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An Interdisciplinary Study of Japan Overseas Cooperation Volunteers (JOCVs)

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Yasunobu Okabe, Sakiko Shiratori, and Kazuya Suda

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JICA Research Institute
10-5 Ichigaya Honmura-cho
Shinjuku-ku
Tokyo 162-8433 JAPAN
TEL: +81-3-3269-3374
FAX: +81-3-3269-2054

What Motivates Japan's International Volunteers? Categorizing Japan Overseas Cooperation Volunteers (JOCVs)

Yasunobu Okabe^{*}, Sakiko Shiratori[†], and Kazuya Suda[‡]

Abstract

The literature on international volunteer motivation has highlighted mainly Western cases, while almost ignoring Asian volunteers. Through an analysis of the motivations of Japan Overseas Cooperation Volunteers (JOCVs), this study aims to identify who they are and to contribute to our understanding of individual behavior in relation to international volunteering. This is the first quantitative study of their motivation, and we surveyed them using a series of questionnaires. We obtained 1507 responses from the volunteers, and a cluster analysis of the revealed motives categorized them into six types, labeled as: (I) *curious*; (II) *business-minded*; (III) *development assistance*; (IV) *quest for oneself*; (V) *change-oriented*; and (VI) *altruist*. The results show that each of these groups tend to have a different set of motives, and these can be characterized according to their socio-demographic and behavioral information. The results confirm that JOCVs have the same altruistic and egoistic motivations that have been observed in the Western studies. From a practical perspective, our six clusters of volunteers match the three purposes of the JOCV program, and show that, to a certain extent, the program has been successful in recruiting young Japanese people. Moreover, the classifications will be helpful when the JOCV Secretariat managers wish to target specific types of volunteers for special recruiting and training.

Keywords: Japan Overseas Cooperation Volunteers (JOCVs), motivation, international volunteers, typology, cluster analysis

^{*} Professor, Tohoku University and Visiting Fellow, JICA Research Institute.
(okabe@law.tohoku.ac.jp)

[†] Research Fellow, Japan International Research Center for Agricultural Sciences.
(Shiratori.Sakiko@affrc.go.jp)

[‡] Former Research Assistant, JICA Research Institute.

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1. Introduction

People volunteer for different reasons; in other words, their motivations can vary. While the international literature has discussed mainly domestic volunteers, not a few studies have examined those international volunteers who spend time, short- and long-term, working in developing countries, in many cases for the purpose of promoting development.¹ However, the literature has focused on Western international volunteers, such as the Voluntary Service Overseas (VSO) of the United Kingdom (Unstead-Joss 2008), Palms Australia (Georgeou 2012), Swiss volunteers (Rehberg 2005), and Canadian youth in the global south (Tiessen 2012). In contrast, as Sherraden et al. (2006) pointed out, their equivalents in Asia are not well known to the literature in Europe and North America. Worse still, few studies have shed light on Asian motivations for this activity, which are expected to be distinct from those of Westerners because of their cultural, religious, and social backgrounds.

This study discusses an international development voluntary service in Japan: The Japan Overseas Cooperation Volunteers (hereafter we refer to JOCVs as volunteers and to the JOCV program as a volunteer program). Through an analysis of their motivations this paper identifies them, and seeks to contribute to understanding their individual behaviors in respect of international volunteering from a Japanese perspective. Our approach to JOCVs' motivation was to perform a cluster analysis using the data from our questionnaire survey. This approach categorized the JOCVs into six types, and demonstrates associations between types of volunteers and their socio-demographic and behavioral information. Since data-based studies of the variety of motivations among volunteers seem to be limited (Dolnicar and Randle 2007, 137), our study is expected to contribute to the literature on international volunteers as well as on domestic ones.

¹ Here we distinguish international volunteering, which is an activity located “within civil society,” from what has become known as voluntourism, which is “an economic activity driven by profit” and

Before explaining its significance in the literature, we need to overview the JOCV program. This is an international voluntary service that the Japanese government provides each year to developing countries through the Japan International Cooperation Agency (hereafter JICA), under the supervision of the Ministry of Foreign Affairs (MOFA). This volunteer program has three objectives: (i) to provide technical assistance to developing countries, (ii) to promote friendship and mutual understanding with foreign countries, and (iii) to widen the perspectives of young Japanese about the world.² Volunteers are selected from Japanese applicants between the ages of 20 and 39, and assigned to host countries for a period of two years after receiving special training.³ Since its foundation in 1965, the program has sent 43,116 young adults (as of September 2017) to help economic and social development in 88 countries around the world.⁴

The case of JOCVs has significance in the literature of international volunteer motivations for the following reasons. First, it is one of the largest international volunteer services in Asia, with a 50-year history. The annual number of volunteers has increased over the years, exceeding 1,000 in 1993, and peaking at 1,708 people in 2009. After peaking it has been on a downward trend but still maintains a level of 1,000. Consequently, the total number of volunteers has been over 43,000 (Note: the VSO of U.K. and the U.S. Peace Corps have sent over 43,000 volunteers since 1958, and over 225,000 volunteers since 1961, respectively)⁵ Although we cannot assume all Asian volunteers will have similar motivations to the JOCVs, exploring the latter's motivations will be a great step toward understanding other Asian cases.

operates “within the market” (McGloin and Georgeou 2016).

² For the history of JOCV, see Okabe 2016.

³ Before being dispatched overseas, volunteers are required to take a residential group training course which lasts about 70 days. This intensive training consists of a variety of topics, including local language, principle of international cooperation, conditions in the host country, health management, and safety measures. Depending on their skills and technical requirement, additional training courses may be held (JICA 2015; MOFA 2015).

⁴ JICA Website (accessed 2 March 2017) <https://www.jica.go.jp/volunteer/outline/publication/results/>

⁵ For the number of VSO and U.S. Peace Corps volunteers, see their websites (accessed 2 March 2017). <https://www.vsointernational.org/about-us/our-history>, and <https://www.peacecorps.gov/news/fast-facts/>

Second, the JOCV two-year term of service will help clarify the motivations of international volunteers, characterized as their commitment for a specific term. Third, the areas of their activities cover a diverse range of about 120 economic, social and cultural sectors, including agriculture, forestry and fisheries, fabrication, civil engineering, sanitation, education and culture, and sports, as well as planning and administration. Therefore, the analysis of JOCVs can cover the motivations of volunteers who engage in various types of activities. This point is important, because recent studies demonstrate that groups of volunteers can be differentiated from others by the motives for their activities (Wymer 2003).

This paper is organized as follows. The second section overviews the literature of international volunteer motivation including studies on JOCVs written in Japanese. The third section explains cluster analysis and justifies the grouping of the respondents into six clusters of JOCVs. The fourth section examines the associations between these types and other variables, and the fifth interprets the results of the statistical analysis and discusses these in comparison with other international volunteer services. Finally, we draw conclusions.

2. Literature on International Volunteer Motivations

This section gives an overview of the prior research on the motivations for joining international volunteers. First, we will look at the extensive studies done in Europe, North America, and Australia, and subsequently turn to those that specifically deal with JOCVs. Scholars in Europe and North America, who have focused mainly on Western international volunteers, have identified their motivations – altruistic and/or egoistic – for overseas activities. Their concerns with motivations are academic – the psychology of volunteering⁶ – and practical – information for recruiting and managing volunteers.

⁶ From a psychological perspective, many scholars have discussed the fact that people who engage in volunteering may have different motivations for doing so. The most influential approach is the

Academically, a number of studies have challenged the general but naive view of international volunteering as altruistic action; finding that international volunteers have multiple motivations, both altruistic and egoistic.⁷ In his qualitative analysis, Rehberg (2005) categorized the motivation of 118 young Swiss adults who showed an interest in international volunteering into three groups: (i) A first group called “Achieving something positive for others,” (ii) a second group named “Quest for the new,” and (iii) a third group of motives labeled “Quest for oneself.”

Unstead-Joss (2008) shed light on the fact that even VSO volunteers, who are some of the leading development volunteers in the world, have egoistic or self-oriented motivations. In her interviews with them, she showed that motivations to become a VSO volunteer are interconnected between: (i) values related to the way VSO conducts its development work, (ii) career change to the development sector, and (iii) personal growth through a challenge. Tiessen (2012) examined the motivation expressed by 68 Canadian youths who took part in learn/volunteer abroad programs in developing countries, and demonstrated the varieties of non-altruistic motives. These findings indicate that many of the motivations identified by the participants generally fit under the category of personal growth. But the findings also highlight the extrinsic, egoistic and self-oriented nature of such motivations.

While these studies were all interested in categorizing international volunteers in terms of motivations, they were not quantitative studies but relied on qualitative methods. By contrast, although dealing with domestic volunteers, a statistical analysis by Dolnicar and Randle (2007) suggests that the cluster analysis method is useful for categorizing international volunteers by motivation. They presented six psychographic segments of volunteers in Australia on the basis of their motivations for volunteering. Those six types included: (i)

functional approach, which argues that volunteering may serve six psychological functions for different individuals: value, understanding, social, career, protective, and enhancement (Clary et al. 1998; Omoto and Snyder 1995).

⁷ On multiple motives of international volunteers, see also Georgeou (2012, Ch.5).

“classic volunteers,” whose motivations are doing something worthwhile, personal satisfaction, and helping others, (ii) “dedicated volunteers” who perceive each one of the motives for volunteering as relevant, (iii) “personally involved volunteers” who donate time because of someone they know in the organization, (iv) “volunteers for personal satisfaction,” (v) “altruists,” and finally (vi) “niche volunteers” who want, for example, to gain work experience.

Previous studies have also argued that categorization matters in a practical way to organizations that recruit and manage volunteers. Wymer (2003) explained how categorization of motives helps us better understand volunteers and their activities. He concluded that learning how an organization’s volunteers differ from those serving in other organizations could provide managers with important information. This information on motives can assist managers in decision making related to recruitment and management, and it can also help them gain insights into targeting new volunteers.⁸

Although this literature has a Europe and North America-wide scope and deals with motivations specific to international volunteers, it has empirical shortcomings in relation to three issues. First, it pays little attention to Asian volunteers that provide their services overseas, although their number and activities are expanding.⁹ What is the motivation of Asian people, who have distinct cultural and religious backgrounds from European and Americans, for joining international volunteering? How are their motivations different from/similar to each other? Previous studies have few answers to these questions. Second, data-based studies are limited. Dolnicar and Randle (2007)’s quantitative study dealt with domestic volunteers only. Although Tiessen (2012) and Rehberg (2005) drew on dozens of samples, this was not enough

⁸ Houle et al. (2005) argues that differences in motives influence work efficiency in (domestic) volunteer services.

⁹ As mentioned in the introduction, the total number of JOCVs has reached over 43,000. The Korean government sent over 11,000 long-term volunteers to developing countries between 1990 and 2015 (http://www.koica.go.kr/english/schemes/world_friends_korea/index.html). Please see Brassard et al. (2010) for an overview of the current trends and challenges of international volunteerism in Asia.

to generalize their results, and they also had limitations in their sampling. Tiessen's respondents seem to be being asked about motivations for their past volunteering abroad. This kind of ex-post question might be affected by hindsight. While Rehberg's study may avoid this answers-in-hindsight problem, because his respondents are not current nor returned volunteers but those who showed an interest in (future) international volunteering, his analysis has a biased-answers problem. That is, his qualitative text data as conveyed by respondents may reflect what they think the researcher considers to be the most important factors in this area. Third, although many prior studies on motivation provide practical information to managers, they lack socio-demographic and behavioral information about each international volunteer.¹⁰ As a result, they fail to categorize volunteers into typologies, the characterization of which could help managers to effectively recruit, train, and manage volunteers.

In contrast to the literature from Europe and North America, studies on international volunteers' motivations in Japan, most of which have discussed JOCVs in Japanese, are more management-oriented, and less concerned with the academic context. For example, JICA (2005) presented the results of a questionnaire survey on JOCVs involved in Malawi, Vanuatu, and Honduras. The total number of respondents was 242 (130 returned volunteers and 112 ones in action). The motives for involvement that respondents selected most frequently were "to have experience of living in foreign countries," "to help people in developing countries," "to try my strength overseas," and "to understand different culture." Fujikake (2011) classified JOCVs into three types through interviews with 29 returned volunteers and labeled each type as follows: "Quest for oneself," "Escape from pressures and stress in domestic society," and "Orientation towards international development assistance."

These studies, however, did not examine volunteers' motivation systematically, and did not refer to the Western literature. Further, JICA (2005) had a twofold limitation in its

¹⁰ Dolnicar and Randle (2007) is an exception, but they discuss domestic volunteers.

sampling: the three countries cases are not enough to represent all JOCV motivations; and more than half of the respondents were returned volunteers, whose answers about motivations might be affected by hindsight. In her effort to understand the mixture of motives, Fujikake (2011) demonstrated typologies of JOCVs based on her own observations, she did not clarify how to classify them. Also, her interviews with returned volunteers have the same problem of hindsight as JICA (2005).

3. Methods

To address these shortcomings in the literature, this study explored volunteers' motivations of the largest international volunteer program in Asia, JOCV, through which the Government of Japan has sent more than 43,000 young Japanese people abroad since 1965. We relied on a cluster analysis of the quantitative data from a series of questionnaire surveys of all volunteers who were at the time receiving special training before starting their service abroad. Our sample of 1,507 respondents provides rich information to conduct such a quantitative analysis. By adopting this strategy – not conducting interviews but using a questionnaire survey and collecting 'before dispatch' data – we avoided the problems of sampling mentioned earlier. That is, the biased-answers problem and the answers-in-hindsight problem. In these surveys we also collected socio-demographic and behavioral information about each volunteer to characterize them.

For the data collection we conducted a series of questionnaire surveys with the JOCVs between 2011 and 2013. This study used the data collected on the JOCVs of 11 batches, from the second batch in the fiscal year of 2011 to the fourth batch in the fiscal year of 2013.¹¹ Volunteers were asked to complete the questionnaire during their training period before their dispatch. The survey was paper-based till the end of fiscal year 2011, but was then changed to a web-based

survey. Valid responses were obtained from 1,507 respondents out of 2,247 volunteers (response rate: 67.1%). The respondents were 583 males and 892 females (and 32 of unspecified gender). The mean age was 28.4.

The questionnaire included demographics, their JOCV activities (host country and type of work), their motives for applying, preparation for their dispatch, and their career plans after returning home. Volunteers' personalities and attitudes were measured by the extent of their positive/negative images of developing countries and of volunteer activities, degree of trust, risk preference, and so on.¹²

The question "what are your motives for applying to the JOCV? [Choose up to three from the options provided in Table 1]" was asked of the volunteers.¹³ These options were designed to reflect the characteristics of the JOCV, such as youth development, overseas development, international exchange, and financial benefits. The percentages of the respondents who chose "yes" to having each of the possible motives are given in Table 1. Here the motives are listed in the order of the options provided in the questionnaire. About 90% of the respondents chose three answers.

¹¹ The Japanese fiscal year starts in April. Each fiscal year volunteers are dispatched in four batches.

¹² Respondents were assured that their answers would be held in strict confidentiality, so that they could express their honest opinions without surmising what JICA expected them to answer.

¹³ Motivations conveyed by respondents have the potential to reflect what they think the researcher and JICA consider to be the most important motivations (Tiessen 2012, 9). To avoid this problem, the respondents were asked to choose three options from a number of different possible motivations, thereby reducing the chance that they would choose those that the authors and JICA expected, and increasing the chance that they would pick up on the motivations that are closest to their real ones.

Table 1 Motives and the percentage of respondents

Motives	Descriptions	Yes (%)
A	to help others	40.9
B	to help developing countries	36.4
C	to get a job that changes the world	15.2
D	to put my skills into practice	19.0
E	to live abroad	21.0
F	to participate in international exchanges	16.3
G	to understand developing countries	30.7
H	to make use of my experience after returning home	23.3
I	to change myself	24.4
J	to gain work experience	4.6
K	to advance my career	30.7
L	to learn a foreign language	16.3
M	just a second choice of my career	0.7
N	someone encouraged me to apply	0.9
O	to escape from current situation	4.1
P	attracted to financial benefits	1.9
Q	other (specify)	4.4

There are 17 options listed in the table. To reduce the dimensionality, 16 options (leaving out “Q: other”) were put into the principal component analysis (Table 2).¹⁴ A principal components analysis on a covariance matrix was performed to determine the loading fit.¹⁵ A cumulative contribution ratio was calculated in a descending order of absolute values by the plurality of eigenvalues. We decided to adopt six components, where the cumulative contribution ratio reached about two-thirds.

¹⁴ We used principal component analysis to reduce dimensionality and extract substantial motives, not to interpret the meanings of the components, because the number of motives to be selected is so large that the result of the cluster analysis (discussed later) would not converge. Dimension reduction is often important in shortening the processing time and mitigating the curse of dimensionality (Sembiring et al. 2011).

¹⁵ Note that this principal component analysis was performed on a covariance matrix, so the eigenvalues and eigenvectors differ from those of the associated correlation matrix.

Table 2 Principal-component (PC) loading: motives

	PC1	PC2	PC3	PC4	PC5	PC6
Eigenvalues	0.29	0.26	0.24	0.22	0.19	0.18
Cumulative contribution ratio	14%	26%	37%	47%	56%	64%
<u>A to help others</u>	<u>0.81</u>	-0.33	-0.05	<u>0.41</u>	0.14	-0.03
<u>B to help developing countries</u>	0.37	<u>0.70</u>	<u>-0.45</u>	-0.36	-0.07	0.09
C to get a job that changes the world	0.07	-0.08	-0.24	0.09	-0.15	0.13
D to put my skills into practice	-0.10	-0.09	-0.10	-0.10	0.26	-0.12
<u>E to live abroad</u>	-0.22	-0.21	0.06	<u>-0.43</u>	<u>0.54</u>	-0.30
F to participate in international exchanges	0.02	-0.11	0.11	-0.13	-0.05	-0.13
<u>G to understand developing countries</u>	-0.10	<u>0.51</u>	<u>0.64</u>	0.29	0.30	0.36
<u>H to make use of my experience after returning home</u>	0.00	0.22	<u>0.42</u>	0.11	<u>-0.61</u>	<u>-0.58</u>
<u>I to change myself</u>	-0.02	<u>-0.48</u>	0.21	<u>-0.41</u>	<u>-0.41</u>	<u>0.57</u>
J to gain work experience	-0.06	-0.03	0.06	-0.04	-0.07	-0.07
<u>K to advance my career</u>	<u>-0.58</u>	0.00	<u>-0.51</u>	<u>0.53</u>	-0.12	0.12
L to learn a foreign language	-0.31	-0.16	-0.08	-0.06	0.18	-0.18
M just a second choice of my career	-0.03	0.02	-0.03	0.00	0.02	0.02
N someone encouraged me to apply	-0.04	-0.02	0.04	-0.03	0.01	0.00
O to escape from current situation	-0.07	-0.10	-0.01	-0.11	0.06	0.00
P attracted to financial benefits	-0.06	0.00	-0.03	0.03	0.02	-0.03

Note: Principal component loading more than absolute values of 0.4 are indicated by underlined boldface.

Seven motives which have principal component more than absolute value of 0.4, i.e., A, B, E, G, H, I, and K., as shown in underlined boldface type in Table 2. Using these seven motives, a hierarchical cluster analysis by Ward’s method was performed to put the respondents into six clusters, as the next section outlines. Each cluster was characterized by the responses of the JOCVs in that cluster. In addition to the motives, the survey included a wide variety of socio-demographic and behavioral information that was used to describe the cluster. There are two types of variables: categorical and rating scales. Variables of categorical scales include binary variables, and polytomous variables such as occupation. On the other hand, the rating scales include the Likert scale, which measures attitudes and behaviors using answer choices that range from one extreme to another (such as from “strongly disagree” to “strongly agree”), and a ratio scale which shows magnitudes with a fixed zero point such as a lottery win allocation, in this study. Rating scales allow us to uncover degrees of opinion.

For categorical variables, a Pearson's chi-square test for independence was conducted to test how likely it is that an observed distribution of the variable is due to chance. In those cases where the expected frequency was below five, the variables were combined in such a way that this eliminates cell frequencies of less than five.¹⁶ If the variables appeared significant, a residual analysis was carried out to determine which ones significantly differed from expected values.^{17 18}

Regarding the variables of the rating scales, the average of the scale was taken for each cluster and a one-way analysis of variance (ANOVA) was carried out for the comparison of the mean values. The significant ANOVA results suggest rejecting the null hypothesis that the mean of the variable is the same across the groups. If the variable was significant at the 5% significant level, then Tukey-Kramer multiple comparisons were used as post-hoc analyses to determine which means differ.¹⁹ These analyses were mainly conducted by STATA/SE ver. 12.1, and js-STAR was used for the residual analysis.

4. Results

In our study, we categorized the respondents into six clusters. Each cluster is identified by roman numerals (I)-(VI) hereafter. The number of respondents were: (I) 381, (II) 145, (III) 246, (IV) 188, (V) 240, and (VI) 307. For convenience, the six clusters were named as: (I) *curious*, (II) *business-minded*, (III) *development assistance*, (IV) *quest for oneself*, (V) *change-oriented*, and

¹⁶ The approximation to the chi-squared distribution breaks down if expected frequencies are too low. To see how these variables are combined, see Appendix A.

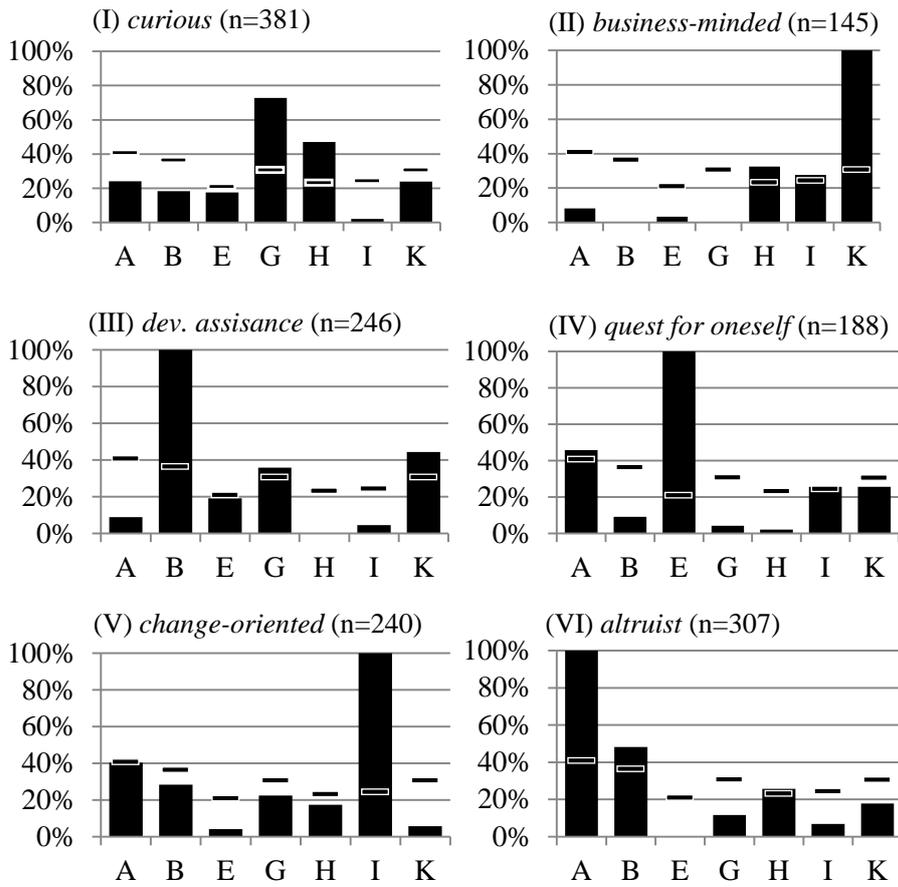
¹⁷ Residual analysis allows us to know the significance level associated with a single cell value by analyzing the difference between the expected frequency and observed frequency.

¹⁸ js-STAR automatically carries out the residual analysis in case the chi-square test for independence, which turns out to be significant at the 10% level.

¹⁹ The Tukey-Kramer (TK) method was employed due to unequal cell sizes and it is more powerful for the detection of true difference than Scheffe's. TK is the most acceptable general method for all pairwise comparisons (Hsu 1996).

(VI) *altruist*. These labels were derived from the characteristics of each group, as we see later in this section.

Figure 1 shows the percentage of respondents who chose the motives: “A: to help others”, “B: to help developing countries”, “E: to live abroad”, “G: to understand developing countries”, “H: to make use of my experience after returning home”, “I: to change myself”, or “K: to advance my career” by cluster. The crossbars in the graphs are the overall percentage of respondents who chose these motives. For example, all respondents in cluster (II) chose the motive K as the bar shows, while only 30% of the overall respondents chose the motive K on average, as the crossbar shows.



Note: The crossbars in the figure are the overall percentage of respondents who chose the motive.

Figure 1 Percentage of respondents chose the motives by cluster

Table 3 Pearson's chi-square test and residual analysis (extract: see Appendix A for all)

Variables	Attributes	Cluster						All (%)	Pearson's χ^2 prob.
		I (%)	II (%)	III (%)	IV (%)	V (%)	VI (%)		
Sex	Male	37	<u>51</u>	<u>33</u>	43	44	37	40	<u>0.01</u>
	Female	63	<u>49</u>	<u>67</u>	57	56	63	60	
Education	Higher than college/university	18	21	<u>22</u>	16	13	<u>13</u>	17	<u>0.01</u>
Status during JOCV activities	Recently graduated	<u>14</u>	9	<u>7</u>	12	8	13	11	<u>0.01</u>
	Recently quit the job	<u>35</u>	45	46	40	<u>49</u>	43	42	
Previous employment status	Permanent staff	<u>43</u>	52	53	59	<u>64</u>	54	53	<u>0.00</u>
	Student	<u>19</u>	14	13	13	<u>8</u>	15	14	
Previous work type ^{*1}	Teacher	<u>22</u>	14	11	<u>10</u>	16	16	16	<u>0.04</u>
Travel experience	Abroad	94	97	<u>98</u>	94	<u>92</u>	96	95	0.07
	Developing countries	<u>79</u>	76	<u>80</u>	75	<u>66</u>	<u>69</u>	75	<u>0.00</u>
Activity experience	Community service	60	51	58	<u>51</u>	53	<u>67</u>	58	<u>0.00</u>
	Int'l exchange / support for foreigners	54	52	<u>63</u>	46	<u>39</u>	58	53	<u>0.00</u>
	Donation to volunteer organization	57	51	<u>69</u>	52	53	60	58	<u>0.00</u>
Preparation before applying JOCV	Not in particular	14	22	20	<u>25</u>	15	<u>13</u>	17	<u>0.00</u>
	Study languages	48	45	46	46	<u>58</u>	<u>57</u>	50	<u>0.01</u>
	Improve skills	32	34	31	28	28	<u>40</u>	32	<u>0.03</u>
	Take part in volunteer activities	21	20	16	<u>12</u>	17	<u>26</u>	19	<u>0.00</u>
	Talk with returned JOCV volunteers	48	39	46	41	40	<u>50</u>	45	0.06
	Visit developing countries	<u>14</u>	10	10	<u>6</u>	8	12	11	<u>0.03</u>
Interested activities after reterming home	Participate in NPO/NGO	75	<u>62</u>	<u>80</u>	<u>61</u>	75	<u>79</u>	74	<u>0.00</u>
	Found NPO/NGO	16	21	<u>26</u>	<u>13</u>	14	21	19	<u>0.00</u>
	Be involved in community service	58	50	<u>50</u>	<u>48</u>	62	<u>65</u>	57	<u>0.00</u>
	Start a business with foreign countries	30	<u>46</u>	36	<u>40</u>	29	29	33	<u>0.00</u>
	Volunteer at international organization	68	<u>56</u>	71	65	<u>75</u>	<u>76</u>	70	<u>0.00</u>
	Introduce JOCV at school/work	86	<u>78</u>	<u>79</u>	<u>74</u>	<u>90</u>	<u>87</u>	83	<u>0.00</u>
	Outreach	51	56	51	<u>43</u>	47	<u>56</u>	51	0.05
Desired career after returning home	Student (abroad)	24	31	<u>34</u>	21	<u>18</u>	21	24	<u>0.00</u>

Significance at 5% level is indicated by underlined boldface.

*1 Excludes sample whose previous employment is either a student or unemployed.

The percentage values of the socio-demographic and behavioral variables (categorical valuables) within each cluster are presented in Table 3. Due to space limitations, only significant results are shown here (see the remaining results in Appendix A). The same table also shows the

results of Pearson's chi-square test for independence.²⁰ The boldface in the last column indicates significance at the 5% level in Pearson's chi-square tests. This table also shows the 5% significance level in the succeeding residual analysis, as indicated by boldface type in the (I)-(VI) columns. Similarly, for the rating-scale variables, one-way ANOVA and Tukey-Kramer multiple comparisons were conducted. Only the mean values of selected variables by cluster are presented in Table 4. The complete results of the ANOVA and Tukey-Kramer multiple comparisons are provided in Appendix B.

Table 4 Mean values of selected variables (see Appendix B for complete results)

		Cluster						All
		I	II	III	IV	V	VI	
a) Concern about JOCV [1-7]	Accommodation	3.6	3.5	3.7	3.5	4.2	3.6	3.7
	Activities	4.3	4.0	4.4	4.5	4.8	4.3	4.4
	Human relationship	4.0	4.0	3.9	4.0	4.5	3.9	4.1
	Language	4.8	4.7	4.7	4.9	5.2	4.9	4.9
	(Average of concern level)	3.8	3.7	3.8	3.7	4.1	3.8	3.8
b) Images of developing countries [1-4]	Need foreign aid/intervention/help	2.1	2.2	2.2	2.3	2.1	2.4	2.2
c) Images of volunteering [1-4]	Voluntary	3.6	3.4	3.6	3.5	3.6	3.6	3.5
	For people or society	3.3	3.1	3.4	3.2	3.3	3.5	3.3
	Personal satisfaction	2.7	2.8	2.6	2.9	2.8	2.7	2.8
d) Domestic issues [1-7]	(Average of interest level)	5.0	4.8	4.9	4.5	4.9	5.0	4.8
e) International issues [1-7]	(Average of interest level)	5.6	5.4	5.7	5.2	5.6	5.7	5.5
f) Degree of trust [1-4]	(Average of trust level)	3.1	3.0	3.1	3.0	3.1	3.2	3.1
g) Human nature [1-7]	Human nature is good	4.9	4.6	4.8	4.6	4.8	5.1	4.8
h) Lottery win allocation of 1 million yen [unit: 10,000 yen]	My consumption/investment	33.9	40.1	31.1	32.4	28.4	27.7	32.3
	Donation to disaster victims	5.5	3.2	6.7	4.4	6.1	6.6	5.4
	Donation to international agency	4.1	2.7	6.3	3.7	4.6	5.1	4.4
	Donation to charity in Japan	3.4	1.4	3.3	2.8	2.9	3.4	2.9

Note: the scales or units are shown in [].

In the remainder of this section, we summarize Figure 1, Table 3, and Table 4, thereby describing the characteristics of each cluster. Note that the characteristics described below are not derived from the absolute values themselves but from the significance that only became

²⁰ Note that the chi-square test is conducted for the frequency, not for the percentage.

visible through comparison with other clusters. Some of the common features are summarized in Table 5.

Table 5 Motives and common features by cluster

Cluster	Main motives	Relatively common features
(I) <i>curious</i>	(G) to understand developing countries (H) to make use of my experience after returning home	students & teachers been to developing countries mixture of motives
(II) <i>business-minded</i>	(K) to advance my career	male interested in global business rather self-centered
(III) <i>development assistance</i>	(B) to help developing countries	highly-educated women broad international experience willing to donate
(IV) <i>quest for oneself</i>	(E) to live abroad	optimistic about JOCV activities low level of interest in social issues less interested in social activities
(V) <i>change-oriented</i>	(I) to change myself	quit previous job to join JOCV less international experience concerned about JOCV activities
(VI) <i>altruist</i>	(A) to help others	involved in social activities trust people well-prepared for JOCV

The cluster (I) *curious* has the following characteristics: unlike other clusters, there is no single motive that was chosen by all respondents in this cluster. For those in this cluster, motive “G: to understand developing countries” was the major motive for applying to JOCV (73%). They want to understand developing countries, and they are also active enough to visit developing countries. The percentage of those with previous travel experience in developing countries is higher than average, and their experiences formed part of the preparation before

applying for JOCV. Relatively, the participation rate of students and teachers is high in this cluster. The status of having graduated from university just before they join the JOCV is more common in this cluster, and being a permanent staff at the time of the application less common. Therefore, they seem to regard JOCV as a stage located between school (or temporary job) and a permanent job in their career path. In fact, the second-most important choice among this group (47%) was the motive “H: to make use of my experience after returning home.”

All volunteers of type (II) *business-minded* chose the motive of “K: to advance my career.” The percentage who chose the motive “H: to make use of my experience after returning home” was also higher than average (32%). They consider joining JOCV as an opportunity to improve their career prospects. This groups’ distinguishing characteristic is that almost half of them are interested in starting a business in foreign countries. Compared to other groups, the proportion of males is high (51%). And it is only in cluster II that the number of males exceeds that of females. The fact that they would rather spend a lottery win on themselves than spend it on others demonstrates that they may be kind of self-centered. Their degree of trust in others is low in general, and they are inclined to think that human nature is bad. They also seem skeptical about pro-bono work as their images of volunteering do not include “voluntary” or “for people or society.”

For type (III) *development assistance*, all respondents chose the motive “B: to help developing countries,” and many chose “K: to advance my career.” Here *development assistance* means the orientation towards a career related to international development assistance. Many of them already have international experience such as traveling abroad, including to developing countries, or have been involved in the activities of international exchange/support for foreigners. They are also interested in social issues, especially in international issues. They are keen to help people to the extent that they would allocate more of a lottery win to donations. In fact, many of them have the experience and desire to make a donation to volunteer activities. After returning home, many of them want to be involved in NPO/NGO activities or found

NPO/NGOs, and to study abroad. This cluster has a high proportion of females, and of respondents having a degree.

Type (IV) is *quest for oneself*. All of them chose the motive of “E: to live abroad.” This group seem to be somewhat optimistic about volunteering abroad as concerns for JOCV are generally low. One in four of them said that they had not made any preparations before applying to JOCV. They showed a lower level of interest in international and domestic issues, and their image of volunteering tends to be one of personal satisfaction. In addition, their commitment to social activities is not strong in general. The proportion of people who have had experience in social activities is low overall. Regarding activities after returning home, their interests are significantly lower in relation to NPO/NGO activities, NPO/NGO foundation, community service, introduction of JOCV at schools or work places, and outreach.

Type (V) is *change-oriented*. All respondents in this cluster chose the motive of “I: to change myself.” About a half of them had quit their prior job to participate in the JOCV, even though many of them had permanent jobs. Students are less common. Compared with other clusters, relatively few of them have had overseas travel experience, including travel to developing countries. The percentage of those who had experience in international exchange or had supported foreigners is also small. This lack of international experience may be associated with their degree of concern for JOCV: specifically their concerns are significantly higher in accommodation, activities, human relationship, and language in comparison with other clusters. Probably because of these concerns, many of them tried to improve their foreign language skills before applying to JOCV.

The last type is (VI) *altruist*. Each member of this group chose the motive of “A: to help others,” and “B: to help developing countries” was also popular among them. For the image of volunteering, they put high value on “for people or society.” As they are more likely to think that developing countries need foreign aid, they are willing to help. They regard human nature as fundamentally good, and they therefore place a higher degree of trust in others. Compared with

other clusters, especially as contrasted with cluster (II), a lottery win would be used for others rather than for themselves. Before joining JOCV, they prepared for their overseas activities by improving their language and technical skills, and volunteering; while those who say “not in particular” are relatively few. Also, a larger proportion of this group has had experience in community service activities. For activities after returning home, they showed a willingness to be involved in social activities, such as NPO/NGO, community service, volunteers in the United Nations, introduction of JOCV experience, and outreach.

5. Discussion

This section discusses the results of our surveys and the cluster analysis. We compare our six clusters with each other, and with Western cases that we identified from the literature. Focal points for comparison are psychological and practical.

(1) Comparison from a psychological perspective

The six types of JOCVs have comparable motivations to international volunteers from Western countries, a situation that we identified in the second section. However, we did find both similarities and differences between them. First, it is obvious that there is a common motivation: altruism. For other volunteer services, scholars have shed light on “values related to the way VSO conducts its development work” (Unstead-Joss 2008) and “achieving something positive for others” (Rehberg 2005). Likewise, our survey shows that many young Japanese people joined the JOCV program because of these motives. Table 1 indicates that 40.9% and 36.4% of respondents chose the motives “to help others” and “to help developing countries” respectively. This result empirically supports the claims of JICA (2005) and Fujikake (2011).

Second, many volunteers also share egoism. The literature has pointed out that egoistic motivations like “career change to the development sector,” “personal growth through a

challenge” (Unstead-Joss 2008), and “quest for oneself” (Rehberg 2005) are significant. Similarly, 30.7% and 24.4% of the JOCVs answered ‘yes’ for motives “to advance my career” and “to change myself,” respectively (see Table 1). This result also proves that the finding of egoistic motives in volunteers by JICA (2005) and Fujikake (2011) is correct.

However, an important implication from the literature is that while altruism is most cited by volunteers, it is just one of several motivations, and they tend to have multiple motivations for international volunteering (Unstead-Joss 2008; Rehberg 2005). This is the case for JOCVs as well. While such motivations as “to help others” and “to help developing countries” were most frequently answered in our survey, egoism or self-oriented motivations like “to change myself,” “to live abroad,” and “to advance my career” were chosen at the same time. This mixture of altruism and egoism in JOCVs led us to reject the naive view that JOCVs are purely altruistic volunteers, and suggests that we should adopt a more realistic and complicated perspective on this matter.

In fact, our six typologies reflect the realities of JOCVs. For example, those who are labeled as type (III) *development assistance* all have the motive “to help developing countries” on the one hand, and over 40% of them are interested in “to advance my career” on the other. All volunteers of the type (IV) *quest for oneself* want “to live abroad,” but 40% of them also have the motive “to help others” (See Figure 1). Types (III) and (IV) seem then to be equivalent to Fujikake’s (2011) typologies: “Orientation towards international development assistance” and “Escape from pressures and stress in domestic society,” respectively. Our cluster analysis, however, identifies the more nuanced mixture of motives that each type actually has. Dolnicar and Randle (2007) showed that there is a mixture of motivations in their cluster analysis, although their sample was comprised of domestic volunteers who may have different motivations from international ones.

Another example of the complicated reality of JOCVs is the similarities and differences between the types (II) *business-minded* and (III) *development assistance*. As Figure 1 shows,

they are both career-oriented volunteers to the extent that 100% of the type (II) and 44.3% of the type (III) chose “to advance my career” as a motivation. Despite this similarity, these two types differ in the extent of their egoism and view on voluntary activities. Our analysis shows that while the type (II) volunteers want to spend money from a lottery for themselves and not for others, and are negative to volunteering, type (III) volunteers tend to donate money to development assistance and voluntary services, and consider volunteering worthwhile (see Appendix B [ii], [c] and [h]). It is also interesting that the type (III) volunteers look similar to those VSO volunteers who want a “career change to the development sector” (Unstead-Joss 2008).

(2) Comparison from a practical perspective

The practical knowledge we gained from previous studies is that information on volunteers’ motivations can help managers of volunteer organizations in recruiting and targeting. Then, what can our results tell managers of the JOCV Secretariat, who are facing a decline in the number of applicants for volunteering, mismatches between demand and supply in the JOCVs market, and the increasing demand in Japanese society for fostering “*gurobaru jinzai*” (globally competent human resources)?

First, the existence of the six clusters of volunteers is apparently aligned with the fact that the JOCV program has three objectives. In other words, varieties of volunteers reflect the multifaceted purposes of the program. For example, the type (III) *development assistance*, and type (VI) *altruist* precisely match the first purpose, “to provide technical assistance to developing countries.” Likewise, type (II) *business-minded* and type (V) *change-oriented* respondents are suitable for the third purpose; “to widen the perspectives of young Japanese people about the world.” Regarding the second purpose, “to promote friendship and mutual understanding with foreign countries,” the most suitable cluster is the type (I) *curious*. Having said that, among the related motivations for this purpose, F, G and L, only G is adopted in our

principal component analysis (see Table 2).²¹ Therefore, we may say that the second purpose is not reflected as much as the first and third purposes in volunteers' motivations. Overall, though, the JOCV program has been successful in recruiting young Japanese people who have the motivations suitable for its three purposes.

Second, managers may stress the need to select types (I) and (IV) for special training, because these volunteers look lukewarm about their service and lack strong motivations. They can be characterized as being in the middle between the egoistic group (II and V) and the altruistic group (III and VI). In fact, volunteers of the type (I) want to understand developing countries and to make use of their experiences after coming back home, but do not regard volunteering as worthwhile. Further, they have a wider set of motivations without any one strong motive like the other types (there were no motives that all volunteers of type (I) selected [See Figure 1]). Volunteers of type (IV) are those who just want to live abroad without much concern over NPO/NGO activities and the developing world. Moreover, 25% of this group said that they had not done any preparation before applying for JOCV. Needless to say, it is premature to suggest that this group will perform worse than other types in host countries. Concerned about their weak motivation, however, managers of JOCV may need to target them in further motivating them on voluntary activities and development assistance. Then, such targeting will help to develop their capacity so that they can become the so-called "*gurobaru jinzai*" that Japanese society may currently need in the era of globalization.

Third, the JOCV Secretariat can target specific types of volunteers when recruiting the Japanese youth who are demanded in Japanese society. Type (II) and (III) respondents, for instance, could be suitable for the national purpose of developing globally competent human resources. When recruiting these types of volunteers, managers of the Secretariat can appeal to young people by emphasizing the great merits of JOCV, such as contributing to poverty

²¹ Only G has principal component loading higher than the absolute value of 0.4.

reduction or taking a good opportunity for their career development. Managers, however, should be careful about ways of targeting: which types of volunteers are socially needed, and who selects them and how? These issues are beyond the scope of the Secretariat and should be discussed at several levels in Japan, including government, business and civil society.

6. Conclusions

This study examined the motivations of international volunteers from a Japanese perspective. While the literature has not studied Asian cases as much as Western ones, we demonstrated that the experience of JOCVs can contribute to the literature on international volunteers. The JOCV program is the largest international voluntary service in Asia, and their long term of service in host countries and wide range of activities provide good reasons for exploring their motivations and typologies.

The approach we have taken is data-based and statistical: a principal component analysis and a cluster analysis. We conducted a series of questionnaire surveys of JOCVs and collected 1,507 samples from valid respondents in ways that avoided the problems of biased-answers and answers-in-hindsight. Our analysis classified volunteers into six clusters relating to their motivations for joining the program. These clusters were characterized according to their socio-demographic attributes, way of thinking, and behaviors, and they were labeled as (I) *curious*, (II) *business-minded*, (III) *development assistance*, (IV) *quest for oneself*, (V) *change-oriented*, and (VI) *altruist*.

Our discussion of the results was twofold: psychological and practical. The results confirm that JOCVs have the same altruistic and egoistic motivations that have been observed in Western volunteers. It also showed that the volunteers in each cluster tend to have different set of motivations in ways that reflect the realities of the program. From a practical perspective, our six clusters of volunteers match the three purposes of the JOCV program, and this shows that to a

certain extent it has been successful in recruiting young Japanese. Moreover, the classification of JOCVs is helpful for the Secretariat managers to target specific types of volunteers for special recruiting and training.

Here it would be fair to touch upon the limitations to this study in the areas of design of survey and data collection. First, strictly speaking we cannot claim that our findings are true of all generations of JOCVs in its 52-year history, as the origins of our respondents were limited. They include only the 1,507 volunteers dispatched from 2011 to 2013 among over 43,000 returned volunteers. Although many old returned volunteers testified that their motivations matched our six types, this study, at best, can merely demonstrate the current trend in the motivations of JOCVs. In future it would be useful to analyze the motivations of older returned volunteers, though the data collection may not be easy. Second, while our focus is on Japan's international volunteers, those dispatched by NGOs are out of focus. As the NGOs constitute a significant part of Japan's civil society, however, it would be worthwhile dealing with their volunteers, who may possibly have different categories of motivations and socio-demographic features from the JOCVs. A comparison between JOCV and NGO voluntary services could be an interesting research topic.

Despite these limitations, this study makes an overall contribution to knowledge accumulation about international volunteers' motivations. The findings on the typology of JOCVs, beyond the scope of this study, could likely apply not only to other Asian volunteers but also to Western volunteers. Thus, it would be our future task to retest our findings on volunteers, for example, from South Korea, Thailand, Switzerland, and UK, so that this study can be helpful to building more generalized knowledge in the field.

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Appendix A

Appendix A: Descriptive statistics, Pearson's chi-square test, and Residual Analysis

Variables	Attributes	# in total	Cluster						All (%)	Pearson's χ^2 prob.
			I (%)	II (%)	III (%)	IV (%)	V (%)	VI (%)		
Sex	Male	1475	36.7	<u>51.4</u>	<u>33.2</u>	42.7	43.8	37.2	39.5	<u>0.005</u>
	Female		63.3	<u>48.6</u>	<u>66.8</u>	57.3	56.2	62.8	60.5	
Age	20-24	1439	22.6	16.7	14.0	17.7	15.6	16.3	17.6	0.364
	25-29		46.5	53.6	51.3	46.9	50.2	48.3	49.0	
	30-34		20.6	23.9	22.5	26.3	25.5	24.3	23.5	
	35-		10.3	5.8	12.3	9.1	8.7	11.0	9.9	
JOCV job classification ^{*1}	Education/ Culture	1255	50.3	43.1	<u>39.7</u>	52.0	45.7	47.6	46.7	<u>0.017</u>
	Agriculture/Forestry/Fisheries		21.1	21.1	<u>25.6</u>	14.7	<u>13.1</u>	17.1	19.0	
	Health/Medical care		17.0	18.7	20.6	21.3	24.6	21.5	20.4	
	Plannning and Administration		5.7	8.9	8.2	6.7	5.5	<u>3.3</u>	6.1	
	Maintenance/Operation		1.3	1.6	1.8	2.7	2.5	2.4	2.0	
	Other		4.7	6.5	4.1	2.7	8.5	8.1	5.8	
Education ^{*2}	Less than college/university	1462	13.6	13.6	12.6	<u>22.0</u>	20.2	19.5	16.8	<u>0.012</u>
	College/university completed		68.1	65.0	64.7	62.1	66.5	66.6	65.9	
	Higher than college/university		18.0	21.4	<u>21.9</u>	15.9	12.9	<u>12.9</u>	16.8	
	Other		0.3	0.0	0.8	0.0	0.4	1.0	0.5	

Significance at 5% level is indicated by underlined boldface.

*1 "Maintenance/Operation" and "Other" are combined when the test for independence is conducted.

*2 "Other" is excluded when the test for independence is conducted.

Appendix A: Descriptive statistics, Pearson's chi-square test, and Residual Analysis [Continued]

Variables	Attributes	# in total	Cluster						All (%)	Pearson's χ^2 prob.
			I (%)	II (%)	III (%)	IV (%)	V (%)	VI (%)		
Status during JOCV activities ^{*3}	Not working	1506	28.4	25.5	29.7	27.7	23.3	28.7	27.5	<u>0.013</u>
	Recently graduated		<u>14.5</u>	9.0	<u>6.5</u>	11.7	7.9	13.0	11.0	
	Keeping current job		17.6	17.2	11.8	18.1	19.2	14.0	16.2	
	Recently quit the job		<u>35.0</u>	44.8	46.3	39.9	<u>49.2</u>	42.7	42.2	
	Taking off from school		3.4	2.1	4.5	2.1	0.4	0.7	2.3	
	Other		1.1	1.4	1.2	0.5	0.0	1.0	0.9	
Previous employment status ^{*4}	Permanent staff	1505	<u>42.5</u>	52.4	52.7	59.0	<u>64.4</u>	53.8	53.0	<u>0.004</u>
	Fixed-term employee		<u>14.2</u>	11.0	11.4	7.5	7.1	7.8	10.2	
	Part-time job		11.8	11.0	8.6	11.2	7.1	11.1	10.2	
	Unemployed		8.7	6.9	9.4	4.8	8.4	7.8	7.9	
	Student		<u>19.2</u>	13.8	13.5	13.3	<u>8.4</u>	14.7	14.4	
	Temporary worker		2.1	1.4	4.1	2.1	2.9	2.0	2.5	
	Other		1.6	3.5	0.4	2.1	1.7	2.9	1.9	
Previous work type ^{*5*6}	Teacher	1168	<u>21.5</u>	14.0	11.1	<u>9.8</u>	16.1	16.0	15.5	<u>0.036</u>
	Local government		8.8	7.0	9.5	7.2	8.5	6.7	8.1	
	Public interest		5.1	3.5	3.7	2.6	5.5	<u>8.8</u>	5.2	
	Private company		<u>49.6</u>	56.1	61.1	<u>66.0</u>	57.3	51.3	55.9	
	Government		1.1	3.5	2.6	2.0	3.0	4.2	2.7	
	NPO/NGO/International organization		4.7	4.4	6.3	1.3	1.5	1.7	3.3	
	Self-employed		2.6	3.5	1.6	1.3	3.0	2.9	2.5	
	Other		6.6	7.9	4.2	9.8	5.0	8.4	6.9	

Significance at 5% level is indicated by underlined boldface.

*3 "Taking off from school" and "other" are excluded when the test for independence is conducted.

*4 "Temporary worker" and "Other" are combined when the test for independence is conducted.

*5 Excludes sample whose previous employment is either a student or unemployed.

*6 "Government", "NPO/NGO/International organization", "Self-employed", and "Other" are combined when the test for independence is conducted.

Appendix A: Descriptive statistics, Pearson's chi-square test, and Residual Analysis [Continued]

Variables	Attributes	# in total	Cluster						All (%)	Pearson's χ^2 prob.
			I (%)	II (%)	III (%)	IV (%)	V (%)	VI (%)		
Travel experience (check all that apply)	Abroad	1,506	94.5	96.6	<u>97.6</u>	93.6	<u>92.1</u>	96.1	95.0	0.069
	Developing countries	1,225	<u>79.2</u>	76.5	<u>80.3</u>	75.0	<u>66.0</u>	<u>69.4</u>	74.6	<u>0.002</u>
Activity experience (check all that apply)	Community service	1,487	60.1	51.4	58.0	<u>51.1</u>	53.4	<u>66.8</u>	58.1	<u>0.002</u>
	Nature conservation	1,484	27.2	28.2	27.5	27.0	23.9	33.6	28.1	0.232
	Service for elderly / disabled	1,490	55.5	45.1	50.8	45.5	49.4	55.4	51.5	0.082
	Youth service	1,479	28.7	29.1	24.1	19.7	20.9	28.0	25.5	0.074
	International exchange / support for foreigners	1,489	53.7	52.4	<u>63.0</u>	46.5	<u>39.2</u>	57.7	52.7	<u>0.000</u>
	Political activities	1,479	9.2	11.3	10.3	7.6	4.7	6.9	8.2	0.137
	Donation to volunteer organization	1,485	57.1	51.4	<u>69.3</u>	51.9	53.4	59.9	57.9	<u>0.001</u>
Preparation before applying JOCV (check all that apply)	Not in particular	1,501	14.3	21.7	20.3	<u>24.6</u>	15.4	<u>13.1</u>	17.2	<u>0.004</u>
	Study languages	1,502	47.9	45.5	45.5	46.0	<u>57.9</u>	<u>56.5</u>	50.4	<u>0.006</u>
	Improve skills	1,502	31.6	34.3	30.9	27.8	27.5	<u>39.5</u>	32.2	<u>0.033</u>
	Take part in volunteer activities	1,502	20.8	20.3	16.3	<u>11.8</u>	17.1	<u>26.5</u>	19.4	<u>0.001</u>
	Gather information on developing countries	1,501	32.7	29.4	34.2	24.6	32.5	36.0	32.3	0.161
	Talk with returned JOCVs	1,502	48.4	39.2	46.3	40.6	40.4	<u>50.3</u>	45.3	0.055
	Visit developing countries	1,502	<u>14.0</u>	10.5	10.2	<u>5.9</u>	7.5	12.4	10.7	<u>0.030</u>
	Other	1,502	4.5	7.7	<u>0.8</u>	4.3	6.3	5.6	4.7	<u>0.022</u>

Significance at 5% level is indicated by underlined boldface.

Appendix A: Descriptive statistics, Pearson's chi-square test, and Residual Analysis [Continued]

Variables	Attributes	# in total	Cluster						All (%)	Pearson's χ^2 prob.
			I (%)	II (%)	III (%)	IV (%)	V (%)	VI (%)		
Interested activities after returning home (check all that apply)	Participate in NPO/NGO	1,497	74.7	<u>61.5</u>	<u>80.3</u>	<u>61.0</u>	75.1	<u>79.4</u>	73.7	<u>0.000</u>
	Found NPO/NGO	1,492	15.9	21.0	<u>26.2</u>	<u>12.8</u>	14.4	21.0	18.5	<u>0.001</u>
	Be involved in community service	1,493	58.5	50.4	<u>50.0</u>	<u>47.6</u>	62.5	<u>64.7</u>	56.9	<u>0.000</u>
	Utilize JOCV experience at work	1,496	86.0	86.7	<u>78.7</u>	85.6	89.5	87.2	85.6	<u>0.021</u>
	Start a business with foreign countries	1,495	29.6	<u>46.2</u>	36.1	<u>39.8</u>	28.7	29.1	33.2	<u>0.000</u>
	Volunteer at international organization	1,495	67.6	<u>55.6</u>	70.9	64.5	<u>75.2</u>	<u>76.1</u>	69.6	<u>0.000</u>
	Keep in touch with host country	1,497	95.0	90.2	94.3	94.7	97.1	95.4	94.8	0.110
	Introduce JOCV at school/work	1,497	86.0	<u>77.6</u>	<u>78.7</u>	<u>74.3</u>	<u>90.0</u>	<u>87.3</u>	83.4	<u>0.000</u>
	Outreach (speech at seminar, appear on TV/radio, write, etc.)	1,491	51.3	55.9	51.4	<u>42.7</u>	47.5	<u>56.2</u>	51.1	0.051
Desired career after returning home (multiple answers allowed)	Student (in Japan)	1,500	16.1	21.7	19.6	12.8	15.9	17.3	17.0	0.292
	Student (abroad)	1,500	24.0	30.8	<u>34.3</u>	20.9	<u>18.4</u>	20.9	24.4	<u>0.000</u>
	Teacher	1,500	22.4	18.9	<u>10.6</u>	15.5	23.0	21.6	19.2	<u>0.002</u>
	Government / local government	1,500	14.5	16.1	15.9	17.1	15.9	13.7	15.3	0.917
	Private company	1,500	30.8	35.0	37.6	34.8	33.9	29.4	33.0	0.356
	NPO/NGO	1,500	19.2	18.2	27.4	21.4	21.3	19.0	21.0	0.147
	International organization	1,500	23.4	32.9	31.4	23.5	28.0	27.1	27.1	0.124
	Self-employed	1,500	7.6	8.4	3.3	10.2	8.0	6.9	7.2	0.118
	Back to school/work I belong to	1,500	17.1	12.6	11.8	13.4	15.9	11.8	14.1	0.283
Other	1,500	5.0	7.0	4.1	6.4	3.4	4.9	4.9	0.573	
Not in particular	1,500	13.7	7.7	12.2	17.1	12.6	14.4	13.3	0.222	

Significance at 5% level is indicated by underlined boldface.

Appendix B

In Appendix B, an analysis of variance (ANOVA) table (i), and the results of Tukey-Kramer multiple comparisons (ii) are provided for variables (a)-(h). The results of the Tukey-Kramer multiple comparisons are illustrated as connected lines between the clusters that are significantly different at the five percent level.

Appendix B (i) Analysis of Variance (ANOVA)

		ANOVA		
		n	F	p-value
a) Concern about JOCV	Accommodation	1494	6.11	0.000 ***
	Activities	1499	4.81	0.000 ***
	Human relationship	1497	3.70	0.003 ***
	Language	1498	2.74	0.018 **
	Safety	1499	2.24	0.048 **
	Health	1500	1.79	0.113
	Job after returning home	1499	3.39	0.005 ***
	Friend/family in Japan	1499	2.61	0.023 **
	Lack of skill	1271	1.47	0.197
	Lose my competitiveness	1498	1.75	0.121
	Isolation from information	1499	0.56	0.728
b) Images of developing countries	People help each other	1426	2.02	0.073 *
	Not so different from developed countries	1447	1.27	0.273
	Never grow	1439	3.22	0.007 ***
	Need foreign aid/intervention/help	1437	3.21	0.007 ***
	Equal partner with us	1429	0.58	0.712
	We need to learn from them	1435	0.90	0.480
c) Images of volunteering	Unpaid	1482	1.81	0.107
	Voluntary	1482	4.27	0.001 ***
	For people or society	1482	9.14	0.000 ***
	Personal satisfaction	1483	2.92	0.013 **
	Sacrifice	1482	1.17	0.323
	Hypocrisy	1482	2.06	0.068 *
	Sense of adventure	1482	1.23	0.290
	Nosy	1483	1.11	0.356
	Needs knowledge and experience	1482	1.05	0.386
	Can utilize knowledge and experience	1482	2.44	0.033 **
	Communication	1482	1.65	0.144
	Worthwhile	1483	3.27	0.006 ***
	Opportunity for personal growth	1483	3.06	0.009 ***
Costs money	1483	2.54	0.027 **	
Time-consuming	1483	2.66	0.020 **	

Note: significance is shown at ***:1%, **:5% *:10% level.

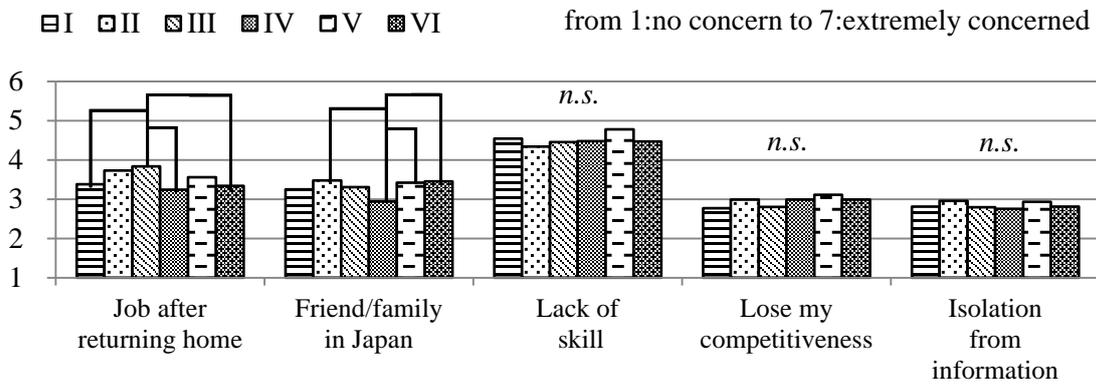
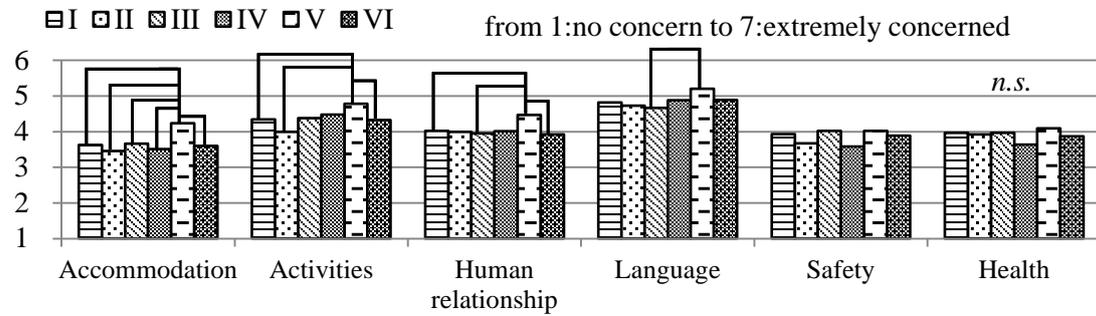
Appendix B (i) Analysis of Variance (ANOVA) [Continued]

		ANOVA		
		n	F	p-value
d) Domestic issues to care about	Poverty/job/disparity	1492	5.64	0.000 ***
	Safety	1493	2.46	0.031 **
	Environment	1492	2.17	0.055 *
	Politics/human rights	1491	2.99	0.011 **
	Education	1492	7.09	0.000 ***
	Medical/health/social security	1492	3.94	0.002 ***
e) International issues to care about	Poverty/job/disparity	1493	10.22	0.000 ***
	Safety	1493	3.94	0.002 ***
	Environment	1491	1.71	0.129
	Politics/human rights	1492	6.02	0.000 ***
	Education	1492	7.51	0.000 ***
	Medical/health/social security	1491	8.15	0.000 ***
f) Degree of trust	Family	1490	1.67	0.139
	Friends	1490	2.16	0.056 *
	Neighbors	1487	2.91	0.013 **
	Colleagues	1489	3.65	0.003 ***
	Japanese	1487	3.09	0.009 ***
	Foreigners	1487	4.47	0.001 ***
g) Human nature	Human nature is good	1486	3.35	0.001 ***
h) Lottery win allocation	My consumption/investment	1469	5.32	0.000 ***
	Saving	1469	1.32	0.253
	Give it to family	1469	2.00	0.076 *
	Give it to friends	1469	0.63	0.679
	Donation to disaster victims	1469	4.19	0.001 ***
	Donation to international agency	1469	6.15	0.000 ***
	Donation to charity in Japan	1469	3.49	0.004 ***
Other	1469	0.69	0.630	

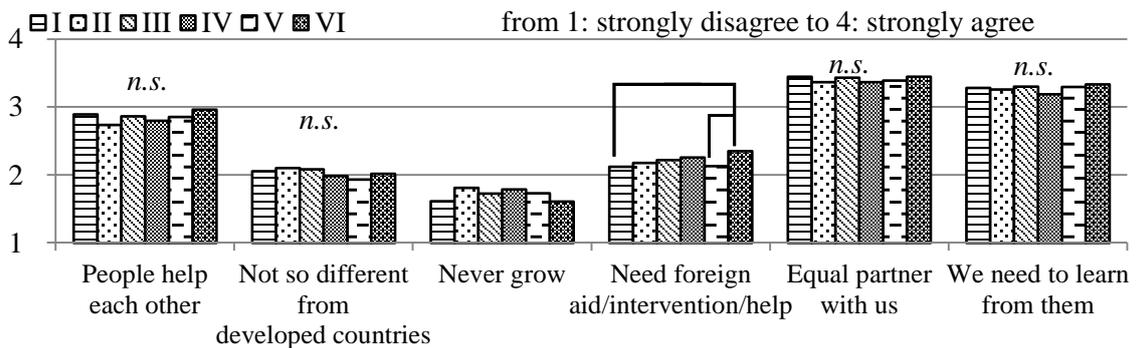
Note: significance is shown at ***:1%, **:5% *:10% level.

Appendix B (ii) Tukey-Kramer multiple comparisons

(a) Concern about JOCV



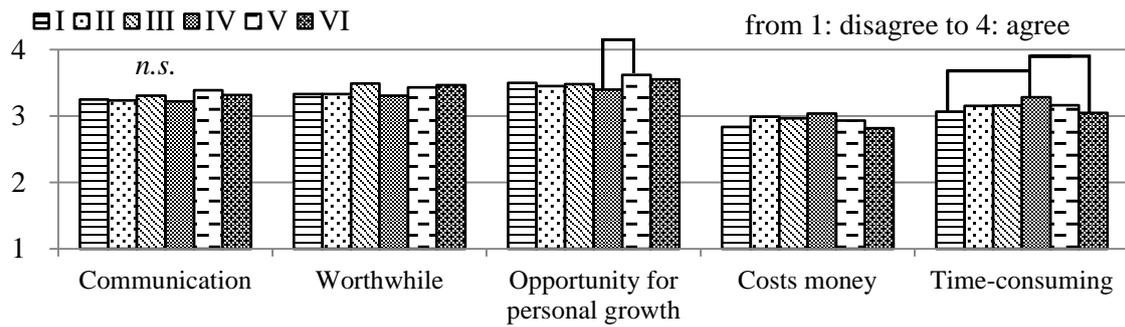
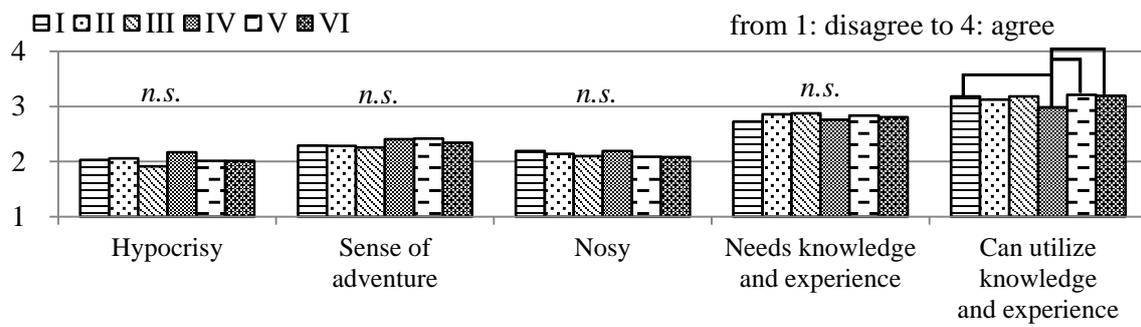
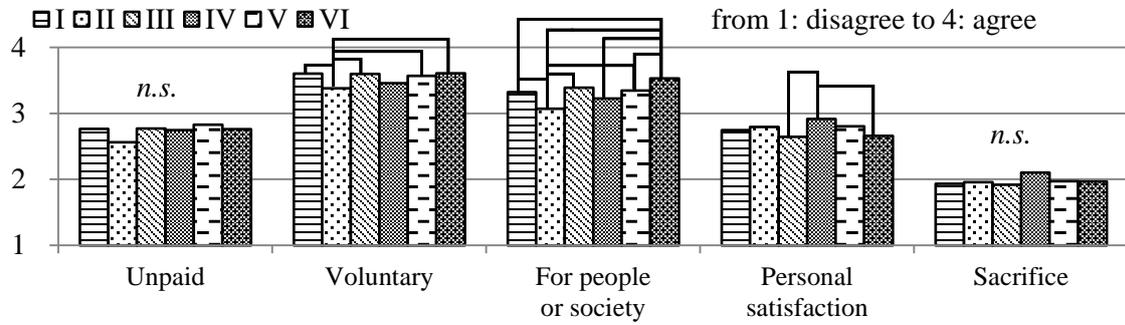
(b) Images of developing countries



Note: Connected lines between clusters mean the two clusters are significantly different at the 5% level.

Appendix B (ii) Tukey-Kramer multiple comparisons [Continued]

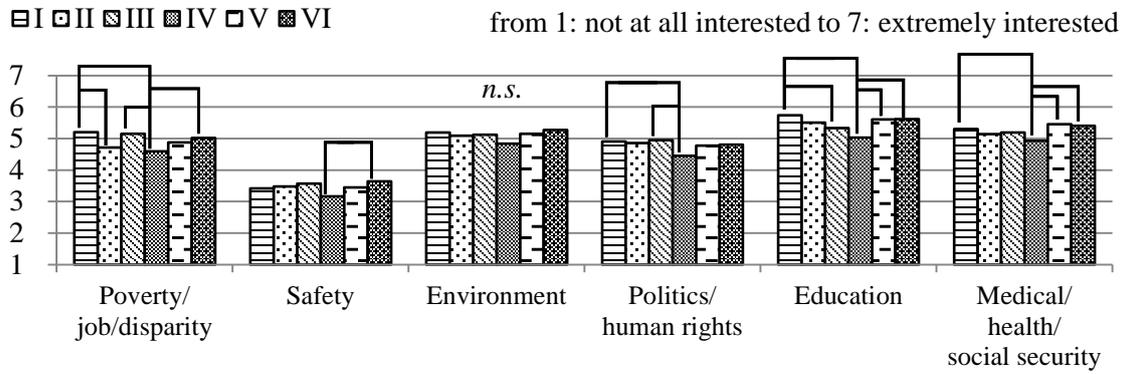
(c) Images of volunteering



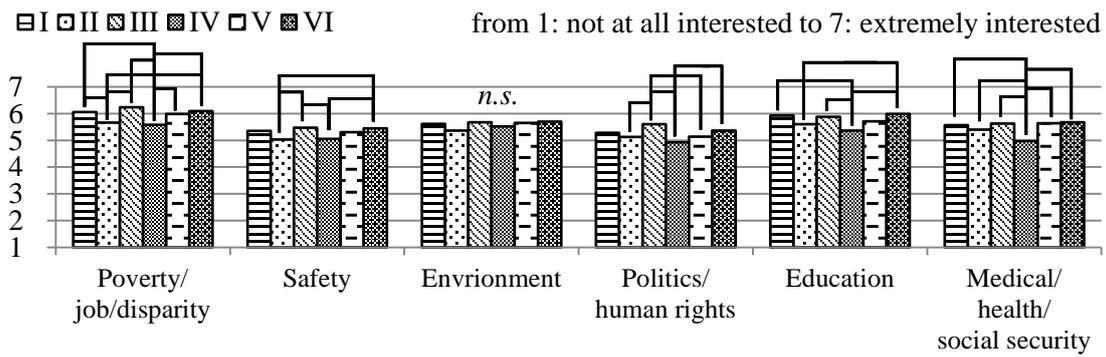
Note: Connected lines between clusters mean the two clusters are significantly different at the 5% level.

Appendix B (ii) Tukey-Kramer multiple comparisons [Continued]

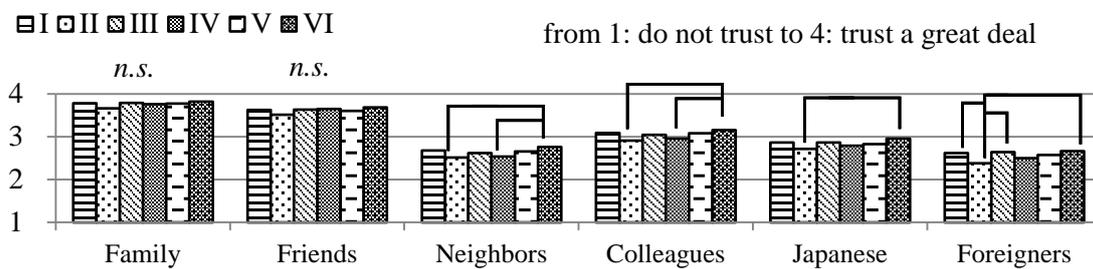
(d) Interest level in domestic issues



(e) Interest level in international issues



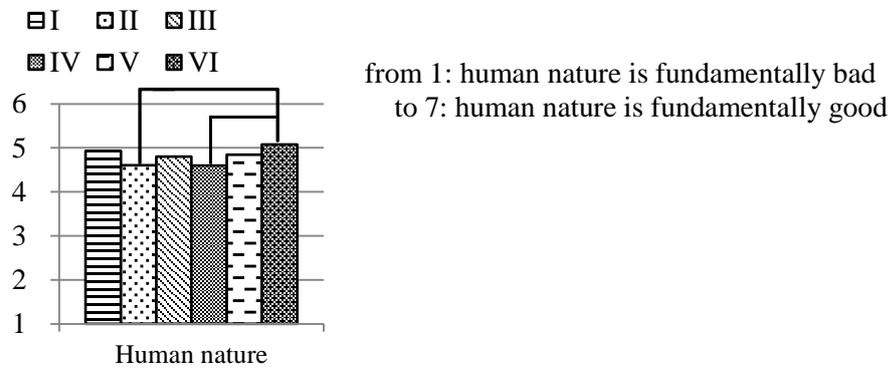
(f) Degree of trust



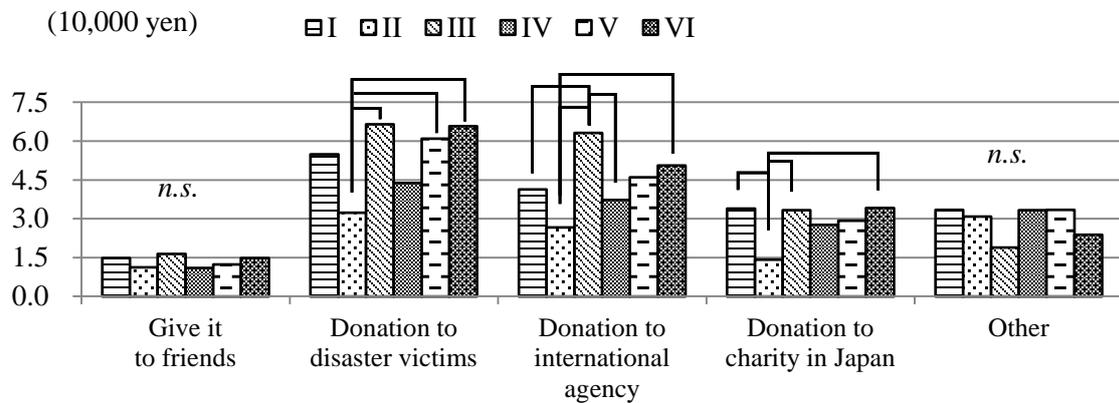
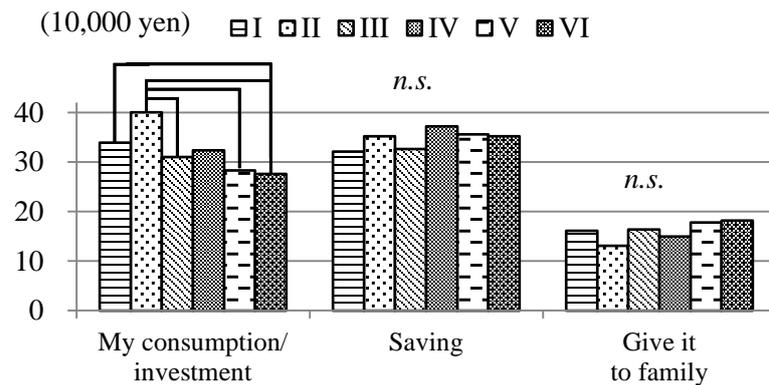
Note: Connected lines between clusters mean the two clusters are significantly different at the 5% level.

Appendix B (ii) Tukey-Kramer multiple comparisons [Continued]

(g) Human nature



(h) Lottery win allocation (of 1,000,000 Japanese yen)



Note: Connected lines between clusters mean the two clusters are significantly different at the 5% level.

Abstract (in Japanese)

要約

青年海外協力隊（JOCV）は、1965年の発足以来88か国へ4万2千人を超えるボランティアを派遣してきた。本研究では平成23年度2次隊から平成25年度4次隊の計11隊1,507名を対象とした派遣前訓練時の調査データを用いて、応募動機を基にクラスター分析を行い、協力隊員を6つの型に分けた。これらの型は属性、活動、思考において差異が見られ、それに応じて「好奇心型」「ビジネス志向型」「国際協力志向型」「自分探し型」「自己変革志向型」「慈善志向型」と名付けた。協力隊隊員の類型は経験的に語られることはあったが、本研究によって計量的に抽出することができた。また、協力隊の隊員像には多様性がみられることも裏付けられた。参加者の特性や傾向を把握することは、募集分野の目標設定や派遣前訓練、現地の要請と活動分野の合致、さらには活動評価において重要と考えられる。

キーワード： 青年海外協力隊（JOCV）、動機、国際ボランティア、類型化、クラスター分析



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