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# Is there really an omission effect?

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## ABSTRACT

The omission effect, first described by Spranca and colleagues (Spranca, Minsk, & Baron, 1991), has since been extensively studied and repeatedly confirmed (Cushman, Murray, Gordon-McKeon, Wharton, & Greene, 2012). All else being equal, most people judge it to be morally worse to actively bring about a negative event than to passively allow that event to happen. In this paper, we provide new experimental data that challenges previous studies of the omission effect both methodologically and philosophically. We argue that previous studies have failed to control for the equivalence of rules that are violated by actions and omissions. Once equivalent norms are introduced, our results show that the omission effect is eliminated, even if the negative outcome of the behavior is foreseen and intended by the agent. We show that the omission effect does not constitute a basic, moral disposition but occurs exclusively in complex moral situations. Building on these empirical results, we cast doubt onto two influential explanations of the omission effect, the Causal Relevance Hypothesis and the Overgeneralization Hypothesis, and provide a novel explanation of the phenomenon. Furthermore, we discuss various ramifications of the interplay between our understanding of omissions and legal systems.

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## 1. Introduction

### 1.1. Introducing the omission effect

Is it morally worse to poison someone than to not warn someone who is about to eat poisoned food? If you think it is, you are in good company. Many philosophers have even argued for the more general claim that it is always morally worse to actively harm someone than to passively allow such harm to occur, a claim known as the “Doctrine of Doing and Allowing” (Foot, 1985; Moore, 2010; Quinn, 1989). This doctrine seems to reflect the intuitions of many laypeople. In an empirical study, Spranca and colleagues (1991) directly tested people’s responses to scenarios that described morally condemnable actions and omissions. In one scenario, tennis player John West intends to poison his opponent Ivan Lendl during dinner the night before their match by making sure that Ivan eats a salad dressing to which he is allergic. The alternative endings of the story vary only in regard to whether John actively recommends the poisonous dressing or merely allows Ivan to eat it (in the case in which Ivan himself chooses the dressing he is allergic to). Spranca and colleagues found that even though John’s behavior is condemned in both scenarios, actively recommending the dressing is considered morally worse than failing to warn Ivan. This asymmetry between actions and omissions has been called “omission bias”

(Ritov & Baron, 1999; Spranca et al., 1991) or “omission effect” (Cushman et al., 2012).<sup>1</sup> Accordingly, many people judge omissions less harshly than actions and even prefer omissions with a worse outcome to actions with a better, though still bad, outcome (Cushman, Young, & Hauser, 2006; Ritov & Baron, 1999; Spranca et al., 1991).

Not only do people demonstrate an omission effect in controlled experiments, most legal systems issue more severe punishments for committing rather than omitting an action when other factors seem to be the same.<sup>2</sup> The current debate over euthanasia provides an interesting example. Whereas many countries allow for passive euthanasia, active euthanasia is prohibited in most countries— notable exceptions include Belgium, Luxembourg, the Netherlands, and the state of Oregon. The United States Supreme Court has stated that:

The distinction between letting a patient die and making that patient die is important, logical, rational, and well established: It comports with fundamental legal principles of causation, and intent; and has been widely recognized and endorsed in the medical profession, the state courts, and the overwhelming majority of state legislatures, which, like New York’s, have permitted the former while prohibiting the latter. (Vacco v. Quill, 1997)

Thus, the Doctrine of Doing and Allowing is a philosophical distinction that seems to accurately reflect folk intuitions as well as fundamental legal principles.

However, several philosophers have raised serious concerns about the moral relevance of this distinction. Jonathan Bennett claims that the distinction does not draw any morally significant line, but rather creates a “complex, shallow mess” (Bennett, 2011, p. 68). According to Bennett, what really matters is the change in likelihood of a certain event occurring, given the agent’s behavior. Raising the probability of a bad outcome is morally impermissible, irrespective of whether the probability was raised by committing or omitting an action.

Peter Singer (2011) also challenges the Doctrine of Doing and Allowing from a utilitarian point of view. He argues that in certain conditions, it is worse to let someone die than to kill that person. Euthanasia provides one of the most striking examples. Consider the case of Baby Doe, an infant born with severe disabilities, which garnered much attention in the 1980s. Baby Doe was born with a condition that made it impossible for him to eat. After long deliberation, his parents decided against surgery. After five days, Baby Doe died of dehydration and starvation. While this form of passive euthanasia was legal, administering a lethal injection was not. Singer claims that “The death resulting from the failure to operate in these circumstances is neither swift nor painless ... To ‘allow nature to take its course’, withholding treatment but refusing to kill, would obviously be wrong” (2011, p. 186).<sup>3</sup>

## 1.2. Explaining the omission effect

In this paper, we shall not address the normative question of whether the Doctrine of Doing and Allowing is a desirable or justifiable moral principle. Instead, we will investigate if and when people believe that actions are worse than omissions, given the same outcome. Although several explanations have been offered to account for the omission effect, we will focus on two of the most interesting and influential theories.

First, Spranca and colleagues (1991) found that many people explain differences in their moral judgments by the difference in causal status between actions and omissions—call this the “Causal Relevance Hypothesis.” Several participants in Spranca and colleagues’ study reported that the agent’s action was more causally relevant to the outcome than the omission, because to fail to intervene is simply to let nature take its course. Cushman and Young also propose “that the action/omission distinction affects moral judgment principally via causal attribution,” whereas the actor’s intention and the outcome’s severity play a subordinate role (Cushman & Young, 2011, p. 1069). The results of both studies seem to provide some evidence that the agent’s causal relevance to the outcome triggers different moral evaluations. However, the direction of influence between causal attributions and blame attributions is far from clear. Although their accounts differ in important respects, Knobe and Fraser (2008) and Alicke (2008) argue that causal judgements are strongly influenced by moral judgements. Thus, when

a subject conceives of another person's behavior as morally blameworthy, then this is likely to also increase its perceived causal relevance. It is therefore controversial to identify causal attributions as the source of the omission effect.

A second explanation has been suggested by Ritov and Baron (1999), among others. Ritov and Baron argue that it can hardly be denied that actions are usually morally worse than omissions for several reasons. Omissions often correlate with lesser amounts of malicious intent, the desired outcome of omissions is less certain, and so on. They propose the "Overgeneralization Hypothesis" to explain the omission effect. When subjects judge the two endings of the tennis story differently, they overgeneralize from other cases, overlooking the fact that in the story all of the morally relevant factors are identical. So while in many situations it is adequate to judge omissions less harshly than actions, people tend to wrongly apply this heuristic to cases in which there is in fact no morally significant difference. It has so far proven difficult, however, to provide conclusive evidence that an overgeneralization bias in fact exists. Several studies have not revealed an omission effect (Connolly & Reb, 2003; Mandel & Vartanian, 2007; Patt & Zeckhauser, 2000), and most studies, including Spranca's original study, show that a substantial number of subjects judged omissions to be just as wrong as actions. So far, we do not seem to have a principled explanation of why many studies reliably replicate the omission effect but others do not.<sup>4</sup> In any case, the results we present in this study will be of immediate relevance to the Causal Relevance Hypothesis as well as the Overgeneralization Hypothesis.

### 1.3. The importance of controlling for the equivalence of norms

While several methodological difficulties are usually carefully avoided, we believe that a crucial methodological problem has been neglected by the empirical work we have cited. The studies known to us have not controlled for the *equivalence* of the norms used in their vignettes, that is, norms that are equally strong and use the same linguistic notions in both action and omission cases. While it has recently been pointed out that "social perceivers may distinguish omissions and commissions by the norms these two actions violate" (Malle, Guglielmo, & Monroe, 2014, p. 168) researchers have allowed that within their studies, actions and omissions quite obviously violate non-equivalent rules. In order to ensure that the violated rules or norms are likely to be of equal strength and hence allow for comparability, we believe it important to adhere to two principles:

1. Make rules explicit.
2. Formulate rules as opposites or negations of each other.

Most studies clearly fail to make the violated rules explicit in their vignettes, hence breaching the first principle. In Spranca's scenarios, John West either recommends the house dressing that Lendl is allergic to or fails to warn Lendl about the dressing. However, it is unclear which rules are violated in those scenarios. Is it a case of poisoning, cheating, bad sportsmanship, breaching a general code of ethics, or all of these? Without specifying the rules that are violated, subjects are free to assume any norm they see fit. However, different offences are known to receive very different punishments in a given legal system. In other words, our preconceptions of the severity of offenses might strongly influence our evaluations of people's actions and omissions if we fail to explicate the rules that get violated.

The second principle states that in order to compare the impact of actions and omissions on people's reasoning, rules should be formulated in terms of opposites using the same linguistic terms. We know of no study that has tried to ensure that people are not influenced by differences in the wording of a vignette. Instead, people compare scenarios that are clearly not equivalent, such as cases of killing versus letting die. The wording of this dichotomy already implies a substantial difference in meaning. Unfortunately, most empirical studies are designed so that it is impossible to formulate the rules equivalently. Thus, there is no easy way to rerun previous studies with slightly changed wording. We have therefore constructed new scenarios in which equivalent rules and equivalent transgressions are

**Table 1.** Equivalent rules used in experiment 2 and 3.

		Rule	Transgression of Rule
Experiment 2	Action	Don't log in.	Alice logs in.
	Omission	Log in.	Alice does not log in.
Experiment 3	Action	Don't click on that button.	Peter clicks on the button.
	Omission	Click on that button.	Peter does not click on that button.

indicated (see experiments 2 and 3). In table 1, rules and transgressions are phrased using the same terms, action rules are negations of omission rules, and transgressions of omission rules are negations of action rules.

Even if norms are made explicit and are formulated as opposites, there is no guarantee that those norms will be of equal strength. It might still be the case that, for example, a norm that requires a person to log in will be perceived as less important than a norm requiring a person not to log in. Thus, to ensure that the omission norm is indeed equivalent to the action norm, tests need to be run in order to determine how important or strong a rule is perceived to be. Nonetheless, we believe that our two principles are necessary conditions for investigating the omission effect and that applying these principles raises the likelihood that norms will be equivalent in strength.<sup>5</sup>

Previous studies have uncovered fascinating aspects of participants' reasoning processes about actions and omissions (Cushman & Young, 2011; Ritov & Baron, 1999; Spranca et al., 1991). However, these studies describe moral situations that fall under incommensurable rules, either because their wordings are clearly not equivalent or because the rules are so underspecified as to invite unwanted influence from participants' preconceptions, possibly derived from their local legal system. These studies have therefore not shown that the omission effect is a global phenomenon, rooted in the ontology of actions and omissions. In order to investigate possible differences in blameworthiness between actions and omissions, we need to present people with scenarios in which equivalent rules are applied.

### 1.4. Outline of the paper

In this paper we present four experiments. We have argued that the omission effect other researchers claim to have found might be an artifact of the methodology used, in that they have failed to control for equally strong norms violated in their vignettes. In experiment 1, we show that in the vignettes used by Spranca and colleagues (1991) and Cushman and colleagues (2012), subjects indeed perceive the norms to be of different strength. Correcting for these methodological issues, experiments 2 and 3 use scenarios with explicit and equally strong rules for both actions and omissions. While we deliberately excluded any indication of malicious intent or foreseeability of consequences in experiment 2, we added these factors in experiment 3 to directly test the plausibility of both the Causal Relevance Hypothesis and the Overgeneralization Hypothesis. These experiments show that the omission effect is not a universal effect that occurs in all circumstances. Instead, actions and omissions are generally judged as morally equivalent, though these judgments are distorted in more complex scenarios. Experiment 4 tests a possible objection to our studies. One might object that once explicit rules are introduced, omissions are no longer perceived as omissions but instead as rule-violating actions. Finally, we discuss various ramifications of the interplay between our understanding of omissions and the way in which actions and omissions are punished in various legal systems.

## 2. Experiment 1

We have argued that the differences found between blame attributions for actions and those for omissions do not necessarily indicate the existence of an omission effect. Instead, these differences might be accounted for by the researchers' use of scenarios in which the strength of the violated rule differs between the action and the omission condition. This seems to be a reasonable possibility because

**Table 2.** Vignettes used in experiment 1.

	(I) Action	(II) Omission
(a) Ivan Lendl	John and Ivan are the finalists in a tennis tournament. The day before the final, they have dinner together. John remembers that Ivan is allergic to cayenne pepper and that eating cayenne pepper gives him a severe stomachache. He also remembers that the house dressing contains cayenne pepper. He thinks to himself, "If Ivan eats the house dressing he will probably get a stomachache and I'll have a chance to win."	At the restaurant, Ivan orders first. When the waiter asks Ivan whether he prefers the house dressing or the Italian dressing, Ivan orders the house dressing. Ivan has no idea that it contains Cayenne pepper.
	At the restaurant, Ivan orders first. Before Ivan makes his choice, John recommends the house dressing to Ivan. When the waiter asks Ivan whether he prefers the house dressing or the Italian dressing, Ivan orders the house dressing. Ivan has no idea that it contains Cayenne pepper.	At the restaurant, Ivan orders first. When the waiter asks Ivan whether he prefers the house dressing or the Italian dressing, Ivan orders the house dressing. Ivan has no idea that it contains Cayenne pepper. John says nothing and realizes that, had he told Ivan about the Cayenne pepper, he would have ordered the Italian dressing.
	Ivan gets a severe stomachache that keeps him up all night. John wins the match.	
(b) Rock	Ed is driving five sick people to the hospital with a cord hanging from the side of his car.	He approaches a rock climber resting by the side of the road. If he does not slow down, the climber will be knocked off the road by the cord and fall down a steep cliff. If he does slow down, the five sick people will die before they reach the hospital. Ed keeps driving quickly and knocks the rock climber off of the side of the road.
	He approaches a rock climber who is about to fall off of the side of the road and down a steep cliff. If he slows down, the rock climber can use the cord to prevent himself from falling, but the five sick people will die before they reach the hospital. Ed keeps driving quickly and the climber falls off of the side of the road.	

rules in these scenarios are not stated explicitly and, a fortiori, not formulated as opposites. In order to substantiate our objection against these studies, we tested whether participants rate norms in action scenarios as more important than in omission scenarios.

## 2.1. Methods

216 participants were recruited on Amazon's Mechanical Turk and were paid a small fee for taking our survey. 15 participants were excluded for either not finishing the survey or not indicating English as their native language.

We selected two scenarios used in previous studies of the omission effect. While we do not claim that they are representative of all omission studies in the literature, both have received considerable attention. We will refer to the scenario from Spranca et al. (1991) study described above as 'Ivan Lendl'. We also used a scenario from Cushman and colleagues' (2012) study, which we call 'Rock'. 127 participants were presented with Ivan Lendl and 74 participants were presented with Rock. They were then randomly assigned to the action or the omission condition. The vignettes were slightly shortened versions of the original scenarios and are described in table 2.

After reading one of the vignettes, participants answered two questions:

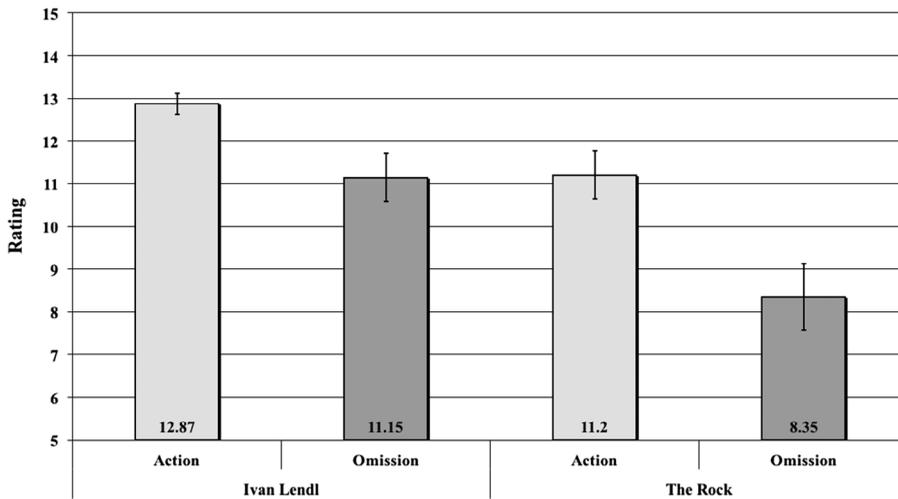
**Rule.** Please tell us which rule John [Ed] violated. If more than one comes to mind, please tell us the most important one.

**Importance of Rule.** Please think about the answer you just gave. How important do you believe this rule to be?

Whereas participants used a textbox to type in their answers to Rule, they evaluated the importance of the rule on a 15-point Likert scale, '1' meaning "of little importance" and '15' meaning "of utmost importance."

## 2.2. Results

For Ivan Lendl, the average rating of the importance of the rule that John had violated was higher in the action condition ( $M = 12.87$ ,  $SD = 2.01$ ) than in the omission condition ( $M = 11.15$ ,  $SD = 4.34$ ). A similar result was obtained for Rock. On average, participants rated the importance of the rule that Ed broke in the action condition ( $M = 11.20$ ,  $SD = 3.51$ ) to be higher than in the omission condition



**Figure 1.** Mean ratings of the importance of norms in action and omission scenarios. Participants evaluated the norms on a 15-point Likert scale, '1' meaning "of little importance" and '15' meaning "of utmost importance." Bars indicate the standard error around the mean.

( $M = 8.35$ ,  $SD = 4.55$ ). For both cases, we performed a t-test. For both Ivan Lendl and Rock, the difference between the means was significant:  $t(72) = 3.04$ ,  $p = 0.003$ , one-tailed and  $t(125) = 2.92$ ,  $p = 0.004$ , one-tailed. The average ratings for both Ivan Lendl and Rock can be seen in Figure 1.

### 2.3. Discussion

We have argued that in order to investigate possible differences in people's evaluations of agent's omissive and commissive behavior, we should make sure that the norms that are violated are equal in strength. In both of the cases that we selected from the literature, the rules were not made explicit and the rules were not formulated as opposites. It is therefore quite likely that participants did not consider the rules to be of equal strength. The results of experiment 1 support this hypothesis. Participants rated the rules in the action scenarios to be significantly more important than the rules in the omission scenarios. Thus, the putative omission effect recorded by Spranca and colleagues (1991) and by Cushman and colleagues (2012) can be accounted for by the fact that the norm in the omission scenario was considered less important than the norm in the action condition. While it still might be true that omissions are perceived as less blameworthy than actions, no such conclusion can be drawn from their experiments. We also claimed that when the relevant rules are not made explicit, participants will be free to interpret the scenarios as violations of different rules, the evaluations of which would then differ. Participants indeed considered the scenarios to be violations of different norms. For Ivan Lendl, participants cited norms regarding sportsmanship, cheating, poisoning, general ethics, and many others. In experiment 2 and experiment 3, we also tested whether the relevant norms in the scenarios were considered to be of equal strength. The methods and results of these studies can be found in appendix A and appendix B, respectively.

## 3. Experiment 2

We know from a plethora of studies (Alicke, 2008; Cushman, 2013; Knobe, 2003) that subjects hold others responsible as soon as they detect either a deliberate intent to bring about a certain outcome or the violation of certain statistical or moral norms. In the second experiment, we were particularly interested in whether an omission effect obtains when a norm violation is introduced. Several studies

have revealed differences in blame attribution between actions and omissions in cases of norm violations. The vignettes used in those studies were often carefully controlled for factors such as intent and the foreseeability of the outcome. As we have argued in the introduction and shown in experiment 1, however, these studies have not controlled for the *equivalence of the norms*. Instead, participants were free to evaluate for themselves the kind and importance of the violated rule. Thus, we developed vignettes that introduced company policies that are described as opposites in the action and omission scenarios (see section 3.1). In appendix A, we present the results of a preliminary study for experiment 2, showing that participants considered the norms to be of equal strength. Controlling for the equivalence of the norm violation allowed us to investigate the source of the omission effect. If an omission effect were found in such an experiment, then this result would be consistent with the overgeneralization account of Ritov and Baron (1999). In contrast, if no difference were found, then this would be an important result that could be drawn upon to theorize about the source of the omission effect. We also tested the Causal Relevance Hypothesis by asking participants to rate the causal status of the protagonist's behavior.

### 3.1. Method

The scenarios used in experiment 2 are variations of vignettes used by Reuter and colleagues (2014). A total of 247 participants were recruited on Amazon's Mechanical Turk for experiment 2. We excluded 7 participants for either not finishing the survey or for indicating that English was not their native language. Each participant was randomly assigned to one of the four scenarios depicted in table 3: I(a), I(b), II(a), or II(b).

119 participants were then presented with the following question:

**Blame Question.** How would you evaluate Alice's logging in [not logging in] to the computer, on a scale from 1 to 7, where '1' means "Very blameworthy", '4' means "Neither blameworthy nor praiseworthy" and '7' means "Very praiseworthy"?

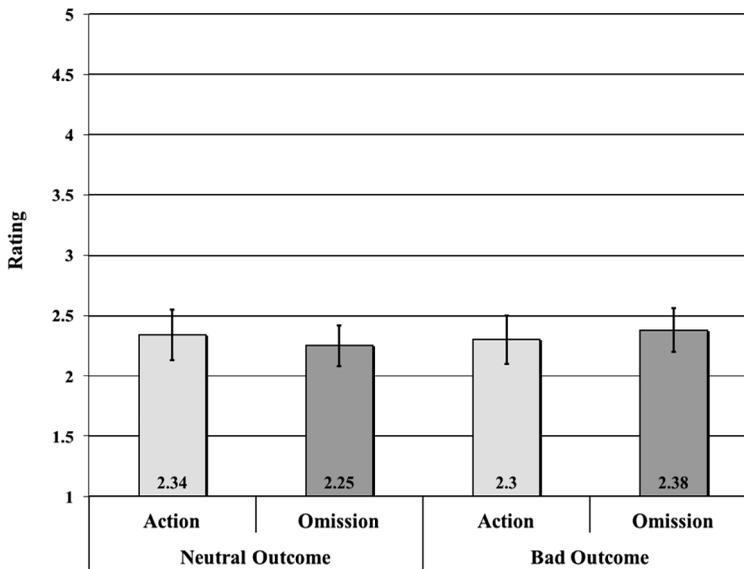
The other 121 participants were asked to assess the causal status of the protagonist:

**Cause Question.** How much do you agree with the following statement: Alice caused an empty email to be sent from the central computer to a non-existent email address [some work emails containing important customer information to be deleted from the central computer]?

Participants rated the causal status of the action or omission by indicating their agreement on a 7-point Likert scale, '1' meaning "not at all" and '7' meaning "fully."

**Table 3.** Vignettes used in experiment 2.

	(I) Action	(II) Omission
	Alice works for a company. In order to make sure that Alice is available to answer incoming phone calls, the company has issued the following policy:	
	Alice is not permitted to log in to the central computer of the company until 1pm. Unbeknownst to everybody, if she is logged in to the central computer at noon,	Alice has to log in to the central computer of the company until 1pm. Unbeknownst to everybody, if she is not logged in to the central computer at noon,
(a) Neutral outcome	an empty email is immediately sent from the central computer to a non-existent email address. One morning, violating the official policy, Alice logs in to the central computer.	an empty email is immediately sent from the central computer to a non-existent email address. One morning, violating the official policy, Alice does not log in to the central computer.
(b) Bad outcome	At noon, an empty email is sent from the central computer to a non-existent email address.	
	some work emails containing important customer information are deleted from the central computer.	
	One morning, violating the official policy, Alice logs in to the central computer.	One morning, violating the official policy, Alice does not log in to the central computer.
	At noon, some work emails containing important customer information are deleted from the central computer.	



**Figure 2.** Average ratings for actions and omissions when the outcome was either neutral or bad on a 7-point Likert scale, '1' meaning "very blameworthy," '4' meaning "neither blameworthy nor praiseworthy," and '7' meaning "very praiseworthy." Bars indicate the standard error around the mean.

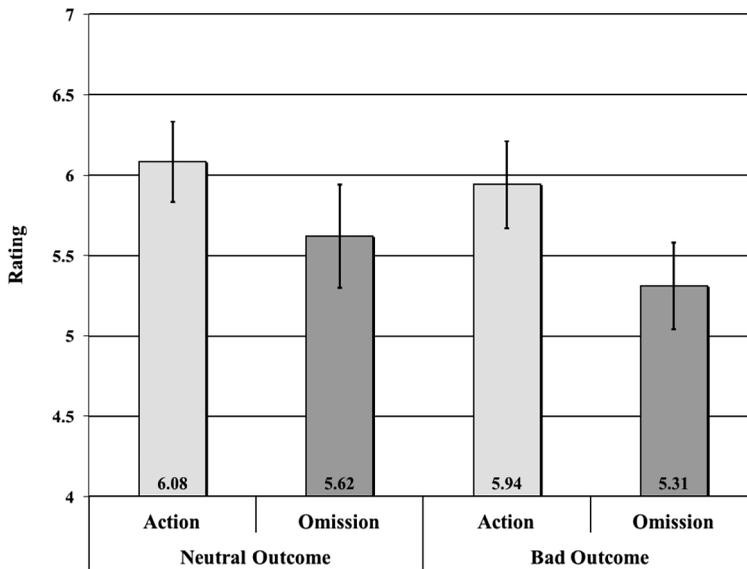
### 3.2. Results

Figure 2 depicts the average values for all four conditions in which participants rated the blameworthiness of Alice's behavior. In all conditions, the average ratings were highly similar. In the neutral outcome scenario, the mean for the action condition ( $M = 2.34$ ,  $SD = 0.94$ ) was similar to that of the omission condition ( $M = 2.25$ ,  $SD = 1.03$ ). In the bad outcome scenario, the mean for the action condition ( $M = 2.30$ ,  $SD = 1.29$ ) and omission conditions ( $M = 2.38$ ,  $SD = 0.88$ ) were also quite similar. These results confirm previous studies that show that the violation of a norm is a stronger trigger for the attribution of blame than the moral status of the outcome (Reuter, Kirfel, van Riel, & Barlassina, 2014). A  $2 \times 2$  ANOVA with *Action* and *Outcome* as independent factors, and participant's rating as a dependent measure was carried out. The data exhibited no significant main effect either for *Action*,  $F(1,115) = 0.00$ ,  $p < 0.969$ , nor for *Outcome*,  $F(1,115) = 0.04$ ,  $p = 0.842$ . Also, no interaction was found,  $F(1,115) = 0.20$ ,  $p = 0.657$ .

We also evaluated the mean values for the causal ratings in the neutral outcome scenario for the action condition ( $M = 6.08$ ,  $SD = 1.35$ ) and the omission condition ( $M = 5.62$ ,  $SD = 1.71$ ) as well as the bad outcome scenario for the action condition ( $M = 5.94$ ,  $SD = 1.37$ ) and the omission condition ( $M = 5.31$ ,  $SD = 1.72$ ) (see also Figure 3). A  $2 \times 2$  ANOVA revealed a marginally significant main effect for *Action*,  $F(1,117) = 3.55$ ,  $p = 0.062$ , but no significant effect for *Outcome*,  $F(1,117) = 0.63$ ,  $p = 0.429$ . No interaction was found  $F(1,117) = 0.09$ ,  $p = 0.763$ .

### 3.3. Discussion

For the neutral and the bad outcome scenarios, participants judged the rule-violating omission to be just as blameworthy as the rule-violating action. While a negative result cannot be taken as evidence that no omission effect exists, our data raises serious concerns about the conclusions others have drawn from their experiments. In those experiments a crucial factor—*rule equivalence*—was not kept constant between action conditions and omission conditions. If, as we suggest and as the data indicates, actions and omissions are judged to be equally blameworthy



**Figure 3.** Mean values for causal ratings comparing actions with omissions when (1) a neutral outcome occurred, and (2) when a bad outcome happened. Participants rated the causal status by indicating their agreement on a 7-point Likert scale, '1' meaning "not at all" and '7' meaning "fully." Bars indicate the standard error around the mean.

when rules are held constant, pace Cushman et al. (2012) and others, then further theoretical and empirical investigation is needed to determine the factors that cause the differences in moral judgment in these scenarios. Our results are particularly interesting for assessing the plausibility of the Overgeneralization Hypothesis. If the omission effect obtains because participants overgeneralize from scenarios in which it is reasonable to prefer omissions to actions, why do they fail to overgeneralize in the scenarios presented in experiment 2? Do people only overgeneralize if malicious intent is present, or does the asymmetry of codes of law, focusing on actions rather than omissions, provide a better account of the results? These questions will be treated in detail both in experiment 3 and in the general discussion section.

To test the relation between people's causal and moral judgements of actions and omissions, we also asked participants to judge the causal impact of actions and omissions on a neutral or a bad outcome (see Figure 3). Here we found a marginally significant difference between actions and omissions. Spranca et al. (1991) provide data that suggests that the difference in the perceived causal status of actions and omissions may be a possible factor that triggers the omission effect. While we lack strong evidence to rule out this explanation, the results of our studies also cast doubt on the Causal Relevance Hypothesis, as different attributions of causal efficacy did not seem to have any effect on the attributions of blame.

No omission effect was found in experiment 2. However, previous studies that found an omission effect used scenarios in which a character acts, or fails to act, with malicious intent. But what is the role of malicious intent in regard to the omission effect? Is it a sufficient condition for triggering an omission effect? The following two hypotheses sketch these possibilities:

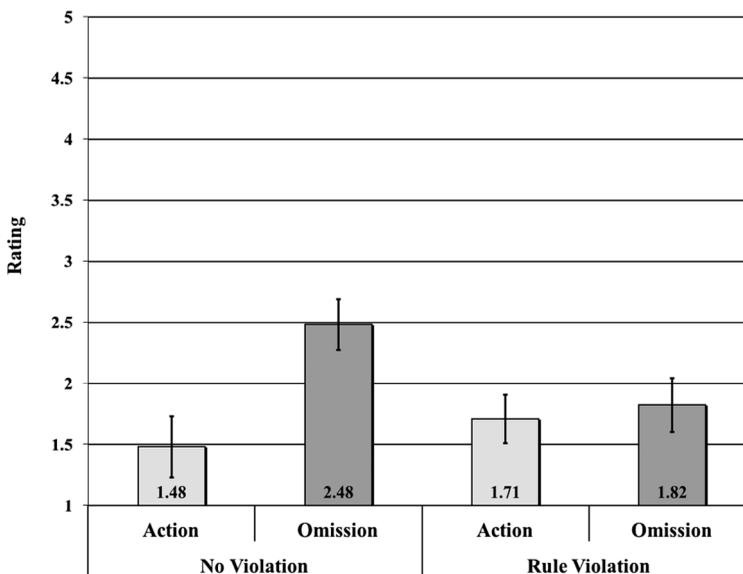
1. The omission effect depends on the agent's ability to foresee the outcome or the agent's intention to cause harm. When these factors are present, many participants will prefer omissions to actions.

- The omission effect disappears if the equivalence of the violated rule is properly controlled for. Thus, even in cases in which a bad outcome is foreseen or intended, people will judge omissions just as harshly as actions if an equivalent rule violation is perceived. Foreseeability of outcome and malicious intent are not sufficient.

Both hypotheses share the assumption that foreseeability and malicious intent may be critical to trigger an omission effect. However, only the first prediction considers these factors to be sufficient conditions for the omission effect to obtain. In cases in which an equivalent rule is applied to both actions and omissions, the omission effect is eliminated. Experiment 3 was designed to test the predictions of these hypotheses.

#### 4. Experiment 3

In experiment 2, we did not find any omission effect, despite the fact that blame ratings were quite strong. We argued in section 3.3 that the lack of an omission effect can be plausibly explained by the equivalence of the violated rules in the action and omission cases. In experiment 3, we directly test the impact of equivalent rules. To do so, we developed two new pairs of scenarios. The first pair matches the structure of other studies in which an omission effect has been observed. In these scenarios, Peter is aware that a certain outcome is likely to follow from his action or omission. He can therefore be charged with recklessness and malicious intent. According to the conclusions of previous studies, we can expect blame ratings in response to these scenarios to not only be high but, importantly, to show an omission effect. The second pair of scenarios is almost identical to the first pair, with one crucial difference. As in experiment 2, we introduced a company policy that highlights the danger of either committing or omitting a certain action and prohibits the corresponding action or omission. If our hypothesis that equivalent rule violations will eliminate the omission effect is correct, we should expect roughly equal blame ratings for the second pair of scenarios.



**Figure 4.** Impact of rule violation on blame ratings for actions and omissions when the outcome was foreseen. Participants rate the blameworthiness of the agent on a 7-point Likert scale, '1' meaning "very blameworthy," '4' meaning "neither blameworthy nor praiseworthy," and '7' meaning "very praiseworthy." Bars indicate the standard error around the mean.

### 4.1. Method

116 participants were recruited on Amazon's Mechanical Turk. Each participant was presented with a single question about the praiseworthiness or blameworthiness of Peter's behaviour. We also presented 123 participants with the same scenarios and asked them how much they agreed with the claim that Peter caused the outcome.<sup>6</sup> All participants were randomly assigned to one of the four scenarios shown in table 4.

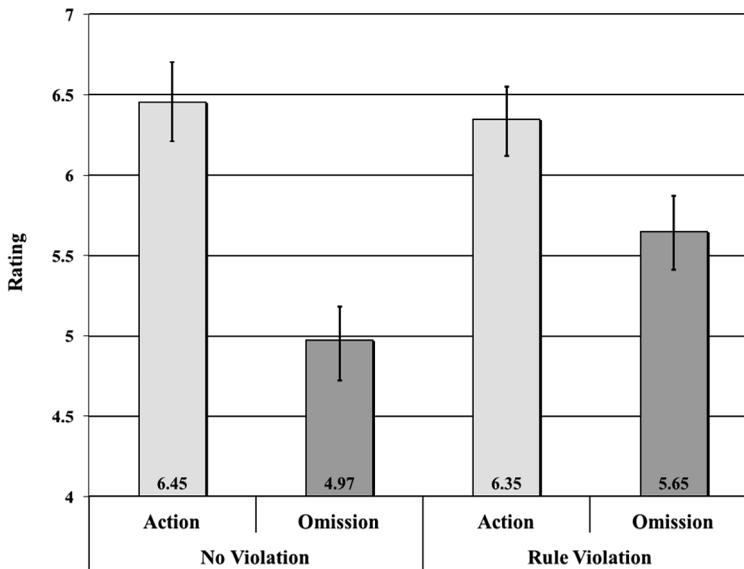
We also examined whether people considered the norms in the action and omission scenarios to be equivalent in the no-rule violation and rule violation conditions. The results are presented in appendix B, showing that whereas the norms were rated to be of different strength in the no-rule violation cases, there was no significant difference in the ratings of the rule violation cases.

### 4.2. Results

In the No Violation scenarios, the average rating for the action condition ( $M = 1.48$ ,  $SD = 0.83$ ) was substantially lower than for the omission condition ( $M = 2.48$ ,  $SD = 1.73$ ). In contrast, in the Rule Violation scenarios, average values were  $M = 1.71$ ,  $SD = 0.97$  in the action condition and  $M = 1.82$ ,  $SD = 0.73$  in the omission condition. Figure 4 depicts the mean blame ratings for each of the four conditions. A  $2 \times 2$  ANOVA with *Action* and *Rule Violation* as independent factors and participant's ratings as dependent measures was carried out. The data show a significant main effect for *Action*,  $F(1, 112) = 6.48$ ,  $p = 0.012$ , but not for *Rule Violation*,  $F(1, 112) = 1.02$ ,  $p = 0.314$ . Importantly, a significant interaction occurred between *Action* and *Rule Violation*,  $F(1, 112) = 4.13$ ,  $p = 0.045$ .

**Table 4.** Vignettes used in experiment 3.

	(I) Action	(II) Omission
(a) No Rule Violation	<p>Peter works for a sales company. He is responsible for several tasks, like answering incoming phone calls and updating customer information on the central computer.</p> <p>One morning, Peter goes through his normal routine and updates customer information on the central computer, when suddenly a window pops up.</p>	
	<p>Peter reads the text, which states, "All customer information will be deleted. If you would like to continue, click on 'delete'."</p>	<p>Peter reads the text, which states, "In 30 seconds, all customer information will be deleted. If you would like to abort, click on 'cancel'."</p>
	<p>Peter clicks on 'delete'. Immediately,</p>	<p>Peter does not click on 'cancel'. After 30 seconds,</p>
	<p>all customer information is deleted from the central computer. The company loses important customer information.</p>	
(b) Rule Violation	<p>Peter works for a sales company. He is responsible for several tasks, like answering incoming phone calls and updating customer information on the central computer.</p> <p>For some unknown reason, the central computer is currently malfunctioning. Every now and then, when someone updates customer information, a window pops up, stating:</p>	
	<p>"All customer information will be deleted. If you would like to continue, click on 'delete.'" <i>In order to avoid the deletion of customer information, the company has issued the following policy: When this window pops up, do not click on 'delete'.</i></p>	<p>"In 30 seconds, all customer information will be deleted. If you would like to abort, click on 'cancel.'" <i>In order to avoid the deletion of customer information, the company has issued the following policy: When this window pops up, click on 'cancel'.</i></p>
	<p>One morning, Peter goes through his normal routine and updates customer information on the central computer, when suddenly a window pops up. Peter reads the text which states:</p>	
	<p>"All customer information will be deleted. If you would like to continue, click on 'delete'."</p>	<p>"In 30 seconds, all customer information will be deleted. If you would like to abort, click on 'cancel'."</p>
	<p>Violating the official policy, Peter clicks on 'delete'. Immediately,</p>	<p>Violating the official policy, Peter does not click on 'cancel'. After 30 seconds,</p>
	<p>all customer information is deleted from the central computer. The company loses important customer information.</p>	



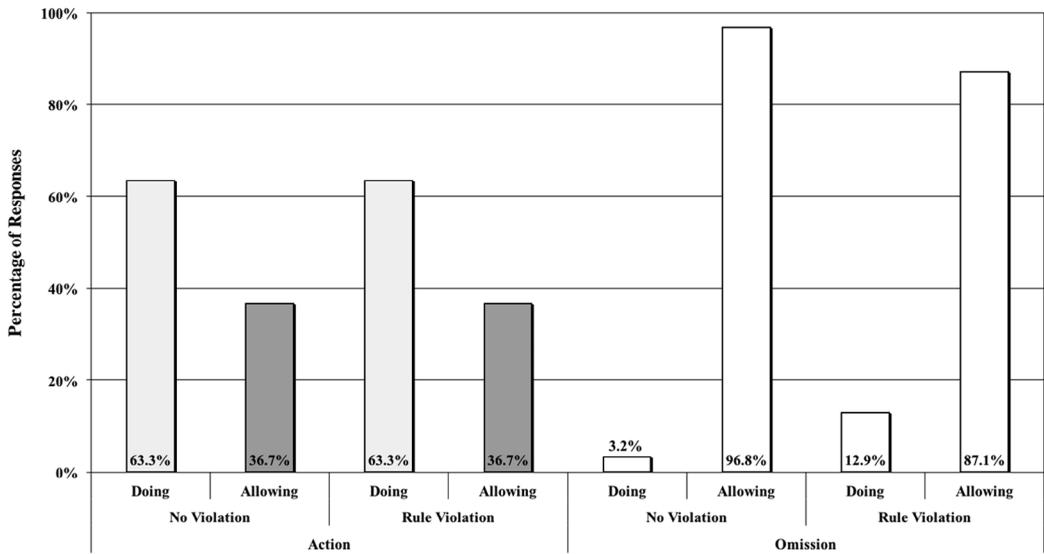
**Figure 5.** Mean values for causal ratings comparing actions with omissions when (1) no rule was violated, and (2) when a rule was violated. Participants rated the causal status by indicating their agreement on a 7-point Likert scale, '1' meaning "not at all" and '7' meaning "fully." Bars indicate the standard error around the mean.

In both types of scenarios, the causal ratings differed between the action and omission conditions. For the No Violation scenario, in the action condition values were  $M = 6.45$ ,  $SD = 0.85$  and in the omission condition values were  $M = 4.97$ ,  $SD = 1.77$ . For the Rule Violation scenario, in the action condition values were  $M = 6.35$ ,  $SD = 1.05$  and in the omission condition values were  $M = 5.65$ ,  $SD = 1.52$ . We applied a  $2 \times 2$  ANOVA for people's responses to the causal question. We found a highly significant main effect for *Action*,  $F(1,119) = 20.51$ ,  $p < 0.001$ , but none for *Rule Violation*,  $F(1,119) = 1.44$ ,  $p = 0.232$ , or any significant interaction,  $F(1,119) = 2.56$ ,  $p = 0.112$ .

### 4.3. Discussion

The aim of experiment 3 was to investigate a specific hypothesis about people's moral judgments regarding omissions and actions. Based on the results of experiment 2, we speculated that the omission effect might not be a universal effect that holds generally, but instead manifests itself only in situations in which the equivalence of violated rules is not guaranteed. Once equivalent rules or policies are introduced that prohibit actions or omissions equally, the omission effect is not likely to occur. The results of experiment 3 provide strong evidence in favor of this hypothesis. In the No Rule Violation scenarios, we found a relatively strong omission effect, despite the fact that both actions and omissions lead to the same outcome and the agents in the scenarios had the same degree of foresight and intent. However, in the Rule Violation case, no omission effect was found. The significant interaction between *Action/Omission* and *Rule Violation* demonstrates that people judge the moral valence of Peter's behavior differently in both pairs of scenarios.

The average causal ratings (see Figure 5) provide further evidence against the claim that the omission effect is largely driven by the perceived causal status of actions as opposed to omissions. While the average value for omissions in the rule violation case was larger (5.65) compared to the scenario in which no rule violation was observed (4.97), there was nonetheless a strong significant difference between the causal ratings for actions and omissions in the rule violation scenario.



**Figure 6.** Percentage of responses for “deleted the data” and “allowed the data to be deleted” in action and omission scenarios in which the rule was either violated or not violated.

## 5. Experiment 4

By introducing explicit rules in experiments 2 and 3, our approach raises an interesting objection. When a person’s omission leads to a negative outcome, having violated a rule, then that person has not only *omitted* an action that would have prevented the negative outcome, he or she has also *committed* an action, namely violating a rule. In cases in which an explicit rule is violated, people may perceive a person’s failure to log in not merely as an omission, but also as a violation of the rule that tells her to log in, and therefore an action. Thus, so the objection goes, we have not shown that under certain conditions omissions are treated in the same way as actions, but have only shown that rule violations are (at least sometimes) treated equivalently regardless of whether they were triggered by omissions or by actions.

This objection, however, can be empirically investigated. If the participants in our study considered the omission in the rule violation condition to also be an action, then they will be more inclined to describe the protagonist’s omission to prevent a bad outcome as an instance of *doing harm* compared to *allowing harm*.<sup>7</sup> We tested this prediction by presenting a new group of participants with the same four vignettes used in experiment 3 and asking them to categorize the agent’s behavior as a case of doing harm or a case of allowing harm.<sup>8</sup>

### 5.1. Method

125 participants were recruited on Amazon’s Mechanical Turk and paid a compensation for taking the survey. Three participants were excluded for not completing the survey. Each participant was randomly assigned to one of the four vignettes used in experiment 3. After participants read the scenarios, we presented them with the following question:

Which of the two statements do you believe best describes the situation?

1. Peter allowed the data to be deleted.
2. Peter deleted the data.

## 5.2. Results

Whereas no differences in the percentages of the responses were found for both action conditions (63.7% deleting versus 36.7% allowing), a minor difference was found in the omission conditions. In the No Rule Violation scenario, 3.2% of the participants classified the situation as a case of deleting the data while 12.9% of the participants rated the Rule Violation scenario as a case of deleting the data. The percentages for all four conditions are shown in Figure 6. A logistic regression was performed to ascertain the effects of *Rule Violation* (whether a rule was violated or not) as well as *Action* (whether Peter performed an action or an omission) on participant's categorizations as cases of doing or allowing. While *Action* was a significant predictor of participant's responses ( $B[1] = 2.995, p < 0.001$ ), *Rule Violation* was not significant ( $B[1] = 0.325, p = 0.487$ ).

## 5.3. Discussion

Based on the results of experiment 4, we are confident in rejecting the objection that introducing rules changes people's understanding of the agent's behavior. In the No Rule Violation condition, the vast majority of the participants describe Peter's omissive behavior as an instance of allowing harm to occur, while Peter's commissive behavior was perceived by a considerable majority to be a case of doing harm. Importantly, the results demonstrate that the categorization of Peter's behavior does not change significantly when a rule is introduced.

## 6. General Discussion

Several studies claim to provide empirical evidence that people judge omissions as less blameworthy than actions, even if both lead to the same negative outcome. The results of the experiments presented in this paper challenge the generality of that claim and allow us to sketch a more specific theory of people's reasoning about actions and omissions.

We identified an important methodological problem in previous studies of the omission effect. While many researchers carefully controlled for the equivalence of intent and outcome, they failed to ensure that participants interpreted the scenarios so that a difference between actions and omission could only be accounted for by a difference in their ontological status as actions or omissions. Previous studies did not control for what rules people believe to be violated in the action and omission cases and how important these rules are considered to be. In experiment 1, we confirmed these predictions empirically by testing the strength of the relevant norms in two examples from the literature in which the omission effect has been claimed to obtain. In both cases, the norm in the action case was rated as more important than the norm in the omission case. These differences can account for why subjects attribute greater blame to actions than omissions.

We therefore decided to create scenarios that introduce rules that are equivalent for actions and omissions. If people indeed have a pervasive bias against actions and favor omissions, then we would expect omissions to be treated less harshly than actions, even if an equivalent rule was violated. However, our results demonstrate that equivalent rules seem to prevent an omission effect from obtaining when the outcome was not foreseen by the agent (experiment 2), and eliminate differences in participants' ratings of actions and omissions when the outcome was foreseen and intended (experiment 3). The ontological and causal differences between actions and omissions do not seem to be sufficient to trigger an omission effect when the norms that are violated by the actions and omissions are made explicit. The results of experiment 4 demonstrate that even when explicit rules are introduced, people continue to classify them as instances of *allowing* a certain outcome to happen. If our data is robust and our methodology sound, then the outcome of our study not only questions whether a "pure" omission effect exists, but also raises challenges for previous explanatory accounts of the omission effect.

In light of our new findings, let us assess the two explanatory accounts of the omission effect that have been put forward in the literature. The Causal Relevance Hypothesis postulated by Spranca and

colleagues (1991) and Cushman and colleagues (2012) claims that differences in blame attribution can be accounted for by differences in the perceived causal status of omissions and actions. This hypothesis would be consistent with our result that people attribute the same amount of blame to actions and omissions when a symmetric rule is violated, but only if people did not perceive a difference in the causal efficacy of actions and omissions. However, both experiment 2 and experiment 3 indicate that people continue to ascribe greater causal power to actions. It remains open for advocates of the Causal Relevance Hypothesis to categorize our scenarios as special cases in which a difference in the perceived causal status does not necessarily lead to an omission effect, but surely the burden of proof is on them to argue for that point.

In contrast, the Overgeneralization Hypothesis does not locate the origin of the omission effect in perceived causal differences, but rather explains the omission effect as the result of overgeneralization from the many cases in which omissions are clearly less blameworthy than actions. Thus, favoring omissions that lead to a bad outcome may not be independently justifiable in all cases, but is simply a fast and frugal heuristic. We are generally sympathetic to this position and believe it provides a good first approximation to explain various occurrences of heightened blame attributions for actions compared to omissions. However, the results of our studies allow us to refine this position and to speculate about the source of the overgeneralization heuristic. Our results demonstrate that people do not seem to overgeneralize in all situations in which the moral status of actions and omissions are at stake. More specifically, when equivalent rules with equal strength prohibit certain actions and omissions, people are not willing to overgeneralize and hence do not favor omissions that lead to the same bad outcome. Thus, the proposed heuristic has clear limits. But why should people feel inclined to favor omissions in cases in which malicious intent and outcome are held constant, but in which equivalent rules were not explicitly established?

A plausible answer to this question identifies the source of the overgeneralization heuristic within the asymmetrical treatment of actions and omissions in legal systems. Arguably, most codes of law emphasize prohibitions of actions, but remain silent on the status of omissions. In American criminal law, omissions or failures to act usually become punishable only if specific duties or responsibilities have been previously established (Robinson, 1984).<sup>9</sup> It is not surprising, then, that individuals who grow up in societies that stress the prohibition of harmful actions and (for whatever reason) disregard equally harmful omissions will develop a positive bias toward omissions. In other words, the way most current legal systems operate is likely to distort people's reasoning about actions and omissions.

This explanation can account for the tendency to overgeneralize in some cases but not in others. In situations in which intent and foreseeability are equal between actions and omissions and no norms are made explicit, people are likely to rely on more general moral norms and have little reason to actively suppress their bias—courts will still punish those omissions less harshly. However, in circumstances in which the norm-violating nature of omissions is made salient, this bias is blocked. With explicit rules come clearly defined punishments, and equivalent rules mean, *ceteris paribus*, equivalent punishment. Consequently, previous experiments that elicit higher blame ratings for common kinds of bad actions do not provide independent evidence that omissions, *qua* omissions, are less blameworthy.

If our suggestion is correct, people who live in countries that hand down stronger penalties for omissions will exhibit weaker omission effects. There is, indeed, some evidence supporting this conjecture. Abarbanell and Hauser (2010) report that small-scale, agrarian Mayan populations do not show an omission effect when presented with the same types of vignettes that produce strong omission effects in Western populations. They observe that those Mayan populations emphasize mutual obligations and responsibilities in order to guarantee their well-being within the community. This provides a fascinating explanation for the absence of an omission effect. "The highly intertwined nature of social relationships and their associated obligations may have reduced the perceived moral distinction between actions and omissions" (p. 220). While this study provides some initial support for our claim, further cross-cultural studies are needed to shed more light on this phenomenon. Another way to examine the relationship between people's moral evaluations of actions and omissions on the one hand, and their legal status on the other hand, is to test children's sensitivity to the omission effect.

Arguably, young children have not yet been strongly exposed to the legal system they live in and, hence, provide unbiased test subjects.<sup>10</sup> In fact, Powell and colleagues (2012) investigated whether 5-6 year old children, as well as 7-8 year-old children, exhibit an omission effect. In a forced-choice paradigm directly comparing actions with omissions, both groups of children judged actions to be worse than omissions when the same outcome occurred, raising doubts about the theoretical interpretation we have advanced in the preceding paragraphs. However, two things should be taken into consideration. First, when children rated the actions and omissions independently of each other, no omission effect was found in children, whereas it was found in adults. Second, it is quite likely that even 5-6 year old children have been sufficiently exposed to the legal system they live in—not, of course, in a direct manner, but more indirectly via education from their parents.

Finally, we would like to suggest some avenues for future research. First, while our results already indicate a relationship between moral intuitions and the legal system, we do not have conclusive evidence of what influences what. Cross-cultural studies can provide a fruitful resource for directly testing whether the legal system influences moral intuitions or vice-versa. If our hypothesis is correct and moral intuitions rely on the workings of the legal system, people in countries like Germany or France, in which omissions to help others in distress are subject to legal punishment, should show a smaller omission effect than, for instance, Americans. Second, it might be argued that the introduction of equivalent rules is not the only factor modified in our experiments. Not only do we introduce rules that are *equivalent* between actions and omissions, we also do so *explicitly*. Extant studies mainly rely on very clear cases of moral transgression that entail physical harms like death or injury, or immoral actions like lying or betrayal. Arguably, these researchers do not make explicit the rules that the protagonists violate because there simply is no need to explicitly mention that killing people is wrong. Thus, telling people that a certain behavior violates a norm may well impact their moral judgments, even though they already know that the relevant behavior is wrong. We attempt to empirically test this alternative explanation in follow-up studies.

## 7. Conclusion

In this paper we have examined how various factors influence our moral and causal judgments about actions and omissions. We have provided new experimental data challenging previous studies of the omission effect both methodologically and philosophically. We have empirically demonstrated that people do not consider actions more blameworthy than omissions if an equivalent rule is introduced. In cases in which actions and omissions violate an equivalent rule, the omission effect disappears. In addition, we have outlined promising research opportunities to investigate the role of the legal system in people's evaluations of omissions. While many researchers have claimed that the legal system is influenced by the omission effect, our results indicate an opposite direction of influence.

## Notes

1. In this paper we refer to it as 'omission *effect*' rather than 'omission *bias*'. We prefer to stay neutral on whether the omission effect is in fact a bias or reflects a reasonable principle that helps distinguish between different kinds of behaviour.
2. This difference is particularly striking in American law, in which omissions are punishable in a very limited set of cases.
3. While Singer makes a compelling argument in this specific case, it should be noted that Singer compares two situations in which one outcome is radically different from the other: painless death versus painful death. Many people will not be surprised that certain legal principles lose some of their force if the consequences vary as strongly between two options as in the case of Baby Doe.
4. Abarbanell and Hauser (2010) have correctly pointed out that the design of the experiments differed significantly between studies. This makes it even harder to draw any general conclusions regarding the source of the omission effect.
5. We would like to thank an anonymous reviewer for very helpful advice on this matter.

6. 11 subjects had to be excluded from the data because they either did not complete the survey or were non-native English speakers.
7. We would like to thank a reviewer for making this suggestion.
8. We used a similar approach to Cushman and colleagues (2008) and Phillips and colleagues (2015). In order to examine whether participants judged the protagonist's behaviour as an instance of doing harm or allowing harm, Cushman and colleagues asked whether it was more appropriate to say that the agent made the fetus die or allowed the fetus to die (2008, p. 286). Phillips and colleagues used similar phrasing and asked whether Dr. Bennet ended the man's life or allowed it to end.
9. Examples include the duty to care for one's children or other dependents and duties arising due to one's profession (medical personnel, policemen, etc.).
10. This objection has been raised by an anonymous reviewer.

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## References

- Abarbanell, L., & Hauser, M. (2010). Mayan morality: An exploration of permissible harms. *Cognition*, *115*, 207–224.
- Alicke, M. D. (2008). Blaming badly. *Journal of Cognition and Culture*, *8*, 179–186.
- Bennett, J. (2011). *The Act Itself (Repr)*. Oxford: Clarendon Press.
- Connolly, T., & Reb, J. (2003). Omission bias in vaccination decisions: Where's the "omission"? Where's the "bias"? *Organizational Behavior and Human Decision Processes*, *91*, 186–202.
- Cushman, F. (2013). Action, outcome, and value: A dual-system framework for morality. *Personality and Social Psychology Review*, *17*, 273–292.
- Cushman, F., Murray, D., Gordon-McKeon, S., Wharton, S., & Greene, J. (2012). Judgment before principle: Engagement of the frontoparietal control network in condemning harms of omission. *Social Cognitive and Affective Neuroscience*, *7*, 888–895.
- Cushman, F., & Young, L. (2011). Patterns of moral judgment derive from nonmoral psychological representations. *Cognitive Science*, *35*, 1052–1075.
- Cushman, F., Knobe, J., & Sinnott-Armstrong, W. (2008). Moral appraisals affect doing/allowing judgments. *Cognition*, *108*, 281–289.
- Cushman, F., Young, L., & Hauser, M. (2006). The role of conscious reasoning and intuition in moral judgment testing three principles of harm. *Psychological Science*, *17*, 1082–1089.
- Foot, P. (1985). Morality, Action, and Outcome. In T. Honderich (Ed.), *Morality and objectivity* (pp. 23–38). New York, NY: Routledge.
- Knobe, J. (2003). Intentional action and side effects in ordinary language. *Analysis*, *63*, 190–194.
- Knobe, J., & Fraser, B. (2008). Causal judgment and moral judgment: Two experiments. In W. Sinnott-Armstrong (Ed.), *Moral psychology*, Vol. 2 (pp. 441–8). Cambridge, MA: MIT Press.
- Malle, B. F., Guglielmo, S., & Monroe, A. E. (2014). A theory of blame. *Psychological Inquiry*, *25*, 147–186.
- Mandel, D., & Vartanian, O. (2007). Taboo or tragic: Effect of tradeoff type on moral choice, conflict, and confidence. *Mind and Society*, *7*, 215–226.
- Moore, M. (2010). *Causation and responsibility: An essay in law, morals, and metaphysics*. Oxford: Oxford University Press.
- Patt, A., & Zeckhauser, R. (2000). Action bias and environmental decisions. *Journal of Risk and Uncertainty*, *21*, 45–72.
- Phillips, J., Luguri, J. B., & Knobe, J. (2015). Unifying morality's influence on non-moral judgments: The relevance of alternative possibilities. *Cognition*, *145*, 30–42.

- Powell, N., Derbyshire, S., & Guttentag, R. (2012). Biases in children's and adults' moral judgments. *Journal of Experimental Child Psychology*, 113, 186–193.
- Quinn, W. (1989). Actions, intentions, and consequences: The doctrine of doing and allowing. *The Philosophical Review*, 98, 287.
- Reuter, K., Kirfel, L., van Riel, R., & Barlassina, L. (2014). The good, the bad, and the timely: How temporal order and moral judgment influence causal selection. *Frontiers in Psychology*, 5, 1–10.
- Ritov, I., & Baron, J. (1999). Protected values and omission bias. *Organizational Behaviour and Human Decision Processes*, 79, 79–94.
- Robinson, P. (1984). Criminal liability for omissions: A brief summary and critique of the law in the United States. *New York Law School Review*, 29, 101–124.
- Singer, P. (2011). *Practical ethics* (3rd ed.). Cambridge: Cambridge University Press.
- Spranca, M., Minsk, E., & Baron, J. (1991). Omission and commission in judgment and choice. *Journal of Experimental Social Psychology*, 27, 75–105.
- Vacco v. Quill, 521 U.S. 793 (1997).

## Appendix A. Preliminary study for experiment 2

In order to ensure that the rules in the scenarios used are indeed equivalent, we conducted a preliminary test in which we asked 106 people to rate the importance of the rule in the bad outcome scenarios. This was done in a manner structurally identical to experiment 1. People were randomly assigned to either the omission condition or the action condition and rated the importance of the rule on a 15-point Likert scale, '1' meaning "of little importance" and '15' meaning "of utmost importance." The preliminary test revealed that ratings of the importance of the rule were not significantly different between the action condition ( $M = 12.63$ ,  $SD = 2.39$ ) and the omission condition ( $M = 13.06$ ,  $SD = 2.55$ ),  $t(104) = 0.887$ ,  $p = 0.377$ .

## Appendix B. Preliminary study for experiment 3

138 participants were randomly assigned to one of the four scenarios from experiment 3. The preliminary test of the strength of norms demonstrated that, while in the No Rule scenarios the norms were rated substantially higher in the action condition ( $M = 12.72$ ,  $SD = 2.77$ ) than in the omission condition ( $M = 10.87$ ,  $SD = 3.99$ ), in the Rule Violation scenarios, norms were rated as only marginally more important in the action condition ( $M = 13.14$ ,  $SD = 2.83$ ) than in the omission condition ( $M = 12.75$ ,  $SD = 3.35$ ). We conducted a  $2 \times 2$  ANOVA yielding both significant main effects for *Action/Omission* ( $F(1,134) = 4.08$ ,  $p = 0.045$ ) and *No Rule/Rule* ( $F(1,134) = 4.29$ ,  $p = 0.040$ ), but no significant interaction  $F(1,134) = 1.74$ ,  $p = 0.190$ .