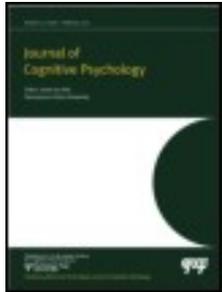


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### Methodological concerns in moral judgement research: Severity of harm shapes moral decisions

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# Methodological concerns in moral judgement research: Severity of harm shapes moral decisions

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Research on moral judgement traditionally deals with scenarios involving trade-offs between saving lives and causing harm or death. In the field of moral psychology and philosophy, these specific scenarios are regularly used jointly, regardless of the severity of harm. We predicted that the confounding between distinct phrasings involving different degrees of harm will have an impact on the frequency of utilitarian judgements regardless of the mere moral value of the action (as usually investigated in the moral judgement field). In line with this prediction, a first experiment showed that utilitarian responses were less frequent for conflicting moral scenarios that involved death, as compared to scenarios that involved non-lethal harm. A second experiment showed that participants' utilitarian responses decreased as the severity of harm increased. Experimental studies on moral reasoning should take greater care to avoid potential confounds associated with this content factor.

**Keywords:** Methodological concerns; Moral judgement; Sacrificial dilemmas.

In recent years, moral judgement has been given special attention by researchers who mainly focused on the cognitive processes that underlie responses to moral dilemmas. Often, these dilemmas require participants to choose whether to harm or kill one person in order to save more. In this case, accepting to kill one person is labelled as a utilitarian response that aims to maximise aggregate well-being. Conversely, opting not to perform the action is labelled as a deontic response (i.e. a response that is based on rights and duties that one cannot violate).

Research on moral judgement has specifically capitalised on fictive scenarios in which one agent has to perform a 'bad action' to another agent so as to save a greater number of persons. These dilemmas are classified in the moral judgement literature as personal dilemmas, in that the action to be performed will cause serious injuries to at least one person, and is used as a direct mean to

save a greater number of people (Greene, 2009). The content of the scenarios that are used in these studies differs widely and often involves different types of actions to be performed (for examples of dilemmas, see Greene, Morelli, Lowenberg, Nystrom, & Cohen, 2008; Greene, Sommerville, Nystrom, Darley, & Cohen, 2001; Koenigs et al., 2007).

Critically, many studies mix these different type of actions, such as, for example, death-related scenarios (which require killing someone) and non-lethal harm scenarios (which require hurting someone). While it is very likely that all these actions are considered as personal 'bad actions', we suggest that these different framings do not share the exact same level of 'badness'; most people will readily consider killing someone as more severe than hurting someone. This claim is consistent with the research of Kahane et al. (2012), which highlighted that different actions,

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all considered as 'bad actions', led to different rates of endorsement (e.g. lying to prevent an emotional or physical pain). Consequently, the mere fact that different actions are involved might lead to differences in utilitarian responses (i.e. advocating action) in different experimental conditions.

Hitherto, this potential confound has been largely underestimated in the literature and these distinctions are typically not controlled for. In this article, we provide evidence that different actions are indeed not advocated to the same degree. Specifically, we aim to show that different actions involved in moral dilemmas lead to different levels of utilitarian responses. We thereby focus on the *action* that one has to perform so as to save more lives. We will use scenarios that imply physical harm and we will manipulate the severity of this harm. We base our reasoning on a principle of scalarity, which implies that the more severely harmful an action is, the less people will advocate it.

In a first experiment, we compare scenarios featuring non-lethal outcomes to scenarios featuring lethal ones, with the prediction that participants will advocate the action more when it requires to hurt someone than when it requires to kill someone. In a second experiment, we seek to provide further support for the scalarity principle, by directly manipulating different degrees of severity of harm. We predict that the less severe the target action is, the more likely participants will advocate it.

## EXPERIMENT 1

### Method

The 146 participants (99 women; mean age = 24.6, SD = 4.7) were recruited on a French social network platform and completed an online questionnaire. Half of the participants provided judgments about non-lethal harm scenarios (two conflict scenarios and two control scenarios), whereas the other half provided judgments about death scenarios (two conflict scenarios and two control scenarios). Scenarios were adapted from the high-conflict moral dilemmas used in Greene, Nystrom, Engell, Darley, and Cohen (2004).<sup>1</sup> Conflict scenarios were designed such that the

utilitarian response conflicted with the intuitive deontic response.

In the control version of these scenarios, the utilitarian response was congruent with the deontological response. For example, the death-conflict version of the crying baby scenario read:

Leo is a civilian during war. He and his six children are hidden in the cellar of their house. If the enemy sees them, they will all be captured and killed. The youngest child is still a baby.

Enemy soldiers are searching the house when the baby starts to cry. Leo puts his hand over the baby's mouth so that the noise does not attract the enemy soldiers' attention. The only possibility for Leo not to get caught with his children is to leave his hand on the baby's mouth, which will deprive him of air for a few minutes and choke him to death.

In the non-lethal harm conflict scenario, the bold-face parts of the scenario were replaced by 'tortured' and 'have serious consequences on his mental and respiratory systems'. In the control versions of the scenario, the action that Leo could do to save everyone from death or torture was to give the baby a pacifier. A similar second scenario (the captive soldier scenario, see Appendix A) was also used. Results were transformed into percentages of utilitarian responses.

## Results

Figure 1 displays the percentage of participants who advocated action for conflict and control problems for non-lethal harm-related and death-related versions of the scenarios. Visual inspection hints at two phenomena. First and unsurprisingly, control problems yield more action endorsements than conflict problems. Second and more

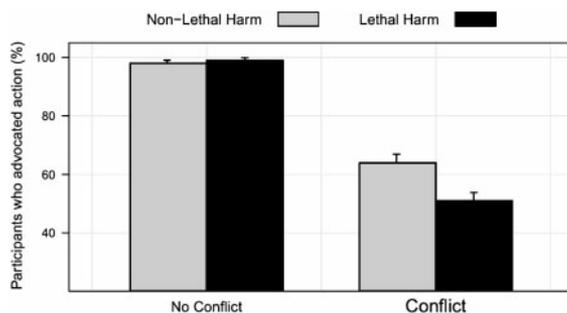


Figure 1. Percentage of participants who advocated action for control and conflict problems, with non-lethal harm and death contents. Errors bars indicate standard errors of the mean.

<sup>1</sup> For more details on the choice of our moral dilemmas, see Trémolière, De Neys, and Bonnefon (2012).

importantly in regard to our current purpose, action endorsements were less frequent in the death condition than in the non-lethal harm condition, and this effect was specific to conflict problems.

These effects are detected by an analysis of variance, where the frequency of action endorsements was entered as a dependent variable, and where predictors were harm/death and control/conflict. This analysis confirmed that action endorsements were less frequent overall for conflict problems,  $F(1, 144) = 182, p < .001, \eta_p^2 = .56$  and that there was a significant interaction effect,  $F(1, 144) = 4, p = .049, \eta_p^2 = .03$ . This interaction confirms that death contents decrease the frequency of action endorsements compared to non-lethal harm contents, for conflict problems,  $t(147) = 2.0, p = .03$ , but not for control problems,  $t(145) = .3, p = .73$ .

## EXPERIMENT 2

### Method

The 260 participants (167 women; mean age = 36.0,  $SD = 15.9$ ) were recruited on a French social network platform and completed an online questionnaire. Each participant was presented with three conflicting scenarios, in which we manipulated the severity of harm (mild harm vs. severe harm vs. lethal harm), using a within-subject design. Each scenario featured a specific situation (army, humanitarian aid and bank, see Appendix B). Scenarios and severity of harm were counterbalanced across all participants. For example, the mild harm version of the bank scenario read:

Peter is in a bank with six other persons. Suddenly, an armed commando enters the bank and takes everyone hostage. The leader of the commando approaches Peter and tells him that everybody will be released if Peter cuts off one hostage's finger. If Peter refuses, then the leader will cut off one finger of all five other hostages.

The severe-harm version of this scenario required that Peter cut off a hostage's arm (if he refuses, then the leader of the commando will cut off one arm of all five other hostages), whereas the lethal version required that Peter killed one of the hostages (if he refuses, then the leader of the commando will kill all five other hostages).

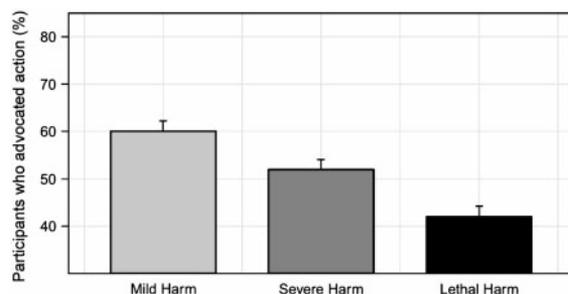


Figure 2. Percentage of participants who advocated action for conflict problems, as a function of the severity of the harm. Errors bars indicate standard errors of the mean.

## Results

Figure 2 displays the percentage of participants who advocated action, as a function of the severity of the harm. It is visually clear that the likelihood of advocating the action decreases as the severity of harm increases.

This effect of severity is detected by an analysis of variance, where the frequency of action endorsements was entered as a dependent variable, and where the predictor is the severity of harm,  $F(2, 258) = 21.6, p < .001, \eta_p^2 = .14$ . Planned contrasts supported our prediction that participants would advocate more the action when facing a mild harm than when facing a severe harm,  $t(259) = 3.3, p = .001$ , and would also advocate more the action when facing a severe harm than when facing a lethal harm,  $t(259) = 4.2, p < .001$ . Consistently, the analysis detected a significant difference between mild harm and lethal harm at  $p < .001$ .

## DISCUSSION

Research on moral judgement traditionally deals with scenarios involving life and death situations, or trade-offs between saving lives and causing harm or death. These scenarios are sometimes arbitrarily mixed and studied together while involving different degrees of harm. We predicted and experimentally confirmed that the confounding between distinct contents shapes the frequency of utilitarian judgments regardless of the true moral value of the action. In Experiment 1, we observed that participants advocated the action more when it was non-lethal than when it was lethal in nature. Experiment 2 compared different degrees of severity of harm, and relied on a more careful design by keeping the harm constant between all the protagonists involved in the scenario. As one

might expect, results showed that the more severe the harm was, the less participants advocated action.

A possible explanation for these effects is that these differences reflect a respect of the scalarity principle, since killing someone is more severe than severely injuring someone which in turn is more severe than mildly injuring someone. This explanation would be directly consistent with the claim of Kahane et al. (2012) that some utilitarian responses, which involve performing a 'bad action', are more acceptable than others. In a nutshell, the authors claim that utilitarian responses, although most of the time considered as aversive, can sometimes be acceptable. Here, we propose to conceptualise our different degrees of harm as belonging to a continuum between strict unacceptable responses and acceptable ones, where killing would be labelled as extremely unacceptable. Note that killing might also have its own specific properties, which make it more extreme than other forms of harm. For instance, the concept of life is identified as a protected or sacred value (see Baron & Spranca, 1997; Fiske & Tetlock, 1997; Tetlock, 2003), which is said to be impermeable to trade-offs with any other value. Although speculative, a strict reliance on this claim would therefore place the action of killing at the top of the severity-based continuum we propose here. Hence, this suggests that the more a to-be performed action moves away from this extreme position, the more likely people are to be flexible in regard to this action. This means that people become advocate the action less when the latter directly threatens this specific value.

In our experiments, we focused exclusively on the severity of physical harm; beyond this research, many other obvious factors, such as the nature of the trade-off (e.g. mental torture, sleep deprivation or starvation) or else the characteristics of the agents involved in scenarios (e.g. children and adults) are likely to shape moral decisions, and would deserve more attention in follow-up research.

In sum, our findings raise methodological concerns for experimental studies of moral judgement. Uncontrolled mixing of scenarios involving life and death situations, or trade-offs between saving lives and causing harm or death can be problematic. Our findings show that in and of itself these different contents (at least the severity of harm) can lead to different responses. Analysing these scenarios together (and not at a specific item

level) could therefore potentially distort some interpretations.

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## APPENDIX A: SCENARIOS EXPERIMENT 1

### Crying baby; non-lethal version

Leo is a civilian during war. He and his six children are hidden in the cellar of their house. If the enemy sees them,

they will all be captured and tortured. The youngest child is still a baby. Enemy soldiers are searching the house when the baby starts to cry. Leo puts his hand over the baby's mouth so that the noise does not attract the enemy soldiers' attention. The only possibility for Leo not to get caught with his children is to leave his hand on the baby's mouth, which will deprive him of air for a few minutes and will have serious consequences on his mental and respiratory systems.

### Captive soldier; non-lethal version

Sebastian is an army captain who was taken prisoner together with his six soldiers. One of his men managed to escape and is currently hiding. An enemy leader announces that the five soldiers will be tortured if he does not find him within two hours. Sebastian knows where the man is hiding. If he discloses his location, the man instead will be tortured. The only possibility for Sebastian to save the five soldiers is to disclose the location of this man.

## APPENDIX B: SCENARIOS EXPERIMENT 2

### Army; mild harm version

Luc is an army captain who was taken prisoner together with his six soldiers. An enemy leader approaches Luc and

tells him that everybody will be released if Luc cuts off one soldier's toe. If Luc refuses, then the enemy leader will cut off one toe of all five other soldiers. The only possibility for Luc to save the five other soldiers is to cut off one soldier's toe.

### Humanitarian aid; severe harm version

Marc is involved in a humanitarian assistance in a country at war. Six people from the same association accompany him. During a night, rebels enter their home and take everyone hostage. The leader of the rebels approaches Marc and tells him that everybody will be released if Marc cuts off one hostage's leg. If Marc refuses, then the leader of the rebels will cut off one leg of all five other hostages. The only possibility for Marc to save the five other people is to cut off one hostage's leg.

### Bank; kill version

Peter is in a bank with six other persons. Suddenly, an armed commando enters the bank and takes everyone hostage. The leader of the commando approaches Peter and tells him that everybody will be released if Peter kills one hostage. If Peter refuses, then the leader will kill all five other hostages. The only possibility for Peter to save the five other people is to kill one hostage.