

## The influence of the Kumamoto earthquakes on public risk perception and trust toward authorities

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The magnitude 6.2 foreshock on the 14th of April and the magnitude 7.3 main shock on the 16th of April happened in the 2016 Kumamoto earthquakes. The main shock over than the magnitude 6.2 was not anticipated because the foreshock was considered to be the main shock. After the earthquakes, the meteorological agency changed the policy to discontinue the announcement of probability of aftershock occurrence. The experience of Kumamoto earthquakes and the policy change of risk communication may affect public risk perception of earthquake and trust toward authorities. For example, the Fukushima nuclear accident that was an unexpected disaster changed the perception of nuclear risk and trust toward the authorities (i.e. Government, electronic power company) to negative (Ohtomo et al., 2014). Social amplification of risk is occurred after the large-scale accident or disaster (Slovic et al., 1991). The social amplification makes people exaggerate risk perceptions and aversive reactions. The study examines how the people suffered from the Kumamoto earthquakes perceive an earthquake risk and evaluate trust toward authorities. In the study, the damages and coping behaviors after the foreshock, main shock, and the policy change of the meteorological agency were measured to investigate the influence on the risk perception and trust.

The mail survey was implemented from the end of November to the middle of December in 2016.

Respondents were collected based on the level of earthquake damage and population ratio of areas in Kumamoto prefecture. The figure showed the framework of the questionnaire. The study analyzed the relationships between the damages and coping behaviors and risk perceptions of earthquake and trusts toward the government, meteorological agency, and local governments.

The study illustrates the patterns of coping behavior after the shocks and the policy change affected the risk perception and trusts, in addition to the level of earthquake damage. Especially, there might be differences between people who changed coping behaviors and people without change after the main shock. Implications for risk communication of earthquake are discussed herein.

Keywords: Kumamoto earthquakes, risk communication, risk perception, social amplification, trust

