Spatial Distance, Availability of Means, and Moral Obligation Judgments

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Abstract

In the present research we analyze the interrelations of spatial distance and efficaciousness in helping needy others, and we investigate how these factors affect our judgments of moral helping obligations. The main question is under which conditions the location of an agent's means of helping relative to a victim is regarded as morally relevant. We develop a new experimental design that allows us to test our hypotheses concurrently in both separate and joint evaluation modes using a constant procedure across groups. We find that spatial proximity of an agent's means to a victim increases people's sense of obligation only to the extent to which it is indicative of increased efficaciousness or personal involvement.

Keywords: moral judgment; spatial distance; means; obligation to help; joint vs. separate evaluation

Introduction

The present work explores the relationship between two pervasive moral intuitions. First, we tend to feel more strongly obligated to take care of what is going on near us rather than far from us (see Kamm, 2007). We are more affected by information about harmful incidents occurring in our vicinity than at larger distances and tend to be more inclined to help in near cases. Second, we think that we need to be at least minimally efficacious if we are to be obligated to help others (*ought-implies-can principle*, *OIC*; see Vranas, 2007). We usually think we cannot be obligated to do what we cannot achieve. Both intuitions are potentially interrelated: Being near often causes agents to become efficacious in helping a suffering victim. This raises the possibility that the intuition that nearness matters can be reduced to a concrete manifestation of the OIC principle. Near agents may feel more strongly obligated to help not because they are near, but because they perceive themselves to be more efficacious as a consequence of being near. Alternatively, spatial distance might make a difference even at constant levels of efficaciousness (Kamm, 2007).

Nagel and Waldmann (2013) tested this question experimentally. In their Experiment 4, they presented subjects with a case vignette in which a victim was about to be robbed by a thief in a public place. Two agents were standing on the same place, one right next to the victim and the other on the opposite side of the place. Both realized the threat to the victim, and both could do something to prevent the robbery. In one condition, they could walk over to the victim and warn him. Here, the near agent was more efficacious than the far one as the agents needed to traverse the distance in order to be helpful. Spatial proximity caused increased efficaciousness. In the other condition, both agents could send a text message via cell phone in order to

warn the victim. This made both agents equally efficacious, regardless of their distance. It was shown that people judged the near agent to be more obligated than the far one only in the first but not in the second condition. This finding indicates that the effect of the first condition is mediated via efficaciousness considerations. At constant levels of efficaciousness, distance ceases to affect moral judgments.

This conclusion seems to suggest that distance effects can be explained away by efficaciousness. However, the matter is more complicated. Kamm (2007) pointed out that focusing on the distance between agent and victim covers only one way in which distance could matter morally. In addition, agents might be more obligated to victims that are located close to the agent's *means*, even if they are personally far from both. We conceptualize means as objects with the disposition to bring about an effect intended by an agent in a particular situation.[1] Both artifacts (e.g., spoons having the disposition to stir liquids) and natural kinds (e.g., tree trunks having the disposition to support ceilings) can serve as means if an agent intends to make them manifest their relevant dispositions. In a typical helping event, an agent intends to bring about a change of state in the victim (from threatened to safe), and he might make certain objects manifest some of their dispositions to achieve this goal. Kamm's (2007) claim is that spatial proximity between such objects and the victim could cause agents to be morally obligated to let these means be used, even if the agent is personally far from both.

This interesting suggestion raises some conceptual problems that have not yet been analyzed. The concept of means is intricately related to both efficaciousness and spatial distance. First, means seem to imply at least a minimal chance of efficaciousness. Second, it seems that most objects have to be (brought) close to the victim at some point during the helping event in order to serve as means. Given these intimate interrelations, how can we separate the claim that nearness of means matters morally from the claim that efficaciousness matters? In what follows, we will offer an analysis of the interplay between distance, efficaciousness, and means. Based on this analysis, we present two experiments testing whether distance between means and victims affects laypeople's moral judgments even at constant levels of efficaciousness.

Distance, Means, and Moral Obligation

If you conceive of helping events as causal chains starting at the location of the agent and ending at the location of the

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[1] We are *not* concerned with the special case of using people as means here (see Waldmann, Nagel, & Wiegmann, 2012).

victim, it becomes clear that means can serve two different functions in this process. On the one hand, *logistic means* enable swift and efficient transport of the causal quantity from agent to victim, making the agent increasingly efficacious across large distances. The cell phones (plus mediating satellite system) from the public place scenario serve this function. Other examples include railroads, electronic media, remote-controls, etc. In order to fulfill this function, such means are often extended in space which makes it difficult to determine their exact location (and thus their distance to the victim). On the other hand, *proximate means* serve the function to bring about the intended change of state at the victim end of the causal chain. Such objects usually have to be (brought) close in order to become efficacious. Examples for proximate means are headache pills, dollar bills, clothes, organs, etc., depending very much on the specific effect intended by the agent (corresponding to the specific need of the victim). In the above cell phone example, there is no physical object serving this function. Instead, the proximate means would be the text message displayed on the victim's cell phone (changing his state from careless to alert). This exemplifies that logistic vs. proximate means do not correspond to specific kinds of objects. They are differentiated by their *function* in a specific teleological context. One and the same physical object can serve both functions simultaneously, as when you pick an apple from a high-hanging branch using a rake. You make use of both the logistic disposition of the rake (being long) and of its proximate disposition (having hooks).

Based on this analysis, we can now sensibly ask whether the location of means matters morally independently of efficaciousness considerations. This question refers to proximate means because the location of logistic means often cannot be precisely specified. Proximate means, in turn, need to be (brought) close to the victim in order to be helpful—therefore, they are usually more efficacious when they are near the victim rather than far. However, the presence of efficient logistic means can prevent the detrimental effects of spatial distance on the efficaciousness of proximate means. If the presence of efficient logistic means allows a quick transport of far proximate means to the location of the victim, far proximate means can be as efficacious as near proximate means. Kamm's (2007) claim that means-victim distance matters morally would imply that the location of the proximate means would still make a difference for helping obligations under these conditions. If, by contrast, the location of means mattered only via efficaciousness considerations, the presence of sufficiently efficient logistic means should prevent the location of the proximate means from affecting moral judgments.

Experiment 1

In this experiment, we tested whether means-victim distance affects obligation judgments even if the availability of efficient logistic means makes far proximate means equally efficacious to near ones. In the real world, the efficaciousness of proximate means is almost always reduced if they have to be brought close from a distance. To resolve this confound, we manipulated distance of means (the location of a stick that can be used to rescue a drowning victim) and their efficaciousness (the success probability of the potential rescue action involving the sticks) orthogonally.

Method

Participants We obtained data from 183 British subjects (110 female, mean age 38 years) who completed our vignette-based online survey.

Design Our design is based on a classic 2 (Means-Victim Distance: near vs. far) by 2 (Efficaciousness: high vs. low) structure (see the four cells in Figure 1). The scenarios described agents standing in some distance from a canal in which a victim was drowning. They could attempt to rescue the person by running to the canal and reaching out for her with a stick. Our distance manipulation varied whether the stick was located close to the shore and thus near to the victim (near) or next to the agent and thus far from the victim (far). Agents in the far versions had to transport the stick to the shore in order to become efficacious. Our efficaciousness manipulation varied how likely the agent would succeed in his helping attempt. If the stick was located close to the victim (near), it was described as sturdy in the high efficaciousness version (cell a in Figure 1), making it likely that it would carry the victim's weight, and as brittle in the low efficaciousness version (cell b), making it unlikely. If the stick was located far from the victim (far), it was described as light in the high efficaciousness version (cell c), making it likely that it could be brought close in due time, and as very heavy in the low efficaciousness version (cell d), making it unlikely.

We did *not* simply allocate subjects randomly to one of the four cells. The reason is that we did not want to rely exclusively on a between-subjects variation of the independent variables, as it is well known that between- and within-subjects variations have profoundly different impact on the judgment process (e.g., Hsee & Zhang, 2010). In the moral domain, we think the most important difference is that the subjects' attention is artificially steered at factors that are varied within-subjects (joint evaluation mode, JE), while the same factor acts as a potentially unattended background condition if it is varied between-subjects (separate evaluation mode, SE; see Nagel & Waldmann, 2013). As moral judgments in both modes seem interesting, we investigate both concurrently in the present study with a new experimental design that is superimposed on the two-by-two structure described above.

Each scenario contained *two* agents (instead of only one), Dave and John, standing on opposite sides of the canal. Each agent represented one of two different cells from Figure 1. The agent from each cell was paired with the agent from each of the other three cells, resulting in six conditions (see arrows 1 to 6 in Figure 1). The order in which both agents were described in the scenario was counterbalanced in each of the six conditions, resulting in a total of twelve

Design		Efficaciousness	
		High	Low
Means-Victim Distance	Near	1 a 5 3	6 b 2
	Far	c 4	d
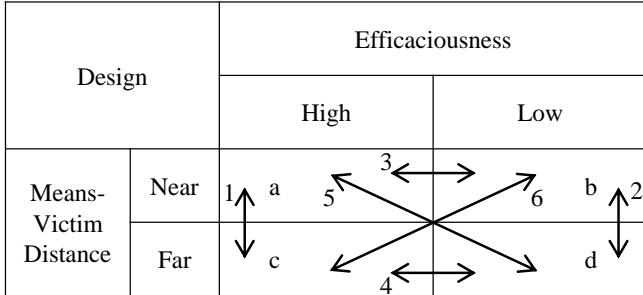
Figure 1: Illustration of the experimental design. Numbered arrows correspond to six between-subjects conditions.

scenarios to which our subjects were randomly assigned (*n*s in the six conditions ranging from 29 to 32). Below the scenario description, subjects were presented with two 6-point rating scales with which they were to indicate how much they felt both agents were obligated to help. The wording of the two questions was "How strongly do you believe Dave [John] should risk his own life in order to try to save the drowning person?" Each scale was labeled "not at all" at the left hand end (1) and "very strongly" at the right hand end (6). The order of both questions always corresponded to the order in which both agents were introduced in the scenario description.

Analysis The advantage of this procedure is that both within- and between-subjects effects of both factors (distance and efficaciousness) can be concurrently estimated from data that are elicited with a consistent procedure across groups. Each subject judges two agents from different cells, allowing for an estimation of the within-subjects effect of the factor(s) varied between these cells. For example, to estimate the *within-subjects effect of distance*, we can look at conditions 1 and 2 (see Figure 1) and compare the mean ratings for the near agent with those for the far agent within these groups. This can be formalized as in *Equation 1*:

(Near/High – Far/High) + (Near/Low – Far/Low) $\neq 0$. [1]

For the *within-subjects effect of efficaciousness*, we proceed analogously with the efficaciousness contrasts within conditions 3 and 4, that is, we test whether

(Near/High – Near/Low) + (Far/High – Far/Low) $\neq 0$. [2]

At the same time, in conditions 1 to 4, one of the two factors, distance or efficaciousness, is kept constant at one of its levels within participants. For example, both agents' means (high and low efficaciousness) in condition 3 are near, whereas both are far in condition 4. Distance is thus a constant background condition within these groups, but is varied between-subjects across the groups. *Between-subjects effects of distance* can thus be estimated by averaging across both ratings (high and low efficaciousness) for each subject in conditions 3 and 4 and by comparing the means of these averages between these conditions as in *Equation 3*:

(Near/High + Near/Low) – (Far/High + Far/Low) $\neq 0$. [3]

For the *between-subjects effect of efficaciousness*, we proceed analogously with the efficaciousness contrast between conditions 1 and 2, that is, we test whether

(Near/High + Far/High) – (Near/Low + Far/Low) $\neq 0$. [4]

Finally, conditions 5 and 6 yield additional information as to how both factors interact when they are concurrently varied in within-subjects comparisons. Condition 5 tests whether subjects make a difference between near/highly efficacious and far/lowly efficacious means, while condition 6 tests whether they make a difference between near/lowly efficacious and far/highly efficacious means. In this last condition, it can be seen if efficaciousness considerations trump distance considerations if both are in conflict.

Results

The results are summarized in Figure 2. A three-way mixed 6 (condition 1-6, between-subjects) $\times$ 2 (stimulus i vs. ii, within-subjects) $\times$ 2 (order: i-ii vs. ii-i, between-subjects) ANOVA revealed no main effect of condition, $F(5, 171) < 1$, but a main effect of stimulus, $F(1, 171) = 25.61$, $p < .01$, $\eta_p^2 = .13$, and a significant Condition $\times$ Stimulus interaction term, $F(5, 171) = 6.67$, $p < .01$, $\eta_p^2 = .16$. Order did not affect sense of obligation, $F(1, 171) = 1.01$, $p = .32$, and did not interact with condition, stimulus, or the Condition $\times$ Stimulus interaction term, all Fs < 1. We therefore collapsed the ratings from both order versions for each condition to calculate the specific contrasts from *Equations 1* to *4*.

The within-subjects contrasts reveal no effect of distance (*Equation 1*), $t(171) = -.92$, $p = .36$, but a significant effect of efficaciousness (*Equation 2*), $t(171) = 5.08$, $p < .01$, $d = .64$. When attending to the content of the varied factors, subjects declare that higher probability of success increases the obligation of an agent to endanger himself in order to help a victim, but that the location of his proximate means is irrelevant given constant efficaciousness. The between-subjects contrasts reveal no effect of either distance (*Equation 3*), $t(171) = .03$, or efficaciousness (*Equation 4*), $t(171) = 1.34$, $p = .18$. The results support the conclusion that the location of proximate means relative to a victim does not matter under either evaluation mode. The degree of efficaciousness seems to matter when people compare the obligations of several agents but does not have a measurable influence when varied as a background condition.

When both distance and efficaciousness were varied in a co-acting fashion in the within-subjects contrast (condition 5), people held agents from the near/high efficaciousness cell to be more obligated than agents from the far/low efficaciousness cell, $t(171) = 2.08$, $p < .05$, $d = .38$. When both factors were varied in a counteracting fashion (condition 6), people judged agents from the far/high efficaciousness cell to be more obligated than agents from the near/low efficaciousness cell, $t(171) = 4.36$, $p < .01$, $d = .81$. Regardless of the location of the means, subjects' moral obligation judgments are tracked by efficaciousness.

Discussion

The findings of Experiment 1 suggest that means-victim proximity does not matter morally at constant levels of efficaciousness. Near proximate means only obligate if their nearness implies increased efficaciousness. The fact that efficaciousness exhibited no significant between-subjects effect seems somewhat surprising. Previous research has shown that variations in scope (rather than in quality) are hard to evaluate in SE mode (Hsee & Zhang, 2010). Accordingly, at constant levels of high or low efficaciousness, our subjects might have merely encoded that both agents *can do something* to help which is required by the OIC principle. Lacking knowledge about a relevant range of success probabilities in SE mode, subjects might have become insensitive towards variations in degree of efficaciousness beyond this categorical precondition.

Experiment 2

In this experiment, we wanted to replicate the basic finding that means-victim distance is irrelevant at constant levels of efficaciousness with a more realistic cover story. At the same time, we wanted to demonstrate that not *all* effects of the nearness of means are mediated via efficaciousness. Nagel and Waldmann (2013) have argued that spatial proximity between *agents* and victims is not only indicative of increased efficaciousness, but usually also of increased experiential directness and shared group membership. Similarly, near *means* do usually not only indicate increased efficaciousness, but also increased personal involvement with the victim. For example, if an agent owns money on a bank account in a faraway country, he is usually more personally involved with this country than if his money was stored elsewhere. Maybe he has visited the country before

and will do so again in the future, or at least he profits from the financial system in the foreign country. If the agent feels obligated to donate this money to sick children suffering in the same foreign country (that is, near his means), this could be due to his increased personal involvement rather than due to means-victim proximity per se.

Method

We gathered data from 212 subjects from Great Britain (127 female, mean age 37 years). The experimental design was as in Experiment 1, but instead of efficaciousness we varied personal involvement (high vs. low) orthogonally to means-victim distance (near vs. far). Efficaciousness was explicitly kept constantly high across all conditions. In this way, it was assured that potential distance effects could not be mediated via efficaciousness considerations. This time, we assigned roughly twice the number of subjects to conditions 5 ($n = 50$) and 6 ($n = 52$) than to the remaining conditions (ns ranging from 26 to 31) to have roughly equal numbers of observations in the cell combinations that are compared with each other in the planned contrasts.

The subjects were again assigned randomly to one of the twelve scenario versions resulting from our design (Figure 1). Each scenario contained two British agents having the possibility to donate money (via online banking) to rescue Haitian children who are threatened by a deadly disease. Our distance manipulation varied the location of the agents' money. It was located either at a bank in Haiti (near the sick children), or at a bank in Great Britain (far from the sick children). Our involvement manipulation varied the process by which the agents' means had ended up in their locations. In the high involvement conditions, the agent had personally decided to open an account at the *Bank of Haiti* and that his money was to be constantly located in a branch of this bank
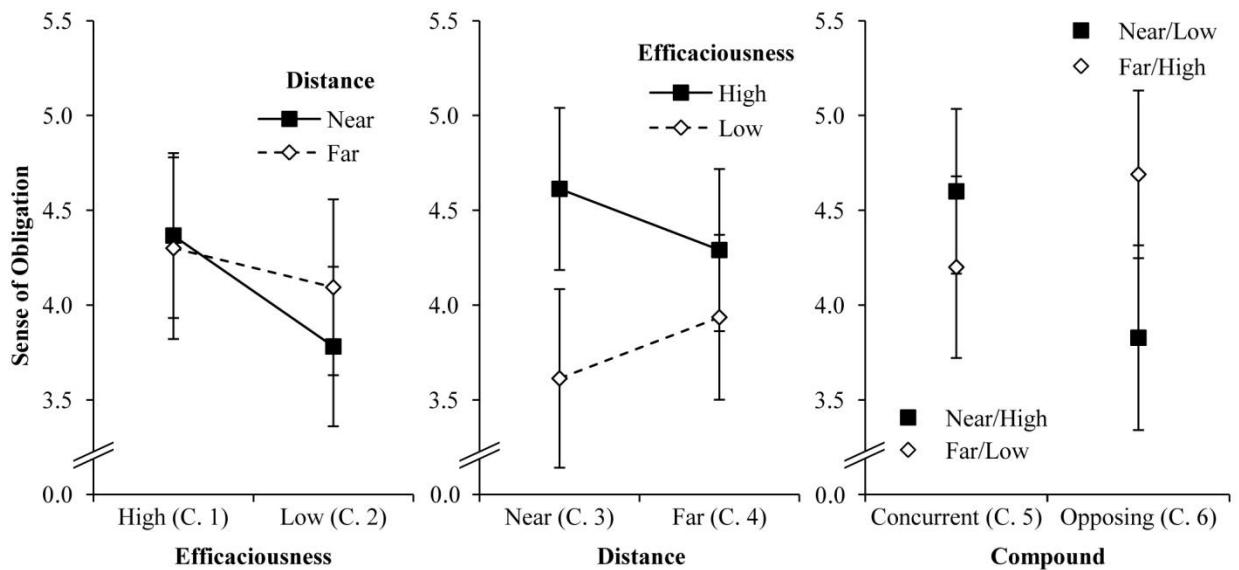
Figure 2: Results of Experiment 1. Categories on the abscissa represent between-subjects variations, while line graphs correspond to within-subjects variations (cf. Figure 1). C. = condition. Error bars indicate 95% CIs.

either in Haiti (cell a in Figure 1) or in Great Britain (cell c). In the low involvement conditions, the agent had opened a bank account at an *international bank*. Employees of this bank regularly transferred the money to the most profitable location, which momentarily happened to be in Haiti (cell b) or in Great Britain (cell d). Note that this is an utterly minimal variation of personal involvement. Neither agent had ever been to Haiti or has had any other personal connection to the country. The only difference was whether a personal decision had caused the money to end up on an account of a bank from the same state as the children.

The wording of the sense of obligation measure was as follows: "How strongly do you believe Dave [John] should transfer £ 10 from his [bank account] in [location] to the donation account?" In the different conditions, the specifications of the bank accounts and their locations were adapted according to the scenario. The scales and the rest of the procedure were identical to those in Experiment 1.

Results

The results are summarized in Figure 3. A three-way mixed 6 (condition 1-6, between-subjects) $\times$ 2 (stimulus i vs. ii, within-subjects) $\times$ 2 (order: i-ii vs. ii-i, between-subjects) ANOVA revealed a main effect of condition, $F(5, 200) = 2.29$, $p < .05$, $\eta_p^2 = .05$, and of order, $F(1, 200) = 4.65$, $p < .05$, $\eta_p^2 = .02$, while the within-subjects factor (stimulus) was not significant ($F < 1$). None of the interaction terms approached statistical significance. The order effect resulted from ratings being somewhat higher when stimulus ii was presented before stimulus i. However, since there is no systematic relationship between the underlying factors and the assignment of cells to Stimuli i and ii, and since order did not interact with condition, stimulus, or their interaction (all Fs < 1), we collapsed the ratings from both order versions for each condition to calculate the specific contrasts outlined in *Equations 1* to *4*.
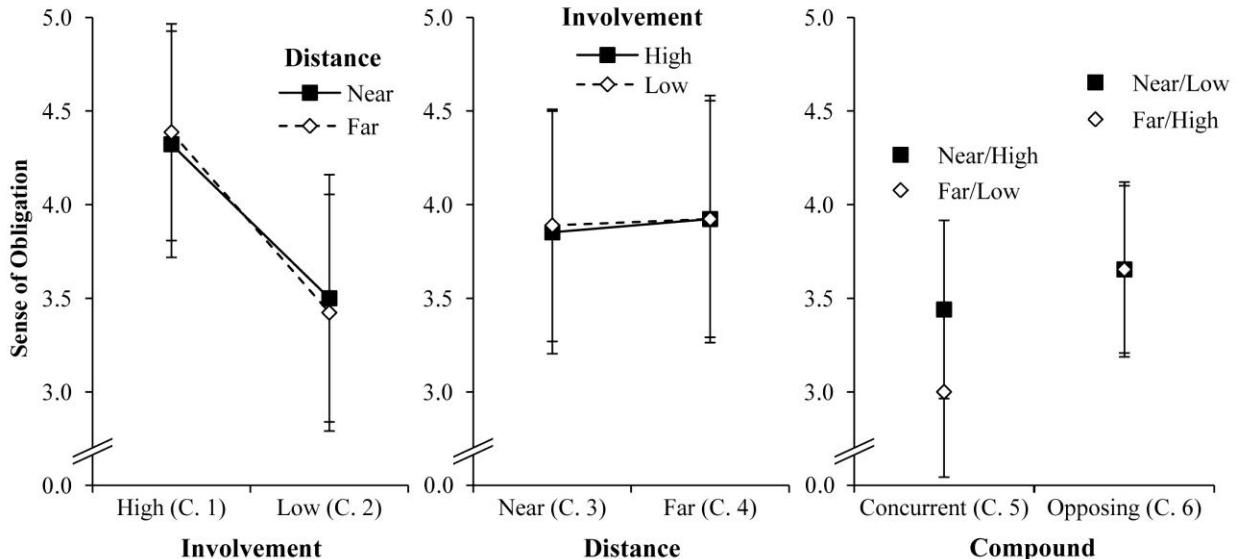
The within-subjects contrasts reveal neither effects of distance (*Equation 1*), $t(200) = .00$, nor of personal involvement (*Equation 2*), $t(200) = -.16$. When attending to the content of the varied factors, subjects declared that it does not make a difference where the agents' money is located, or how the money ended up in its location. The between-subjects contrasts reveal no effect of distance (*Equation 3*), $t(200) = -.16$, but a significant effect of personal involvement (*Equation 4*), $t(200) = 2.16$, $p < .05$, $d = .58$. This shows that our minimalistic variation of personal involvement mattered as a background condition, but was discounted when attention was directed to this factor. Distance, by contrast, did not make a difference in either evaluation mode.

Subjects differentiated between the agents in condition 5, $t(200) = 3.29$, $p < .01$, $d = .46$. When proximity and involvement coincided, as in most natural situations, subjects judged the near/highly involved agent to be more obligated than the far/lowly involved agent. However, the null effects of distance in conditions 1 to 4 indicate that this effect cannot be attributed to distance per se. The effect also vanished when both factors were varied in a counteracting fashion (condition 6, $t[200] = -.02$).

Discussion

Our findings indicate that spatial distance between an agent's proximate means (his money) and the needy victims does not affect people's sense of obligation if efficient logistic means (online banking) are available, contrary to Kamm's (2007) intuitions which stated that spatial proximity between the agent's means and the victim may increase the agent's obligations to let these means be used, even if the agent is personally far and even at constant levels of efficaciousness. At the same time, people are sensitive to the process by which an agent's proximate means ended up in its location. If nearness between means and victim is at


Figure 3: Results of Experiment 2. Categories on the abscissa represent between-subjects variations, while line graphs correspond to within-subjects variations (cf. Figure 1). C. = condition. Error bars indicate 95% CIs.

least minimally indicative of an increased personal involvement with the victims (in virtue of having decided to place one's assets in a bank based in their home country), obligation judgments are increased. However, if the nearness between means and victims results from pure coincidence (they are temporally transferred to the near location by a third party), it loses its moral impact.

The effect of personal involvement is limited to SE judgments and disappears in attentive JE mode. Our operationalization of involvement apparently was so minor that people judged it to be irrelevant when attending to it, and yet, it was sufficient to affect their judgments as a background condition. Stronger variations in involvement (e.g., previous visits to Haiti) can of course be expected to be honored in JE mode as well.

General Discussion

Previous research suggests that distance between agent and victim is irrelevant for laypeople's judgments of helping obligations (Nagel & Waldmann, 2013). The present findings extend this conclusion to the more complicated spatial relation between an agent's means and a needy victim, contrary to Kamm (2007) who argued that means of helping that are located spatially close to the victim might increase the agent's obligation to let these means be used at personal costs. In the presence of sufficiently efficient logistic means (making far proximate means efficacious by allowing them to be brought close swiftly), the distance between an agent's proximate means and the victim becomes morally irrelevant, both in separate (SE) and joint evaluation (JE) modes. Means-victim proximity matters morally only when it implies other obligation-inducing factors, such as increased efficaciousness. To the extent that proximity causes efficaciousness, the intuition that we have a strong obligation to help victims near our means can be seen as a manifestation of the ought-implies-can (OIC) principle.

However, we have also seen that not all effects of means-victim proximity can be explained by the OIC principle. This is because proximity of means is usually not only indicative of increased efficaciousness, but also of increased personal involvement with the victim. In such cases, other cognitive mediators apart from efficaciousness considerations seem to do the moral work (probably emotional engagement and reasons referring to social responsibilities).

The impact of the factors associated with distance was strongly influenced by evaluation mode. Incremental differences in efficaciousness were highly important in the comparison of several agents within a single scenario (JE mode), but they did not affect obligation judgments as a constant background condition (SE mode). Minimal personal involvement, by contrast, was sufficient to increase obligation judgments in SE, but this difference was discounted in JE. These fine-grained observations underline the value of our new experimental design. It allows for a detailed picture of judgments under different evaluation modes at constant procedural conditions.

The conceptual distinction between logistic and proximate means (which is grounded in their functionally different relationship to spatial distance) does not seem to correspond to a psychologically meaningful distinction. In Experiment 1, subjects did not differentiate between means that were inefficacious due to deficits affecting their potential role as proximate means (i.e., the sticks' brittleness) vs. those that could not be brought close in time with the available logistic means (i.e., because of the sticks' heaviness). What matters morally seems to be the means' reduced efficaciousness in the given context, regardless of the causes for different degrees of efficaciousness and of whether or not these causes are related to distance.

Although the empirical findings are clear-cut, there are some limitations. Our analysis of means seems to be restricted to cases of generative causation, that is, to cases in which a causal chain involving the transmission of a causal quantity is elicited by the agent. It is left unanalyzed what role (if any) means and their location might play in cases of causation by omission (Wolff, Barbey, & Hausknecht, 2010). A related concern is that our account is mainly tailored to handle cases in which an impending physical harm threatens a victim. It is less clear how the account could deal with moral obligations related to other moral domains (see Haidt & Graham, 2007). Another special case arises when humans are being used as means. The moral implications of such cases are too far-reaching to be discussed here (see Waldmann, Nagel, & Wiegmann, 2012, for an overview). As far as obligation judgments in harm-based rescue cases are concerned, however, our findings seem to be clear: Not distance per se but features that are normally associated with distance drive our moral intuitions.

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