

# Worldviews and Altruistic Behavior: An Experimental Study<sup>†</sup>

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## Abstract

The main purpose of this paper is to examine the effects of worldviews on individual altruistic behaviors toward anonymous others, through experimental researches conducted in churches and universities in Korea, Japan and the US. The estimated results indicate that among Korean and Japanese Christians who believe in punishments for any bad behaviors (“reward-related worldview”) are less likely to donate. One possible interpretation is that the reward-related worldview might be correlated with the perception of the origin of the poverty. If they believe that the poverty is resulted from one’s own irresponsible deeds, they would not be willing to make a charitable donation to anonymous others. The negative effect of the reward-related worldview on donation was not found among American respondents. This suggests that the altruistic behavior of people with the same religious background may differ by country in relation to the reward-related worldview, although the small size of our samples hinders from drawing concrete cross-cultural comparisons.

Keywords: worldview, altruistic behavior, cross-cultural experiment

JEL Classification: C91, D64

## 1. Introduction

Extant literature in the field of economics has recently analyzed the relationship individual beliefs and preferences on a variety of economic outcomes (see Guiso et al. 2006 for a survey) such as altruism and intergenerational transfers (see, e.g., Fehr and Schmidt, 2006). Some

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experimental studies have been conducted to investigate the possible impact of social norms and institutions and market behavior (Roth et al., 1991). Henrich et al. (2010) examined whether the fairness toward anonymous others is associated with the market integration (a percentage of a household's total calories purchased from the market) and a world religion (Islam/Christianity, a tribal religion, or no religion), using 15 diverse populations. They found the positive correlation between offers toward anonymous others and market integration/a world religion, suggesting that the fairness is the product of both an innate social psychology for life and new norms and institutions emerged in the human history of expanding populations.

Some studies focus on the possible impact of individual belief system and the confidence in the worldview belief on an individual economic behavior. Horioka (2012) has found substantial international variations in altruism for China, India, Japan, and United States. This result suggests that if the variation is not explained by income differences, a natural candidate for explaining such variation is culture. Kubota et al. (2013) focused on worldviews to explain international differences in intergenerational altruistic attitudes using the data of Japan and United States, and Akkemik et al. (2013) took a similar approach using the data of Turkish people living in Turkey and in Germany. These authors have found elements in belief systems such as confidence in worldview beliefs have statistically significant effects on intergenerational altruistic attitudes and explain substantial proportions of international differences in them.

Our study aims to investigate the extent to which the foundational level of worldviews affects an individual economic behavior through experimental researches in churches and universities in Korea, Japan and the US. This experimental plan is the first attempt to investigate the effect of the religious-level variables on altruistic behavior toward anonymous others, which is measured from the experimental procedures. We found that among Korean and Japanese Christians, those who believe in punishments for any bad behaviors, are less likely to donate. The negative effect of the reward related worldview on donation, however, was not found among American respondents. This suggests that the altruistic behavior of people with the same religious background may differ by country in relation to the perception of the reward related worldview. The remainder of the paper is organized as follows. Section 2 explains the experimental design, including main variables for our analysis concerning reward-related worldview, and section 3 describes the economic framework. The estimation results are summarized and discussed in section 4.

## **2. Experimental Design**

To examine the effects of worldviews on an individual altruistic behavior, we conducted an experimental research at universities and churches in Korea, Japan and the US either in 2009 or in 2010. In each experiment, about 30 participated and the survey concerning worldviews and economic behaviors. At the beginning of the experiment, two envelopes are distributed to the 30

participants. The first one is an envelope with ten \$5 bills (for the Korean experiment, ten 5,000-won bills, and for the Japanese experiment, ten 500-yen coins, both of which are equivalent to approximately \$50) and another one is envelope with ten pieces of bill sized paper. They are instructed to take out a number of bills from the first envelope to donate to the “International Federation of Red Cross” and “Red Crescent Societies”. No one can see how much each of participants donates and after taking out part of or all of the \$50, they are instructed to move the same number of bill-sized paper from the second envelope to make sure that no one notices the amount of donation when the participant turns his/her survey into the drop box. Whether the participants understand the instructions are confirmed with control questions that ask how many of the bills need to be taken out to make a certain amount of donation.

To conduct a more accurate experimental research, we attempted to minimize any potential problems stemming from experimenter, language and currency/stake effects. First of all, one of the research team members was supposed to be in the place where the experiment was conducted, to make sure that all sessions would be implemented under the same protocol. Moreover, trained research assistants and a local experimenter instructed the experiment participants and if necessary, communicated between the participants and the present researcher throughout the experimental procedures. Secondly, to conduct cross-cultural studies, we also attempted to avoid any problems that could arise from the translation with different meaning and nuances. We double checked the quality of translated instructions by asking a native translator (in this experiment, a Korean and a Japanese native speaker) to translate the instruction, which was translated from English to Korean and Japanese, back to the English version so that we can make sure all participants across the nation are instructed in the exactly same way. Finally, we adopted the Purchasing Power Parity (PPP) as a rough guide because the PPP should be a more proper index than the income/hourly wages of subjects, considering that both our participants include students and non-students.

In our work, we used the experimental results with the data obtained through surveys conducted before the experiment, which contain various measures of worldviews, as well as individual characteristics. The measurement of religious worldview can be considered as exogenous to the experiment since it was designed not to affect the results of the experiment. We used the concept of Hiebert (2008, pp. 25-26) who defines “worldview” in anthropological terms as “the foundational cognitive, affective, and evaluative assumptions and frameworks a group of people makes about the nature of reality which they use to order their lives. A worldview is behind each culture, and Hiebert considers several levels of a worldview (see Lee et al. (2013) in more detail). We measured “reward-related worldviews” by asking the survey respondents the following question, “There are punishments for all bad deeds”. The reward-related worldviews were scored on a scale of 0 (“strongly disagree”) to 100 (“strongly agree”) that indicates how much a respondent agrees with the statement.

### 3. Results

Table 1 shows the descriptive statistics of the degree of donation that ranges from 0 (zero donation) to 10 (100% donation) and the reward-related worldview coded on a scale of 0 to 100. First, the average amount donated by Christians is relatively higher among Japanese. In contrast, the amount donated by church attenders in the US and non-Christian Japanese university students are as low as 1 to 2 (corresponding \$5 to \$10). One unique characteristic is observed among Korean Christians. There was none among the Korean participants who donates nothing. In other words, all of the Korean participants donated to the charitable organizations at least 5 dollars, whereas 10 to 25% of Japanese and American respondents chose a zero donation.

Next, interesting contrast in the reward-related worldview was found between countries. Most of American Christians strongly disagree with the given statement, whereas the Korean and Japanese Christians strongly agree with the statement. This indicates that Korean and Japanese Christians have a strong belief in the reward-related worldview in contrast to the American Christians.

Table 1. Descriptive Statistics

Exerimental studies		(1) Korean Church in Korea	(2) Japanese Church in the US	(3) US Church in the US	(4) US Student in the US	(5) Japanese church in Japan	(6) Japanese Univ. Students in Japan (Whole)	(7) Japanese Univ. Students in Japan (christianity)
Amount of donation (Dependent variable: 0~10)	Mean	3.76	2.83	1.56	5.89	5.46	1.30	4.65
	St.dev	(2.46)	(2.92)	(2.21)	(3.63)	(3.53)	(1.53)	(3.19)
Bad Behavior to be Punished (0~100)	Mean	81.72	71.30	12.22	27.37	74.64	34.67	69.57
	St.dev	(28.92)	(34.02)	(26.07)	(38.85)	(33.50)	(30.60)	(34.04)
Observations		29	23	27	19	28	30	23

To analyze these data, we then ran a simple linear regression of worldviews on the individual decision on the amount of donation. We have a wide range of questions that measure the worldview in the survey; for example, God and Gods exist, God is watching and sees all bad deeds, Life after death exist, Heaven exists, or There is genuine meaning in suffering for oneself/others. We found that the reward-related worldview, which is constructed from the answer to the question “There are punishments for all bad deeds”, is the only religious worldview that has a significant effect on the individual altruistic decision.

Table 2 summarizes the estimated results. Those who believe in punishments for any bad behaviors, among the Korean church attenders and the Japanese church attenders in America (columns (1) and (2)) and Japanese university students who identified themselves as Christians (column (7)), are less likely to donate. The respondents of Japanese church in America (column (1)) include Americans and those with dual citizenship. We ran the regression with the sample restricted to the sample whose nationality is Japanese, but the significant negative effect of reward-related worldview remains. Our descriptive statistics (Table 1) show that on average,

Japanese Christians donated more than their counterparts. This suggests Christians in Japan are relatively more altruistic, but among the Japanese Christians, those who more strongly perceive the consequences of their own bad behaviors, seem to have a tendency to be less altruistic. The negative effect of the reward related worldview on donation was not found among American respondents.

Table 2. The effect of worldview on an individual altruistic behavior

Dependent variable (Donation: 0~10) Model: OLS	(1) Korean Church in Korea	(2) Japanese Church in the US	(3) US Church in the US	(4) US Student in the US (Christians)	(5) Japanese church in Japan	(6) Japanese Univ. Students in Japan (Whole)	(7) Japanese Univ. Students in Japan (christianity)
Bad Behavior to be Punished (0~100)	-0.0302* √(0.015)	-0.0418** √(0.016)	0.1113 √(0.168)	-0.1713 √(0.223)	0.0185 √(0.020)	0.0091 √(0.009)	-0.0354* √(0.019)
Constant	6.2296*** √(1.323)	3.7170*** √(0.646)	1.4195*** √(0.476)	6.3634*** √(1.041)	4.0855** √(1.661)	1.4401*** √(0.315)	5.3455*** √(0.730)
Observations	29 √	23 √	27 √	19 √	28 √	30 √	23 √
R-squared	0.126	0.238	0.017	0.034	0.031	0.033	0.143

#### 4. Discussion

Our main estimation result indicates that while Korean and Japanese people who attend church or identify themselves as Christians appear to make more donations on average, those with the reward-related worldview are less likely to donate. One possible interpretation is that the reward-related worldview might be correlated with the way to perceive the poverty. If those with the reward-related worldview think that poverty is resulted from the one's deeds such as the laziness, they would not like to make a charitable donation to those in poverty because being poor is his or her responsibility. If this holds true, this unobserved perception about the origin of the poverty may be reflected in a low participation in donation among Korean and Japanese Christians who have the reward-related worldview. As for Korean respondents, every participant donates at least 10% of what they have, and this may make them feel less obligated to give more than 10% if they do not connect their altruistic behavior to bad deeds that bring on punishment. If they think that non-altruistic behavior can be considered as bad deeds, they would make more donations not to be punished. In contrast, this negative effect is not observed among Americans in our study. This suggests that the altruistic behavior of people with the same religious background may differ by country in relation to the perception of the reward related worldview.

It should be noted, however, that our results are based on a small number of sample mainly because of the difficulty to receive the permission to run the experiment in churches and other institutions. The ideal strategy is to conduct experiments with large subject pools from sociologically different groups including churches and universities within a society so that the subject pools can ascertain the randomness and representativeness. Thus, the results could not be

generalized and do not suggest the causal relationship. Moreover, the negative relationship between the reward-related worldview and the altruistic behavior is not observed in the Japanese who attend church in Japan. One possible reason is that people might interpret the role of “International Federation of Red Cross” and “Red Crescent Societies”. We selected these two organizations with an assumption that these are non-religious and non-political institutions so that any other factors than the worldviews would not affect their altruistic decision.

Our overall estimation results should be interpreted as hinting that worldviews are implicit but might act as a set of rules that determine individual altruistic decision. In other words, this study only suggests that religious worldview, in particular, the reward-related worldviews might affect individual altruistic behavior toward anonymous others. In addition, our study suggests that the related-related worldview differs among people with the same religious background and its effect on the altruistic behavior varies between Korea/Japan and the US.

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