

# Self-other differences in social mindfulness: Beliefs about other people's selfishness are grounded in one's own selfish impulses ☆☆☆

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## ABSTRACT

There is a robust tendency for people to expect others to be more immoral than them, for instance, more selfish. Where do these pessimistic beliefs come from? We explore a socio-metacognitive account whereby those beliefs originate in one's own impulses to act selfishly. In two studies, we used the social mindfulness paradigm, a task that provides the initial chooser the opportunity to be socially mindful about other people or not. Results show 1) that people expect others to be more selfish than them, and 2) that this belief in the selfishness of others is related to one's own impulses to act selfishly. Thus, even when people are kind in their choices, they tend to be less generous in their beliefs about the kindness of others, and this is particularly the case when those selfless choices did not come easily to them, but rather required suppressing an impulse to act selfishly.

## Introduction

*I look at people and I see nothing worth liking. I see the worst in people.*  
(Paul Thomas Anderson, "There Will Be Blood", 2007)

People have the tendency to think of themselves as better than other people on a variety of abilities and traits (Alicke and Govorun, 2005), particularly regarding moral dimensions. People tend to think that they are kinder and more generous than the average person. For example, they think they are more likely than others to donate blood (Goethals, 1986), to give up their seat on a bus to a pregnant woman (Goethals et al., 1991), to cooperate (Epley and Dunning, 2000). Likewise, overall people think that others are more likely than them to manifest bad traits and do bad deeds, such as prejudice (Mendonça et al., 2019), lack of regard for the environment (Monin and Norton, 2003), and untrustworthiness in economic exchanges (Fetchnhauer and Dunning, 2009, 2010).

There are various accounts for such superiority beliefs and comparative judgments (Hoorens, 1993), including motivational accounts whereby people have the need to think of themselves as moral and better than others (Campbell et al., 2002), naïve cynicism (Krueger and

Gilovich, 1999), accounts based on asymmetric introspective access to the thoughts and intentions of self versus others (Pronin, 2009), as well as other non-motivated mechanisms (Chambers and Windschitl, 2004). In this paper we explore yet another account for why people think that other people are worse than them: a socio-metacognitive account whereby people project their own impulses to act selfishly/immorally onto other people.

Participants in the present studies were faced with a social dilemma where self-interest collides with the interest of other people: the social mindfulness task (Van Doesum, Van Lange, and Van Lange, 2013). In this task, participants are asked to choose from among a set of options. A critical feature of the task is that participants are informed that other people will go through the same choice task after them, and that whatever they (the participants) choose will no longer be available in the set of options available to others. The other critical feature of the task is that some options are more abundant than others, so that if participants choose them, they will still be available subsequently, when other people choose. Other options, however, are the only one of their kind, so that if participants choose them, they will no longer be available to others. Thus, one's choices determine the range of choices available

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to others, and being socially mindful implies making other-regarding choices. For example, if a person is having dessert with a friend, and the restaurant has only three portions of pie to choose from – one portion of apple pie and two portions of lemon pie – social mindfulness implies that the person chooses the lemon pie, so that her friend still has two different kinds of pie to choose from.

Research using this paradigm has examined people's choices. In the present studies, we too record participants' choice behavior, but we also measure their choice impulses: what they thought about choosing initially, when first confronted with the task. The first hypothesis that we put forward is that participants' final choices and their initial impulses might not always be aligned. In particular, even though people might end up choosing the socially mindful option (i.e., to not choose the unique option), they might nevertheless have felt an impulse to choose selfishly the socially mindless option, as its uniqueness might give it greater perceived value, or because they actually like that option (e.g., apple pie) better than the other. Thus, people might have the urge to choose selfishly, but they might override that impulse in order to act in the interest of others. However – and this is the second hypothesis – to the extent that they felt a strong impulse to choose selfishly, they might infer that other people would choose selfishly. In the present studies, participants are asked not only what option they choose (as well as what they first thought of choosing – their choice impulse), but also what they think other participants in their place would choose. We predict that in situations where people chose selflessly but first thought of choosing selfishly, they will infer that most other people's choices are selfish.

This prediction is based on research in other domains showing that people project their intuitions and impulses onto other people, even when they end up acting and thinking differently. For instance, when faced with tricky reasoning problems that trigger a faulty intuitive response, which must be overridden by effortful deliberative thinking, people who first thought of the intuitive response infer that most other people will give that response, even if they themselves did not (Mata, 2020, 2013). The same holds for moral judgment and decision-making: When faced with moral dilemmas (such as the trolley problem), people who first thought of giving a certain response believe that most other people would give that response, again even if they ended up giving a different response (Mata, 2019b). And in both cases (reasoning problems and moral dilemmas), the social projection of one's intuitive responses is predicted by the strength of those impulses (i.e., the more tempted participants felt to respond in a certain way, the more they believe that other people would do so).

This paper explores whether the same socio-metacognitive model holds for social dilemmas, and in particular social mindfulness. The socio-metacognitive model has not been applied before to make of sense what is arguably one of the most pervasive and robust phenomenon in social psychology: people's tendency to think worse of others than of themselves (Zell et al., 2020), particularly with regard to morality (Tappin and McKay, 2017). Previous work on this model explored inferences about other people's reasoning (Mata, 2019a, 2020; Mata and Almeida, 2014; Mata et al., 2013) and moral judgment (Mata, 2019b). The present research shows that the same model that accounts for social inferences in other domains can also account for self-superiority beliefs concerning morality. Typical accounts for such beliefs tend to include motives for self-enhancement and self-protection (i.e., the desire to see oneself in a positive light, or not to see oneself negatively; e.g., Brown, 1986; Alicke and Sedikides, 2009). This research suggests a different mechanism, which is independent from such motives (more about this in the General Discussion). It simply relies on decisional conflict and how it affects social inference (Mata, 2019b, 2020). In this way, this work approximates two areas of research which have been largely estranged: research on dual-process models of judgment and decision-making and research on social comparison and self-enhancement. Finally, applying this socio-metacognitive model to social mindfulness might help understand why people tend to be skep-

tical about other people's trustworthiness in economic games and social dilemmas (Fetchnhauer and Dunning, 2009, 2010). Understanding the underpinnings of such skeptical beliefs about other people's prosociality (or lack thereof) is important to inform research on how to correct them, especially because holding those beliefs about others might prompt one's own selfishness (Epley et al., 2006).

The key prediction is that people project their selfish impulses onto others, which might account for the prevailing belief that other people act less morally (or more immorally; Klein and Epley, 2016) than oneself. Study 1 tests whether there are self-other differences in beliefs about social mindfulness, whereby people believe that others would be less socially mindful than them. Study 2 tests whether that belief is related to people's impulses to act selfishly.

## Study 1

### Materials & methods

**Participants.** We conducted an a priori power analysis to detect a small effect size ( $f = 0.10$ ), with 80% of statistical power and a corresponding  $\alpha$  level of 5% for a repeated-measures analysis with 12 trials for two target conditions. The corresponding sample size was of 72 participants (Faul et al., 2007). We were able to gather data from 77 undergraduates taking part in a study wave in exchange for course credit, with a mean age of 22.59 years ( $SD = 1.57$ ), 57% female. Data were not inspected before completing collection.

**Design and procedure.** Target (self vs. other) and trial (experimental vs. control) were manipulated within-subjects whereas the target block order (self-other vs. other-self) was manipulated between-subjects to control for order effects. Thus, half of participants were first exposed to the trials concerning the self, followed by the trials concerning others, while the other half of participants were first exposed to the trials concerning others, followed by the trials concerning the self.

For the target manipulation, in the self [other] condition participants were given the following instructions (adapted from Van Doesum et al., 2013):

"The task you are about to perform involves two people: you and someone else [someone else and you]. Imagine that the other person is someone you haven't met before and will not knowingly meet again in the future (because you will not get to know or see each other in person). Also imagine that you both get to choose one of the objects we will show you in a minute. There are only a few objects left. Once taken, these will not be replaced. The computer has decided that you [the other person] always get to choose first. Please, give us your honest opinion on how you think you [someone else] would behave [(this is not necessarily how you think s/he should behave, or how you yourself would behave, but simply how you think another person would behave)]." After each instruction, 12 experimental and 12 control trials randomly appeared on the screen with the following question "What if each of you could take one of these products? What would you [do you think someone else would] take? Experimental trials were composed of three objects of the same category (e.g., three apples), two identical (e.g., two green apples) and one different (e.g., one red apple). Control trials were composed of four objects of the same category (e.g., four apples) with two pairs of identical objects (e.g., two green and two red apples; see Appendix 1). Participants had to choose only one object for each trial. At the end of the 48 trials (repeating four times the same 12 different object categories), participants reported their age and gender.

### Measures

**Social Mindfulness.** The social mindfulness paradigm is used to estimate costless prosocial intentions in situations of interdependence. We assessed social mindfulness using only the experimental trials, which exposed participants to an interdependent social decision-making task.

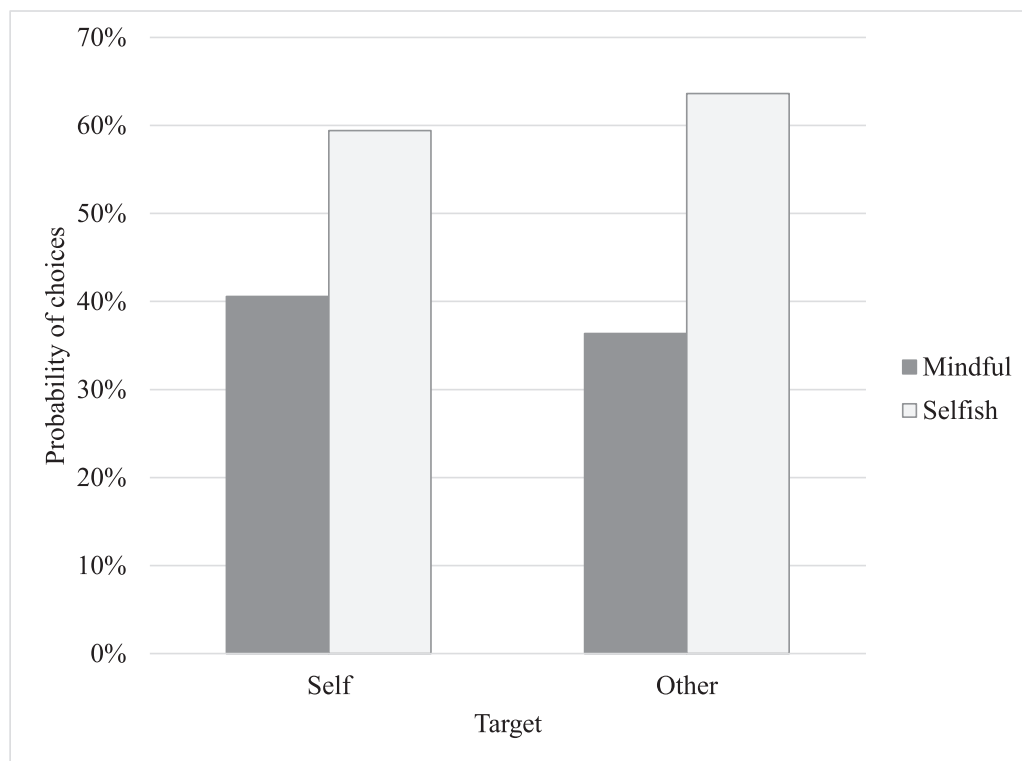


Fig. 1. Probability of choosing mindfully vs. selfishly as a function of target.

When the choice was one of the two identical objects, giving the other an option to choose between two different objects, the decision was scored as mindful (0). When the choice was the unique object, giving the other person no choice, the decision was scored as selfish (1) (Van Doseum et al., 2013). All pictures were downloaded from <https://www.socialmindfulness.nl/paradigm>.

## Results

The dataset is composed of 1848 decisions: 924 for the self, which would affect an unknown other; and 924 predictions about the decisions of an unknown other, which would affect the self. When choosing for the self, participants were relatively more selfish (59.4%) than mindful of others (40.6%). However, this gap was slightly larger in predictions about other people's choices: Others were predicted to be even more often selfish (63.6%) than mindful (36.4%; see Fig. 1).

Given the interdependent nature of the data (e.g., repeated trials per participant), we chose to run a mixed model that combines both fixed and random predictor variables. Fixed variables are typically experimental variables (e.g., treatment vs. control conditions) or co-variables that predict systematic variance of the outcome. Random predictors concern the repeated observations, and the different trials that are randomly displayed to a random sampling of units in data collection. Therefore, because Generalized Mixed Models can accommodate for mixed effects (unlike repeated measures GLM that accommodates only for fixed effects), we conducted a Generalized Linear Mixed Model analysis, with social mindfulness as the dependent variable. As fixed effects we entered the main effect of target (self vs. other) and the main effect of block (self-other vs. other-self) to control for order effects. For the random effects, we included intercepts for participants and objects to adjust for possible variation. The results yielded a main effect of target ( $b = 0.20$ ,  $SE = 0.10$ ,  $t(1845) = 1.98$ ,  $p = .047$ , 95% CI [0.002; 0.40]). The main effect of block order was not statistically significant ( $b = 0.17$ ,  $SE = 0.21$ ,  $t < 1$ ,  $p = .419$ , 95% CI [-0.24; 0.58]). The random intercept of participants  $\times$  objects

was statistically significant ( $b = 0.67$ ,  $SE = 0.14$ ,  $Z = 4.69$ ,  $p < .001$ , 95% CI [0.44; 1.02]). Thus, for the self, the odds of making a mindful decision relative to a selfish decision are estimated to be 1.22 times higher than the corresponding odds for predictions about others being mindful (vs. selfish). When people choose, they make more socially mindful decisions than they predict others would make.

## Study 2

### Materials & methods

**Participants.** Similar to Study 1, we conducted an a priori power analysis to detect a small effect size ( $f = 0.10$ ), with 80% of statistical power and a corresponding  $\alpha$  level of 5% for a repeated-measures analysis with 12 repeated trials. The corresponding minimum sample size to detect an effect was of 71 participants (Faul et al., 2007). However, we were able to collect data from 121 participants participating in a study wave in exchange for course credit, with a mean age of 23.98 years ( $SD = 4.85$ ), 52% female. Data were not inspected before completing collection.

**Design and procedure.** In the current study, participants only made decisions for the self (the measure pertaining to other people did not involve a direct choice, but rather a consensus estimate, as explained below). Participants were instructed as follows (adapted from Van Doseum et al., 2013):

"The task you are about to perform involves two people: you and someone else. Imagine that the other person is someone you haven't met before, and will not knowingly meet again in the future (because you will not get to know or see each other in person). Also, imagine that you both get to choose one of the objects we will show you in a minute. There are only a few objects left. Once taken, these will not be replaced. The computer has decided that you always get to choose first. This task involves several trials with different objects. Please, give us your honest opinion on how you think you would behave."

As in Study 1, the task offered 12 experimental and 12 control trials, randomly presented within-subjects (see [Appendix 1](#)). Although the 12 control trials were included in the task to make its goal less obvious, these were not analyzed as they had no social consequences. After each trial, participants rated three items reporting their perceived conflict when making decisions, and one item concerning inferences about the behavior of others. Lastly, they reported age and gender.

## Measures

**Conflict.** Conflict is a composite measure of the following items (adapted from [Mata, 2019b, 2020](#)): “Did you think about choosing a different item?” (from 1 – Definitely no – to 9 – Definitely yes); “Did you have a hard time trying to make up your mind when choosing the item?” (from 1 – Definitely no – to 9 – Definitely yes); and “How tempted did you feel to give another response and choose a different item from the one you chose?” (from 1 – Not at all tempted – to 9 – Very tempted). These indices were computed 12 times, one per each experimental trial, with all of them having excellent reliability indices (all  $\alpha$ s > 0.93).

**Social Inference.** Social inference was measured after each trial as follows ([Mata, 2019b, 2020](#)): “Now we ask you to estimate what other people in general would do in this situation: What percentage of other people would choose the same item that you chose?”, ranging from 0% to 100%. Only the inference items from experimental trials were analyzed.

## Results

To replicate the findings of Study 1, we started by selecting the 1452 decisions made on experimental trials. Although participants made more selfish (63.8%) than mindful (36.2%) decisions towards an unknown other, they believed that other people would be even more selfish. The predicted choices of others were categorized as selfish or mindful by examining the social inference measure in relation to the choice measure. When participants chose selfishly and inferred that more (less) than 50% of other people would choose the same item, the predicted choice of other people was categorized as selfish (mindful). When participants chose mindfully and inferred that more (less) than 50% of other people would choose the same item, the predicted choice of other people was categorized as mindful (selfish). We compared the number of selfish choices made by the self with the number of predicted selfish choices by others. A paired-samples *t*-test revealed that participants believed to make less selfish choices ( $M = 7.66$ ,  $SD = 2.55$ ) than other people would ( $M = 8.62$ ,  $SD = 2.91$ ;  $t(120) = -3.61$ ,  $MinDiff = -0.96$ ,  $SD_{MinDiff} = 2.92$ , 95% CI [-1.48; -0.43],  $p < .001$ ).

Next, we tested whether mindful (vs. selfish) choices were associated with increased perceived conflict in the experimental trials through a Linear Mixed Model analysis. Conflict was entered as the dependent variable; the main effect of choice (mindful vs. selfish) was entered as the fixed effect. For the random effects, we maintained the intercepts for participants and object to adjust for possible variation. The main effect of choice was statistically significant,  $b = 0.70$ ,  $SE = 0.10$ ,  $t(1388.73) = 6.88$ ,  $p < .001$ , 95% CI [0.50; 0.90]. The random intercept of participants  $\times$  objects was also statistically significant ( $b = 1.98$ ,  $SE = 0.29$ ,  $Z = 6.91$ ,  $p < .001$ , 95% CI [1.49; 2.63]). Simple pairwise comparisons showed that participants reported higher levels of conflict when they made mindful choices ( $M = 3.20$ ,  $SE = 0.15$ ) than when they made selfish choices ( $M = 2.50$ ,  $SE = 0.14$ ).

A second Linear Mixed Model tested whether conflict was a predictor of inferences about other people's choices. Social inference was entered as the dependent variable and conflict was entered as the predictor. Initially we entered the intercepts for participants and objects to adjust for possible variation. However, because the random intercept of participants  $\times$  objects was not statistically significant ( $b = 0.05$ ,  $SE = 0.19$ ,  $Z = 0.26$ ,  $p = .798$ , 95% CI [0.00002; 106.42]), we modeled the data adjusting only for participants' random intercept ( $b = 177.23$ ,  $SE = 26.04$ ,  $Z = 6.81$ ,  $p < .001$ , 95% CI [132.89; 236.37]). As predicted,

conflict negatively predicted social inference ( $b = -3.09$ ,  $SE = 0.25$ ,  $t(1448.88) = -12.18$ ,  $p < .001$ , 95% CI [-3.58; -2.59]). The greater the conflict experienced after each choice, the less participants projected their choices onto others (i.e., the less they believed that other people would choose as they did).

Lastly, we tested for a mediation analysis, using mediation package for R (Tingley, Yamamoto, Hirose, Keele, & Imai, 2014) that estimates mediation effects for a variety of data types, including multilevel data. Choice was entered as an independent variable, conflict as the mediator, and social inference as the dependent variable. Data were grouped by participant. This analysis yielded a statistically significant average causal mediation effect ( $b = -1.66$ ,  $p < .001$ , 95% CI [-2.27; -1.16]): When participants were more mindful (vs. selfish) in their choices, they experienced greater conflict, which consequently made them project less when inferring how others would choose.

## General discussion

Study 1 showed that the belief in one's moral superiority, which people show in so many other domains, also holds for social mindfulness: Participants believed that other participants would be less mindful of other people's interest than they were. Study 2 replicated this result and it further showed that this belief in the selfishness of others correlates with one's own impulses to act selfishly. Participants whose choices were mindful of other people's interests nevertheless felt tempted to choose the socially mindless option. And the greater this temptation was, the more they believed that other participants would choose differently from them, more selfishly.

This account is not exclusive of other accounts about the prevailing belief in other people's immorality, among which perhaps the most popular are motivational accounts suggesting that people prefer to perceive others as more immoral than they are in order to preserve a moral self-image. A preeminent motivational account is defensive projection, whereby people tend to perceive in others their own undesirable traits ([Freud, 1936](#); [Freud, 1957](#); [Baumeister et al., 1998](#); [Newman et al., 1997](#)). However, the present results suggest an alternative account. If it were mere defensive projection, we would not have observed the self-reported conflict results that we obtained. Indeed, it seems that participants who made selfless choices that were considerate toward others nevertheless confessed to having considered making the selfish choice (and in previous studies, participants indicated having thought of biased/incorrect responses to reasoning problems; [Mata, 2020](#); [Mata et al., 2013](#)). Conversely, those participants who made selfish choices were less conflicted than those who made selfless choices. Both these results do not suggest a kind image of our participants: Those who acted generously confessed to having thought of acting selfishly, and those who acted selfishly did so more unabashedly, which is hard to reconcile with a defensive suppression and projection model. Still, a more generous interpretation of these results can be made if we think of the decisional conflict of socially mindful responders as a should-versus-want conflict ([Bazerman et al., 1998](#); see also, [Shiv and Fedorikhin, 1999](#)): Socially mindful responders felt tempted (i.e., they wanted) to make the selfish choice, but still they resisted that temptation and did what they knew was the right thing to do (i.e., what they should).

The framework that we suggest is informed by recent dual-process models of information processing ([Kahneman and Frederick, 2002](#)), and the dynamics of intuition and deliberation that those models presuppose. In this framework there is not necessarily a need to project in others one's own shortcomings in order to assuage a threat to the ego. Rather, it is merely because the intuitive response emerges so quickly and spontaneously, often accompanied by a strong feeling of rightness ([Thompson et al., 2011](#)), that people tend to assume that others will give that response, even if they end up overriding it ([Mata, 2019b, 2020](#); [Mata et al., 2013](#)). Consistent with this account, the same projection of intuitive responses is observed for tasks such as reasoning problems



and moral dilemmas (Mata, 2019b, 2020; Mata and Almeida, 2014; Mata et al., 2013).

A dual-process framework and the present socio-metacognitive model also enable testing further predictions. For instance, socially mindful deciders might vary in whether their altruistic choices were spontaneous or rather involved a certain degree of conflict between competing choice impulses. Recently there has been much debate about whether altruism and pro-sociality are intuitive and spontaneous or deliberate and effortful (Bouwmeester et al., 2017; Rand et al., 2014; Rand et al., 2012; Tinghög et al., 2013). In the specific context of the paradigm that was used in the present studies, there is evidence that processing mode does not influence social mindfulness (Mischkowski et al., 2018). Likewise, when it comes to beliefs about other people's social mindfulness, we too have no strong reasons to believe that intuition or deliberation *per se* should influence those inferences. Rather, it should be the conflict between processing modes that should inform such inferences (or at least the conflict between different response impulses, even if they emerge from the same type of processing; Pennycook et al., 2015). To the extent that socially mindful decisions are spontaneous, there should be little conflict, and therefore projection should be greater. That is, intuitively mindful deciders should be more generous not only in their actions, but also in their beliefs about other people. It is for those who are conflicted about their generosity that social inferences should be more pessimistic. This is but one of several new directions that future research could explore (along with well-powered pre-registered replications with different samples, in order to establish the robustness of these results).

Relatedly, one might reflect on how the present findings relate to the norm of self-interest (Miller, 1999), whereby people are often compelled to act generously (in line with the intuitive pro-sociality hypothesis; Rand et al., 2014, 2012; Zaki and Mitchell, 2013), but they might nevertheless refrain from doing so unless they can justify their generous deed via a self-interested motive (Ratner and Miller, 2001). If this were so, then one might expect that selfish decision-makers in our studies should have felt conflicted, as their selfish choices went against their generous impulses. But again, this is not what the data suggest: Selfish responders were less conflicted about their selfish choices than socially

mindful responders. Still, the results on self-other differences in choices is quite compatible with work showing that people tend to exaggerate the influence of self-interest in other people's actions (Critcher and Dunning, 2011; Miller and Ratner, 1998).

In conclusion, whereas most research has focused on the effect of competing thought processes on judgment and decision making, the present work explored the effect of competing thought processes (or at least competing response tendencies, whatever their underlying processes may be) on inferences about the judgments and decisions of other people. The present account sought to offer an explanation for the pluralistic ignorance that (so often – as we saw in the introductory section) arises when people believe that their moral choices differ from those of other people, and that other people are immoral. Such collective illusions might emerge if most people choose selflessly, and yet believe (because they are conflicted about their choice) that most other people choose selfishly, thus giving rise to overly cynical perceptions of society.

### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### Data availability

All data are available here: [https://osf.io/gxr5b/?view\\_only=0607f677b71841f7914d895526a55b20](https://osf.io/gxr5b/?view_only=0607f677b71841f7914d895526a55b20)

### Supplementary materials

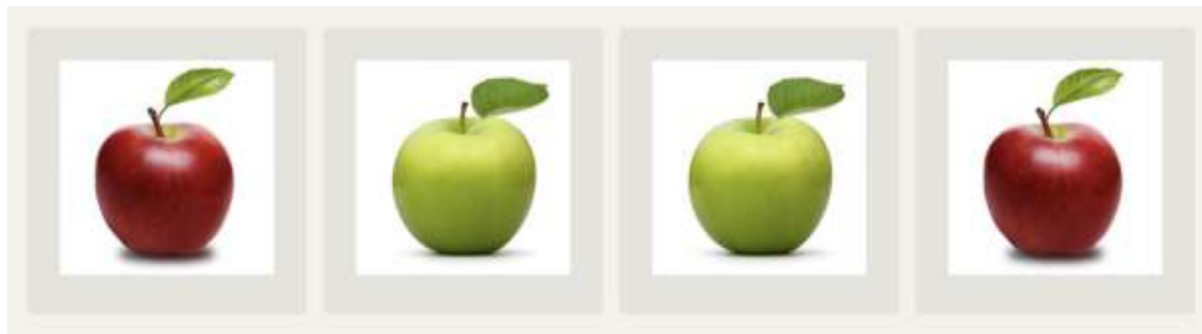
Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.cresp.2023.100104](https://doi.org/10.1016/j.cresp.2023.100104).

### Appendix 1

Example of an experimental trial:



Example of a control trial:



## References

- Govorun, O., Alicke, M.D., 2005. The better-than-average effect. In: Alicke, M.D., Dunning, D.A., Krueger, J.I. (Eds.), *The Self in Social Judgment*. Psychology Press, pp. 85–106.
- Alicke, M.D., Sedikides, C., 2009. Self-enhancement and self-protection: what they are and what they do. *Eur. Rev. Soc. Psychol.* 20 (1), 1–48.
- Anderson, P.T. (Director). (2007). *There will be blood* [Film]. Paramount Vantage, Miramax, & Ghoulardi Film Company.
- Baumeister, R.F., Dale, K., Sommer, K.L., 1998. Freudian defense mechanisms and empirical findings in modern social psychology: reaction formation, projection, displacement, undoing, isolation, sublimation, and denial. *J. Pers.* 66, 1081–1124.
- Bazerman, M.H., Tenbrunsel, A.E., Wade-Benzoni, K., 1998. Negotiating with yourself and losing: making decisions with competing internal preferences. *Acad. Manag. Rev.* 23 (2), 225–241.
- ... & Bouwmeester, S., Verkoeijen, P.P., Aczel, B., Barbosa, F., Bègue, L., Brañas-Garza, P., Evans, A.M., 2017. Registered replication report: Rand, Greene, and Nowak (2012). *Perspect. Psychol. Sci.* 12 (3), 527–542. doi:10.1177/1745691617693624.
- Brown, J.D., 1986. Evaluations of self and others: self-enhancement biases in social judgments. *Soc. Cogn.* 4 (4), 353.
- Campbell, W.K., Rudich, E.A., Sedikides, C., 2002. Narcissism, self-esteem, and the positivity of self-views: two portraits of self-love. *Personal. Soc. Psychol. Bull.* 28 (3), 358–368. doi:10.1177/0146167202286007.
- Chambers, J.R., Windschitl, P.D., 2004. Biases in social comparative judgments: the role of nonmotivated factors in above-average and comparative-optimism effects. *Psychol. Bull.* 130 (5), 813–838. doi:10.1037/0033-2909.130.5.813.
- Critcher, C.R., Dunning, D., 2011. No good deed goes unquestioned: cynical reconstructions maintain belief in the power of self-interest. *J. Exp. Soc. Psychol.* 47 (6), 1207–1213.
- Epley, N., Caruso, E.M., Bazerman, M.H., 2006. When perspective taking increases taking: reactive egoism in social interaction. *J. Pers. Soc. Psychol.* 91 (5), 872–889.
- Epley, N., Dunning, D., 2000. Feeling "holier than thou": are self-serving assessments produced by errors in self- or social prediction? *J. Pers. Soc. Psychol.* 79 (6), 861–875. doi:10.1037/0022-3514.79.6.861.
- Faul, F., Erdfelder, E., Lang, A.G., Buchner, A., 2007. G\*Power 3: a flexible statistical power analysis program for the social, behavioral and biomedical sciences. *Behav. Res. Method.* 39 (2), 175–191. doi:10.3758/BF03193146.
- Fetchnhauer, D., Dunning, D., 2009. Do people trust too much or too little? *J. Econ. Psychol.* 30, 263–276.
- Fetchnhauer, D., Dunning, D., 2010. Why so cynical? Asymmetric feedback underlies misguided skepticism in the trustworthiness of others. *Psychol. Sci.* 21, 189–193.
- Freud, A., 1936. *The Ego and the Mechanisms of Defense*. Hogarth Press, London.
- Freud, S., 1957. Instincts and their vicissitudes. In: *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, 14. Hogarth Press, London, pp. 109–140 Original work published 1915.
- Goethals, G.R., 1986. Social comparison theory: psychology from the lost and found. *Personal. Soc. Psychol. Bull.* 12 (3), 261–278. doi:10.1177/0146167286123001.
- Goethals, G.R., Messick, D.M., Allison, S.T., 1991. The uniqueness bias: studies of constructive social comparison. In: Suls, J., Wills, T.A. (Eds.), *Social comparison: Contemporary theory and Research*. Lawrence Erlbaum Associates, Inc, pp. 149–176.
- Hoorens, V., 1993. Self-enhancement and superiority biases in social comparison. *Eur. Rev. Soc. Psychol.* 4 (1), 113–139. doi:10.1080/14792779343000040.
- Kahneman, D., Frederick, S., 2002. Representativeness revisited: attribute substitution in intuitive judgement. In: Gilovich, T., Griffin, D., Kahneman, D. (Eds.), *Heuristics and biases: The psychology of Intuitive Judgement*. Cambridge University Press, pp. 49–81.
- Klein, N., Epley, N., 2016. Maybe holier, but definitely less evil, than you: bounded self-righteousness in social judgment. *J. Pers. Soc. Psychol.* 110 (5), 660–674. doi:10.1037/pspa0000050.
- Krueger, J., Gilovich, T., 1999. 'Naïve cynicism' in everyday theories of responsibility assessment: on biased assumptions of bias. *J. Pers. Soc. Psychol.* 76, 743–753.
- Mata, A., 2019a. Further tests of the metacognitive advantage model: counterfactuals, confidence and affect. *Psihologijske Teme* 28 (1), 115–124.
- Mata, A., 2019b. Social metacognition in moral judgment: decisional conflict promotes perspective taking. *J. Pers. Soc. Psychol.* 117 (6), 1061–1082. doi:10.1037/pspa0000170.
- Mata, A., 2020. Conflict detection and social perception: bringing meta-reasoning and social cognition together. *Think Reason* 26 (1), 140–149. doi:10.1080/13546783.2019.1611664.
- Mata, A., Almeida, T., 2014. Using metacognitive cues to infer other's thinking. *Judgm. Decis. Mak.* 9 (4), 349–359.
- Mata, A., Ferreira, M.B., Sherman, S.J., 2013. The metacognitive advantage of deliberative thinkers: a dual-process perspective on overconfidence. *J. Pers. Soc. Psychol.* 105, 353–373. doi:10.1037/a0033640.
- Mendonça, C., Mata, A., Vohs, K.D., 2019. Self-other asymmetries in the perceived validity of the implicit association test. *J. Exper. Psychol.: Appl.* 25 (2), 192–218. doi:10.1037/xap0000214.
- Mischkowski, D., Thielmann, I., Glöckner, A., 2018. Think it through before making a choice? Processing mode does not influence social mindfulness. *J. Exp. Soc. Psychol.* 74, 85–97.
- Miller, D.T., 1999. The norm of self-interest. *Am. Psychol.* 54 (12), 1053–1060.
- Miller, D.T., Ratner, R.K., 1998. The disparity between the actual and assumed power of self-interest. *J. Pers. Soc. Psychol.* 74 (1), 53–62.
- Monin, B., Norton, M.I., 2003. Perceptions of a fluid consensus: uniqueness bias, false consensus, false polarization, and pluralistic ignorance in a water conservation crisis. *Personal. Soc. Psychol. Bull.* 29 (5), 559–567. doi:10.1177/0146167203029005001.
- Newman, L.S., Duff, K.J., Baumeister, R.F., 1997. A new look at defensive projection: thought suppression, accessibility, and biased person perception. *J. Pers. Soc. Psychol.* 72 (5), 980–1001. doi:10.1037/0022-3514.72.5.980.
- Pennycook, G., Fugelsang, J.A., Koehler, D.J., 2015. What makes us think? A three-stage dual-process model of analytic engagement. *Cogn. Psychol.* 80, 34–72.
- Pronin, E., 2009. The introspection illusion. *Adv. Exp. Soc. Psychol.* 41, 1–67. doi:10.1016/S0065-260(08)00401-2.
- Rand, D.G., Peysakhovich, A., Kraft-Todd, G.T., Newman, G.E., Wurzbacher, O., Nowak, M.A., Greene, J.D., 2014. Social heuristics shape intuitive cooperation. *Nat. Commun.* 5, 3677. doi:10.1038/ncomm4677.
- Rand, D.G., Greene, J.D., Nowak, M.A., 2012. Spontaneous giving and calculated greed. *Nature* 489, 427–430. doi:10.1038/nature11467.
- Ratner, R.K., Miller, D.T., 2001. The norm of self-interest and its effects on social action. *J. Pers. Soc. Psychol.* 81 (1), 5–16.
- Shiv, B., Fedorikhin, A., 1999. Heart and mind in conflict: the interplay of affect and cognition in consumer decision making. *J. Consum. Res.* 26 (3), 278–292.
- Tappin, B.M., McKay, R.T., 2017. The illusion of moral superiority. *Soc. Psychol. Personal. Sci.* 8 (6), 623–631.
- Thompson, V.A., Turner, J.A.P., Pennycook, G., 2011. Intuition, reason, and metacognition. *Cogn. Psychol.* 63 (3), 107–140. doi:10.1016/j.cogpsych.2011.06.001.
- Tinghög, G., Andersson, D., Bonn, C., Böttiger, H., Josephson, C., Lundgren, G., Johannesson, M., 2013. Intuition and cooperation reconsidered. *Nature* 498, E1–E2. doi:10.1038/nature12194.
- Van Doesum, N.J., Van Lange, D.A.W., Van Lange, P.A.M., 2013. Social mindfulness: skill and will to navigate the social world. *J. Pers. Soc. Psychol.* 105 (1), 86–103. doi:10.1037/a0032540.
- Zaki, J., Mitchell, J.P., 2013. Intuitive prosociality. *Curr. Dir. Psychol. Sci.* 22 (6), 466–470.
- Zell, E., Strickhouser, J.E., Sedikides, C., Alicke, M.D., 2020. The better-than-average effect in comparative self-evaluation: a comprehensive review and meta-analysis. *Psychol. Bull.* 146 (2), 118–149.