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Experimentally Induced Empathy does not Affect Monetarily Incentivized Dictator Game Behavior

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## ABSTRACT

In a monetarily incentivized Dictator Game we expected Dictators' empathy towards the Recipients to cause more pro-social allocations. Empathy was experimentally induced via a commonly used perspective taking task. Dictators ( $N = 476$ ) were instructed to split an endowment of 10€ between themselves and an unknown Recipient. They could split the money 8/2 (8€ for Dictator, 2€ for Recipient) or 5/5 (5€ each). Although the empathy manipulation successfully increased Dictators' feelings of empathy towards the Recipients, Dictators' decisions on how to split the money were not affected. We had ample statistical power (above .99) to detect a typical social psychology effect (corresponding to  $r$  around .20). Other possible determinants of generosity in the Dictator Game should be investigated.

Keywords: Empathy, Dictator Game, Generosity, Altruism, Experimental Economics

## Experimentally Induced Empathy has no Impact on Generosity in a Monetarily Incentivized Dictator Game

Behavior that benefits others at a personal cost to the behaving individual is a widespread phenomenon that continues to attract research attention in several fields, including philosophy, evolutionary biology, psychology, and economics. For example, humans invest time and energy in helping other members in their neighborhood (Van Vugt, Snyder, Tyler, & Biel, 2000), contribute to charity (Milinski, Semmann, & Krambeck, 2002), come to each other's rescue in crises and disasters (Loewenstein & Small, 2007), help strangers in spite of potential dangers (Clark, & Word, 1974), and are even willing to give their lives for their nations (Stern, 1995). That human society is abundant with examples of such pro-social behaviors is sometimes considered particularly puzzling among economists, as it challenges the orthodox assumptions of self-interest inherent to many theoretically driven "rational choice" models of human behavior (Camerer, 2003). Nevertheless, a robust body of empirical evidence based on laboratory games – which recreate social interactions in the laboratory using real monetary payoffs – shows that human behavior deviates from economic predictions of profit maximization. The game that best shows this incongruity is the Dictator Game (DG; Eckel & Grossman, 1996; Hoffman, McCabe & Smith, 1996), currently the most prominent paradigm used by economists to investigate why human behavior sometimes deviates from pure self-interest (Bolton, Brandts, & Ockenfels, 1998; Camerer, 2003; Henrich et al. 2004; Engel, 2011).

The DG is a simple, two player game. Participants are assigned either of two roles: Dictator or Recipient. The Dictator is provided a fixed sum of money which she splits between herself and the Recipient. Unlike many other games (e.g., the ultimatum game), the Recipient has no power to refuse the money – the game ends after the Dictator's decision. Giving in the DG is both costly and unconstrained by fear of reprisal or other strategic considerations (Forsythe et al., 1994; Kahneman, Knetsch, & Thaler, 1986). Despite this, typical games result in Dictators donating approximately 20 to 30 % of the endowment (Camerer, 2003; Engel, 2011).

Whereas economists have primarily sought to explain pro-social behaviors with reference to the ultimate causes that could have made such behaviors evolutionarily adaptive, psychologists have typically focused on the proximate motives that drive individual organisms to engage in those behaviors in the moment (Scott-Phillips, Dickins, & West, 2011). That is, what is it that motivates people to devote their resources to helping others? The motivation for all intentional action, including all action intended to benefit others, was long assumed to be egoistic: people were assumed to benefit others because, ultimately, to do so would benefit themselves. The prevailing theories of egoism were challenged by the empathy–altruism hypothesis (Batson & Coke, 1981), according to which empathy, typically defined as “the ability to understand and share in another’s emotional state or context” (Cohen & Strayer, 1996, p. 988), promotes pro-social behavior in ways that cannot be accounted for by self-interest.

The central assertion of the empathy–altruism hypothesis is that empathy evokes altruistic motivation with the ultimate goal of increasing another's welfare. Note that in contrast to the literature in economics, in which altruism typically refers to “costly acts that confer economic benefits on other individuals” (Fehr & Fischbacher, 2003, p. 785), psychologists typically refer to altruism as the motivation to increase another person's welfare (Batson & Powell, 2003). The results from the stream of studies that followed the empathy-altruism hypothesis generally supported the view that empathy causes pro-social behavior. The dispute pertained primarily to whether this process was driven by heightened personal distress caused by the other’s suffering (psychological egoism) or by genuine concern for the other’s well-being (psychological altruism; see Batson & Shaw, 1991).

The empathy-altruism hypothesis suggests that those with higher levels of empathy would be expected to act in a more responsive way to the perceived feelings of another (Andreoni, 1990; Andreoni & Miller, 2002; Batson, 1991; Batson, Fultz, & Schoenrade, 1987; Eisenberg & Miller, 1987). We therefore expected that increasing Dictator’s empathy towards the Recipient by means of a widely used perspective-taking exercise (Ames, Jenkins, Banaji, & Mitchell, 2008; Batson, 1991, 2011; Coke, Batson, & McDavis, 1978; Davis, Conklin, Smith, & Luce, 1996; Stürmer, Snyder, & Omoto, 2005) would lead the Dictator to make more generous allocations in the

DG. Despite the obvious, almost trite, and basically commonsense nature of this hypothesis, we found no research that would directly test it. The closest we came was a study by Batson and Moran (1999), who found it remarkable that although more than 2000 prisoner's dilemma studies had been conducted by the early 1990s, none of them had “tested the relatively straight-forward derivation from the empathy-altruism hypothesis that inducing empathy for the other person in a one-trial prisoner's dilemma will increase cooperation” (p. 911; note that what they denoted co-operation, we would subsume under the more general concept of pro-social behavior). In fact, our hypothesis is even more straightforward than the one tested by Batson and Moran (1999). Although, defection in the prisoner's dilemma is always rational from a self-interested perspective, the ideal outcome in a prisoner's dilemma is mutual co-operation, providing more complex motives for pro-social behavior than the motives present in the DG (Camerer, 2003; Lönnqvist et al., 2013). Having argued that inducing empathy for the other person in a one-trial prisoner's dilemma should introduce a new prosocial motive – altruism – and that this motive should increase cooperation, Batson and Moran (1999) found support for this hypothesis. However, this influential study (cited around 300 times) has never been replicated. The small sample size ( $N = 60$ , i.e., ten participants in each cell of a 3 (High Empathy vs. Low Empathy vs. Control) x 2 (Business Frame vs. Exchange Frame)) design may raise concerns regarding the replicability of the findings (Open Science Collaboration, 2015). One consensus reached in the current discussion on the replicability of research results in social psychology is that sample sizes need to increase.

Note that Batson and Moran (1999) sought to investigate whether empathy increases altruism. Although allocations in the DG have been described as altruistic (Benenson, Pascoe, & Radmore, 2007; Ben-Ner & Kramer, 2011; Israel, Weisel, Ebstein, & Bornstein, 2012), we reserve this term to denote the possible psychological motives underlying pro-social behavior. That is, we do not investigate whether empathy leads to altruistic motivation (cf. Batson & Moran, 1999), but whether empathy leads to more generous behavior in the DG, regardless of motives.

## Methods

### Participants and Procedure

Our study was conducted with 506 participants (mean age = 23.5 ( $SD = 4.03$ ); 59% female) from the University of xxx (Germany) majoring in different disciplines. Participants were invited via a xxx mailing list with approximately 3700 subscribers who had signed up to take part in experiments. Sixteen experimental sessions were run with 30 to 32 participants per session. In each session, only two participants were chosen to be Recipients (32 Recipients in all) because we wanted to maximize the number of Dictators given our monetary constraints, leaving us with 476 Dictators (no-one was excluded). Participants did not know that there were only two Recipients in each session. In each session, the two Recipients were randomly matched with two Dictators and paid accordingly.

Upon arrival, participants were randomly (a) seated in computer cubicles that secured anonymity, (b) assigned a role (Dictator or Recipient), (c) paired into dyads, and (d) provided with written instructions. All experimental sessions were conducted on the computer using the experimental platform z-Tree (Fischbacher, 2007). The experiment lasted for about an hour (participants completed a questionnaire after the DG). Subsequently, participants were compensated with a fixed amount of 4€ along with the amount that they earned in the DG.

In the Empathy condition ( $N = 240$ ), Dictators were asked, before making their decision, to write three sentences on a sheet of paper handed out to them about how they imagined the Recipient's feelings and how their decision would affect the Recipient. They were given five minutes to complete this widely used empathy inducing task (Coke et al., 1978; Fultz, et al., 1986; Batson et al., 1988). In the control condition ( $N = 236$ ), participants were asked to write three sentences about yesterday's weather.

### Measures

At the outset of the DG, the Dictator was provided with an amount of 10€ that was to be distributed between herself and the Recipient. The Dictator could choose the option "8/2" that yielded 8€ for herself and 2€ for the other person or she could choose the option "5/5" that yielded equal payoffs

of 5€ for both. The Recipient did not make any decision and the game was played only once. We chose the distribution 8/2 as our selfish option because the mean transfer in DGs is approximately 20 to 30 % of the endowment (Camerer, 2003; Engel, 2011), suggesting that such a division is one that many participants would feel comfortable with (although continuous DGs have become increasingly popular, the game was originally dichotomous (Kahneman et al., 1986) and we wanted to keep it that way for reasons explained below).

As a manipulation check, participants rated on a scale from 0 (*not at all*) to 6 (*very much*) to what extent they felt empathetic, sympathetic, affectionate, warm, compassionate, caring, and concerned in relation to the Recipient. The mean of the seven items was 2.062 ( $SD = 4.70$ ) and Cronbach's alpha was .93.

After the manipulation check, participants completed a short questionnaire that contained a measure of personal values and a standard set of demographic variables including sex and age. No other measures were administered. However, as we, at the outset, were interested also in the possible associations between empathy and hypocrisy, the option to flip a coin in order to determine the outcome was included as a parallel experimental manipulation that we report on only briefly. I.e., half of the participants received a coin that they could flip in order to decide between the 5/5 and 8/2 outcomes. The coin was placed on the desk of the cubicle in which the Dictators made their decision and the accompanying instructions told Dictators that they could use the coin to determine their decision (it was this aspect of the research design that required us to employ a dichotomous dictator decision). Whether or not the participants were provided with the coin did not affect their decisions ( $F < 1$  for both the main effect and for the interaction between providing a coin and the empathy manipulation). The results were also absolutely identical when those not provided with a coin were excluded from analyses.

## Results

The manipulation check showed that the manipulation of empathy was effective. Those primed with empathy scored 2.565 (95% CI: 2.390-2.740) on feelings of empathy towards the Recipient, whereas those in the control condition scored 1.546 (95% CI: 1.368-1.723;  $F(1, 473) = 64.717$ ,  $\eta^2 =$



.121 (corresponding to an effect size of  $r = .35$ ),  $p < .001$ ). All analyses were run with sex, age, and their interactions with other variables as covariates (including the above mentioned parallel manipulation with/without coin), but as the results were always virtually identical, only analyses without covariates are presented.

Among those 240 Dictators who received the empathy prime, 151 chose the 8/2 and 89 chose the 5/5 distribution. Among the 234 Dictators in the control condition, 162 chose the 8/2 and 72 the 5/5 distribution. A Chi-square test of independence was calculated comparing the frequency of the 5/5 choice among those primed with empathy and those in the control group. The difference between the two conditions (empathy vs. control) was not statistically significant ( $\chi^2(1) = 2.106$ ,  $\omega = 0.067$  (95% CI: -0.024 - 0.154),  $p = .147$ ). The effects size  $\omega = 0.067$  corresponds directly to an effect size of  $r = 0.067$ . Sensitivity analyses showed that we would have had an above 99% chance of detecting a typical social psychology effect size ( $r = .20$ ; Richard, Bond Jr., & Stokes-Zoota, 2003; Stanley, Carter, & Doucouliagos, 2018).

### Discussion

The current experiment tested the hypothesis that increasing Dictator's empathy towards the Recipient would lead the Dictator to make more generous allocations in the DG. This hypothesis was refuted by the empirical evidence. We were thus, with an eight-fold number of participants and a more straightforward experimental setup – the DG is motivationally less complex than the prisoner's dilemma – unable to reproduce the positive significant effect of empathy on pro-social behavior reported on by Batson and Moran (1999). Importantly, the experimental manipulation of empathy was successful: Dictators instructed to imagine the Recipient's feelings felt more empathy towards the Recipient. There were also no ceiling or roof effects that could have distorted the results – in all, 161 of our 476 Dictators (34%) chose the equal allocation.

Although there is no one-to-one correspondence between prosocial behavior and altruism and we did not set out to investigate whether empathy leads to altruistic motivation, our results do speak to the empathy-altruism hypothesis. Because empathy did not increase pro-social behavior, it seems reasonable to conclude that it did not cause altruistic motivation, or at least not

strong altruistic motivation. This can be considered surprising, taking into account that the empathy-altruism hypothesis has been supported by a large number of social psychology studies. One important advantage of investigating pro-social behavior in a monetarily incentivized DG is that it requires individuals to put their money where their mouth is. This is typically not the case in social psychology experiments. It seems possible that the altruistic motivation caused by empathy is so weak that even moderate monetary incentives (recall that our Dictators chose between an 8/2 and 5/5 allocation of 10€) will override it. In case the stakes had been smaller (or hypothetical), Dictators could have been more inclined to act upon their feelings of empathy. Empathy has indeed been suggested to increase only superficial minimal-cost helping (Neuberg, Cialdini, Brown, Luce, Sagarin, & Lewis, 1997). Consistent with this line of thought, the study by Batson and Moran (1999) that found a positive effect for empathy required participants to allocate lottery tickets, and the mean expected pay-off was only \$0.50. Employing at least moderate monetary incentives in future studies on the effects of empathy on pros-social behavior and altruistic motivation could be highly revealing.

Some explanations of DG behavior allude to morality. People generally wish to consider themselves moral (Aquino & Reed, 2002), and judgments about right and wrong could thus guide Dictators' behavior. Some researchers within moral psychology have viewed empathy as a source of principled moral judgment (Haidt, 2003; Nussbaum, 1996, 2001), whereas others have contended that empathy is not a good guide to moral judgments (Batson, 2011; Bloom, 2017). If an equal allocation (5/5) is judged more moral than an unfair allocation (8/2), our results suggest that feeling empathy towards someone does not always lead to more moral behavior towards that person.

Our results could be sensitive to population differences. E.g., non-student populations, could be more affected by empathy (students of at least some disciplines, such as philosophy, may be less affected by feelings when making moral judgments; Haidt, 2001). Nevertheless, we caution that moderator effects are best detected when the relation between the predictor and outcome is substantial (Chaplin, 1991). The present results show that empathy is even at best not a strong

predictor of DG giving, implying that statistical tests of interaction effects would require extremely large samples.

Sample size is more generally an issue within research on the DG. This journal, for instance, has published several articles on the determinants of pro-social behavior in the DG. The most highly cited of these studies have identified guilt (Gummerum, Hanoch, Keller, Parsons, & Hummel, 2010), social distance (Rigdon, Ishii, Watabe, & Kitayama, 2009), moral costs (Brañas-Garza, 2007), and affect (Schulz, Fischbacher, Thöni, & Utikal, 2014) as determinants of pro-social behavior in the DG. The sample sizes of these studies vary from just over 50 to just under 140. The small sample sizes have most likely resulted in many of these (and other) studies on DG behavior being underpowered. Feelings of empathy, although not a determinant of DG giving according to our results, could be expected to be strongly associated with many of the above suggested determinants of DG behavior. This raises the question of replicability of previous findings and suggests the need to further explore the determinants of DG behavior.

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