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Social mindfulness is normative when costs are low, but rapidly declines with increases in costs

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Abstract

As a complement to high-cost cooperation as assessed in economic games, the concept of social mindfulness focuses on low-cost acts of kindness. While social mindfulness seems quite natural, performed by many most of the time (reaching a level of 60–70 percent), what happens if such acts become more costly, and if costs become more salient? The present research replicates the prevalence of social mindfulness when costs are salient, but low. Yet we show that, with small increments in costs, the vast majority no longer exhibits social mindfulness. This holds even if we keep the outcomes for self high in comparison with the beneficiary. We conclude that the literature on social mindfulness should pay attention to cost. Clearly, if being socially mindful comes with high costs, this is not what most people are prepared to do. In contrast as long as costs are low and not salient, social mindfulness seems natural and normative.

Keywords: social mindfulness, low-cost vs. high-cost situations, opportunity cost, skill, will

1 Introduction

1.1 Research Question

Social interaction is one of the classic topics in the social and behavioral sciences. Inspired by game theory, it has been studied with a variety of social decision tasks, including the

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prisoner's dilemma game, the public goods dilemma, the trust game, and the ultimatum game, to mention only a few. These economic games emphasize tangible outcomes, often cash, features that highlight the conflict between a selfish and a socially minded action. In these paradigms, paying respect to the well-being of others has a high cost. This has been an exceptionally productive program of research, yielding key insights about the circumstances under which dyads and groups initiate and maintain cooperation, or fail in doing so (for a review see Van Lange et al., 2013). Although we often see a fair amount of cooperation with strangers, even when costs are high, it is important to note that on average people do exhibit a tendency to give more to the self than to a stranger. A case in point is the dictator game in which most participants keep most of the endowment for themselves (Engel, 2011). Likewise, in research on social value orientation which highlights tangible outcomes (i.e., points or money), people on average assign a much greater weight to outcomes for self than to outcomes for another person or to equality in outcomes (Van Lange, 1999).

Yet everyday experience teaches us that acts of kindness, thoughtfulness, or politeness are by no means rare. People care about being treated respectfully. Even more basically: they do not want to be overlooked. In everyday life, this need is routinely fulfilled. We give compliments, we comfort others in unfamiliar situations, or we leave the bigger piece of pizza for the other. Actually, being polite often not only requires will, but also skill. One must take the perspective of the other person to see how one might hurt her feelings. Why would a genuinely selfish person do that?

In this paper we argue that the seeming puzzle dissolves if one distinguishes between low-cost and high-cost situations. Even more precisely, we claim: if the perceived situation makes cost salient, and this cost is more than trivial, social mindfulness is difficult to sustain, and will often require institutional intervention. If, by contrast, the typical individual does not see the situation as one of winning or losing money (or another valuable commodity), most individuals will respect the well-being of those around them most of the time.

To substantiate our claim, we focus on a paradigmatic act of politeness. An example would be a situation where Caroline and Suzan enter a pub for a beer. The bartender Mary says that she usually has Grolsch and Miller on tap, but today she has only a single pint of Grolsch left. If Caroline wants to be polite, she'll order a Miller, so that Suzan has still something to choose from. Straight-out ordering the Grolsch without consulting Suzan first would actually take this option away. This situation has been conceptualized as social mindfulness (Van Doesum et al., 2013). In the paradigmatic task, one participant is faced with the choice between one unique and two or more redundant items. She may, for instance, choose between three green apples and one red apple. In the lab, 60–70% of all participants take the redundant item, and thereby respect the other participant's freedom of choice (Van Doesum et al., 2013).

If social mindfulness were a universal human trait, we should also find it if the definition of the situation makes it salient that leaving other a choice comes at a cost for self. This result would also be in line with the earlier finding that there is a positive correlation (albeit modest in size) between social mindfulness and social value orientation (Mischkowski et al., 2018; Van Doesum et al., 2013). Likewise, we should find social mindfulness if the situation makes it salient that other is then better off than self. If, by contrast, we do find much less social mindfulness once its absolute or relative price has been made salient, we learn to which domain this act of politeness is confined.

Past research has not addressed this issue. But there are some studies that suggest the possibility that social mindfulness is indeed cost sensitive. In a recent study, if one gives participants a choice between two red and one green apple, 63% choose a red apple, leaving the second person as much choice as they had themselves. Yet if one subtracts those participants who would have preferred the red apple anyhow, the fraction of truly socially mindful participants is down to 36% (Mischkowski et al., 2018). This finding implies that the remaining 27% were not only indifferent; choosing a red apple actually was the way to fulfil their own wishes. The choice of a red apple gave them two for the price of one: they got their preferred apple, and they appeared socially mindful. But importantly, it shows that social mindfulness is alive and well when the costs are low – hence, consistent with the conceptualization of low-cost cooperation. There is also literature testing other socially beneficial behavioral regularities in low vs. high cost environments, like warm glow, that finds a differential effect (van der Linden, 2018). Moreover, the fact that the correlations between social mindfulness and social value orientation were significant but modest in size (across studies ranging from $r = .14$ to $.40$ Mischkowski et al. (2018); Van Doesum et al. (2013, 2020)) is consistent with the view that highlighting tangible outcomes (in the assessment of social value orientation) versus less tangible outcomes (in the assessment of social mindfulness) may activate different motives related to high-cost cooperation (e.g., helpfulness) and low-cost cooperation (e.g., kindness).

To the best of our knowledge, social mindfulness has not been tested in high-cost environments. But there is one study that addresses a similar issue, testing a related but different situation (Charness & Rabin, 2002). In their games, a first mover also may or may not give a second mover a choice. Yet the second mover chooses between two allocations. Hence the first mover's payoff depends on the second mover's choice, provided the first mover let her choose. That design is appropriate for testing reciprocity. We have a different research question, and want to map as closely as possible the concept of social mindfulness. We want to isolate the willingness to pay for giving others a choice. Specifically, we allow first movers to make an even higher profit when not giving the second mover a choice. Hence their decision does not have an out of pocket, but an opportunity cost. As this is what we want to study, in our design, if the first mover gives the second mover a choice, the first mover's payoff does not depend on the second mover's choice. The first mover is never exposed to strategic risk. Still the comparison with some of their games is interesting. If the highest payoff the second mover can allocate to the first mover is below the payoff the first mover achieves when depriving the second mover of choice, at most 44% of first movers give the second mover a choice. If the second mover is able to choose an allocation that is

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favorable for the first mover, at most 53% of first movers give the second mover a choice.

1.2 Design and Hypotheses

The goal of this research is to examine whether, and how strongly, social mindfulness diminishes when the cost for doing so becomes salient and large. This research contributes to the more general debate over the need for a conceptual distinction between low and high-cost interaction. To that end we translate social mindfulness into the formal language of economic games. We represent the concept by a sequential game, in which we make a distinction between a first mover and a second mover. To capture incentives, or variations in costs to the first mover, we vary for the first mover the cost of giving the second mover a choice.

We have four treatments. Participants are randomly assigned to treatments. Each participant participates in only one treatment. In the first three treatments, cost is monetary. In every treatment, we use the strategy method (Selten, 1967). Each participant decides in 8 conditions, characterized by a different cost of leaving the second mover a choice. In 6 conditions, the socially unmindful option is profitable: by not giving the second mover a choice, the first mover could make a higher profit. In the *equal* treatment, we hold both players' profit constant if the second person is given a choice (and if the second person chooses the more profitable option). However, in 6 conditions the first mover's payoff is higher if she makes a socially unmindful choice and deprives the second mover of the option to choose.

In this first treatment, giving the second person a choice does not only have a monetary cost. The first person also gives up her competitive advantage. In the *below* treatment we remove this potential confound. The second person's payoff is always below the first person's payoff, even if the first mover is socially mindful, and the second mover exploits the opportunity to choose to her advantage.

In everyday life, social mindfulness may also be shaped by a further feature of the situation: The person who chooses the first apple does not know which apple the second person prefers. After the fact, giving the second person a choice can turn out pointless. The *uncertain* treatment captures this element, by a move of Nature after the first participant's decision. If both individuals prefer a green over a red apple, and if the first mover is socially mindful, the second mover gains an advantage. She gets her favorite apple, while the first mover must live with his second preference. If we were to directly translate this situation into a game, we would have another confound: we would not be able to disentangle the loss in hedonic utility and the fact that the second mover is better off in comparative terms.

In the *inequity* treatment we therefore control hedonic (monetary) utility for the first mover. Whatever she chooses, she always has the same payoff; being socially mindful never reduces her own profit. But if she gives the second mover a choice, she has to accept that the second mover's profit is even higher than her own. In this treatment, the price of being socially mindful consists of accepting disadvantageous inequity.

The *equal* treatment translates into the sequential game depicted in Figure 1. At the first step, the first mover (player X) decides whether to choose action A or B. If she chooses action B, the second mover (player Y) has no choice. By design, her outcome is b_2. By contrast, if X chooses A, this leaves it for Y to choose between action B (which again gives her payoff b_2) and action A (which gives her payoff a_2). X's payoff is a_1 if she chooses A, and b_1 if she chooses B. We assume all payoffs to be ≥ 0.

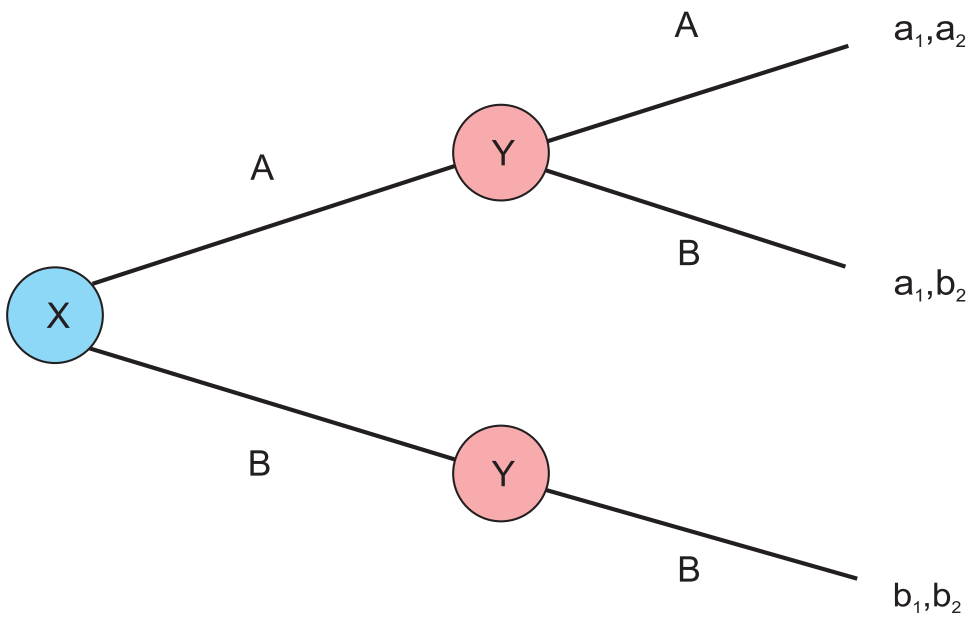

FIGURE 1: Game tree for treatments *equal*, *below* and *equity*.

If $a_1 > b_1$, this constitutes a harmony game: X chooses A, and has no disutility from letting Y decide freely (X anyhow prefers a red apple over a green one, in the example). If $b_2 > a_2$ and Y maximizes payoff, she chooses B regardless of X's choice (Y prefers red over green apples). If this is common knowledge, this again constitutes a harmony game. Y is indifferent between the choices X may make.

There is room for conflict, though, if $a_2 > b_2$ and, cumulatively, $b_1 > a_1$. Then Y would prefer X to choose A (a red apple), but this is costly for X (she prefers the green apple). If X maximizes profit (holds standard preferences, in the language of behavioral economics), she will not do that. The fact that the game is sequential gives X a first mover advantage. Using this advantage, X reduces Y's choice set to B (Y is stuck with red apples).

Now consider that X experiences disutility from making this choice. This disutility could follow from X holding social preferences (for a structured overview see Fehr & Schmidt, 2006). If Y has a choice, whatever she does, X has the same payoff. This is why there is no room for intention based preferences (Falk et al., 2008), in particular reciprocity (cf. Charness & Rabin, 2002; Rabin, 1993). But giving Y a choice could be motivated by outcome based social preferences. As soon as $b_1 - b_2 > a_1 - a_2$, giving Y a choice reduces advantageous inequity (Bolton & Ockenfels, 2000; Fehr & Schmidt, 1999; Van Lange,

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1999). And as soon as $a_1 + a_2 > b_1 + b_2$, giving Y a choice increases efficiency. X might have a social preference for efficiency.

Also note the parallel to models of guilt aversion as, for instance, Dufwenberg et al. (2011). Actually one might even interpret exploiting a first mover advantage as a source of guilt. There is also experimental evidence about leadership effects that points into this direction (Glöckner et al., 2011). The decision to give the second mover a choice can also be motivated by a self-image concern (Akerlof & Kranton, 2000; Bénabou & Tirole, 2006, 2011; Dana et al., 2007) (X feels bad if she does not give Y a choice) or by a social image concern (Andreoni & Bernheim, 2009; Bénabou & Tirole, 2006; Ellingsen & Johannesson, 2008) (X is concerned that Y will think lowly of her if she does not give her a choice).

Provided X holds either social preference, she faces a conflict between utility from being socially mindful, and utility from making a profit. We predict that participants are the less likely to give the second mover a choice the more pronounced this conflict:

> **Hypothesis**: The more profit first movers must give up to be socially mindful, the less they are.

The game directly translates into the design of the experiment, which is thus given by Figure 1. We neutralize a potential complication from inequity aversion by setting $a_2 = a_1 = 6$: if X chooses A, her payoff is the same as the (maximum) payoff of Y. X is never worse off than Y. If X chooses B, Y earns $b_2 = 3$. Using the strategy method (Selten, 1967) we vary b_1. We start with $b_1 = a_1 - 1 = 5$: if X chooses B, and thereby prevents Y from receiving a_2, she even loses one unit herself. X will not do that if she maximizes profit. But she might do that if she holds rivalistic preferences (Abbink & Sadrieh, 2009; Liebrand & McClintock, 1988; Van Lange & Van Doesum, 2015). By choosing B, she increases the payoff difference between herself and the second mover. With $b_1 = a_1$, by giving Y a choice, X does still not reduce her own payoff. But now rivalistic behavior is free of charge. In 8 equal steps of 1 unit, we increase b_1 in the interval $[5, 12]$. With $b_1 > a_1$, giving Y a choice is costly for X.

2 Study 1: Social Mindfulness as a Sequential Game

2.1 Method

The experiment was run in the Hamburg EconLab. It was programmed in zTree (Fischbacher, 2007). Participants were invited using hroot (Bock et al., 2014). Each person participated in only one of the four treatments (but had to make choices for all possible expressions of parameter b, i.e., for all within subject conditions). In total, 60 students of various majors participated in the experiment. Participants on average earned €14.76 ($15.61 on the first day of the experiment). First movers (€17.03) earned considerably more than second movers (€12.48).

Our main measure is the choice first movers make. Participants had to answer two control questions, to make sure they had understood the game. They were only allowed to continue with the experiment once they had answered both questions correctly.[1] From both participants, we elicited beliefs about the mean choices of first movers.[2] For analysis, we focus on the beliefs of second movers, as they inform us whether second movers expect to be given a choice. We further measured social value orientation, using the standard ring measure (Liebrand & McClintock, 1988). We finally gave participants the same battery of non-incentivized tests that have been used in Van Doesum et al. (2013), i.e., self-control (Tangney et al., 2004), dispositional trust (Van Lange et al., 2014), emphatic concern and perspective taking (Davis, 1983), the HEXACO personality inventory (Lee & Ashton, 2004), need to belong (Leary et al., 2013), and mindfulness attention and awareness (Brown & Ryan, 2003). In the vignette studies that started this literature, all of these measures predicted whether participants were socially mindful or not.

2.2 Results

Figure 2 summarizes results from the *equal* treatment.[3] If being socially mindful and maximizing profit coincide, 27 of 30 (i.e. descriptively 90%) first movers give the second mover a choice (this is significantly more than 70%, one-sided binomial test, N = 30, p = .009).[4] This is worth noting since the design makes it cheap to reduce the second mover's payoff. Rivalism plays no discernible role. Actually, if cost is salient, but negative (the first mover increases her own payoff as well), giving the second mover a choice is not only observed, but also expected, as demonstrated by the fact that 80% of second movers believe that they will be given a choice.

If $a_1 = b_1$, a first mover who exclusively cares about profit is indifferent between giving the second mover a choice and depriving her of this choice. In this case only 2 of 30 first movers inflict her worse outcome on the second mover. This is significantly less than 20% (one-sided binomial test, N = 30, p = .044). Hence if the situation is framed as a game in which money is at stake, but the first mover does not reduce her own profit when giving the second mover the opportunity to make more money, descriptively more than 90% of all first mover do. Again 80% of second movers also expect this to happen.

[1]Specifically we asked: "X has chosen B. Which is the payoff for Y?". "X has chosen A. Which is the payoff for Y if she also chooses A?".

[2]For details, and in particular incentivization, see the instructions in the appendix.

[3]We report the confidence interval for a two-sided binomial test assuming normality. Hence we calculate $\hat{p} \pm 1.96\sqrt{\frac{\hat{p}(1-\hat{p})}{N}}$, where $\hat{p}$ is the probability of giving Y a choice, as estimated from the data. We do not add a confidence interval for beliefs to improve the readability of the graph.

[4]In this and the remaining binomial tests, we cannot test against the null hypothesis that the effect is perfect, or perfectly absent, since this would be a test at the limit of the support. We always react by a series of binomial tests with increasing percentages, and report the first percentage for which the test rejects. We caution that the binomial tests do not take into account that we have multiple choices per individual. This is different for the regressions reported in Table 1, which do therefore have higher (statistical) validity.

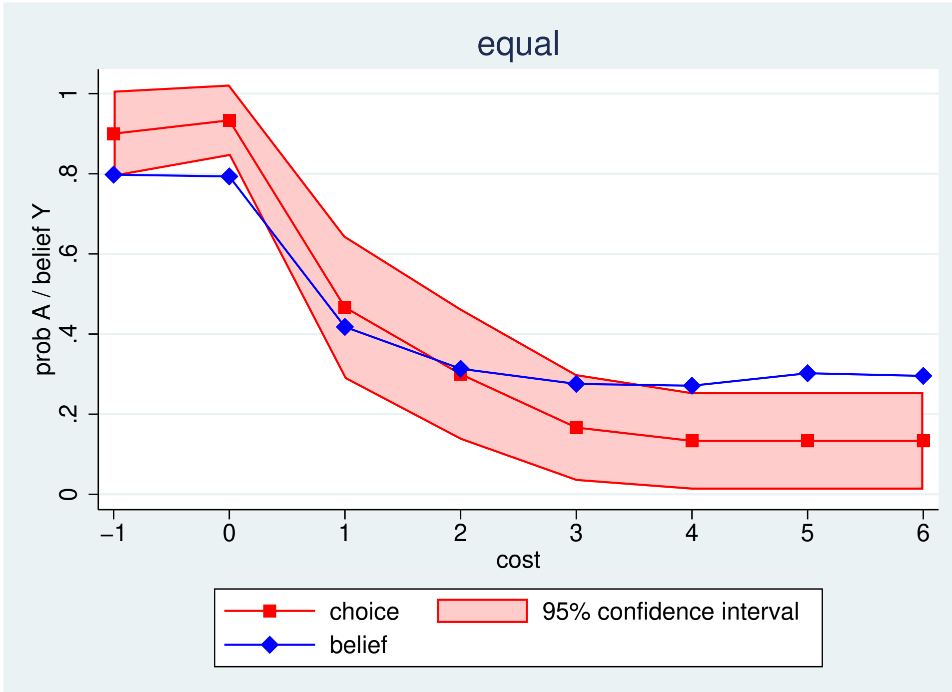

FIGURE 2: Choices of first movers and beliefs of second movers in treatment *equal*. y-axis: percentage of first movers giving the second mover a choice / of second mover beliefs.

Visibly the picture looks very different as soon as giving the second mover a choice is costly for the first mover, Figure 2. Note that we have designed the experiment such that this cost is not an out of pocket cost, but a mere opportunity cost. If the first mover deprives the second mover of a choice, she can make an even higher profit. If the cost is just 1 token, only 14 of 30 first movers leave the second mover a choice. If the cost is 2 tokens, only 9 of 30 first movers give the second mover a choice. If the opportunity cost is 3 tokens or higher, only a very small fraction of first movers leave the second mover a choice. The expectations of second movers about the choices of first movers are slightly more pessimistic if there is no conflict with selfishness, and slightly more optimistic if this conflict is pronounced (i.e. if the cost of given the second mover a choice is 3 or higher).

We had hypothesized that social mindfulness would be the lower the higher the cost. The regression of Table 1,[5] Model 1 shows that we have empirical support for this hypothesis.

[5]The regression equation is given by $y_{io} = \beta_0 + \sum_{o=-1}^{o=6} \beta_o O_{io} + \epsilon_i + \epsilon_{io}$, where i is the individual participant (the between subjects dimension), and O is the outside option in question (the within subjects dimension). We estimate a linear probability model, as coefficients then have the direct interpretation as the marginal increase in probability. Results from (random effects) logit models are comparable. They are available from the authors upon request.

As we have 8 choices per first mover, we must take this within participant dependence into account when estimating the effect of different outside options. We do so by a participant random effect. Power calculations for models with multiple error terms are conceptually difficult. Power estimates obviously and critically hinge on the scope of the error terms, and on the ratio between these errors. We have no good theoretical reasons to posit the degree of the two error terms. We therefore confine ourselves to ex post assessing the achieved

Whenever being socially mindful is costly, first movers are substantially and significantly less likely to give the second mover a choice. To illustrate: the regression predicts that 93.3% of all first movers will give the second mover a choice if this does not affect their own payoff (reference category), but that this fraction will go down to 93.3%–46.7% = 46.6% if the first mover earns 7 instead of 6 when depriving the second mover of the opportunity to earn 6, rather than merely 3.

TABLE 1: Effect of opportunity cost on probability that first mover leaves second mover a choice.

	model 1 *equal*		model 2 *below*		model 3 *uncertain*	
cost −1	−.033	(.085)	−.034	(.083)	−.067	(.072)
cost 1	$-.467^{***}$	(.085)	$-.414^{***}$	(.083)	$-.433^{***}$	(.072)
cost 2	$-.633^{***}$	(.085)	$-.483^{***}$	(.083)	−.500	(.072)
cost 3	$-.767^{***}$	(.085)	$-.517^{***}$	(.083)	$-.567^{***}$	(.072)
cost 4	$-.800^{***}$	(.085)	$-.517^{***}$	(.083)	$-.667^{***}$	(.072)
cost 5	$-.800^{***}$	(.085)	$-.586^{***}$	(.083)	$-.667^{***}$	(.072)
cost 6	$-.800^{***}$	(.085)	$-.621^{***}$	(.085)	$-.667^{***}$	(.072)
cons	$.933^{***}$	(.069)	$.828^{***}$	(.059)	$.800^{***}$	(.051)
N obs	240		232		240	
N uid	30		29		30	

Linear probability model with participant random effect. Hausman test insignificant. Reference category: cost 0. Standard errors in parenthesis. $^{***}p < .001$.

While the drop in social mindfulness is pronounced once there is a conflict with profit, a substantial minority still gives the second mover a choice, at least if the cost is small. To better characterize the way how individuals dissolve the conflict, we correlate choices in

power. For that purpose we simulate the data generating process, using the observed values of individual specific and residual error. The effect of interest is the difference, in percent, between choices when the first mover is indifferent between giving the second mover a choice and depriving her of this choice, and the remaining conditions. In the *equal* treatment, we thus compare choices when $a_1 = b_1$ with choices when $a_1 \neq b_1$. We simulate the data generating process, 1000 times. In the first step, we find that the critical range is between effects of size 20% and 30%. We repeat the simulation in this range, increasing the simulated effect size in steps of 1%. We check how many of the resulting p-values (given the error terms taken from the observed data) are larger than the conventional α-value of .05. If the simulated effect size is 25%, with the experimental data generating process, the test rejects in 188 of 1000 simulation runs. This number is always higher than 200 with smaller effect sizes, and always lower with larger effect sizes. We thus find a β-value of .188, which is less than the conventional β-value of .2, and corresponds to a power of 81.2%. The code for these simulations is available from the authors upon request. With our data generating process, and assuming that error rates in the population correspond to the error rates in the sample, we thus safely identify a difference of 25% or more in the propensity to deprive the second mover of a choice.

the main experiment with choices and responses in post-experimental tests. All but a single participant (in the role of first movers) switch at some cost from giving the second mover a choice to depriving her of the option. Two participants switch in the opposite direction (do not give the second mover a choice while cost is low, and do so with higher cost). We treat these three participants as anomalous and focus on the choices made by the remaining 27 participants. Their switching points precisely characterize how they trade profit against social mindfulness.[6]

2.3 Discussion

The regressions in Table 2 use post-experimental tests to explain at which point a participant switches. Interestingly, the measure for perspective taking is not informative. It is not a matter of skill whether the first mover gives the second mover a choice. The critical question is will. In models 2 and 3, we find a strong and highly significant positive effect of social value orientation: the more a person is socially minded (has a positive score on the measure for social value orientation), the more she is inclined to give the second mover a choice, even if this implies that she does not make an even higher profit herself. Higher self-control is also correlated with the willingness to incur a higher cost on behalf of the second mover (model 3).[7]

3 Study 2: Removing a Potential Confound with Inequity Aversion

3.1 Method

In the *equal* treatment, if the first mover gives the second mover a choice, she not only accepts a lower absolute payoff for herself. She also allows the second mover to earn more money than herself. Hence not only absolute, but also relative payoffs are affected. Inequity aversion, and in particular the aversion against disadvantageous inequity, is a rather strong

[6]Adding the data from the three participants who exhibit anomalous choices to the analysis is conceptually difficult. For the remaining participants, the price at which they stop giving the second mover a choice unequivocally informs us about their reaction function. For the remaining 3 participants we would need an entirely different metric. One of us has developed such a method for a similar problem with risk preferences elicited using the test proposed by Holt & Laury (2002). The method uses Bayesian statistics and interprets multiple switching points as an imperfect measure of this participant's reaction function. Yet even that method has no straightforward application if a participant switches into the opposite direction (Engel & Kirchkamp, 2019). Two of the three anomalous choice vectors are of this sort. We refrain from forcing a questionable statistical procedure, and merely report the descriptives of these three participants: uid 103 B A B B B B B B; uid 105 B B B B B A A A; uid 107 B B A A A A A A. Readers interested in results if choices from these 3 first movers are not dropped from the analysis are referred to Table 1. That analysis works with the raw data, not their compression into switching points.

[7]Adding further measures does not reveal additional significant correlations. The regression with all controls is available from the authors upon request.

TABLE 2: Explanations for reaction to cost in treatment *equal*.

	model 1	model 2	model 3
perspective	.395 (.412)	−.051 (.257)	−.273 (.255)
SVO		.087*** (.012)	.093*** (.011)
self-control			.776* (.333)
cons	2.938* (1.387)	3.053* (.787)	1.509 (.982)
N	27	27	27

OLS. Dv: cost at which participant switches from giving second mover a choice to no longer doing that. Data omitted from 1 participant who switches more than once, and 2 participants who switch in the opposite direction. Standard errors in parenthesis. *** p < .001, ** p < .01, * p < .05.

motive (Blanco et al., 2011; Fehr & Schmidt, 1999). In the *below* treatment, we remove the potential confound by changing a single parameter: a_2 is 4.5, rather than 6. This change makes sure that the second mover has a lower payoff than the first even if she is given a choice and chooses the option that gives her the higher payoff. 58 students (29 first and 29 second movers) from the same subject pool participated in this study.[8] They on average earned €14.48 (€16.87 for first movers, and €12.09 for second movers).

3.2 Results and Discussion

Figure 3 looks similar to Figure 2. Again the willingness to give the second mover a choice drops from more than 80% to approximately 40% with the smallest possible cost of one, and drops further as cost increases. Comparing treatments *equal* and *below*, we learn that the critical conflict is not the one between social mindfulness and disadvantageous inequity, but the conflict with the opportunity to make a higher profit. Beliefs of second movers are a bit more optimistic. Table 1 Model 2 shows that a positive opportunity cost significantly and substantially reduces the probability that a first mover gives the second mover a choice, even if this cost is minimal.

[8] 2 invited participants did not show up.

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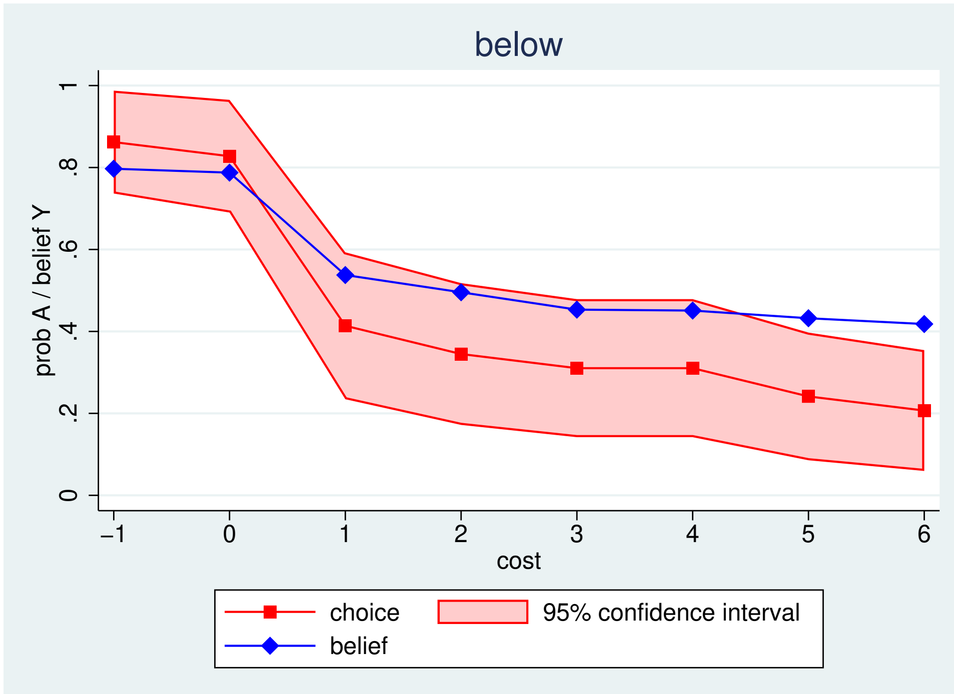

FIGURE 3: Choices of first movers and beliefs of second movers in treatment *below*
y-axis: percentage of first movers giving the second mover a choice / of second mover beliefs

4 Study 3: Uncertainty about the Preferences of the Second Mover

4.1 Method

The motivating anecdote has a further feature: the first mover does not know whether the second mover prefers green over red apples. After the fact, giving the second mover a choice can turn out pointless. A third treatment tests whether this uncertainty about the preferences of the second mover reduces the willingness of first movers to give the second mover a choice. To this end, we introduce a move of Nature into the game tree, as in Figure 4: with 50% probability, Y is indifferent between having and not having a choice. 60 students (30 first and 30 second movers) from the same subject pool participated in this study. They on average earned €14.58 (€17.02 for first movers, and €12.13 for second movers).

4.2 Results and Discussion

Visibly in Figure 5 we find the same pattern as in Figure 2 and Figure 3. As in the *equal* and *below* treatments, more than 80% of all first movers give the second mover a choice as long as this does not reduce their profit. Yet with the smallest opportunity to make an even higher profit, only less than 40% give the second mover a choice. The fraction falls further

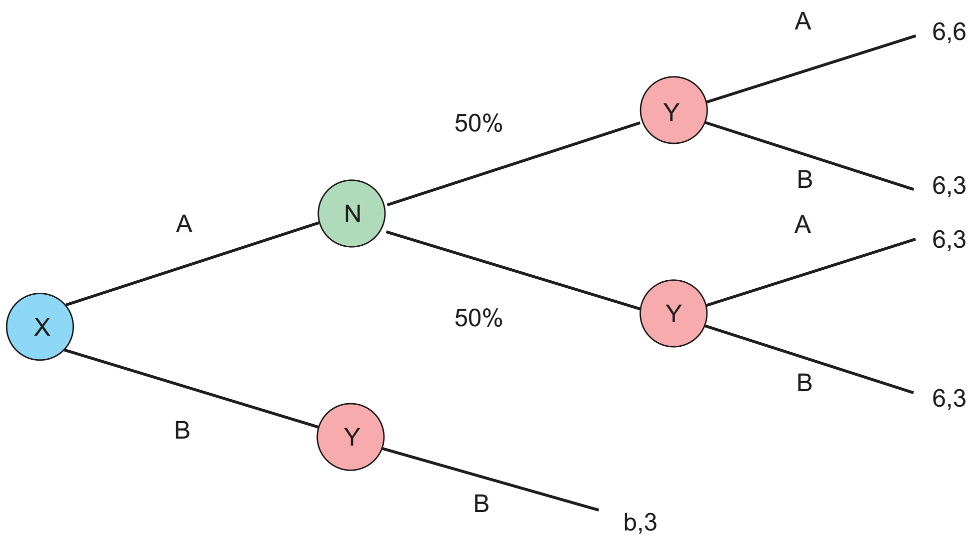

FIGURE 4: Game tree for treatment *uncertain*.

if cost increases. Second movers again have slightly more pessimistic beliefs if there is no conflict with selfishness, and they are slightly more optimistic once this conflict is present. Results are again fully supported by statistical analysis (Table 1 Model 3).

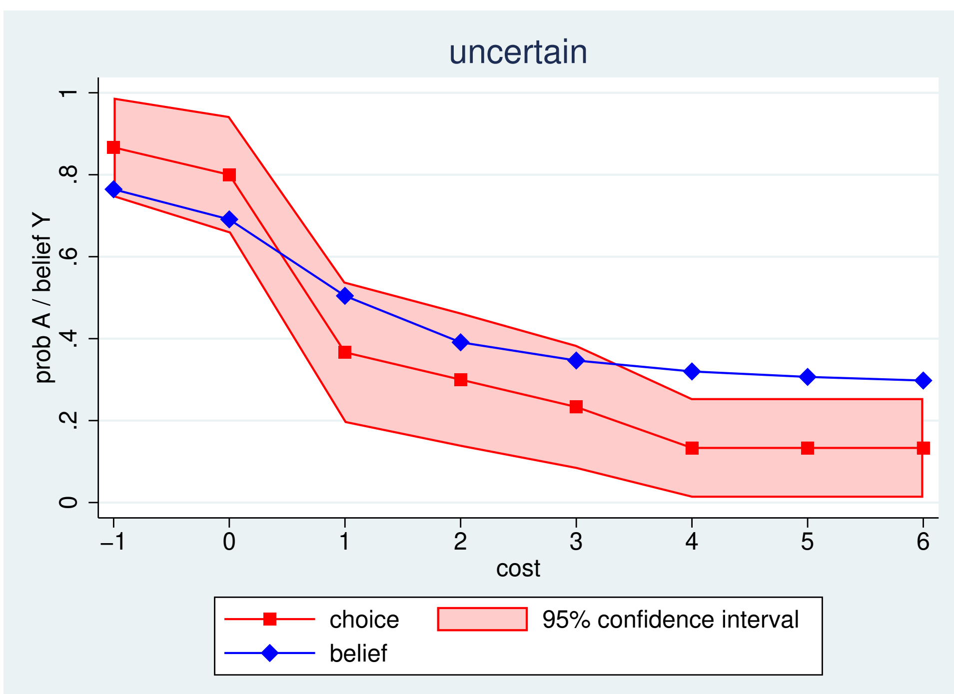

FIGURE 5: Choices of first movers and beliefs of second movers in treatment *uncertain* y-axis: percentage of first movers giving the second mover a choice / of second mover beliefs.

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5 Study 4: Social Mindfulness in Conflict with Inequity Aversion

5.1 Method

The comparison between the *equal* and the *below* treatments had already suggested that inequity aversion is not critical. Yet strictly speaking the *below* treatment shows only that inequity aversion has no additional effect. In other contexts, the aversion against disadvantageous inequity has strongly deterred individuals from socially desirable behavior (Blanco et al., 2011; Fehr & Schmidt, 1999). This is why, in the final treatment, we isolate this channel. We hold the cost of not abusing power constant at 0, i.e., we fix $b_1 = a_1 = 6$ (see the game tree in Figure 1). But now, again using the strategy method, we vary the inequity balance. We start with $a_2 = a_1 - 1 = 5 > b_2 = 3$, and increase a_2 in 8 equal steps of 1, in the interval $[5, 12]$. Hence in this treatment, there is no pecuniary cost of giving the second mover a choice. But with $a_2 > a_1$, giving the second mover a choice has a price in terms of disadvantageous inequity. 60 students (30 first and 30 second movers) from the same subject pool participated in this study. They on average earned €14.99 (€14.69 for first movers, and €15.28 for second movers). Hence in this condition, there was no payoff gap between first and second movers. Actually descriptively second movers even made a slightly higher payoff.

5.2 Results and Discussion

Visibly the reaction to a mere difference in relative payoffs is much less pronounced, Figure 6. Interestingly, in this condition, second movers are more pessimistic than the actual choices of first movers (while the opposite was true for all previous conditions). As the regression in Table 3 shows, if the disadvantageous inequity is pronounced (the payoff gap is 4 or more ECU), the probability of giving the second mover a choice is still significantly lower than in the absence of inequity (the reference category).

6 Comparison Across Conditions

We randomly assigned participants to one of the four treatments. No participant was allowed to participate in more than one treatment: the four treatments vary between participants. This makes it possible for us to compare results across treatments. Figure 7 shows that descriptively treatments have indeed induced differences. In the experiment, each first mover has made 8 choices, for each cost / inequity parameter. For this figure we compress this information and use the cost / degree of inequity at which the participant switches from giving the second mover a choice to depriving her of this choice. As this makes it easier to visualize and compare distributions, we translate histograms into density plots.

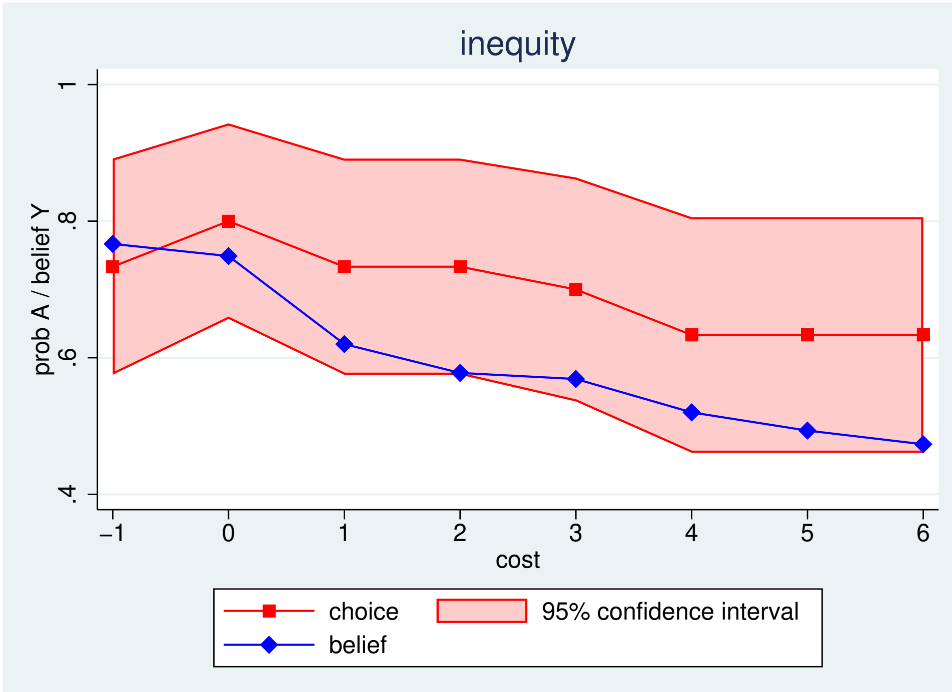

Figure 6: Choices of first movers and beliefs of second movers in treatment *inequity*. Y-axis: percentage of first movers giving the second mover a choice / of second mover beliefs

Table 3: Effect of inequity on probability that first mover leaves second mover a choice.

advantageous inequity 1	−.067 (.063)
disadvantageous inequity 1	−.067 (.063)
disadvantageous inequity 2	−.067 (.063)
disadvantageous inequity 3	−.100 (.063)
disadvantageous inequity 4	−.167** (.063)
disadvantageous inequity 5	−.167** (.063)
disadvantageous inequity 6	−.167** (.063)
cons	.800*** (.044)
N obs	240
N uid	30

Linear probability model with participant random effect. Hausman test insignificant. Reference category: same payoff for both players. Standard errors in parentheses. *** $p < .001$, ** $p < .01$, * $p < .05$.

Across treatments, we see a sharp drop in social mindfulness once this reduces the first mover's own profit. In the *equal* treatment, no[9] participant deprives the second mover of

[9] Consistent, switching to not giving a choice for some higher cost.

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a choice if this is free of charge. In the remaining treatments we find a few participants who always deprive the second mover of choice (coded as switching at -1), and some more who already switch when this does not reduce their own profit (i.e., at 0). This pattern is particularly frequent in the *uncertain* treatment. Yet as the cost of being socially mindful increases, more and more first movers switch towards the selfish choice. By contrast in the *inequity* treatment, most participants switch only at high cost, or even give the second mover a choice regardless of the (relative) cost for themselves (coded as switching at 7).

Table 4 provides a statistical test for the pronounced difference between the *inequity* and the remaining treatments.[10] Wald tests from this regression show that we do not find further treatment effects: switching points in the *equal*, *below* and *uncertain* conditions are not significantly different from each other.

We finally check whether correlations with supplementary measures that have proven significant in the *equal* treatment also matter in the remaining treatments. As Table 5 shows, this is only partly the case. In the *inequity* treatment, we find a marginal (p = .063) effect of social value orientation. We do not find an effect of self-control in any other than the *equal* treatment. Yet we do find a strong and significant negative effect of perspective taking in the *uncertain* treatment. Participants who put themselves more intensely into others' shoes switch earlier. This suggests that these participants focus on the fact that, with 50% probability, giving the second mover a choice is pointless.

TABLE 4: Differences across conditions.

equal	-2.593^{***} (.703)
below	-2.296^{***} (.703)
uncertain	-2.774^{***} (.685)
cons	6.741^{***} (.497)
N	111

OLS. Dv: cost at which participant switches from giving second mover a choice to no longer doing that. Data omitted from 8 participants who switch more than once, or in the opposite direction. Standard errors in parentheses. *** p < .001, ** p < .01, * p < .05.

[10]As the regression works with switching points, in the *equal* treatment we miss data from one first mover who has been inconsistent, and two more participants who have been switching in the opposite direction. The raw data for these participants has already been reported in footnote 7. In treatment *below* we miss data from one participant who has been inconsistent (uid 41) and one who has been switching in the opposite direction (uid 125). In the *inequity* treatment, one participant has been inconsistent (uid 69) and two have been switching in the opposite direction (uid 153 and 166). The raw data from these participants is as follows: uid 41 A A A B A A B B; uid 69 B A B B B B B B; uid 125 B B B B A A A A; uid 153 B B B A A A A A; uid 166 B A A A A A A A.

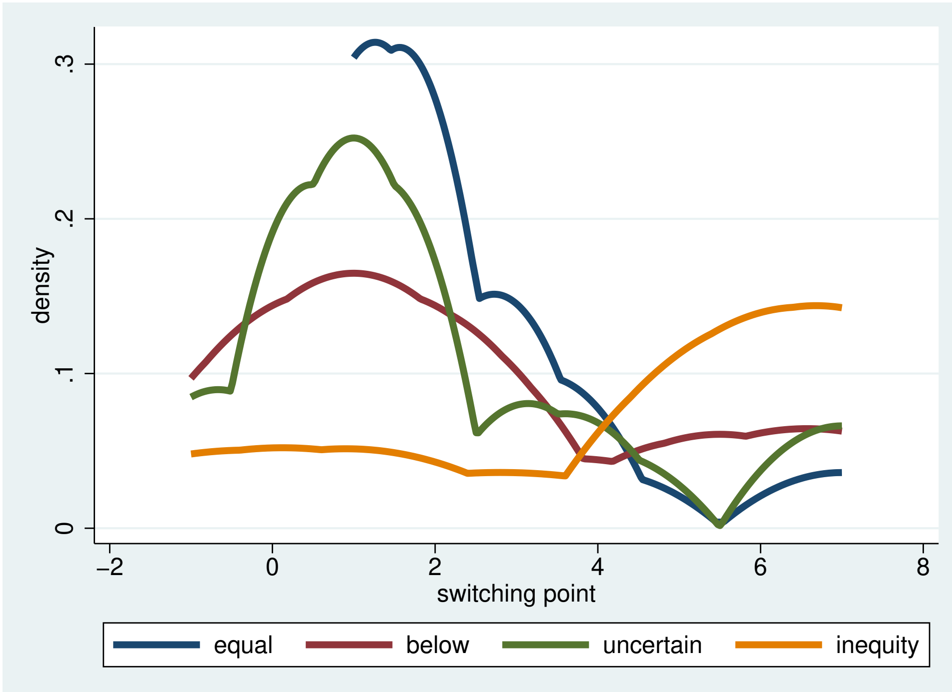

Figure 7: Comparing switching points across treatments.
kernel density plots: −1: participant never gives the second mover a choice; 7: participant always gives the second mover a choice. Data omitted from 8 participants who switch more than once, or in the opposite direction

Table 5: Explanations for reaction to cost across conditions.

	model 1 *equal*	model 2 *below*	model 3 *uncertain*	model 4 *inequity*
perspective	−.273 (.255)	−1.288 (.941)	−2.044** (.606)	−.060 (.792)
SVO	.093*** (.011)	.023 (.034)	.029 (.026)	.133 + .068
self-control	.776* (.333)	.835 (.824)	.245 (.557)	.083 (.840)
cons	1.509 (.982)	6.223+ (3.158)	9.704 (2.042)	5.533 (3.293)
N	27	27	30	27

OLS. Dv: cost at which participant switches from giving second mover a choice to no longer doing that. Data omitted from 8 participants who switch more than once or in the opposite direction. Standard errors in parentheses. *** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .1$.

7 General Discussion

The major goal of this research is to examine whether, and how strongly, social mindfulness diminishes when the cost for doing so becomes salient and large. This is theoretically

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important because it helps answer the question whether it is useful to make a conceptual distinction between low and high-cost situations. Our findings show that the critical distinction is not salience, but the actual cost. In all four treatments, it is salient that giving the second mover a choice has a price. Yet as long as this price is 0, or even negative, participants do not hesitate to be socially mindful. This changes only once they can make even more money by depriving the second mover of the opportunity to choose. Under salient and palpable cost, we observe low levels of social mindfulness even if we keep the outcomes for self relatively high. We conclude that the literature should make a stronger distinction between low-cost and high-cost forms of respecting the well-being of others. Clearly, a majority of people is not prepared to care about others if this has high cost. Yet, low-cost action, as captured by social mindfulness in its original domain, seems natural and can routinely be expected. Below, we discuss some broader theoretical and societal implications of these findings.

First, making a distinction between low and high-cost action is very useful. Because we find such a rapid (rather than gradual) decline in social mindfulness when cost is salient and positive, one might frame this as a "discontinuity effect". It seems normative to exhibit social mindfulness when this does not have a palpable cost, while the other person ("second mover") does expect and appreciate such behavior. Therefore, societies are likely to develop norms for kindness, politeness, and the like. The descriptive norm of a majority (Cialdini et al., 1990, 1991) becomes quickly associated with a prescriptive norm and everyday forms of decency: Kindness becomes normative. And this is exactly what becomes part of many cultures, where people teach their children to communicate kindness ("let others go first") and gratitude ("thank you").

Second, the normative nature of low-cost kindness may also have strong implications for the debate whether kindness is intuitive or deliberative (Bouwmeester et al., 2017; Rand et al., 2012, 2014). Often in everyday life, we may confidently expect that we will be treated with some kindness, and that others expect some kindness from us. For many acts of kindness (or politeness), most people do not even have to make a deliberate choice. Politeness is almost automatic, involving little explicit thought or calculation. This hardwiring of politeness, in the form of social mindfulness, can even be traced at the neural level (Lemmers-Jansen et al., 2018). Therefore, the present research raises the interesting hypothesis that in everyday life low-cost forms of kindness are intuitive and fairly automatic, whereas higher-costs forms of respect to the well-being of others seem somewhat less automatic and more deliberative in nature.

Third, our findings stand in an interesting relation with a recent result by Mischkowski et al. (2018). Their design discriminates between true social mindfulness, and merely giving a second mover a choice. In the standard design, both cannot be disentangled. One does not know whether the first mover gives the second mover a choice because she cares about the second mover's well-being, or simply because she anyhow prefers the one of two commodities that happens to be in more ample supply. Subtracting the latter group, they find that only about 36% of their participants truly sacrifice their own first preference for preserving the full choice set for the second mover.[11] Our design mechanically removes the potential confound. It uses money as a uniform normative currency, and needs only the (very weak) assumption that experimental participants, all else held equal, prefer more money over less. Taking their result as a benchmark, we even find more social mindfulness (around 40%) if the utility loss when giving the second mover a choice is small. Our results only look similar to theirs if the cost is substantial. Yet if participants can gain a substantial amount by depriving the second mover of a choice, few resist this temptation. One may therefore also read our results as a complement to Mischkowski et al. (2018). If the first mover prefers the item in ample supply, her opportunity cost of giving the second mover a choice is smaller (indeed 0), while it is higher is she prefers the single item.

Another limitation is unavoidable if one wants to test the effect of inequity. Inequity is defined as a difference in relative income. We manipulate it by holding X's income constant, and varying Y's income. Therefore, mechanically, the higher Y's income, the higher the joint income of both participants. Hence we simultaneously manipulate relative income and welfare. The higher Y's payoff, the more it is efficient for X to give Y a choice. It has been shown that experimental participants on average prefer a more over a less efficient outcome (Charness & Rabin, 2002; Engelmann & Strobel, 2004; Murphy et al., 2011). Hence, we cannot exclude the possibility that outcomes in this treatment are influenced by a pursuit of efficiency.

We could have held the joint income of X and Y constant. But manipulating relative income would then have required the combination of another two changes. We would have had to simultaneously increase Y's and decrease X's income. The manipulation would have been a transfer of income from X to Y. X would have been equivalent to a dictator who allocates an endowment between herself and a passive recipient. Although this manipulation would also have affected relative income, the cognitive focus would have been on the transfer. We would not have seen what we want to investigate: a setting where giving the second mover a choice does not affect the first mover's absolute income.[12]

Fourth, the findings also have implications for the generalizability from experimental research to issues in everyday life. In particular, the difference between standard approaches in experimental economics and in social psychology is not only methodological. To incentivize choices in economic games is perfect from the perspective of raising the stakes,

[11] In their study 1, 39 of 107 participants give the second mover a choice although this runs counter their own preference. If one adds those participants who would have preferred the item in ample supply in the first place, the fraction of socially mindful participants increases to 68 of 107, or 63%. The result replicates in their study 3, with 30% vs. 64% of socially mindful choices, depending on the definition. Finally in their study 4, they again replicate (with 25% vs. 60%), and additionally use an alternative counterfactual. In that design, in 24 consecutive trials, participants either choose between two items of a first and one item of a second kind, or between one item of the first and two of the second kind. If one counts only those participants as socially mindful who consistently choose the item that is available twice, their fraction is again 25%.

[12] We finally note that efficiency seeking could not explain the steep drop in choices in the remaining treatments once giving the second mover a choice reduces the first mover's (absolute) income; efficiency, defined as the joint income of both participants, decreases continuously, not stepwise.

minimizing social desirability, and making the experiment more involving. At the same time, incentivization shifts the task from a low-cost to a high-cost environment. If what one wants to understand is behavior in a context where cost is high and easily visible, an incentivized experiment is well founded. But if the social problem of interest typically materializes in a low-cost environment, the findings from incentivized experiments may well be misleading. Indeed, unlike high-cost environments, the norms in low-cost environments may make kindness the rule rather than the exception. We did, however, find a pronounced willingness to leave the second mover a choice as long as this did not lower the first mover's profit. Hence if there is a difference, it must be one in cost, not one in the social vs. economical framing of the situation. When considering only incentives, the traditional design of experiments demonstrating social mindfulness translates in the sequential game tested in our experiment. Yet it could be that the concomitant decontextualization has already put participants into a different mindset. Our design has not triggered close real-life analogues. That may have made it more difficult for first movers to activate choice routines of kindness and politeness. The importance of these situational factors is further strengthened by the fact that we do not find a correlation with perspective taking, while we do find a correlation with social value orientation. Participants seem to see the situation in the different light of a cooperation dilemma. Seeing at first glance what the other person would prefer (as monetary outcomes allow) does not activate the emphatic skill that one needs to see that one curtails the other person's freedom of choice.[13]

We close with a societal implication. Our message for policy makers is a note of caution. Even if a socially beneficial behavioral effect has been validated by a decades-long experimental literature, it may still not play out when needed to address a social ill. Such caution is particularly advisable when policy makers want to translate from experimental evidence generated in low cost situations, and in non-incentivized vignette studies in particular, to a real life setting where the (opportunity or out of pocket) cost of acting upon a behavioral regularity is pronounced. Our experiment shows that one such (otherwise well validated) regularity erodes with the introduction of even relatively small cost. A little money can turn good-natured individuals into impolite bullies. At the same time, it is important to keep in mind the distinction between low-cost and high-cost action, which in lay terms may correspond to the distinction between kindness and helpfulness, respectively. Although most forms of high-cost cooperation typically have greater impact on the self and the other, following Van Doesum et al. (2013); Dou et al. (2018), we suggest that low-cost cooperation, such as kindness, is not only very common in everyday life, but that it may also help build trust that prepares people for less mundane forms of cooperation.

[13] We are grateful to an anonymous referee for noting this.

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Appendix

Instructions

< *same for all treatments* >

Welcome to our experiment. If you read the following instructions carefully, you can earn a substantial amount of money, depending on which decisions you make. It is therefore very important that you read these instructions carefully.

The instructions you have received are intended for your own personal use only. **Speaking is forbidden during the experiment**. If you have any questions, please let us know. Disobeying this rule will lead to exclusion from the experiment and all payments.

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All decisions in this experiment, as well as the payments at the end, will remain anonymous. Please do not discuss these with any of the other participants, even after the experiment has ended.

During the experiment, we will speak of Taler rather than Euro. Your entire earnings will therefore initially be calculated in Taler. The total amount of Taler that you and the other participants earn during the experiment will be converted into Euro at the end, at the following rate:

1 Taler = 1 €

At the end of the experiment, you will receive the number of Eurocents, **in cash**, corresponding to the Taler you have earned.

In addition, prior to the experiment, you will be given a show-up fee of

4 €

The experiment consists of several parts. We will start by explaining the first part. You will be given a new set of instructions for the other parts.

Instructions for the First Part of the Experiment

This part of the experiment consists of a single period. The experiment is therefore not repeated. In this part of the experiment, you will form a pair of two with another partner who will be randomly chosen by the computer from among all experiment participants. There are **two** roles, which we refer to as X and Y. Which role you have is determined randomly at the beginning of the experiment.

< *equal* >

There are two points in time. At point 1, X decides whether to choose action A or action B. If X has chosen action A, then Y can choose, at point 2, between actions A and B. The following graph shows how the experiment proceeds.

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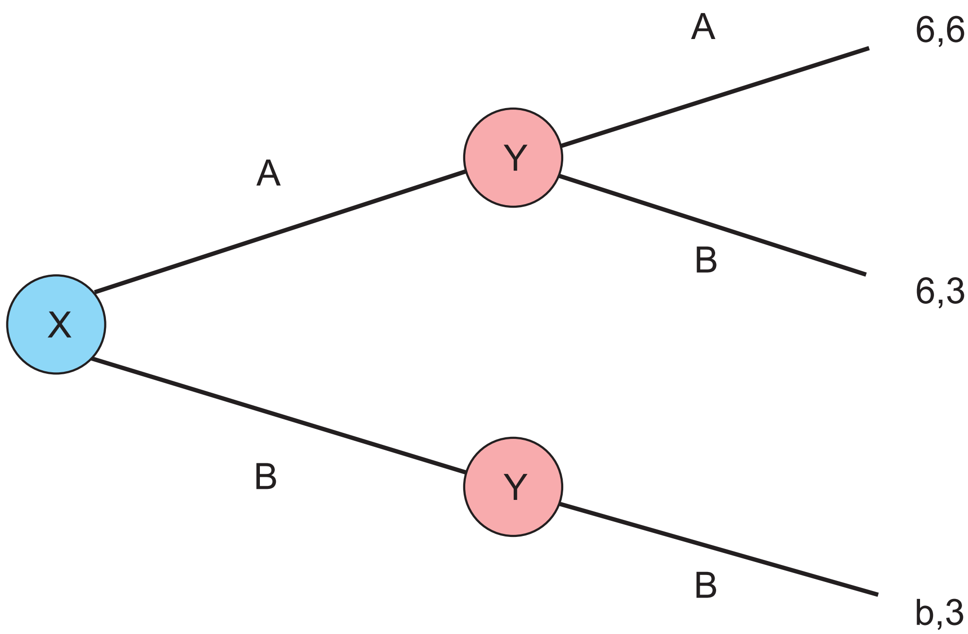
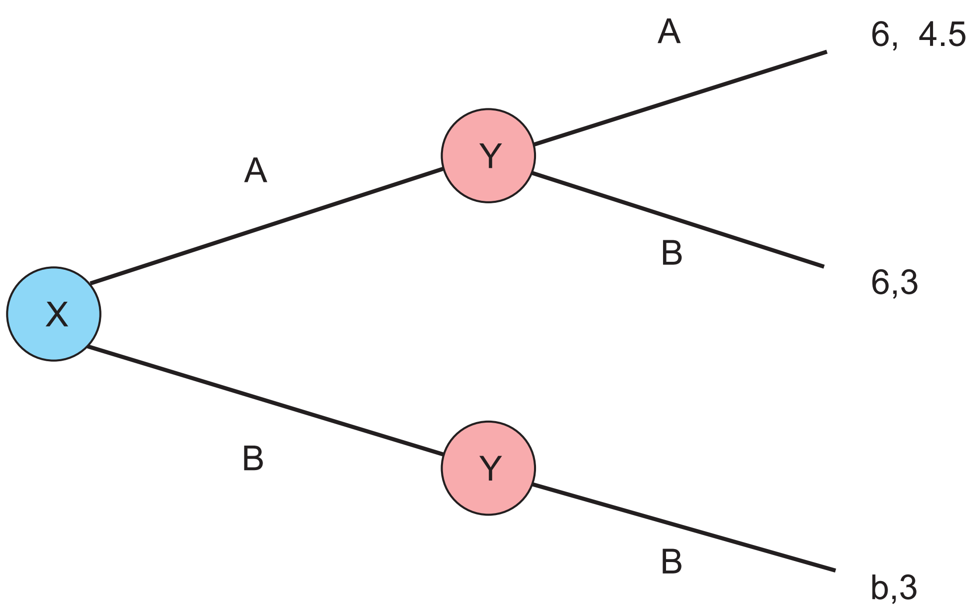


< *below* >

There are two points in time. At point 1, X decides whether to choose action A or action B. If X has chosen action A, then Y can choose, at point 2, between actions A and B. The following graph shows how the experiment proceeds.



< *uncertain* >

There are two points in time. At point 1, X decides whether to choose action A or action B. If X has chosen action A, then Y can choose, at point 2, between actions A and B. A draw decides which significance this decision of Y's will have (draw of nature, N). Y knows the

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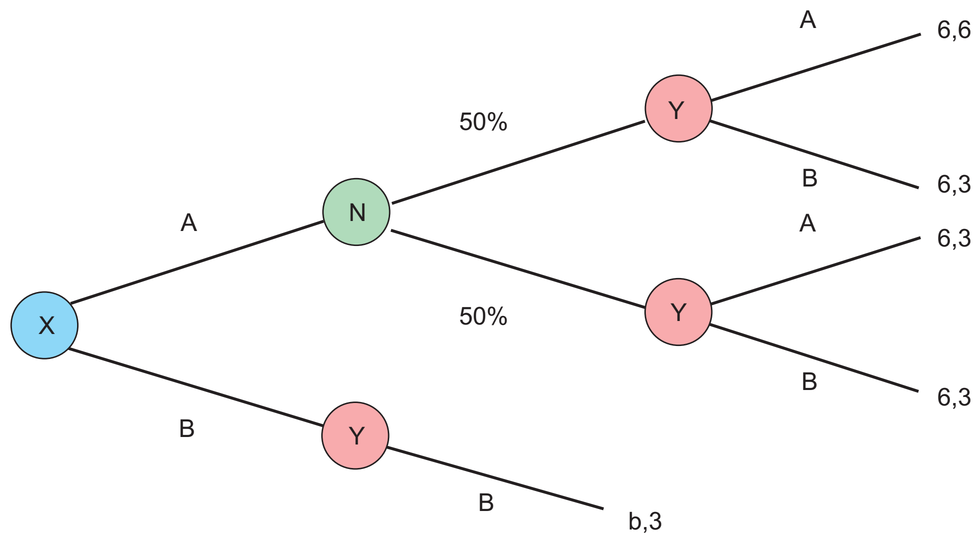
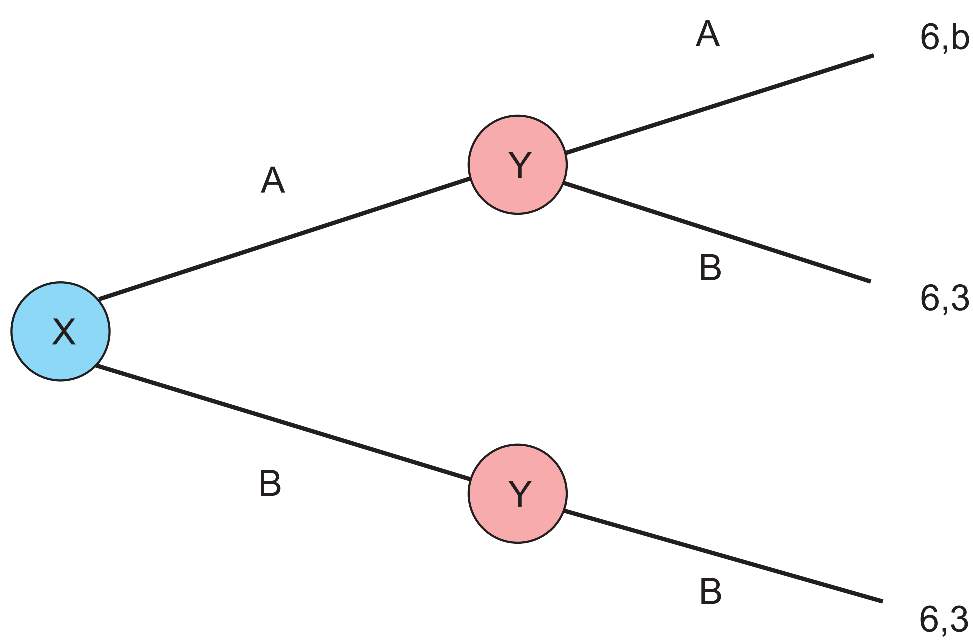
result of this draw prior to deciding. X, on the other hand, has to decide without knowing what the result of the draw is. The following graph shows how the experiment proceeds.



< *inequity* >

There are two points in time. At point 1, X decides whether to choose action A or action B. If X has chosen action A, then Y can choose, at point 2, between actions A and B. The following graph shows how the experiment proceeds.



< *equal* >

The numbers on the right-hand side of the graph denote the payments. Thus, if X chooses A and Y also chooses A, then both each receive 6 Taler. If X chooses A and Y

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chooses B, then X receives 6 Taler and Y, on the other hand, is given 3 Taler. Payment to Y is also 3 Taler if X chooses B. Whether Y has a possibility of choosing therefore depends on X's decision. If X has chosen B, then Y will always receive 3 Taler. Y thus receives the same payment, regardless of whether Y chooses B specifically or whether X does that for Y by choosing B.

X decides first. We ask participants in the role of X to fill in the following table on the screen:

Payment for X, if X chooses B	Payment for Y, if X chooses B	A	B
5	3		
6	3		
7	3		
8	3		
9	3		
10	3		
11	3		
12	3		

< *below* >

The numbers on the right-hand side of the graph denote the payments. Thus, if X chooses A and Y also chooses A, then X receives 6 Taler and Y receives 4.5 Taler. If X chooses A and Y chooses B, then X receives 6 Taler and Y, on the other hand, is given 3 Taler. Payment to Y is also 3 Taler if X chooses B. Whether Y has a possibility of choosing therefore depends on X's decision. If X has chosen B, then Y will always receive 3 Taler. Y thus receives the same payment, regardless of whether Y chooses B specifically or whether X does that for Y by choosing B.

X decides first. We ask participants in the role of X to fill in the following table on the screen:

Payment for X, if X chooses B	Payment for Y, if X chooses B	A	B
5	3		
6	3		
7	3		
8	3		
9	3		
10	3		
11	3		
12	3		

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< *uncertain* >

The numbers on the right-hand side of the graph denote the payments. Thus, if X chooses A and Y also chooses A, then both will receive 6 Taler each with a probability of 50%. However, it is just as probable for Y to receive only 3 Taler if Y chooses A. If X chooses A and Y chooses B, then X receives 6 Taler and Y, on the other hand, is given 3 Taler. Payment to Y is also 3 Taler if X chooses B. Whether Y has a possibility of choosing therefore depends on X's decision. If X has chosen B, then Y will always receive 3 Taler. Y thus receives the same payment, regardless of whether Y chooses B specifically or whether X does that for Y by choosing B.

X decides first. We ask participants in the role of X to fill in the following table on the screen:

Payment for X, if X chooses B	Payment for Y, if X chooses A and Y chooses A	A	B
5	6 or 3		
6	6 or 3		
7	6 or 3		
8	6 or 3		
9	6 or 3		
10	6 or 3		
11	6 or 3		
12	6 or 3		

< *inequity* >

The numbers on the right-hand side of the graph denote the payments. If X chooses A and Y chooses B, then X receives 6 Taler and Y, on the other hand, is given 3 Taler. Payment to Y is also 3 Taler if X chooses B. Whether Y has a possibility of choosing therefore depends on X's decision. If X has chosen B, then Y will always receive 3 Taler. Y thus receives the same payment, regardless of whether Y chooses B specifically or whether X does that for Y by choosing B. In case X chooses A and Y also chooses A, there are 8 different cases.

X decides first. We ask participants in the role of X to fill in the following table on the screen:

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Payment for X, if X chooses A	Payment for Y, if X chooses A and Y chooses A	A	B
6	5		
6	6		
6	7		
6	8		
6	9		
6	10		
6	11		
6	12		

< *equal, below* >

The computer will randomly draw one of the 8 cases (payments for X, if X chooses B). Each of the 8 cases is equally probable.

< *inequity* >

The computer will randomly draw one of the 8 cases (payments for Y, if X chooses A and Y chooses A). Each of the 8 cases is equally probable.

< *equal, below, and inequity* >

Y only finds out at the end of the experiment which case the computer has chosen and which decision X has made for this case. We ask Y beforehand to make a decision for each of the 8 possible cases, provided that X has not chosen B, but A. Y thus decides without knowing whether or not X has decided **against** B. For this purpose, we show Y the same table.

< *uncertain* >

Y only finds out at the end of the experiment which case the computer has chosen and which decision X has made for this case. We ask Y beforehand to make a decision for each of the 8 possible cases, provided that X has not chosen B, but A. Y thus decides without knowing whether or not X has decided **against** B. However, Y knows whether his or her payment will be 6 Taler or 3 Taler if A is chosen. For this purpose, we show Y the following table.

Payment for X, if X chooses B	High payment for Y, if X chooses A and Y chooses A	A	B	Low payment for Y, if X chooses A and Y chooses A	A	B
5	6			3		
6	6			3		
7	6			3		
8	6			3		
9	6			3		
10	6			3		
11	6			3		
12	6			3		

< *equal and below* >

However, Y's decision only takes effect if (1) the computer has chosen the payment in question for X, in case it chooses B, and (2) X has actually chosen A.

< *uncertain* >

However, Y's decision only takes effect if (1) the computer has chosen the payment in question for X, in case it chooses B, and (2) X has actually chosen A. A draw determines which of the two decisions comes into effect.

< *inequity* >

However, Y's decision only takes effect if (1) the computer has chosen the payment in question for Y, if it chooses A and Y chooses A, and (2) X has actually chosen A.

< *same for all treatments* >

Instructions for the Second Part of the Experiment

In the second part of the experiment, we ask you for an estimate. Half of the participants had the role of X in the first part of the experiment, while the other half had the role of Y. If you had the role of Y, we would ask you please to estimate how many participants with the role of X have chosen A for each of the 8 cases. We will show you the following table for this purpose on your screen:

< *equal and below* >

Payment for X, if X chooses B	Payment for Y, if X chooses B	Number of participants, with the role of X, who have chosen A
5	3	
6	3	
7	3	
8	3	
9	3	
10	3	
11	3	
12	3	

< *uncertain* >

Payment for X, if X chooses B	Payment for Y, if X chooses A and Y chooses A	Number of participants, with the role of X, who have chosen A
5	6 or 3	
6	6 or 3	
7	6 or 3	
8	6 or 3	
9	6 or 3	
10	6 or 3	
11	6 or 3	
12	6 or 3	

< *inequity* >

Payment for X, if X chooses A	Payment for Y, if X chooses A and Y chooses A	Number of participants, with the role of X, who have chosen A
6	5	
6	6	
6	7	
6	8	
6	9	
6	10	
6	11	
6	12	

< *same for all treatments* >

At the end of the experiment, the computer will choose one of the 8 cases. Each case has the same probability of being chosen. If you have guessed exactly the right number of role X participants who chose A, you will receive an additional 2 Taler. If your estimate is 1 more or less than the actual value, you will receive an additional 1 Taler.

If you had the role of X in the first part of the experiment, we will show you the following table:

< *equal and below* >

Payment for X, if X chooses B	Payment for Y, if X chooses B	Number of players Y, who have chosen A
5	3	
6	3	
7	3	
8	3	
9	3	
10	3	
11	3	
12	3	

< *uncertain* >

Payment for X, if X chooses B	High payment for Y, if X chooses A and Y chooses A	Number of participants with the role of Y, who have chosen A	Low payment for Y, if X chooses A and Y chooses A	Number of participants with the role of Y, who have chosen A
5	6		3	
6	6		3	
7	6		3	
8	6		3	
9	6		3	
10	6		3	
11	6		3	
12	6		3	

< *inequity* >

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Payment for X, if X chooses A	Payment for Y, if X chooses A and Y chooses A	Number of participants, with the role of Y, who have chosen A if X has chosen A
6	5	
6	6	
6	7	
6	8	
6	9	
6	10	
6	11	
6	12	

< *equal, below and inequity* >

We therefore ask you to estimate how the Y participants react to X's decision to choose A. For your payment from this part of the experiment, the same case is relevant as the one the computer has also chosen for paying off player X from this part of the experiment. If you have guessed exactly the right number of role Y participants who chose A, you will receive an additional 2 Taler. If your estimate is 1 more or less than the actual value, you will receive an additional 1 Taler.

< *uncertain* >

We therefore ask you to estimate how the Y participants react to X's decision to choose A. For your payment from this part of the experiment, the same case is relevant as the one the computer has also chosen for paying off player X from this part of the experiment, as well as – with the same probability – either a high or a low payment to Y. If you have guessed exactly the right number of role Y participants who chose A, you will receive an additional 2 Taler. If your estimate is 1 more or less than the actual value, you will receive an additional 1 Taler.