



For the greater goods? Ownership rights and utilitarian moral judgment



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ABSTRACT

People often judge it unacceptable to directly harm a person, even when this is necessary to produce an overall positive outcome, such as saving five other lives. We demonstrate that similar judgments arise when people consider damage to owned objects. In two experiments, participants considered dilemmas where saving five inanimate objects required destroying one. Participants judged this unacceptable when it required violating another's ownership rights, but not otherwise. They also judged that sacrificing another's object was less acceptable as a means than as a side-effect; judgments did not depend on whether property damage involved personal force. These findings inform theories of moral decision-making. They show that utilitarian judgment can be decreased without physical harm to persons, and without personal force. The findings also show that the distinction between means and side-effects influences the acceptability of damaging objects, and that ownership impacts utilitarian moral judgment.

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1. Introduction

People often endorse actions that result in overall positive outcomes, even when those actions have negative consequences. Such judgments, which aim at maximizing benefits despite negative consequences, are called *utilitarian* or *consequentialist* moral judgments. However, people do not always make utilitarian judgments. For instance, people condemn saving five people from being run over by a trolley when doing so requires pushing a man into its path (Cushman, Young, & Hauser 2006; Petrinovich, O'Neill, & Jorgensen, 1993). What prevents people from making utilitarian judgments?

Utilitarian judgments occur infrequently when they require endorsing *physically harming* a person as a means to a goal (e.g., Cushman et al., 2006; Mikhail, 2007). Hence,

people judge it unacceptable to push the man into the trolley's path because this harm is a *means* to reach the goal of saving the five other people. In contrast, the man's death is viewed as more acceptable if it occurs as a *side-effect* of the action taken to save the five people. For example, people typically find it acceptable if he is struck and killed because the trolley was redirected to avoid hitting the five people (Cushman et al., 2006; Petrinovich et al., 1993).

Utilitarian judgments also occur less when harm is *personal*, rather than *impersonal* (e.g., Cushman & Greene, 2012; Greene et al., 2009; Moore, Clark, & Kane, 2008; also see Waldmann & Dieterich, 2007). There has been considerable variation in how this distinction has been conceptualized (see Greene, 2009 for discussion). People may be especially averse to endorsing harm caused by *personal force*, where an agent's muscles generate the force that directly impacts the victim (Greene et al., 2009). Personal force is used when an agent pushes the man into the path of the trolley; it is not involved if the agent instead pushes a button, causing the man to fall through a trapdoor and

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into the trolley's path. (For alternative interpretations and discussion of other factors influencing utilitarian judgments, see Waldmann, Nagel, & Wiegmann, 2012).

Studies showing these effects have mainly examined judgments about physical harm to humans. However, DeScioli, Asao, and Kurzban (2012) examined whether the means/side-effect distinction influences judgments about many different types of moral violations not involving physical harm to people. They found that the distinction influenced judgments about some violations (e.g. adultery, pollution, group loyalty) but not others (e.g. prostitution, cannibalism, drug abuse). However, their study did not examine the effects of personal force. Also, their participants did not consider moral dilemmas—instead they only considered moral violations. Judgments about moral violations might differ from those regarding dilemmas because reasoning about violations does not require resolving conflict between the wrongness of the violation and the desirability of an overall good outcome. As such, it remains uncertain if these effects (means/side-effect; personal force) also occur in moral dilemmas not involving physical harm to humans. Discovering this will be informative about the nature and scope of these influences on utilitarian moral judgment; it will help reveal whether they derive from relatively general causes, or whether they instead depend on a specific sensitivity to physical harm to human victims.

2. Utilitarian moral judgments and violations of ownership rights

One way to examine whether these effects occur in dilemmas without physical harm to people is to examine dilemmas involving violations of *ownership rights*. Ownership rights exert a major influence on people's thoughts and behavior in varied settings, across the lifespan and across cultures (Belk, 1991; Friedman & Ross, 2011; Rochat, 2011), and even young children recognize that it is wrong to violate others' ownership rights (e.g., Neary & Friedman, 2014; Rossano, Rakoczy, & Tomasello, 2011). Perhaps judgments about the acceptability of damaging owned property demonstrate the same effects as judgments about physically harming people.

The distinction between means and side-effect might be expected to influence judgments about dilemmas involving property damage because many explanations of this factor suggests it follows from relatively general causes. For example, it may depend on non-moral ascriptions of intention—outcomes caused as a means are judged to be more intentional than those caused as a side-effect (Cushman & Young, 2011), and negative outcomes are more condemnable when they are perceived to be intentional (Cushman & Young, 2011; Darley & Shultz, 1990; Darley & Zanna, 1982; Yuill & Perner, 1988). Alternatively, this effect may occur because people adhere to an abstract moral principle, the doctrine of double effect, which holds that an action that is normally prohibited becomes permissible if it causes both positive effects outweighing its negative effects, and if the prohibited action is not directly intended (Mikhail, 2007, 2009). Because both accounts

suggest that the effect of the means/side-effect distinction depends on relatively general causes, both accounts predict it should arise not only for physical harm to human victims, but also for other negative actions, including violations of ownership rights. Likewise, the effect of personal force may arise for ownership violations. Negative outcomes caused through personal force may be viewed as more “direct” than those occurring without personal force (Greene et al., 2009; Moore et al., 2008). Directness may increase condemnation of negative outcomes, regardless of whether they involve harm to human victims or violations of ownership rights.

Alternatively, these effects (means/side-effect, personal force) may occur only in dilemmas involving physical harm to people. Greene and colleagues suggest that utilitarian judgments are viewed as unacceptable when they evoke a strong prohibitive affective response (Cushman & Greene, 2012; Greene, 2007, 2009; see also Royzman & Baron, 2002). These affective responses are thought to be elicited by low-level features of actions that are observable or easily inferred. For example, it is easy to see that an agent causes harm if he hits someone; in contrast, it may be less apparent that the agent causes harm if he does so by pushing a button (Amit & Greene, 2012; see also Cushman, 2013). As such, people might not demonstrate these effects in destructive ownership violations because even when an object is destroyed through personal force, the owner is not physically acted on or directly harmed. Nor are these violations observable or easily inferred. For example, a stolen apple looks no different from one that has been bought, and this imperceptible difference determines whether ownership rights are violated.

A straightforward way to discover whether these effects occur in dilemmas of ownership rights violations is to examine people's intuitions about cases where some owned objects can be sacrificed to save more owned objects. Only two studies have done this. Both manipulated the means/side-effect distinction but not personal force, and both studies found that people made utilitarian judgments. Schaich Borg, Hynes, Van Horn, Grafton, and Sinnott-Armstrong (2006) used cases where the agent sacrificed her own property. Because ownership rights are not violated in such cases, they are uninformative about whether these effects occur in ownership violation dilemmas. Nichols and Mallon (2006) used cases where the owner of the sacrificed object benefitted, because she also owned the five objects that were saved (Nichols & Mallon, 2006). Although participants claimed that sacrificing her object breaks a moral rule, they nonetheless claimed that doing so was morally acceptable. But perhaps people would not endorse the utilitarian outcome if the owner did not benefit, just as a human victim does not benefit when pushed in the path of a trolley.

The present experiments investigate whether ownership rights influence utilitarian judgments. Participants considered stories in which an agent could sacrifice one object to save five other objects. To investigate if ownership influences judgments, we manipulated whether the sacrificial object belonged to the agent or to someone else. To make the cases similar to those about harming people,

the objects were described as *irreplaceable* and *unique*, just as individual people are irreplaceable and unique.

3. Experiment 1

3.1. Method

3.1.1. Participants

We tested 112 participants; 38 additional participants who failed comprehension questions were excluded. Participants in both experiments were recruited using CrowdFlower (<https://crowdfunder.com/>), were located throughout the United States, and were paid \$0.25 for participating. Repeat participation was not permitted within or across experiments. As a further precaution, we excluded participants with IP addresses identical to participants who had already completed any study.

3.1.2. Materials and procedure

Participants read one of four versions of a story, in a 2×2 design manipulating whether the destruction of one object could occur as a means of saving five other objects or as a side-effect, and whether the sacrificial object belonged to the agent or to someone else. In all versions, the other five objects were owned by different people.

In the story, five irreplaceable tapestries were in the path of spilled bleach, which could destroy the tapestries. In the means conditions, an agent could prevent this outcome by placing a sixth irreplaceable tapestry in the path of the bleach, destroying that tapestry in the process. In the side-effect conditions, the agent could instead block the bleach from reaching the five tapestries, but with the side-effect of redirecting it toward the sixth tapestry.

Below the story was a question asking if it would be acceptable for the agent to use the sixth object to save the other five. Participants responded using a 9-point likert scale, ranging from “1-Completely Acceptable” to “9-Completely Unacceptable”. Participants were then asked three story comprehension questions, which each appeared on a new blank screen. This questioning method was also used in the next experiment. See the [Supplementary Materials](#) for the scripts and questions used in both experiments.

3.2. Results and discussion

A $2(\text{means, side-effect}) \times 2(\text{agent owns, other owns})$ ANOVA revealed that judgments were influenced by whether the sixth object could be destroyed as a means or as a side-effect, $F(1,108) = 7.20$, $p = .008$, $\eta_p^2 = .06$, by ownership, $F(1,108) = 37.96$, $p < .000$, $\eta_p^2 = .26$, and by the interaction of these two factors, $F(1,108) = 8.55$, $p = .004$, $\eta_p^2 = .07$. As shown in [Fig. 1](#), when the sixth object did not belong to the agent (and ownership rights could be violated), participants viewed it less acceptable to destroy the object as a mean than as a side-effect, $F(1,53) = 14.37$, $p < .001$, $\eta_p^2 = .21$. In contrast, when the object belonged to the agent (and ownership rights could not be violated), participants viewed it equally acceptable to destroy it as a

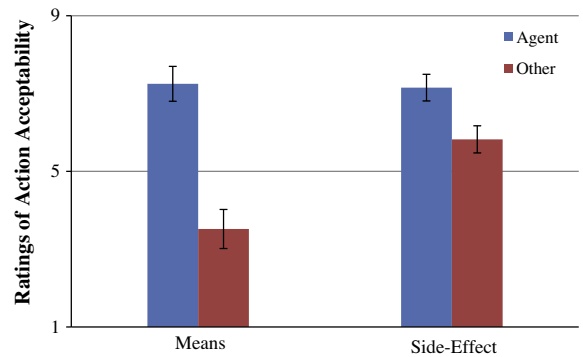


Fig. 1. Experiment 1. Mean ratings. Higher scores indicate greater acceptability; error bars show ± 1 standard error.

means or as a side-effect, $F(1,55) = 0.03$, $p = .860$. These findings show that, as has been shown previously with harm to people, violations of ownership rights are less acceptable when they occur as a means to an end than when they occur as a side-effect. This difference, however, does not extend to property damage that does not violate ownership rights.

However, in this experiment the manipulation of the means/side-effect distinction was confounded with personal force (i.e., personal force would occur when sacrificing the sixth tapestry as a means, but not when sacrificing it as a side-effect). In the next experiment, we separately manipulated these factors. In dilemmas involving human victims, people judge it less acceptable to save five people by harming one person when this harm required *personal* force (i.e., an agent’s muscles generates force that directly impacts the “victim”; [Greene et al., 2009](#)). However, this difference arises only when the harm occurs as a means, and not when it instead occurs as a side-effect. We investigated whether this effect also occurs when ownership rights are violated.

4. Experiment 2

4.1. Method

4.1.1. Participants

We tested 176 participants; 52 additional participants who failed comprehension questions were excluded.

4.1.2. Materials and procedure

Participants again read a story in which an agent could save five tapestries from being destroyed, but at the cost of a sixth tapestry. Participants read one of four versions in a 2×2 design manipulating whether the sixth tapestry could be destroyed a means or side-effect of saving the other five, and manipulating whether this would require personal force. In all story versions, the sixth tapestry did not belong to the agent. Stories differed in how the five tapestries could be saved from the bleach. In the means conditions, the agent could use the sixth tapestry to soak up the bleach, either by personally putting it into the bleach (personal force) or by flipping a switch (no personal

force). In the side-effect conditions, the agent could redirect the bleach by placing a piece of plywood on the floor. Moving the plywood could cause the sixth tapestry to fall into the bleach, because it was resting on the plywood (personal force). Or placing the plywood on the floor could redirect the bleach onto the sixth tapestry (no personal force).

4.2. Results and discussion

Based on the previous experiment, it was expected that participants would judge it relatively unacceptable to use personal force to destroy the sixth object as a means to an end. Of chief interest was whether this would be more acceptable if it could occur without personal force. A 2(means, side-effect) \times 2(personal force, no personal force) ANOVA revealed that participants viewed it less acceptable to destroy the object as a means than as a side-effect, $F(1,172) = 18.85$, $p < .001$, $\eta_p^2 = .10$; this was also found in Experiment 1. However, as shown in Fig. 2, personal force did not influence judgments as a main effect, $F(1,172) = 1.68$, $p = .197$, nor in an interaction, $F(1,172) = 0.22$, $p = .642$.

5. General discussion

We found that utilitarian judgments are decreased in certain cases of property damage and that ownership rights strongly impact utilitarian judgments. Destroying another's property as a means was judged less acceptable than destroying it as a side-effect. This shows that the distinction between means and side-effects, which previous work has shown applies to harming people (Cushman et al., 2006; Mikhail, 2007; Petrinovich et al., 1993), also applies in judgments about damage to objects. However, this effect depended on *ownership*. When the agent owned the object that could be sacrificed, ownership rights could not be violated, and sacrificing it was acceptable. This suggests that the distinction is not applied to a principle forbidding object damage *per se*, but rather to one forbidding violations of ownership rights. Also, in contrast with previous findings from dilemmas involving harming

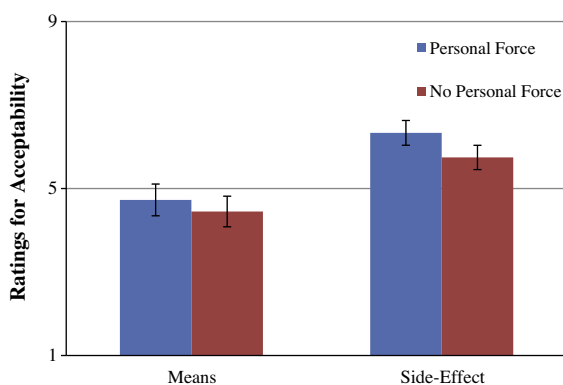


Fig. 2. Experiment 2. Mean ratings. Higher scores indicate greater unacceptability; error bars show ± 1 standard error.

people (Greene et al., 2009), we observed no effects of personal force on participants' judgments.

6. Means and side-effects

These findings are important for theories of moral decision-making. The findings are consistent with claims that the effect of the means/side-effect distinction depends on relatively general factors that are not limited to dilemmas where human victims are physically harmed. The effect could arise from broad moral rules applied in many types of moral dilemmas (e.g., the doctrine of double effect; see Mikhail, 2009). Or it could arise from more general factors not specific to moral judgment (Cushman & Young, 2011; Royzman & Baron, 2002; Waldmann & Dieterich, 2007). For example, people may have perceived destructive ownership violations to be more intentional when caused as a means than when caused as a side-effect and, consequently, less acceptable (e.g., Cushman & Young, 2011). Or the effect might occur because considering the agent intervening on the sacrificed tapestry may focus attention on the wrongness of damaging it, whereas considering the agent acting on the hazardous bleach may instead focus attention on the benefits of this action (Waldmann & Dieterich, 2007).

The findings also conflict with theories implying that sensitivity to the means/side-effect distinction depends on an aversion to directly causing physical harm to a person (Cushman & Greene, 2012; Greene, 2007; Greene et al., 2009; see also Royzman & Baron, 2002). For instance, the dual-process theory of moral judgment claims that utilitarian judgments depend on a "cognitive" moral decision-making system, but they are prevented when a second "affective" moral system produces aversive emotional responses (e.g., Cushman & Greene, 2012). These emotional responses are claimed to be elicited by features of actions that are observable or easily inferred (Amit & Greene, 2012). However, we found that violations of ownership rights decreased utilitarian moral judgments, even though our scenarios did not feature physical harm to people. Moreover, our findings suggest that utilitarian judgments are decreased by features of actions that are not observable or easily inferred. Although it is typically easy to observe when an action damages an object, it is often more difficult to observe or infer if ownership rights are violated; when an agent destroys one object to save others, her actions may look the same whether the sacrificed object is hers or someone else's.

7. Personal force

Whether or not an agent used personal force to sacrifice another's tapestry did not influence judgments of acceptability. This contrasts with previous studies showing effects of personal force or physical contact in dilemmas involving harm to people (Cushman et al., 2006; Greene et al., 2009; Moore et al., 2008). Because we did not include scenarios with harm to people, it might be useful for future research to directly compare such scenarios with ones involving ownership violations. Nonetheless, we consider

two explanations for why we found no effect of personal force.

As noted above, the dual-process theory of moral judgment claims that utilitarian judgments are prevented because prohibitive emotional responses are elicited by observable features of actions (Amit & Greene, 2012). On this account, the aversion to personal force for harm to human victims arises because participants visualize the harmful act (e.g., the agent pushing another person to his death), cuing an aversive affective reaction. Dilemmas involving property damage do not involve such imagery and, consequently, may not elicit the same affective response; seeing or imagining an object being destroyed may not prompt strong affective responses. Future research could test this by investigating affective arousal in participants as they consider dilemmas of destructive ownership violations.

Alternatively, the effect of personal force may only occur for certain kinds of actions. Actions associated with harm (e.g. striking someone) may be viewed more negatively than actions not typically associated with harm (e.g. hugging), even when the actions have identical outcomes (Cushman, 2013). Our scenarios described actions that are not typically harmful, and which would not normally lead an agent to be blamed or punished, and this might have prevented an effect of personal force. Perhaps an effect would have been observed if the agent had instead damaged the tapestry using overtly harmful actions (e.g., stomping or striking).

8. Broader implications

Our findings speak to a tension between accounts emphasizing the influence of relatively general factors and principles in moral judgment and accounts suggesting that moral judgment is strongly cued by physical harm to human victims. The preservation of the effect of the means/side-effect distinction in ownership violations is more consistent with the former accounts, whereas our failure to find an effect of personal force may be better explained by the latter (though again, further research is needed on this point). This suggests that both kinds of factors may contribute to moral judgment.

Furthermore, our findings show that ownership impacts moral judgment. These findings raise the possibility that a factor similar to ownership may underlie judgments about harming people. For instance, although it is unacceptable to push a man to his death to produce an overall benefit, it is probably more acceptable to sacrifice one's own life for the same purpose (Thomson, 2008). The acceptability of sacrificing a life as a means to an end may depend on whose life it is—the agent's or someone else's.

These findings may also have importance for understanding relations between people's judgments and property law. Governments sometimes use eminent domain to deprive people of property when this is expected to produce overall positive outcomes (e.g., *Kelo v. City of New London*). Likewise, the common law doctrine of necessity holds that ownership violations are justified when done to avoid greater damage (Cohan, 2007). Both examples

suggest that property law permits utilitarian violations of ownership rights. In contrast, we found that people found such violations impermissible. Hence, our findings could be viewed as an example of lay intuitions conflicting with property law (see Nadler & Diamond, 2008 for further discussion). However, a caveat is worth noting. In eminent domain and the doctrine of necessity, it is typically assumed that owners deprived of their property will be compensated. In our study, compensation was unlikely or impossible because objects were irreplaceable and unique. But judgments might differ for objects that can be easily replaced. This possibility is not just limited to cases involving property ownership; judgments about the acceptability of personal harm (e.g., injury, but not death) might differ if adequate compensation was possible and likely.

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Appendix A. Supplementary material

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.cognition.2014.05.018>.

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