

# Leaving Public Evidence Is Morally Right: The Case of Organ Donation in Japan

Ryo Oda\*

Nagoya Institute of Technology, Gokiso-cho, Showa-ku, Nagoya 466-8555, Japan

\*Author for correspondence (oda.ryo@nitech.ac.jp)

Based on a series of vignette studies, DeScioli et al. (2011) proposed that omission bias, i.e., the preference for harm caused by omissions over harm caused by commissions even when the outcome is the same, may be occurred as omission produces little public evidence of wrongdoing. In this study, the effects identified by DeScioli et al. (2011) were examined using an opt-in policy for organ donation in Japan. The results revealed that omission in the context of donating organs was not regarded as immoral, and the individual unwilling to donate and record this decision (public evidence of omission) was rated as morally superior to the individual unwilling to donate and do not record the decision (no public evidence of omission). Considering the Dynamic Coordination Theory, leaving public evidence might be itself morally highly regarded because one can determine which side the actor takes according to the evidence when the act in question (omission in the context of organ donation) is the default and does not have particularly serious consequences.

## Keywords

moral, omission effect, organ donation, Dynamic Coordination Theory, common knowledge, opt-in

## Introduction

Why and how did moral judgement evolve? To explain why people judge the actions of others, DeScioli and Kurzban (2009, 2013) proposed the Dynamic Coordination Theory (DCT), which argues that moral condemnation functions to encourage bystanders to take the same side as other bystanders in disputes. A conflict that divides a group can result in significant losses. Such a conflict can be avoided if all members of the group coordinate their decisions and take the same side. From the viewpoint of the DCT, DeScioli et al. (2011) focused on omission bias, i.e., the preference for harm caused by omissions over harm caused by commissions, even when the outcome is the same. They hypothesized that omissions are judged less harshly because they produce little public evidence of wrongdoing.

In this case, the public evidence of wrongdoing is a kind of “common knowledge” which should be shared to condemn the wrongdoing for coordination (see Freitas et al., 2019 for detail).

DeScioli et al. (2011) designed scenarios in which an actor made a choice that was associated with someone’s death, and participants judged the actor’s behavior. The actor had the option to record her inaction by pressing a button, which was considered public evidence of omission. Perpetrators who had no direct effect on the death were viewed as morally inferior under the condition in which the perpetrators’ inaction was recorded than in the condition in which she did nothing, as predicted. In the scenarios of DeScioli et al. (2011), serious situations in which the decisions of the actors determined whether another person would live or die were devised. If the results of DeScioli et al. (2011) are robust, similar results are expected to be obtained in more realistic, but less serious situations.

In this study, the effects found by DeScioli et al. (2011) were examined in relation to the declaration of willingness to donate organs in Japan. Posthumous organ donation operates under two policies: opt-in or opt-out. Under the opt-in policy, the default is to be a non-donor; however, the person can actively register to opt-in, where 36% of people choose to do so; under the opt-out choice, the default is to be a donor, where up to 6% of people actively choose to opt-out (NHS Blood and Transplant, 2021). Under current Japanese law, the donation of organs requires a written declaration of the donor’s intention and the consent of the family or, if the donor’s intention is unknown, the consent of the family only. Thus, Japan has an opt-in policy. Those willing to donate clearly state this on their driver’s license or some other document. If there is no record of willingness, no donations are made. Posthumous organ donation under an opt-in policy is analogous to a public goods game; while everyone can opt-in, not all do. However, everyone is eligible to receive a transplant in Japan, thus suggesting that some get a “free ride” by not donating organs as the default. In this study, the transparency of decisions relating to organ donation was manipulated by devising hypothetical situations in which the individual declares their intention to donate on their driver’s license. The declaration on the driver’s license can be considered to correspond to the transparency in DeScioli et al. (2011) in that it keeps an official and physical record of the person’s choices. In addition, as the perception of intentions was considered to be an important factor influencing moral judgement in previous studies, the statement of intention was also manipulated. Four vignettes were created: willing/transparent (intention to donate was stated and recorded), willing/opaque (intention to donate was stated but not recorded), unwilling/transparent (intention not to donate was stated and recorded), and unwilling/opaque (intention not to donate was stated but not recorded). The Japanese participants were also asked to indicate how moral, desirable, and

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general the choice was. To investigate moral judgement from a broader perspective, the participants were also asked to estimate the evaluations of others in general using the same measures.

Both of the hypothetical situations in DeScioli et al. (2011) and this study had in common that the default was a moral violation (abandonment and free ride), with the option of recording the omission or not. If omissions are judged less harshly because they produce little public evidence of wrongdoing, the act of the individual in the unwilling/transparent condition (public evidence of omission) would be more condemned than that of the individual in the unwilling/opaque condition (no public evidence of omission). On the other hand, this study differed from DeScioli et al. (2011) in that the scenario of opt-in, morally correct choice was added. The morality of the act of the individual in the willing/transparent condition would be rated higher than the acts in the other three conditions because, under the opt-in policy, the individual who recorded their intention to donate was the only one who would ultimately donate organs. The second most moral act would be that of the willing/opaque individual, followed by, in descending order, the unwilling/opaque and unwilling/transparent individuals. Estimates of the evaluations of others in general were expected to show a similar pattern.

**Methods**

*Questionnaire*

Participants read short scenarios about an individual (age and gender unspecified) who had noticed a statement on the back of their driver’s license regarding the willingness to donate organs. Four vignettes were devised, as stated above: willing/transparent (intention to donate stated and recorded, by choosing the option “I will donate my organs for transplantation purposes after either brain death or cardiac death” and providing a signature), willing/opaque (intention to donate stated but not recorded), unwilling/transparent (intention not to donate stated and recorded, by choosing the option “I will not donate any organs” and providing a signature), and unwilling/opaque (intention not to donate stated but not recorded). After reading scenarios corresponding to the four conditions, participants were asked to choose from among the options regarding the individual’s decision in each scenario (comprehension check). Then, participants rated how moral, desirable, and “general” the choice made by each individual was on a 9-point scale ranging from -4 (not moral at all) to 4 (extremely moral), with 0 as the midpoint. Participants then were then asked to estimate the answers of others for the same measures (see supplementary file for questionnaire details). Then, the participants completed the Organ Transplant Attitude Scale, which is a psychological scale assessing attitudes to organ transplantation (Konno, 2017). The scale consists of 18 items that divided into three factors: “Reluctance to donate organs” (7 items; abbreviated as “Reluctance” hereafter), “Objective negativity toward organ transplantation” (6 items; abbreviated as “Negativity” hereafter), and “Positivity toward organ donation” (5 items; abbreviated as “Positivity” hereafter).

*Participants*

Japanese adults, ranging in age from 20–49 years, were recruited through Cross Marketing, Inc. (Tokyo, Japan), a research agency that maintains a panel of more than 2 million individuals who have consented to participate in web-based online surveys. After excluding 189 participants who did not pass the comprehension check, the data of 377 participants (194 females, 183 males; mean age: 40.6 years, range: 20–49 years) were included in the analyses. The numbers of participants randomly assigned to each condition are shown in Table 1.

**Table 1.** Numbers of participants randomly assigned to each of the four conditions.

Willingness		Transparency	
		Transparent	Opaque
Willing to donate	Male	45	40
	Female	49	42
Unwilling to donate	Male	53	45
	Female	57	46

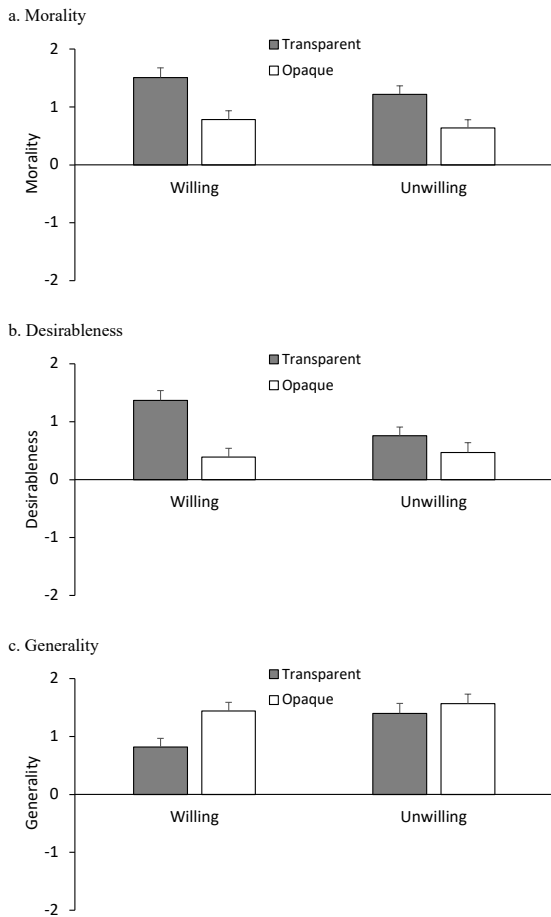
*Statistical analyses*

Means of each of the three ratings were analyzed using two-way analysis of variance. As the three ratings of the participants and three estimated ratings of others in general, were tested independently, the alpha was set to .008 (< .05/6; Bonferroni correction) to control for family-wise type I error. A power analysis using G\*Power 3.1.9.2 showed that a sample of 299 participants was required for an effect size of 0.25 (medium), power of .95, and alpha of .008. The sample size was adequate for the analyses performed.

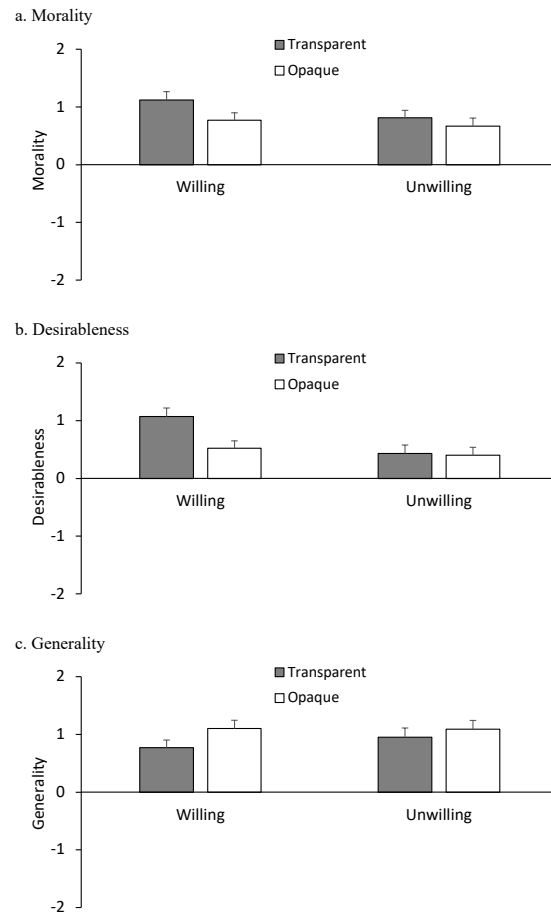
Exploratory analyses were conducted on correlations between the standardized score for each Organ Transplant Attitude Scale factor and the morality ratings of the participants, and the estimated ratings of others in general, for each of the four conditions. Because statistically significant correlations were found between each factor (“Reluctance” vs. “Negativity”: .68, “Reluctance” vs. “Positivity”: -.48, “Negativity” vs. “Positivity”: -.29), partial correlations controlling for other two factors were calculated. As the correlations among 24 combinations of factors were tested independently, the alpha was set to .002 (< .05/24; Bonferroni correction) to control for family-wise type I error.

**Results**

Figure 1 shows the morality, desirableness, and generality scores of the participants. For the morality score, there was a main effect of transparency ( $F(1, 373) = 17.97, p < .001, \eta_p^2 = .046$ ), but no main effect of intention and no interaction effect ( $F(1, 373) = 1.98, p = .159$ ; and  $F(1, 373) = 0.233, p = .629$ , respectively). Participants rated individuals who recorded their decision as more moral than those who did not, regardless of their willingness to donate. There was also a main effect of transparency on the desirability score ( $F(1, 373) = 15.52, p < .001, \eta_p^2 = .040$ ), but no main effect of willingness and no interaction effect ( $F(1, 373) = 2.65, p = .104$ ; and  $F(1, 373) = 4.57, p =$



**Figure 1.** Mean and SE of morality (a), desirableness (b), and generality (c) judged by participants themselves for each combination of willing to donate and transparency.



**Figure 2.** Mean and SE of morality (a), desirableness (b), and generality (c) that participants estimated as others in general would rate for each combination of willing to donate and transparency.

.033, respectively). Individuals who recorded their decision were rated as more desirable than those who did not, regardless of their willingness to donate. Regarding the generality score, there was no main effect of transparency or willingness ( $F(1, 373) = 6.18, p = .013$ ; and  $F(1, 373) = 5.02, p = .025$ , respectively).

Figure 2 shows the estimated morality, desirableness, and generality scores of others in general. For the morality score, there was no main effect of transparency or willingness ( $F(1, 373) = 3.12, p = .078$ ; and  $F(1, 373) = 2.17, p = .142$ , respectively). There was a main effect of willingness on the desirability score ( $F(1, 373) = 7.38, p = .006, \eta_p^2 = .019$ ), but there was no main effect of transparency and no interaction effect ( $F(1, 373) = 4.15, p = .042$ ; and  $F(1, 373) = 3.29, p = .070$ , respectively). Participants predicted that individuals willing to donate would be rated by others as more desirable than those who did not, regardless of whether or not they recorded their decision. Regarding the generality score, there was no main effect of transparency or willingness ( $F(1, 373) = 2.42, p = .120$ ; and  $F(1, 373) = 0.36, p = .549$ , respectively).

For the willing/transparent and unwilling/transparent vignettes, the morality scores of participants were significantly higher than those estimated for others (paired  $t(93) = 3.11, p = .003$ , Cohen's  $d = 0.259$ ; and paired  $t(109) = 2.95, p = .004$ , Cohen's  $d = 0.273$ , respectively).

For the willing/opaque and unwilling/opaque vignettes, however, there was no significant difference between the participants' scores and those estimated for others (paired  $t(81) = 0.10, p = .922$ ; and paired  $t(90) = -0.024, p = .813$ , respectively).

The desirability scores of the participants, and those estimated for others in general, were also compared. For the willing/transparent vignettes, there was no significant difference between the scores (paired  $t(93) = 1.91, p = .060$ ), while for the unwilling/transparent vignette, the desirability scores rated of the participants were significantly higher than those estimated for others (paired  $t(109) = 2.64, p = .009$ , Cohen's  $d = 0.226$ ). For the willing/opaque and unwilling/opaque vignettes, however, there were no significant differences (paired  $t(81) = -1.00, p = .320$ ; and paired  $t(90) = 0.49, p = .624$ , respectively).

Regarding the partial correlations between the scores for individual factors of the Organ Transplant Attitude Scale and the morality ratings, that between the "Negativity" score and morality ratings was strongest in the unwillingness/transparent condition ( $r(106) = .27, p = .005$ ; Table 2). However, significance disappeared after adjustment.

**Table 2.** Partial correlation coefficients between the score of each factor of the Organ Transplant Attitude Scale and the ratings of morality in each of the four conditions.

a. Reluctance to donate organs ( $\alpha = .91$ )		Transparency	
Willingness		Transparent	Opaque
Willing to donate	Self	-.07	-.04
	Others in general	-.19	.04
Unwilling to donate	Self	-.20	.26
	Others in general	-.01	.26

b. Objective negativity toward organ transplantation ( $\alpha = .72$ )		Transparency	
Willingness		Transparent	Opaque
Willing to donate	Self	-.05	-.04
	Others in general	.04	.04
Unwilling to donate	Self	.27	-.16
	Others in general	.17	-.09

c. Positivity toward organ donation ( $\alpha = .70$ )		Transparency	
Willingness		Transparent	Opaque
Willing to donate	Self	.06	-.07
	Others in general	-.03	.03
Unwilling to donate	Self	-.08	-.09
	Others in general	-.04	-.03

**Discussion**

Participants rated the individual who was willing to donate organs, and recorded that decision, as the most moral. Contrary to expectations, the individual who stated that they had no intention to donate and recorded that fact was rated as the next most moral; there was no statistical difference in the ratings between these two individuals. The morality ratings for the two individuals who did not record their intentions were significantly lower, however. Thus, it was considered more moral to document one’s attitude, regardless of whether organs were ultimately donated. Among the factors of the Organ Transplant Attitude Scale, positivity toward organ donation did not correlate with the morality ratings. On the other hand, Scores for the other two factors were moderately correlated with certain of the morality ratings. In particular, participants who had negative attitudes toward organ transplantation tended to morally judge the individual unwilling to donate and record that decision, while participants who were reluctant to donate organs tended to morally judge the individual who did not explicitly state their intention not to donate. However, the correlation coefficients were medium and non-significant, which suggests that the participants’ attitudes toward organ transplantation did not strongly affect their ratings of morality. The desirability ratings showed the same tendencies. The two individuals who recorded their willingness tended to have lower generality ratings than the two who did not record their decision; however, the difference was not significant after adjustment. This

suggests that the rarity of an act has no relation with ratings of morality and desirability.

Among the four individuals in the vignettes, the only one who ultimately would donate organs was who willing to do so and recorded that will. Since the remaining three individuals did not opt in, their organs would not be donated. However, the morality ratings for these three individuals were not negative. These results suggest that deciding not to donate organs is not regarded as immoral under the opt-in policy, in which organ donation is not the default. Although, as a result, this study could not examine moral condemnation, the individual who explicitly stated that they were not willing to donate organs (public evidence of omission) was rated as more moral than the individual who was unwilling to donate but did not record that fact (no public evidence of omission), contrary to the results of DeScioli et al. (2011).

The estimated scores of others in general revealed different tendencies; the main effect of transparency on morality disappeared, perhaps because the participants who morally valued transparency thought that others in general did not make too much of the transparency. There was also no main effect of transparency on desirability. Participants expected others in general to perceive willingness to donate as desirable, regardless of whether that willingness was recorded. Although organ donation is a prosocial behavior, the act of donation obviously does not occur before death, which is different from saving the life of a fictional character or donating in an experimental game situation. Moreover, depending on the cause of death and situation, organ donation may not take place even if the person’s wishes to do so are recorded. That is, although the system of posthumous organ donation can be seen as a public goods game, Japanese people may have little awareness that being unwilling to donate is a “free ride”. Indeed, Japan is among the developed countries with the lowest numbers of posthumous transplant donors (Akabayashi et al., 2018), and in a 2021 survey of 1,705 participants by the Cabinet Office, 42.9% stated that they were interested in organ donation but had no plans to donate (Public Relations Office, Minister’s Secretariat, Cabinet Office, 2021). This may explain why, from a moral standpoint, our participants expected others to not be concerned about the willingness to donate organs, or the documentation of their intentions. It was expected, however, that willingness to donate would be considered desirable, since this would benefit society as a whole. The willingness to donate organs and how it is evaluated is related not only to the type of declaration policy but also to cultural factors such as the view of life and death. Future studies in different countries that have adopted the same opt-in method or the opt-out method would be expected.

According to the DCT, moral functions as a flag by which people can judge which side other people take in order to solve the coordination problem. When wrongdoing causing serious harm is condemned, public evidence of omission facilitates moral condemnation, which is useful for obtaining support from bystanders. However, the result of this study, the evidence of omission in the context of donating organs was morally laudable, suggests that leaving public evidence might be itself morally highly regarded because one can determine which side the actor takes according to the evidence when the inaction

in question is the default and does not have particularly serious consequences. Thus, this study presents the possibility that the role of common knowledge in side-taking is not restricted to moral condemnation.

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### Ethical statement

This study was approved by the Bioethics Review Committee of Nagoya Institute of Technology (No. 2022-5).

### Data accessibility & program code

All the data is accessible as a supplemental file.

### Supplementary material

Electronic supplementary material is available online.

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