries, Japanese older adults still volunteer at a lower rate. The number of older volunteers is growing, but only 2% in five years (46.6% in 2005, 48.3% in 2010) (Cabinet Office, 2011). A five country comparison study examined the percentage of older adults who have never participated in volunteer activities. In their sample, Japan had the second highest rate (51.7%) of older adults who have never participated in volunteerism or other civic activities after South Korea (74.2%). The three other countries - Germany (42.9%), the United States (33.1%), and Sweden (28.3%) - had more than half of their older adults volunteering or engaging in civic activities (Cabinet Office, 2010).

In the same study of the five countries, the top two reasons for not volunteering were “too occupied psychologically and time-wise” (32.2%) and “health reasons and lack of confidence in physical strength” (31.5%). While the top reason for all the other four countries was “not interested” (the United States 45.8%, South Korea 47.6%, Germany 37.3%, and Sweden 28%), only 15.9% of older Japanese answered the same. Similar results were found from the data collected for this study on community-dwelling older adults living in a City, located 60 kilometers northeast of Tokyo. As shown in Table 1, the top two reasons for not participating in any type of volunteerism were “not having the time” (19.2%) and “don’t have the chance” (15.5%), while 6.2% of the older respondents answered “not interested” or “bothersome.” These studies suggest that Japanese non-volunteers have an interest in volunteerism, but don’t think they are competent enough psychologically and physically to deal with volunteer activities. Studies have reported that the hierarchical progression in loss of competence exists as people age (Diehl, 1998). In face of a super-aging society, this suggests that there is a need among older adults wishing to participate in volunteerism.

Baltes and colleagues (1993) define the role of competence in face of everyday life. The model is separated into two components. The first component is basic competence, includes those activities that individuals must do to maintain health and independence in the community. They are defined by the individual on the basis of biological needs and sociocultural norms. Baltes and colleagues operationalized this basic component on the items of selected Activities of Daily Living (ADLs) (Katz, Ford, Moskowitz, Jackson, & Jaffe, 1963) and Instrumental Activities of Daily Living (IADLs) (Lawton & Brody, 1969). The second component, expanded competence was hypothesized to include the broader range of activities that are determined by individual preferences, motives, and interests.

Despite the importance of volunteering, the determinants of older adults’ participation in volunteerism in Japan are still largely unknown. There is a need for more empirical research to determine ways to promote older adults’ engagement with volunteer activities. As shown in Table 1, the review of the Japanese literature on why older adults decide to volunteer show that the number of studies are limited.

However, from what we know, there are three additional areas pertaining to Japan that may require scrutiny. In addition to Baltes and colleagues’ model on competence, there are two more components which may influence human competence. First, various experiences seem to motivate volunteerism. Current and past membership in other local community organizations and activities predict volunteerism (Okamoto, 2006; Okuyama, 2009). Furthermore, personal challenging experiences such as caregiving which motivate older adults to extend their assistance to others. Japanese experienced with caregiving for older adults or for children were more involved in volunteerism (Atoda & Fukushige, 2000; Nakajima, Nakano, & Imada, 2005). Personal experiences seem to motivate them to care for others through volunteerism.

Another aspect which is considered highly related is the evidence of mental health issues. A study on middle-aged and older Japanese men reported that participating in either volunteer work or paid work was associated with decreasing depressive symptoms (Sugihara, Sugisawa, Shibata, & Harada, 2008). Men who lost their paid work roles reported more depressive symptoms, and volunteer work attenuated the negative effect of losing these roles. As for women, paid or volunteer work had no independent association with depressive symptoms. However, engaging in multiple productive roles, in comparison with doing only housework, was related to fewer depressive symptoms.

In addition to the above, the third component of interest is work. In Japan, the employment rate for Japanese older adults is among the highest in OECD nations, exceeding the OECD average rate. Japanese men aged 55-59 had the second highest employment rate (89.2%), and those aged 60-64 (72.5%) and 65-69 (47.8%) had the third highest percentages among OECD nations. A survey on Japanese aged 55-69 showed that a greater percentage worked into old age for financial reasons (men 79.2%, women 67.6%). The Japanese national pension seems to promote work at old age. According to an OECD report (2007), the average gross replacement rate for mandatory pensions in OECD countries was 58.7%, while Japan (36.8%) had one of the lowest replacement rates for average earners along with the United Kingdom (34.4%) and Ireland (38.2%). Prior to the reform, the pension income replacement rate in Japan was 41% of average earnings, which was already below the average for OECD countries. That being said, studies show that older adults who are financially well-off or satisfied were more likely to volunteer (Atoda & Fukushige, 2000; Nakajima, et al., 2005), and those who were receiving a monthly working wage (i.e., employed) were less likely to volunteer (Ono, 2012).

The research aims to contribute to the literature in two ways. First, a sociodemographic profile of volunteers and non-volunteers is constructed to examine any differences in the two groups. Moreover, reasons stated by older adults who have not volunteered in the past five years are reported. Second, the research attempts

to examine what characteristics of older adults affect their decision to volunteer. This study will examine the predictability of competence, especially expanded competence with additional variables including financial, mental, and experiential competencies for engaging in volunteer activities.

2. Methods

2.1 Source of data

This study uses data collected for a city located 60 kilometers northeast of Tokyo, the capital city of Japan. The data collection is mandated by the Long-term Care Insurance Law for the use of municipal planning of elderly social services. The data collection consists of four target groups: (1) older adults ages 65 and older who are not long-term care insurance program beneficiaries, (2) community-dwelling older beneficiaries who are certified for use of long-term care insurance services, (3) adults ages 40 to 64 years old, and (4) care managers who work in the city's social service agencies. The data collection was done by mail between February 1 to 14, 2011. The average response rate for all four target groups was 51.5%. For this study, data collected from older adults who are not beneficiaries of the long-term care insurance program was used. The surveys were mailed to 1,400 adults, and the response rate was 62.1% (n=869).

2.2 Analysis

SPSS version 21 was used for the analysis. First, variables forming two components of competence were created. Factor analysis was conducted with oblique rotation to determine the factor structure within each standardized subscale to test for the two components of competence. Maximum likelihood estimation was performed to determine the factor loadings. An item was identified to load on a given factor if the factor loading was .40 or greater. Cronbach's alpha was computed as a reliability test for each subscale with a standardized scaling. The cutoff point was .60.

Next, descriptive statistics was obtained to create the profile of the two groups of older adults who have volunteered and those who have not volunteered in the past five years.

Finally, logistic regression was used to examine the predictor variables of engagement in volunteer activity in the past 5 years (yes=1, no=0).

2.3 Variables

A modified version of Baltes and colleagues will be used to examine the competence. Basic competence was measured by the following two summed scores. First, physical competence was measured by five 3-point Likert questions on whether one can do the following activities-of-daily living: "bathing," "toileting," "changing clothes," "washing or brushing your teeth," and "going to bed." Physical competence ranged from 0 to 10 and Cronbach's alpha was .96. Second, instrumental competence was measured by four 3-point Likert questions asking whether one can do the following four instrumental activities of daily living: "paying bills," "shopping for daily items," "depositing or taking money out," and "going out alone on a bus or train." Instrumental competence ranged from 0 to 8 and Cronbach's alpha was .80.

Expanded competence was measured with the following two summed measures. First, social competence was measured by six yes/no questions which ask whether one is able to "provide advice to your family and friends," "initiate a talk with a young person," "visit friends home or see friends outside," "feel meaning in life," "visit a sick person," and "have a hobby." Social competence ranged from 0 to 6, and Cronbach's alpha was .74. Intellectual competence was measured by 3 yes/no questions on whether one is able to, "read the newspaper," "read books or magazines," and "fill out forms for pension or other documents." It ranged from 0 to 3, and Cronbach's alpha was .64.

Additionally, three more variables will be examined. To see how past or current experiences in other community-related activities or membership influence participation in volunteerism, a variable examining the summed score of participated local activities will be used. This will be called experiential competence. To examine the role of mental health, a summed score of questions related to mental health will be used. Mental health was measured by four yes/no questions which asks whether one feels "lack of enjoyment in what one used to enjoy," "bothersome about something you used to enjoy," "useless," and "lethargic for unknown reasons." It ranged from 0 to 4, and Cronbach alpha was .76. To examine financial competence, a question, "Are you interested if there is paid work available?" will be used to figure out the interest of the older adult in paid work.

Available demographic variables included age, sex, living arrangement (living with a spouse, no. of cohabiting family members), whether the respondent is alone during the day, self-rated health, self-rated happiness will be also included.

3. Results

Table 3 shows the descriptive statistics of the two groups, volunteers and non-volunteers. Volunteers was younger (71.8, SD=5.0) than the non-volunteers (73.9, SD=6.3). More males than females were volunteers (58.7% vs. 41.3%), while more females than males were non-volunteers (47.4% vs. 52.6%). As for living arrangement, volunteers had fewer cohabiting members (3.2 vs. 3.6), but were living with a spouse (89.3% vs. 74.8%) compared to non-volunteers. Chances that volunteers were alone during the day were more frequent than non-volunteers (1.8 vs. 1.9, 1= frequently ~ 3= never).

In the scale of 0 to 10 (as 10 being happiest), volunteers were happier than non-volunteers (7.4 vs. 6.8). There was no difference by health, but difference was found for drinking. Non-volunteers drank more frequently than volunteers (2.8 vs. 2.5).

As for basic competence, there was no difference in ADLs between the two groups, but difference was detected for IADLs. Volunteers were slightly more competent than non-volunteers in performing instrumental activities of daily living (7.7 vs. 7.0). As for expanded competence, differences were found for both intellectual and social competences. Volunteers scored higher for intellectual (2.9 vs. 2.5) and social (5.7 vs. 5.0) than non-volunteers.

Interestingly, volunteers had slightly higher mental health issues than non-volunteers (3.5 vs. 3.3). And, financial competence explained by interest in paid work showed a difference. Volunteers were also more interested in paid work compared to non-volunteers (33.6 vs. 18.6). Experiential competence as explained by number of participated local activities showed that volunteers had higher total score than non-volunteers (2.1 vs. 1.3).

Table 4 shows the results of the logistic regression model was conducted using a binary dependent variable (yes=1, no=0) asking whether the respondent volunteered in the past 5 years. Three models were conducted to examine the effects of the control variables, the competence variables (variables of interest), and the full model (with control and competence variables). ADL as a basic competence was dropped because there was no significant difference between the two groups. Age, living with a spouse, self-rated happiness, and a component of basic competence – IADL was significant. Persons who were younger, not living with a spouse, and had a higher rating for subjective happiness were more likely to volunteer. More competence in IADLs was also more likely to volunteer.

When examining the modified expanded competence, financial competence explained by persons interested in paid work were less likely to volunteer. Persons with higher score on intellectual competence and higher number of participated local activities were also more likely to volunteer.

Finally, in the full model, out of seven significant variables, four variables: age, self-rated happiness, interest in paid work, and number of participated local activities remained statistically significant.

4. Discussion

Strengthening the range of human competence of older adults and their social and physical environments is mutually beneficial to them, as well as other members of the younger generations. In this study, a modified version of Baltes and colleagues' competence was used to examine their relation to whether an older adult volunteers or not. Results shows that both basic competence explained by IADLs and expanded competence explained by intellectual, financial, and experiential competence were found to be important to volunteers. However, when controlled for sociodemographic variables, self-rated happiness, financial and experiential competencies remained significant. This may suggest that the original competencies by Baltes and colleagues are not necessarily important for older adults to volunteer.

Simply, one being happy is important for him/her to take on volunteer activities. A positive subjective well-being seems to be the key to being motivated to make others happy as well. Happiness is defined differently by person, so it will be a challenge as to how to increase happier people. One way is by achieving financial

stability. Persons uninterested in paid work were more likely to volunteer. Persons who are financially stable at old age have more elbowroom to take on a non-paid activity like volunteerism.

Earlier or current experiences in local activities seem to encourage older adults to volunteer. Being involved in the community is the closest door to civic engagement such as local festivals, school events, and neighborhood activities. The more involved you are in your own community, the more likely you will be connected to the people, information, and opportunities in volunteerism than those who are not involved in local activities. Competence gained from experiences suggests increased confidence in taking on volunteer activities at old age. Hence, it may be more important to help people to start early in participating in local activities, so they can also be engaged in volunteering at old age.

5. Conclusion

As volunteerism is viewed as an activity necessary for Japan's super-aging society, this study indicates that financial security, better quality of life, and experiences in civic engagement are necessary to fostering volunteerism at old age. These aspects are more likely to be fostered over time, even before people reach old age. In order to create a larger cadre of older volunteers, Japanese policy must take on a life course perspective in bettering the lives of people for preparation of old age. In this regard, maintaining the current social security structure to achieve income security at old age is important. Additionally, as Japanese society has become increasingly losing ties amongst each other, creating and strengthening their roles in the community is important. As the community plays a larger role in society, it subsequently invites community members to take part in the activities. More children and younger adults need to be involved in such activities so that they are trained to become lifelong volunteers as they age.

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Table 1. Empirical research examining predictors of volunteerism among older adults.

| Authors, Year | Sample | Data | Methods | Independent variables | Significant variables |
|---------------------------------|--|--|-------------------------|---|---|
| Atoda & Fukushige, 2000 | Age 40≤ living in Tokyo (n=694), Nagano (n=407), or Oita (n=526) | Survey on the middle-aged and older adults' lifestyle and the function of social security 1997 | Probit model | Age, sex, spouse, no. of children, oldest child (spouse or respondent), outpatient, inpatient, caregiving, education, annual income, wealth | Tokyo: no. of children (+), high school graduate (+), college (+) graduate, wage (-); Nagano: outpatient (+); Oita: no. of children (+), caregiving (+), high school graduate (+), wealth (+) |
| Nakajima, Nakano, & Imada, 2005 | Unemployed women (or men), unemployed women (or men) with spouse, employed women (or men) with spouse, self-employed with spouse 10≤ | Survey on Time Use and Leisure Activities 1981, 1986, 1991, 1996, 2001 | Multinomial logit model | Age, spouse, education, housing type, total income, having child(ren) under 6, having older adult(s) 65+, having a family member requiring caregiving, 2 days off from work per week or not, area of residence, having a spouse who volunteers | Education (+), Own home (+), Higher total income (+), 2 days off from work per week (+), Women having child(ren) under 6 (-) while men having child(ren) under 6 (+), having older adult(s) 65+ depends on work, having a family member requiring caregiving (+), area of residence especially big cities (-) but depends on work, having a spouse (+), having a spouse who volunteers (+) |
| Okamoto, 2006 | Older adults 65-84 living in A City, (ave. age 71.7) Chiba (n=755) | Mailed survey 2009 | Logit model | Preferred life style, IADL, subjective health, wanting to contribute to community, wanting to have contact with younger generation, skills/knowledge/certified, volunteer experience at middle age, no. of close friends or group of friends, awareness of volunteer activity information, age, sex | IADL (+), wanting to contribute to community (+), volunteer experience at middle age, no. of close friends or group of friends (+), awareness of volunteer activity information (+) |
| Okuyama 2009 | Age 20-89 participating in cleaning activity (n=1,239), recycling activity (n=806), patrol activity (n=1,217) | JGSS 2006 | Probit model | Sec. age, age (log), spouse, female household, female x household (with child, with spouse, with live-in parent), having a child requiring compulsory education, education, area of residence, housing type, years of residence, satisfaction with area of residence, health satisfaction, intent of continuing to live in same area, membership to organized group, weekly working hours, income wage rate, rate of nuclear family households, rate of single person households, no. of city parks per 100 persons, rate of garbage recycle, no. of crimes per 100 persons, opinion about government spending, and local municipality's expenditures | Cleaning activity: female, age, age (log), spouse, female x household, having a child requiring compulsory education, education (college/ grad school), area of residence (with lots of shopping and offices), area of residence (with old neighborhoods), health satisfaction, housing type (apartments), membership in organized group (trade), membership in organized group (volunteer), membership in organized group (grassroots), rate of single person households, no. of crimes per 100 persons, opinion about government spending (environmental problems), local municipality's expenditures x opinion about government spending (environmental problems) Recycling activity: female, age, age (log), spouse, having a child requiring compulsory education, housing type (apartments), membership in organized group (volunteer) Local patrol activity: Age, age (log), spouse, having a child requiring compulsory education, education (college/ grad school), health satisfaction, satisfaction with area of residence, membership in organized group (volunteer), membership in organized group (grassroots), no. of crimes per 100 persons, opinion about government spending (environmental problems), opinion about government spending (crimes), local municipality's expenditures x opinion about government spending (safety) |
| Shishido, 2009 | Age 30≤ | Japan General Social Survey 2000-2006 | Logit model | Working hours, frequency of housework, 7-12 yrs. old child(ren), children living in the same home, rate of moving to other communities, financial indicator of local municipality, rate of information support of local municipality, participation rate of senior clubs, no. of NPOs/100,000 population Control variables: sex, age, SES, education, subjective health, spouse, years of residence, population density | Local recycling activity: sex (+), age (+), SES (+), spouse (+), shorter years of residence (-), density (-), working hours (-), frequency of housework (+), children living in the same home (+), participation rate of senior clubs (+), no. of NPOs/100,000 population (-) |

Table 1(continued)

| | | | | | | |
|----------------|--|--|----------------|--------------|--|---|
| Terazawa, 2012 | Age 20-89 who volunteer frequently and temporarily (n=4,976) | Japan Social Survey (JGSS) 2002, 2005 | General Survey | Logit model | Religion (Buddhism, Christianity, New Religion, Other, No religion), level of devotion, membership in an organized religious group, age, age (log), sex, education, are of residence (city or other), spouse, work type (self-employed or temporary employed, unemployed, full time employed) | Frequent volunteering: New religion, age, age(log), education, spouse Infrequent volunteering: Buddhism (individual), Buddhism (family), age, age (log), education |
| Ono, 2012 | | | | Probit Model | Age, age (log), sex, education, having children, caregiving, breadwinner, monthly non-working wage, monthly working wage, savings, loans, health, life satisfaction, area of residence | Age (-), age (log) (+), having children (+), monthly working wage (-), savings (+), health (+), life satisfaction (+), area of residence (towns and villages) (+) |
| Ishida, 2012 | Ages 55-70 (n=230) | Study on the Current Status of Employment among the Elderly 2009 and Ministry of Home Affairs Census Survey Report | JILPT | Tobit Model | Participation in social contribution activity, intent to participate in social contribution activity, population, unemployment rate, average age, rate of older adult workforce, rate of having person living in the same household, education, health, own home, apartment, social education expenditures, municipal law implemented for social contribution activity/ volunteerism, community building | Average age (+), education (+), health (+), own home (+), social education expenditures (+) |

Table 2. Reasons why he/she did not volunteer in the past 5 years (multiple responses)

| Reasons | Responses (%) | Cases (%) |
|---|---------------|-----------|
| Don't have the time | 19.2 | 33.9 |
| Don't know anyone | 7.6 | 13.6 |
| Don't have enough information | 10.2 | 18.5 |
| Don't have the chance | 15.5 | 27.6 |
| Don't know how to participate | 6.6 | 12.0 |
| Want to protect my own time | 9.4 | 16.9 |
| Not interest in the activities | 3.3 | 5.9 |
| Physically unwell | 9.7 | 17.2 |
| Activities are unrelated to my daily life | 1.5 | 2.7 |
| Bothersome | 2.9 | 5.2 |
| Can't get support from my family | 0.6 | 1.1 |
| Other reasons | 13.4 | 22.4 |
| Total=1017 | 100% | 176.3% |

Table 3. Characteristics of older adults ages 65+ with and without volunteer experience in the past 5 years

| | N | Volunteer Experience | | | | X ² (df) | t |
|--|-----|----------------------|------|------------|------|---------------------|---|
| | | Yes (n=156) | | No (n=547) | | | |
| | | M(SD) | % | M(SD) | % | | |
| Age (Range 65-94) | 689 | 71.8(5.0) | | 73.9(6.3) | | 4.1*** | |
| Gender | | | | | | | |
| Male | 355 | | 58.7 | | 47.4 | 6.65(1)** | |
| Female | 343 | | 41.3 | | 52.6 | | |
| Number of cohabiting family members (including respondent) | 480 | 3.2(1.5) | | 3.6(1.7) | | 2.1* | |
| Living with spouse | | | | | | | |
| Yes | 500 | | 89.3 | | 74.8 | 12.0(1)*** | |
| No | 122 | | 10.7 | | 25.2 | | |
| Alone during the day (1=frequently, 2=sometimes, 3 never) | 605 | 1.8(0.7) | | 1.9(0.7) | | 2.3* | |
| Self-rated happiness (Likert scale 0= very unhappy – 10= very happy) | 671 | 7.4(1.9) | | 6.8(2.1) | | 3.3*** | |
| Self-rated health | 694 | | | | | | |
| Somewhat or very healthy | | | 79.9 | | 76.9 | .626(1) | |
| Somewhat or unhealthy | | | 20.1 | | 23.1 | | |
| Drink | 685 | 2.5(1.1) | | 2.8(1.1) | | 2.5** | |
| Smoke | 677 | 3.3(0.9) | | 3.4(0.9) | | 1.15 | |
| Basic Competence | | | | | | | |
| ADL | 693 | 10.0(0.1) | | 9.9(0.7) | | 1.05 | |
| IADL | 672 | 7.7(0.7) | | 7.0(1.7) | | 4.4*** | |
| Expanded Competence | | | | | | | |
| Intellectual competence | 677 | 2.9(0.4) | | 2.5(0.8) | | 4.7*** | |
| Social competence | 640 | 5.7(0.9) | | 5.0(1.4) | | 5.1*** | |
| Mental health | 644 | 3.5(0.9) | | 3.3(1.2) | | 2.4*** | |
| Interested in paid work | | | | | | | |
| Yes | 119 | | 33.6 | | 18.6 | 11.9(1)*** | |
| No | 382 | | 66.4 | | 81.4 | | |
| No. of participated local activities | 667 | 2.1(1.3) | | 1.3(0.6) | | 12.7*** | |

*=p<0.5, **=p<0.01, ***=p<0.001

Table 4. Logistic regression analysis on having volunteer experience in the past 5 years

| | <i>B</i> | <i>SE B</i> | <i>B</i> | <i>SE B</i> | <i>B</i> | <i>SE B</i> |
|--|----------|-------------|----------|-------------|----------|-------------|
| Age | -.05 | .03* | | | -.08 | .04* |
| Sex (1=male) | -.17 | .26 | | | 0.11 | .38 |
| Living with a spouse (1=yes) | -1.12 | .48* | | | -.84 | .68 |
| No. of cohabiting family members | -.02 | .08 | | | -0.6 | .13 |
| Alone during the day | -.25 | .18 | | | -.19 | .26 |
| Self-rated health | .38 | .34 | | | .35 | .51 |
| Self-rated happiness | .21 | .07** | | | .20 | .10* |
| IADL | .34 | .14* | | | .35 | .24 |
| Paid work | | | -.77 | .29*** | -.99 | .41* |
| Mental health score | | | -.16 | .13 | -.25 | .24 |
| Literacy skills score | | | .65 | .28* | -.24 | .40 |
| Social capital score | | | .11 | .14 | .24 | .26 |
| No. of participated local activities | | | 1.06 | .16*** | 1.0 | .21*** |
| Constant | -.84 | 2.29 | -4.19 | .90*** | .30 | 3.43 |
| Goodness-of-fit statistics ¹ <i>X</i> ² , <i>df</i> | 5.84(8) | | 5.87(8) | | 9.21(8) | |

1. Hosmer and Lemeshow Test.