

## Examination of the relation between moral foundations and two types of belief in a just world<sup>1,2</sup>

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Both moral foundation theory and the two types of belief in a just world (beliefs in immanent justice and in ultimate justice) affect people's moral judgment. Nevertheless, earlier studies have not examined relations between these two theories. We hypothesized that, based on the claims of the two theories and relevant studies, specific moral foundations have different relations with the respective types of belief in a just world. After 4,120 participants completed an online survey, all data were analyzed. Respondents comprised 2,060 (50%) men and 2,060 (50%) women, with ages of 20–69 years (average age 44.9 years,  $SD = 13.8$ ). Correlation analysis and multiple regression analysis were used to evaluate findings related to the hypotheses. Results partly supported the hypotheses. Belief in immanent justice was positively related to the care/harm, loyalty/betrayal, and sanctity/degradation foundation but negatively related to the fairness/cheating foundation. However, belief in ultimate justice was positively related to the loyalty/betrayal and sanctity/degradation foundation but negatively related to the fairness/cheating foundation. Findings also show that, as people's justice motivations, beliefs of two types in a just world are not only related to the fairness/cheating foundations; they also show relations with other foundations.

**Key words:** fairness, immanent justice, loyalty, sanctity, ultimate justice

### Introduction

#### The Moral concern – Moral Foundation Theory

When faced with moral events, people judge morality based not only using a justice perception (Haidt, 2012). The “Moral Foundation Theory” indicates that multiple moral foundations affect people's moral judgment. This theory is based on claims of nativism, which suggests that people are born with a partial moral consciousness. That notion contradicts Piaget's (1932/1965) assertion that children learn moral values through gameplay, and not through innate or adult guidance. Claims of nativism suggest that the human moral mind “is organized in advance of experience so that it is prepared to learn values, norms, and behaviors related to a diverse set of recurrent adaptive social problems” (Graham et al., 2013). In addition, the moral foundation theory disagrees with Kohlberg's suggestion that the only

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moral concerns are care and fairness (Kohlberg et al., 1983). Haidt (2012) proposes that the moral mind has five “foundations” and calls these foundations a “first draft.” These “first drafts” do not remain unchanged throughout life. Actually, through cultural learning, children might come of age with different preferences about some or all the foundations. Initially, these five moral foundations were labeled as harm/care, fairness/reciprocity, ingroup/loyalty, authority/respect, and purity/sanctity (Haidt & Joseph, 2008). However, they later modified these labels to care/harm, fairness/cheating, loyalty/betrayal, authority/subversion, and sanctity/degradation (Graham et al., 2013).

The care/harm foundation is prepared to protect and care for children, which motivates people to show caring, kindness, and compassion for a weak person or a victim. However, the care/harm foundation also stimulates people’s anger at a perpetrator who harms someone.

The relevant virtues of the fairness/cheating foundation are fairness and justice. This foundation relates to Piaget’s concept of immanent justice reasoning, which is based originally on maintaining regular interactions between individuals and others. In the early version of the moral foundation theory, Haidt and Joseph (2008) reported that the fairness/cheating foundation emphasizes “equality” and “proportionality” simultaneously. However, Haidt (2012) modified this foundation later, and emphasized not “equality” but “proportionality” and a “law of karma” as a concept of “people will only get what they are deserved.” Therefore, if someone only enjoys the benefits from society but does not contribute, then those who value the fairness/cheating foundation will criticize these “cheaters” for maintaining morality. For this reason, the fairness/cheating foundation is strongly connected with people’s internal causal reasoning.

The loyalty/betrayal foundation emphasizes the concept of ingroup loyalty. It is a mode of mutual help by forming a group because human beings cannot survive independently. The loyalty/betrayal foundation stimulates people to be committed to the group and to value the rules and honor of the group. When people violate the group’s rules, they stimulate moral outrage and reject these betrayers.

The values of the authority/subversion foundation include submission and respect. It emphasizes the importance of a hierarchy, where a superior member must protect and care for the interests of an inferior member; the inferior member must show obedience and respect to the superior member. Those who value this foundation believe that social groups must be maintained through this hierarchy and believe that it is immoral to try to subvert the hierarchy within the group.

The original trigger of the sanctity/degradation foundation is the avoidance of pollutants and pathogens. Nowadays, however, taboos prescribed by religious people have become triggers of this foundation. People’s avoidance and aversion to things defined by religion as unclean and evil are prompted. Haidt (2012) pointed out that the importance individuals attach to the foundation of sanctity/degradation is related to religious beliefs.

These five foundations represent different values of the moral mind, but they can also be grouped into two broader categories (Graham et al., 2009). The care/harm and fairness/

cheating foundation specifically emphasize the treatment and well-being of individuals, such as the care and protection of vulnerable individuals and the proportionality of the benefits available to them. These two foundations can therefore also be classified as an “individual foundation.” However, the “binding foundation” includes the loyalty/betrayal, authority/subversion, and sanctity/degradation foundations, which specifically emphasize protecting and strengthening social groups’ values.

According to Haidt’s (2012) assertion, these five moral foundations are like taste receptors that everyone is born with. People certainly do not prefer all of them. People are influenced by cultural learning. They show different preferences for the respective foundations. When different people make judgments about the same moral event, they will be influenced by these preferences and can therefore be expected to make different judgments. In addition, when making moral judgments, people will judge according to the foundation they prefer in priority and will suppress or ignore other foundations’ perspectives, which they do not prefer. Haidt (2012) points this out as the reason why people have the same moral foundations but exhibit different political orientations. For example, an emphasis on individual foundations is regarded as the political orientation of American liberals. Conservatives, by contrast, emphasize various foundations (Graham et al., 2009; Haidt, 2012). It is noteworthy that, although conservatives value all foundations equally, conservatives tend to rely on group foundations and sacrifice the care/harm and fairness/cheating foundations to punish rule breakers when they are faced with violations of group norms or honor.

Although political ideology has the strongest effect on the moral foundation, differences in variables such as gender also affect values related to each moral foundation (Graham et al., 2009). For example, Graham et al. (2011) reported that women scored higher than men on the care/harm, fairness/cheating, and sanctity/degradation foundations, indicating that women are more concerned about these foundations than men. Considering these research results, effects of gender, age, and residential areas might also be found in the Japanese group.

According to the moral foundation theory discussed above, when facing moral events, people make judgments based not only on the concept of justice but also on the other moral foundations that they value individually.

### **Justice motivation – Belief in a just world**

Belief in a Just World (also called the Just-world hypothesis, Just-world theory) is a theory propounded by Lerner (1980). This theory holds that people need to believe they are living in a “just world,” which means that the world is a just and safe place: all righteousness will eventually be rewarded; all sin will eventually be punished. This belief leads people to believe that they will only get what they deserve and deserve what they get. Lerner (1980) claimed that belief in a just world exists universally in human societies; other researchers also pointed out that belief in a just world was conceptualized as a stable personality characteristic that influences people’s justice motives (Dalbert, 2001).

This theory is based on a series of electroshock experiments by Lerner (1965) and

his colleagues. The experimentally obtained results revealed that when a victim was electroshocked continually by a researcher, the observers playing actual experiment participants became accusatory against the victims, but not toward the researcher (Lerner & Simmons, 1966). The exercise was then repeated in subsequent experiments by Lerner with his collaborators. Similar results were found by other researchers (Lerner & Miller, 1978). These experimentally obtained results revealed an essential characteristic: when people observe “misfortune befalling the innocent victim,” it would threaten their belief and motivate them to do something to maintain and restore their belief, such as by blaming the victims. This reaction engendered the phenomenon of victim derogation. It was supported by relevant research (Greitemeyer & Rudolph, 2003; Hafer & Bègue, 2005; Lerner, 1980; Lerner & Simmons, 1966; Tyler et al., 1997).

According to this characteristic, the belief in a just world has been well known as an explanation for victim derogation. It has led to many related studies conducted to examine this characteristic specifically (Hafer & Bègue, 2005; Ryan, 1971). After Rubin and Peplau (1975) developed a measurement scale of the belief in a just world, increasingly relevant research had been conducted (Maes & Schmitt, 1999). However, although many reports have described a relation between the belief in a just world and victim derogation, some studies have yielded contrary results. In fact, Lerner (1980) suggests explicitly that victim derogation is not the only strategy by which belief in a just world is preserved. Lerner and Simmons (1966) reported that if observers who played experiment participants knew that the victim being punished by electroshock would be rewarded in the future, they would stop devaluing the victim. This result revealed that other strategies can be used to cope with the threat to the belief in a just world, such as adopting different time perspectives (Lerner, 1970, 1980).

Considering time as a situational variable when people are coping with the threat of belief in a just world, Maes (1998) reported differentiation between two variants of belief in a just world: “Belief in Immanent Justice,” which means a “tendency to perceive or see justice in the events that have occurred,” and “Belief in Ultimate Justice,” which means a “tendency to believe that forthcoming events will settle any injustice that occurs.” The belief in immanent justice is related to the phenomenon observed by Piaget (1932, 1965): children tend to believe that “a fault will automatically bring about its own punishment.” This immanent justice reasoning is borne out of children’s own experience of parental sanction during the early years. It leads them to establish a perspective about a causal relation between past behavior and the outcome (Piaget, 1932/1965). Although Piaget suggested that immanent justice reasoning would decrease with age and replicated those inferences with later research (e.g., Suls & Kalle, 1979), Callan et al. (2014) pointed out that it does not disappear when growing up: it continues to affect adults’ justice motivation. Contrary to the emphasis on past behavior of a belief in immanent justice, a belief in ultimate justice emphasizes the future. Maes (1998) reports that a belief in ultimate justice encourages people to believe that injustice would be restored in an uncertain future, or that it might even extend into the next life. This tendency allows people to have greater tolerance when facing injustice without giving up a fundamental belief in a

just world.

Maes (1998) reports that these two-dimensional perspectives can be traced from the cultural roots of religion, but that they have a different effect on people facing injustice. After Maes (1998) developed a measurement scale, it was used to study cancer patients. The findings indicated that the belief in ultimate justice leads to a more positive attitude toward the victim. However, only belief in immanent justice is correlated with victim-blaming. Maes and Schmitt (1999) replicated the result and reported that only belief in immanent justice correlated with the equity principle. Callan et al. (2014), through a series of studies, pointed out that belief in immanent justice has a stronger relation with causal connection perceptions. A belief in ultimate justice has a more tenuous relation with causal reasoning but it showed a more positive attitude toward a victim who has good moral value.

However, Murayama and Miura (2015b) designed a criminal scenario and examined how these two types of belief in a just world affected Japanese participants' views toward a perpetrator and victim. Results revealed that belief in immanent justice is related to harsh punishment tendencies toward the perpetrator. A belief in ultimate justice has a positive relation with psychological distance from the victim, which means they did not care about the victim.

Based on the findings presented above, belief in a just world is clearly characterized not only by victim-blaming. As a justice motivation, different just-world beliefs affect how people view injustice events and exercise righteous behavior. In Japan, a belief in immanent justice relates to causal reasoning and leads people to blame a rule-breaker. However, belief in ultimate justice can maintain one's psychological distance from the victim and can allow a person to care less about them (Murayama & Miura, 2015b).

### **Relation between the Moral foundation theory and Belief in a just world**

Both moral foundation theory and a belief in a just world affect people's attitudes about moral events (Haidt, 2012; Lerner, 1980). The five moral foundations of the moral foundation theory exert different influences on people's moral judgment about different moral events (Graham et al., 2009; Graham et al., 2013; Haidt, 2012; Haidt & Joseph, 2008; Murayama & Miura, 2015a). However, a belief in immanent justice can be expected to lead people to believe someone's misfortunes as caused by past bad behavior, but ultimate justice would lead people to look for ultimate compensation (Callan et al., 2014; Harvey & Callan, 2014; Maes, 1998; Maes & Schmitt, 1999; Murayama & Miura, 2015b, 2016). These two theories have a considerable degree of association that has not been examined in studies reported in the relevant literature (Kitamura, 2019). Consequently, the primary goal of this study is examination of the relation between the moral foundation theory and beliefs of two types in a just world using a sample of responses to questionnaires administered to Japanese people.

Graham et al. (2013) pointed out that moral foundation was viewed as a Level 2 characteristic adaptation categories in McAdams' three-level model of personality theory (McAdams, 1995; McAdams & Pals, 2006), which is linked closely to particular dispositional

traits (Level 1, such as Big Five personality traits). The belief in a just world also has relevance to Big Five personality traits (Nudelman, 2013). Because these two theories can both be regarded as “characteristic adaptations” (Level 2) in McAdams’ three-level model of personality, it seems difficult to ascertain causality. However, considering that the moral foundation theory emphasizes that five foundations are innate (Graham et al., 2013; Haidt, 2012), the belief in a just world (including belief in immanent justice and belief in ultimate justice) simply reflects learning from experience and culture through growing up (Callan et al., 2014; Maes & Schmitt, 1999). Consequently, the present study examines the hypothesis that the moral foundation would come first, followed by belief in a just world. Moreover, we predict that the five moral foundations have different effects on the respective types of belief in a just world. The foundations are presented in the following order: care/harm, fairness/cheating, loyalty/betrayal, authority/subversion, and sanctity/degradation.

The care/harm foundation is expected to predict belief in immanent justice. Although the care/harm foundation promotes compassion and kindness, it still triggers anger against a perpetrator and a tendency to punish them when facing a moral event (Haidt, 2012). An earlier study revealed that a person who values the care/harm foundation would much easier judge perpetrators as guilty when they feel that a perpetrator’s behavior is disgusting (Murayama & Miura, 2015a), which proved the care/harm foundation’s effect. Belief in immanent justice exhibits the same tendency to perpetrators blaming of the criminal event (Murayama & Miura, 2015b). However, the belief in ultimate justice did not trigger people to blame perpetrators. Contrary to reports by Maes (1998), among Japanese participants, the belief in ultimate justice leads people to keep a psychological distance and to show no compassion for a victim (Murayama & Miura, 2015b). Consequently, the care/harm foundation is not expected to have any association with a belief in ultimate justice.

Considering that both the fairness/cheating foundation and belief in immanent justice relate to people’s causal reasoning (Callan et al., 2014; Haidt, 2012), the fairness/cheating foundation is also expected to predict belief in immanent justice. The relevant study also revealed that the fairness/cheating foundation and the belief in immanent justice have the same positive relation to rulebreaker blaming because of the effects of causal reasoning (Kitamura, 2019). However, the fairness/cheating foundation is expected to predict belief in ultimate justice negatively. An earlier study revealed that belief in ultimate justice did not relate to immediate causal reasoning but promoted belief in more “long-term” justice. It leads people to have more tolerance when facing unjust events because they believe the victim suffering in the here-and-now would always get their compensation in an uncertain future (Callan et al., 2014). Unlike a belief in ultimate justice, the fairness/cheating foundation values justice as a relevant virtue and does not tolerate unjust events (Haidt, 2012). Consequently, these two concepts are predicted to share a negative relation.

To form cohesive coalitions, the loyalty/betrayal foundation promotes people to be loyal members of an ingroup and to stand against those who betray the group (Haidt, 2012). Because the definition of “group” includes a nation, one who breaks a nation’s rules (such as

a law) can also be regarded as a group traitor and would trigger those who value loyalty to tend to feel outrage at these rulebreakers. Belief in immanent justice also motivates people to tend to be more aggressive against criminal perpetrators when these perpetrators are clearly identified (Callan et al., 2014; Murayama & Miura, 2015b). Consequently, the loyalty/betrayal foundation would positively predict the belief in immanent justice. However, although a belief in ultimate justice can produce more tolerance when facing unjust events, a person still must ascertain whether events comply with justice based on whether the behavior violated the rules before one becomes tolerant. Therefore, a belief in ultimate justice would also be predicted by the loyalty/betrayal foundation. For these reasons, the loyalty/betrayal foundation is expected to predict each type of belief in a just world.

The authority/subversion foundation is not expected to predict each belief in a just world, especially because other foundations were included in the studies. The relevant virtues of this foundation are obedience and deference (Haidt, 2012; Graham et al., 2013), which means emphasis on people's obligation to obey superiors such as elders or government leaders to maintain the social structure. A person showing no respect for a superior group member would be regarded as showing immoral behavior when people value the authority/subversion foundation. However, belief in a just world does not promote obedience to superiors or value virtues of obedience and deference. For example, even if one finds that a social superior (such as a congressman) violates the law, a belief in a just world still leads people to punish them instead of obeying them. Therefore, we predict that the authority/subversion foundation would not be expected to predict any belief in a just world.

Finally, the sanctity/degradation foundation predicts each type of belief in a just world. Haidt (2012) and Graham et al. (2013) point out that the sanctity/degradation foundation relates to some religious perspectives in current society. It promotes people's tendency to accept religious virtues such as temperance, chastity, piety, and cleanliness. Moreover, the two types of belief in a just world both can be traced from the cultural root of religion (Maes, 1998). Such causal reasoning relates to a belief in immanent justice. The perspective of every unjust person would be restored in an uncertain future with a belief in ultimate justice. Considering the sanctity/degradation foundation's effect and the relation between a religious perspective and belief in a just world, the sanctity/degradation foundation would positively predict each type of belief in a just world.

### **The present study**

The main aim of this study was examination of the relation between the Moral foundation theory and belief in a just world using a sample of responses by Japanese people to queries. It was presumed for this study that a moral foundation would come first, then a belief in a just world. The following hypotheses were formulated for examination.

1. Differences in demographic variable (gender, age, and the residential area) affect how people value each moral foundation and each type of belief in a just world.
2. Care/harm foundation is positively related to belief in immanent justice but is not

- associated with belief in ultimate justice.
3. Fairness/cheating foundation is positively related to belief in immanent justice but is negatively related with ultimate justice.
  4. Loyalty/betrayal foundation is positively related to both belief in immanent justice and ultimate justice.
  5. Authority/subversion foundation has no association with any type of belief in a just world.
  6. Sanctity/degradation foundation is positively related to belief in both immanent justice and ultimate justice.

## Method

### Data collection and Participants

For this study, we used past data that we collected between 28 February and 3 March 2020. Data collection was conducted using a web-based survey via a Japanese online research company, M. Inc. To ensure some homogeneity of social background, all participants resided in Japan, with sampling from 20 cells composed of gender (male and female), generation (in their 20s to 60s), and place of residence (metropolitan area and other provinces) to maintain the sample count balance. Participants received 50 yen from the research company for completing the study. This study was approved by the Ethics Committee of the first author's university.

Participants responded to questionnaires using a computer, mobile phone, or tablet through the web. All participants were informed before beginning to respond that their participation in this study was entirely voluntary, that they had the right to withdraw from the process for no reason, and that their responses would be handled anonymously. Informed consent was obtained electronically.

In all, 4,120 participants responded to this survey. All data were analyzed. Participants were 50% female, 50% living in a metropolitan area (around Tokyo and around Osaka). Their ages were 20–69 years ( $M = 44.9$  years,  $SD = 13.8$ ). Table 1 presents participants' characteristics.

### Measures

**Two types of belief in a just world.** This study used the belief in a just world scale developed by Murayama and Miura (2015b). This Japanese scale consisted of eight items that comprise four "belief in immanent justice" items (e.g., "All who do wrongdoing will eventually be held accountable for it.") and four of "belief in ultimate justice" items (e.g., "Those who suffer terribly will be rewarded one day."). The respondents gave ratings using a 6-point Likert scale (0 = "strongly disagree" and 5 = "strongly agree").

**Moral foundation questionnaires.** Moral foundations were measured using the Japanese Moral Foundation Questionnaire (MFQ), as translated by Kanai (2013) from Graham et al. (2011). The MFQ consists of two sections, each with 15 items. The first section asked



participants the extent to which each statement is personally relevant when deciding whether something is right or wrong (e.g., “Whether or not someone suffered emotionally.”) The respondents’ gave ratings using a six-point Likert scale (0 = “not at all relevant “, which means this item has nothing to do with my judgments of right and wrong; 5 = “extremely relevant”, which means this item is an important factor when judging right and wrong). The second section asked participants to read the item sentences and to indicate their agreement or disagreement (e.g., “Compassion for those who are suffering is the most crucial virtue.”) The respondents’ rate also using a six-point Likert scale from 0 (Strongly disagree) to 5 (Strongly agree).

The reliabilities and validation of the Japanese version of the MFQ (Kanai, 2013) were tested by Murayama and Miura (2019), who reported that the validation was not as good as the original studies. The partial foundation item had low internal reliability by the tested result. However, considering comparison of the result with other studies, we also decided to use it for subsequent analyses for this study.

According to the item-key instructions from the MFQ developer (Graham et al., 2009), each moral foundation includes six items and uses the average scores to represent it. Cronbach’s alpha coefficient of the care/harm foundation in the present study was  $\alpha = .794$ . That of the fairness/cheating foundation was  $\alpha = .750$ . That of the loyalty/betrayal foundation

Table 1.  
*Characteristics of participants*

Personal characteristics	<i>n</i>	%	
Gender	male	2,060	50
	female	2,060	50
Age	20s	824	20
	30s	824	20
	40s	824	20
	50s	824	20
	60s	824	20
Marital status	single	1,919	46.6
	married	2,201	53.4
Residence	metropolitan area (incl. Kanto and Kansai)	2,060	50
	other provinces	2,060	50
Occupation	public servant	169	4.1
	company manager	66	1.6
	company employee	1,560	37.9
	independent business	387	9.4
	part-time job	516	12.5
	full-time homemaker	704	12.5
	student	172	4.2
	jobless	421	10.2
others	125	3	

*Note:*  $N = 4,120$

was  $\alpha = .719$ . That of the authority/subversion foundation was  $\alpha = .697$ . That of the sanctity/degradation foundation was  $\alpha = .758$ .

### Statistical data analyses

The analyses were conducted using software (SPSS ver. 28; IBM, SPSS Inc.). This study has no missing data because the questionnaire could not be completed if there were missing responses.

First, we calculated the means and standard deviations of each study variable base on the scale instruction of the belief in a just world scale and MFQ (Graham et al., 2011; Kanai, 2013; Murayama & Miura, 2015b). Then we conducted a correlation analysis to examine associations among the variables. Second, to examine our research questions, we applied three-way between-subject ANOVA to assess demographic variable (gender, age, and the residential area) affect how people value each moral foundation and each type of belief in a just world, and applied multiple regression analyses to assess the predictive power of five moral foundations toward two types of belief in a just world.

## Result

### Fundamental statistics and correlation analyses

Based on the earlier scale instruction (Kanai, 2013; Murayama & Miura, 2015b), the means, standard deviations, intercorrelations, and reliabilities for all the variables in this study are presented in Table 2. Cronbach alpha values of variables are also presented in this table.

Three-way between-subject ANOVA of each moral foundation and belief in a just world was conducted ( $2 \times 5 \times 2$ : gender: male or female \* age: 20, 30, 40, 50, 60 years old \* residential area: metropolitan area or other provinces). From analysis for each moral foundation, no

Table 2.

*Descriptive statistics of each variable and results of correlation coefficients for each variable*

Variable	<i>M</i>	<i>SD</i>	$\alpha$	correlation coefficients							
				1	2	3	4	5	6	7	
1 BIJ	3.10	1.17	.911	—							
2 BUJ	2.27	1.23	.892	.633**	—						
3 Care/Harm	3.31	0.86	.794	.365**	.195**	—					
4 Fairness/cheating	2.98	0.78	.750	.310**	.199**	.773**	—				
5 Loyalty/betrayal	2.62	0.77	.719	.328**	.348**	.491**	.565**	—			
6 Authority/subversion	2.71	0.75	.697	.305**	.266**	.489**	.554**	.755**	—		
7 Sanctity/degradation	2.94	0.80	.758	.383**	.260**	.727**	.738**	.672**	.685**	—	

*Note:* *M*, mean; *SD*, standard deviation;  $\alpha$ , Cronbach's alpha; BIJ, Belief in immanent justice; BUJ, Belief in Ultimate Justice; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

statistically significant interaction was found between the effects of all independent variables. However, a significant main effect of gender and age was found. The results obtained for gender revealed that women were more concerned about care, ( $F(1, 4100) = 92.461, p < .001, \eta_p^2 = 0.022$ ), fairness, ( $F(1, 4100) = 15.215, p < .001, \eta_p^2 = 0.004$ ), and sanity ( $F(1, 4100) = 26.347, p < .001, \eta_p^2 = 0.006$ ), but they were less concerned about loyalty, ( $F(1, 4100) = 21.118, p < .001, \eta_p^2 = 0.005$ ), than men. The results obtained for age revealed that the 60 year age group respondents were more concerned about care ( $F(4, 4100) = 21.619, p < .001, \eta_p^2 = 0.021$ ), fairness ( $F(4, 4100) = 9.506, p < .001, \eta_p^2 = 0.009$ ), loyalty ( $F(4, 4100) = 7.052, p < .001, \eta_p^2 = 0.007$ ), and sanity ( $F(4, 4100) = 15.078, p < .001, \eta_p^2 = 0.014$ ) than respondents of the 20-, 30-, or 40-year age group. Significant main effects of residential area was found for authority ( $F(1, 4100) = 3.970, p < .05, \eta_p^2 = 0.001$ ) and sanity ( $F(1, 4100) = 6.214, p < .05, \eta_p^2 = 0.002$ ) indicated that living in suburban or rural areas were associated with more concern about these two foundations than living in a metropolitan area.

In the analysis for belief in immanent justice (BIJ), significant main effects of gender ( $F(1, 4100) = 30.761, p < .001, \eta_p^2 = 0.007$ ) and age ( $F(4, 4100) = 14.531, p < .001, \eta_p^2 = 0.014$ ) indicated that women and respondents of the 60-year age group had more BIJ than men or respondents of the young group. The analysis for belief in ultimate justice (BUJ) indicated two significant interaction effects between gender and age ( $F(4, 4100) = 3.638, p < .01, \eta_p^2 = 0.004$ ) and between residential area and age ( $F(4, 4100) = 2.833, p < .05, \eta_p^2 = 0.003$ ). These results indicated that women of the 60-year and 50-year age groups had more BUJ than men of same age group, and that 20-year age group respondents living in metropolitan areas had more BUJ than those living in other areas.

### Relations between moral foundation and two types of belief in a just world

Multiple regression analyses were applied to test how different moral foundations predicted each type of the belief in a just world. According to our hypothesis, we entered five moral foundations as independent variables. Each type of belief in a just world was used as a dependent variable (Table 3). The variance inflation factor (VIF) for each predictor variable was less than 5 in each regression analysis, indicating that multicollinearity among predictors was not an issue (Akinwande et al., 2015).

Results showed that the care/harm foundation was positively associated with belief in immanent justice ( $\beta = .222, p < .001$ ), but no significant effect on belief in ultimate justice was found ( $\beta = .035, p = .157$ ). The fairness/cheating foundation was both negatively associated with belief in immanent justice ( $\beta = -.077, p = .002$ ) and belief in ultimate justice ( $\beta = -.052, p = .040$ ), but it showed a slight effect. The loyalty/betrayal foundation was both positively associated with belief in immanent justice ( $\beta = .125, p < .001$ ) and belief in ultimate justice ( $\beta = .328, p < .001$ ). The authority/subversion foundation was found to have no significant effect on belief in ultimate justice ( $\beta = .023, p = .330$ ) or belief in immanent justice ( $\beta = -.012, p = .609$ ). The sanctity/degradation foundation was both positively associated with belief in immanent justice ( $\beta = .179, p < .001$ ) and belief in ultimate justice ( $\beta = .061, p = .024$ ).

Table 3.  
*Regression Analyses Predicting each Moral foundation toward BIJ and BUJ*

Variable	BIJ		BUJ	
	SE	$\beta$	SE	$\beta$
Care/Harm	.033	.222***	.035	.035 <i>ns</i>
Fairness/cheating	.037	-.077**	.040	-.052*
Loyalty/betrayal	.035	.125***	.038	.328***
Authority/subversion	.036	.023 <i>ns</i>	.039	-.012 <i>ns</i>
Sanctity/degradation	.038	.179***	.041	.061*
$R^2$	.173***		.123***	
adj $R^2$	.172***		.122***	

Note: BIJ, Belief in immanent justice; BUJ, Belief in Ultimate Justice;

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

## Discussion

The main aim of this research was to evaluate the relation between the Moral foundation theory and the belief in a just world using a sample of responses by Japanese people to queries posed by a questionnaire survey. The analysis results revealed partial support of the hypotheses were, as explained below.

**Respondent characteristic effects.** Through three-way ANOVA, women and 60-year age group respondents were more concerned about the moral foundation and belief in immanent justice. However, both 60-year and 50-year age group women and 20-year age group residents of metropolitan areas were more concerned about a belief in ultimate justice. These results reflected characteristics of the Japanese respondents examined for this study.

**Care/harm foundation.** The care/harm foundation reflects preparedness for care for children. It is related to the emotion of compassion. However, to protect weak people, this foundation also leads people to show anger at perpetrators. This characteristic of two sides of the same coin is the same as the central concept that “good people get rewards and bad people need be punished” from a belief in immanent justice. The care/harm foundation was found to be positively associated with belief in immanent justice. It had the strongest effect among all foundations. The belief in ultimate justice makes people anticipate future compensation, leading people not to emphasize current circumstances or outcomes. This “long-term” goal perceptible is expected to lead people not to care for others and to show less concern for others’ business, which contrasts with the characteristics of the care/harm foundation. Consequently, the analysis results revealed that care/harm foundation had no significant relation with a belief in ultimate justice.

**Loyalty/betrayal and Sanctity/degradation foundations.** Both the loyalty/betrayal foundation and the sanctity/degradation foundation were positively associated with each type of belief in a just world as the hypothesis. The analysis results supported that the belief in immanent justice and ultimate justice are both important to comply with group rules.

Furthermore, the results reflected that the characteristics of these two types of belief in a just world can be traced from the cultural roots of religion (Maes, 1998). However, it is particularly interesting that the loyalty/betrayal foundation had a stronger effect on belief in ultimate justice than the sanctity/degradation foundation. Considering that Japanese culture shows less emphasis on religious beliefs than Christian cultures in the West (Murayama, 2018), Japanese people tend to anticipate future compensation, which is affected more strongly by the value of a group's rules than by religious rules.

**Authority/subversion foundation.** As predicted, the authority/subversion foundation exhibited no association with each type of belief in a just world. When judging moral events, belief in a just world promotes reliance on the foundation of care/harm, loyalty/betrayal, and sanctity/degradation, but not reliance on obedience and deference, the relevant virtues of authority/subversion foundation. For example, if someone disobeys a superior's command to harm others for no reason, people will tend to admire it instead of regarding it as an injustice.

**Fairness/cheating foundation.** Finally, the fairness/cheating foundation had a negative effect on two types of belief in a just world, which is contrary to our hypothesis of a positive relation between this foundation and belief in immanent justice. Several possible explanations can be put forth for this result. First, the fairness/cheating foundation's effect is weakened by other foundations. An earlier study indicated that the fairness/cheating foundation and the belief in immanent justice have a considerable degree of association because both were positively related to rulebreaker blaming because of the effects of causal reasoning (Kitamura, 2019). However, that earlier study did not examine the effects of other foundations. Considering the perspectives of the justice reasoning might also be affected by the cultural and the religious in Japanese nation (Murayama & Miura, 2016), belief in immanent justice is more affected by care/harm, loyalty/betrayal, and sanctity/degradation foundation than the fairness/cheating foundation.

Second, considering that MFQ (Graham et al., 2011) was made before Haidt (2012) modified the moral foundation theory, the item of fairness/cheating foundation was still made from the concept of "equality" and "proportionality". However, the belief in immanent justice only correlated with the "equity" principle, but not with "equality" (Maes & Schmitt, 1999). Consequently, it might be reason why the result indicates that fairness/cheating foundation is negatively related to belief in immanent justice.

**Summary.** Summing up, results of this study indicated that the specific moral foundation is expected to have a different effect on each type of belief in a just world. Furthermore, we found that the care/harm, loyalty/betrayal, and sanctity/degradation foundation had stronger effects on belief in immanent justice. The belief in ultimate justice was primarily related to the loyalty/betrayal foundation. The loyalty/betrayal and sanctity/degradation foundations can be categorized as a "binding foundation," which specifically emphasizes protection and strengthening of social groups' values (Graham et al., 2009). Apparently, the Japanese justice motivation is more affected by group culture than individual values. It shows the different cultural characteristics from those of Western culture.

### Limitations and future directions

Despite using great amounts of data for analyses to assess our hypotheses, the present study has limitations and restrictions. All the hypotheses and explanations of the analysis result were based only on the claims of two theories and their relevant studies. Whether this relation replicates every unjust event, or not, demands further testing. Therefore, the results should be treated circumspectly. For future tests, we plan to set up several situations of morality violations to examine the relevance of these two theories further.

### Conclusion

Both moral foundation theory and the two types of belief in a just world (belief in immanent justice and belief in ultimate justice) will affect people's moral judgment, but earlier studies do not examine relations between these two theories. We hypothesized, based on the claims of the two theories and their relevant studies, that a specific moral foundation has different relations with each type of belief in a just world. The findings revealed that belief in immanent justice was positively related to the care/harm, loyalty/betrayal, and sanctity/degradation foundation, but it was negatively related to the fairness/cheating foundation. Belief in ultimate justice was positively related to the loyalty/betrayal and sanctity/degradation foundations but negatively related to the fairness/cheating foundation. The present study also reveals that, in terms of people's justice motivations, two types of belief in a just world were not only related to fairness/cheating foundations: they also had relations with other foundations.

### Conflict of interest

The authors have no conflict of interest related to the content of this article or the study it describes.

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