

Examining the Relationships between Earthquake Preparedness Factors at Household Level

Case study: Shuhachi and Jouson Communities, Kyoto City

○ Saut Sagala, Risye Dwiyani, Robert Bajek, Yukiko Takeuchi, Norio Okada

1. Introduction

This study discusses the relationships between earthquake preparedness factors at household level. Two communities from Nakagyouku Ward, Kyoto City, namely Shuhachi and Jouson, were selected for this research. We assume that those communities are different, where Shuhachi represents a community with an active *Jishu Bousai Soshiki*, and is mainly dominated with non apartment houses with a more cohesive community, while Jouson is a community where more apartment houses exist and therefore is assumed to be less cohesive.

2. Hypotheses and analytical tools

The data was based on the questionnaire-based survey we conducted in 2007 about social resilience. Three groups of variables were examined in this research, namely: *critical awareness*, *negative outcome expectancy* and *intentions*, respectively represent *risk awareness*, *risk perception* and *preparedness*. There are four hypotheses tested in this research: (1) community's risk perception significantly correlates with the intention in preparing against earthquake risk; (2) risk awareness significantly correlates with the intention in dealing with earthquake risk; (3) discussion or talking about earthquake topics with peers positively correlates with risk perception; (4) there are significant differences of earthquake preparedness factors between Shuhachi and Jouson Communities. Tools used in this research include chi-square analysis (followed by a post hoc analysis) and Mann Whitney U as well as mean rank analysis.

3. Result

From the statistical analysis, we select the results that

have statistical significance $p \leq 0.05$. We find out that hypothesis 1 is partially proven in Shuhachi and significantly proven in Jouson. Hypothesis 2 is proven both in the two communities. Hypothesis 3 is proven in Shuhachi while in Jouson is not proven. Regarding to hypothesis 4, despite on the assumption about the differences between Shuhachi and Jouson communities, we find out that there is no significant difference between them. The differences of Shuhachi and Jouson's sample characteristics are shown below.

Variable	Shuhachi	Jouson
Age	Older	Younger
Occupation	Mostly retired	Mostly company employee
Type of House	More in houses	More in apartments
Length of Inhabitation	Longer period	Shorter period

Table 1. Sample characteristics of Shuhachi and Jouson.

The result of the questionnaires and the mean rank analysis of intentions variables are shown in Figure 1. In conclusion we argue that the effectiveness of Jishu Bousai Soshiki activities in Shuhachi community should be evaluated.

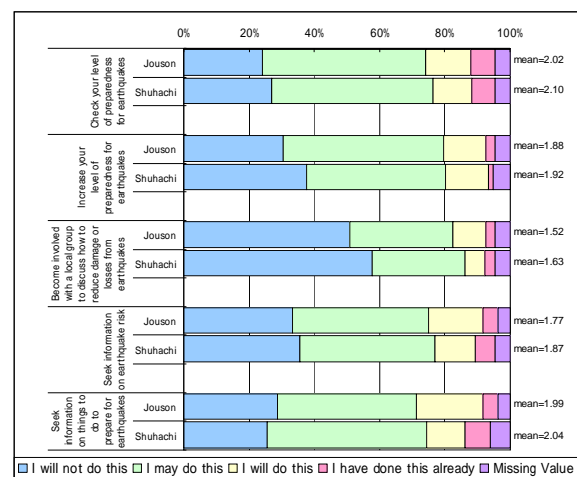


Figure 1. The Result of Intentions Variables