Do we become more cautious for others when large amounts of money are at stake?

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Abstract

A considerable proportion of financial decisions are made by agents acting on behalf of other people. Although people are more cautious for others when making medical decisions, this does not seem to be the case for economic decisions. However, studies with large amounts of money are particularly absent from the literature, which precludes a clear comparison to studies in the medical domain. To address this gap, we investigated the effect of outcome magnitude in two experiments where participants made choices between safe and risky options. Decision-makers were not more cautious for others over large amounts. In fact, risk-taking was accentuated for large amounts in the gain domain. We did not find self-other differences in the loss domain for either outcome magnitude. This suggests that the caution observed in medical decisions does not replicate in financial decisions with large amounts, or at least not in the same way. These results echo the concerns that have been raised about excessive risk-taking by financial agents.

Keywords: surrogate decision-making; DMFO; risk preferences; outcome magnitude

We are often required to make decisions on behalf of someone else, where the recipient of the decision bears the consequences of its outcome. These surrogate decisions can affect a wide range of people (relatives, patients, employees, consumers etc.) and are particularly common in the financial sector. One of the reasons why understanding financial surrogate decisions is so important is their implication in the financial crisis of 2007-2008. It is generally accepted that excessive risk-taking by people acting on behalf of investors was a causal factor in the crisis (Andersson, Holm, Tyran, & Wengström, 2013; Eriksen, Kvaløy, & Luzuriaga, 2017; Füllbrunn & Luhan, 2015). This might not have happened if investors were managing their own money. Although many studies have looked at self-other differences in risky decision-making, almost all have focused on relatively small amounts of money, far from the magnitudes that were at stake in the financial crisis. This paper contributes to closing that gap.

Various theoretical accounts of surrogate decision-making expect the significance of the decision to matter. It has been conjectured that being responsible for somebody else's welfare pushes decision-makers to be more cautious than when deciding for themselves (Charness & Jackson, 2009). Responsibility is expected to increase with the significance of the decision, which means that decision-makers should reduce their risk-taking for others as the significance increases – the cautious shift account (Eriksen & Kvaløy, 2010; Füllbrunn & Luhan, 2015; Reynolds, 2009). Indeed, there is evidence that risk-taking for others is reduced when the decision-maker feels responsible or is held accountable (Montinari & Rancan, 2013; Pahlke, Strasser, & Vieider, 2012; Pollmann, Potters, & Trautmann, 2014).

This is also supported by findings in the medical domain, where people accept less risk for others (Batteux, Ferguson, & Tunney, 2019a; Polman & Wu, 2020). These show that, for others, people are more likely to choose a treatment to avoid a painful or deadly illness (Batteux, Ferguson, & Tunney, 2019c; Garcia-Retamero & Galesic, 2012), while also more likely to refuse a treatment involving a risk of death (Batteux, Ferguson, & Tunney, 2019b).

On the whole, it seems that people are motivated by avoiding a risk of death to a greater extent for others (Von Gunten & Scherer, 2018), even at the expense of their quality of life (Batteux et al., 2019c). Most of these decisions could be considered mixed gambles, where choices involve both the possibility of a gain (e.g. recovering) and a loss (e.g. dying). For choices which can be interpreted as more of a gain (e.g. vaccination), people still seem to be more risk-averse for others (Dore, Stone, & Buchanan, 2014; Zikmund-Fisher, Sarr, Fagerlin, & Ubel, 2006), albeit perhaps to a lesser extent than when losses are more salient (Batteux et al., 2019a).

Crucially, studies in the medical domain often focus on highly significant decisions, where people's lives might be at risk. When outcomes are small, the difference disappears (Batteux et al., 2019b). This is consistent with Tunney and Ziegler's (2015) model of surrogate decision-making, which assumes surrogates engage in perspective-taking that varies according to the particular features of the decision. Significant decisions would lead surrogates to take a benevolent perspective (i.e. what is best for the recipient). More trivial decisions would lead surrogates to put less effort into the decision and adopt a projected perspective (i.e. what they would do for themselves). Therefore, self-other differences would be the result of other factors than the perspective taken by the surrogate, such as the decision-maker's reaction to the risk.

This seems to be the case in the financial domain, where studies have largely focused on small amounts. Although there have been discrepancies in findings, a recent meta-analysis found that whether the decision involved gain or losses can partially explain this (Batteux et al., 2019a). When people have to choose between a sure option and a risky option, they tend to choose the risky option more for others over gains, but less over losses (Sun, Liu, Zhang, & Lu, 2016; Zhang, Liu, Chen, Shang, & Liu, 2017; Ziegler & Tunney, 2015). On the other hand, when choices involve mixed prospects, such as investments where there is the possibility of a gain or a loss, studies generally do not find self-other differences (Batteux et al., 2019a). Findings over losses in the financial domain are similar to findings in the medical domain,

which often involve large losses but also the possibility of gains. Whether decisions are made over gains, losses or both does not seem to neatly explain differences in findings between the medical and financial domain.

Findings in the financial domain seem to support the risk-as-feelings hypothesis, which depicts risk preferences as the result of emotional reactions to the risk rather than a purely cognitive evaluation of the risk (Loewenstein, Weber, Hsee, & Welch, 2001). In the case of surrogate decisions, the decision-maker is distanced from the outcome – they do not experience the outcome of the decision and are therefore not directly affected by it, unlike the person they decide for. This creates what can be termed an empathy gap between the decision-maker and the outcome of the decision (Loewenstein, 1996). An empathy gap can for instance lead medical professionals to undertreat patients as they underestimate the extent of their pain, given they are not the one experiencing it (Loewenstein, 2005). As a result of this empathy gap, the decision-maker underweighs the emotional factors experienced by the recipient. Following this logic in the case of risky decisions, the emotional reactions to the risk that the decision-maker experiences would be attenuated when making decisions for others compared to themselves. As a result, their risk preferences would be more risk neutral for others. Indeed, when choosing between sure and risky options, people who are risk-averse for themselves are less so for others, whereas those who are risk-seeking are less so for others (Batteux, Ferguson, & Tunney, 2017; Eriksen, Kvaløy, & Luzuriaga, 2014). Similarly, because decision-makers tend to be risk-averse for gains they should take more risk for others, and vice versa for losses (Tversky & Kahneman, 1981).

What about financial decisions with large amounts? The only study, to our knowledge, that looked at large magnitudes did not find differences in decisions but did find that people advise others to take less risk in a job scenario (Eriksen et al., 2017). This lends support to the cautious shift account. Although surrogate decisions in the medical domain are more cautious

than in the financial domain (Batteux et al., 2019a), this could be because financial decisions of high significance have not been investigated much. It makes sense that surrogate decision-makers are more cautious in consequential medical decisions than inconsequential financial decisions, which would not elicit the same feeling of responsibility.

In light of this, we hypothesise that surrogate decisions tend toward risk neutrality for others, but that when a substantial amount of responsibility is placed on the decision-maker, a cautious shift is observed. This cautious shift should counteract the tendency towards risk neutrality and lead to a reduction in risk-taking. For losses, where risk-taking should decrease for others for small outcomes, self-other differences would be accentuated for more significant decisions. For gains, where risk-taking should increase for others for small outcomes, this should mean that self-other differences are either reduced, disappear, or reverse. There is evidence of this with relationship decisions, which can be considered as gains with a potential loss. For decisions of low significance, decision-makers take more risk for others, but there are no self-other differences for high significance (Beisswanger, Stone, Hupp, & Allgaier, 2003; Stone & Allgaier, 2008). It seems that this was due to reductions in risk-taking for others in decisions of high significance, which is in line with the caution hypothesis.

We conducted two experiments where participants made choices between risky and safe options. To test whether surrogate decisions are comparable across outcome magnitudes, one group made choices about small outcomes and another about large outcomes. We included decisions over gains and others over losses to further examine the risk-as-feelings hypothesis. In Experiment 1, we did not use performance contingent payments to avoid converting large outcomes into small payments. We conducted a conceptual replication of this in Experiment 2 where we did use performance contingent payments over smaller outcomes.

Experiment 1

Method

Design. A 2 (Recipient) x 2 (Domain) x 2 (Magnitude) mixed design was used. Recipient (self, other) and domain (gain, loss) were within-subject factors. Magnitude (small, large) was a between-subjects factor. The dependent variable was the percentage of risky choices.

Participants. Participants (n=120) were recruited online via Prolific[1]. The age group ranged from 18 to 36 (M=26.86, SD=4.41). There were 45 males and 74 females with varying levels of education. All participants resided in the United Kingdom to ensure that the currency used (£) in the task was relevant to all. Ethics approval was obtained from the ethics committee at the University of Nottingham, reference S1088.

Choice task. The task involved making a series of choices between a guaranteed win or loss and a chance of winning or losing an amount of money. One series of choices was framed as a win and the other as a loss. Participants made both series of choices once for themselves and once on behalf of a stranger. They were told to imagine that they were making decisions for another participant in the experiment. Half of the participants were in the small magnitude condition where the amounts to win or lose varied from £5 to £100. The other half were in the large magnitude condition where the amounts to win or lose vary from £50,000 to £1,000,000. Participants completed the task four times (self-gain, self-loss, other-gain, other-loss) and were always presented with the same outcome magnitude. The order of presentation of each condition was randomised. There were 16 trials per condition which were presented in random order. All trials were composed of a choice between a risky option and a sure option. The risky option was a probability (20%, 40%, 60%, 80%) of winning or losing an amount (£25/£250000, £50/£500000, £75/£750000, £100/£1000000). The sure option was the expected value of the risky option it is paired with. These are the probabilities used in a

[1] The sample size was estimated based on previous experiments we conducted (Batteux et al., 2019b).

commonly used task where the sure option is also of equivalent expected value to the risky option (Martino, Kumaran, Seymour, & Dolan, 2006).

Results

We entered the percentage of risky choices participants made in each condition into a 2 (Recipient) x 2 (Domain) x 2 (Magnitude) mixed model ANOVA (see Figure 1). Participants were more risk-taking for someone else (M=33.78 [29.44, 38.11]) than for themselves (M=29.19 [25.74, 32.65]) ($F_{1,118}$=5.685, p=.019, η_p^2=0.046). They were more risk-taking over losses (M=38.51 [33.69, 43.33]) than over gains (M=24.46 [20.55, 28.37]) ($F_{1,118}$=25.756, p<.001, η_p^2=0.179). This was qualified by an interaction where participants took more risk for others in a gain frame (t_{119}=-3.850, p<.001, d=0.35) but not in a loss frame (t_{119}=0.068, p=.946, d=0.01) ($F_{1,118}$=12.464, p=.001, η_p^2=0.096). We did not find a main effect of magnitude ($F_{1,118}$=3.25, p=.074, η_p^2=0.03) or an interaction between magnitude and recipient ($F_{1,118}$=2.43, p=.122, η_p^2=0.02) and between frame and magnitude ($F_{1,118}$=3.65, p=.059, η_p^2=0.03). Crucially, we did not find a three-way interaction between recipient, frame and magnitude ($F_{1,118}$=1.07, p=.303, η_p^2=0.01).

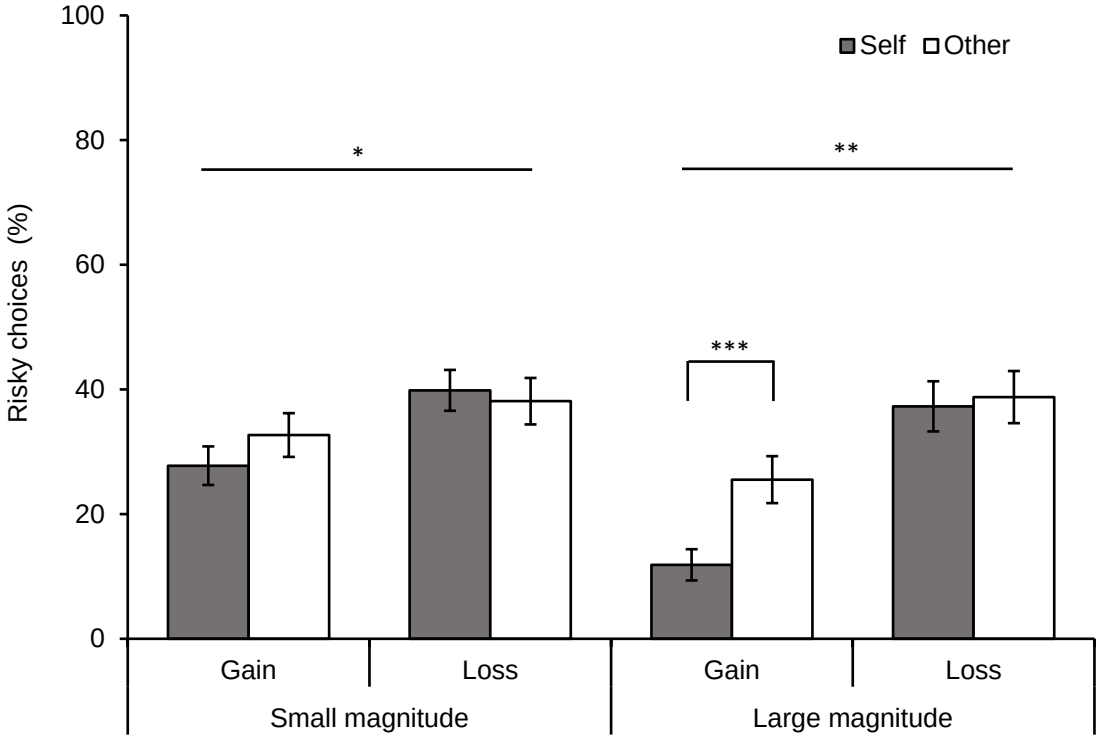

Figure 1: Percentage of risky choices participants made in each condition in Experiment 1. Error bars represent the standard error of the mean. *** $p<.001$, ** $p<.01$, * $p<.05$.

Discussion

As is the case in previous studies, we find that self-other differences vary by frame. In this instance, people are more risk-taking for others in a gain frame but not in a loss frame, where levels of risk-taking are comparable. Contrary to expectations, we do not find that self-other differences vary by outcome magnitude, which suggests that decisions for others over large magnitudes are not comparable in the economic and medical domains. However, we used hypothetical outcomes here which could have not been particularly salient or meaningful to participants. In fact, the large magnitude condition featured outcomes which were particularly large and perhaps unrealistically so for most participants.

In Experiment 2, we remedy this by using large magnitudes which people commonly encounter, with the addition of a financial incentive. Although a meta-analysis of self-other differences did not find that they were moderated by incentives (Batteux et al., 2019a), it is

worth using them here for several reasons. Incentives improve performance in judgment tasks by increasing effort (Camerer & Hogarth, 1999), which could be significant here if participants make judgments about the other person's preferences when deciding on their behalf (Batteux et al., 2019b). Although incentives generally do not affect mean performance in gambling tasks, they can increase risk-aversion (Camerer & Hogarth, 1999; Holt & Laury, 2002). Crucially, financial incentives reduce error variance, meaning that small effects are more likely to be identified (Camerer & Hogarth, 1999; Smith & Walker, 1993). Nevertheless, it is worth noting that incentives may not have an effect when participants are driven by intrinsic motivation, i.e. driven by the reward provided by the task itself (Lee, 2007). Finally, given the possibility that Experiment 1 was underpowered to detect small interactions between recipient and magnitude, we increase the sample size in Experiment 2 to be able to detect these.

Experiment 2

Method

Design. The design was identical to Experiment 1.

Participants. Participants (n=276) residing in the UK were recruited via Prolific to detect a small effect size (d=0.20) with acceptable power (b=0.80) and alpha level (a<.05). The age group ranged from 18 to 85 (M=34.65, SD=12.54). There were 91 males and 184 females with varying levels of education.

Choice task. The task was identical to Experiment 1, except for the amounts of money. Half of the participants were in the small magnitude condition where the amounts to win or lose varied from £0.50 to £10. The other half were in the large magnitude condition where the amounts to win or lose vary from £2.50 to £50. The risky option was a probability (20%, 40%, 60%, 80%) of winning or losing an amount (£2.50/£12.50, £5/£25, £7.50/£37.50, £10/£50). The sure option was the expected value of the risky option it is paired with. Choices were

incentivised by a bonus payment, which could be between £0 and £15. Participants were told the amount would be determined by the choices they make for themselves and the choices another participant in the experiment makes for them, who they were paired with. There were told that in each block (self-gain, self-loss, other-gain, other-loss) there was one real choice which would affect theirs or the other participant's bonus payment depending on who the choice was for, but they won't know which specific choice it would be. The real one was, in the small magnitude condition, the choice between +/-£0.50 and a 20% chance of +/-£2.50 and in the large magnitude condition the choice between winning or losing +/-£2.50 and a 20% chance of +/-£12.50. This means that participants make a real decision for someone else, which is likely to increase the feeling of responsibility compared to Experiment 1. Each participant was paired with a participant from the other condition so that each bonus payment was made up of one gain and one loss choice in the small magnitude condition and one gain and one loss choice in the large magnitude condition. This ensured participants received equivalent bonus payments irrespective of which condition they were randomly assigned to. Some participants ended up with a negative bonus payment, in which case they did not receive a bonus payment rather than losing money.

Results

We entered the percentage of risky choices participants made in each condition into a 2 (Recipient) x 2 (Domain) x 2 (Magnitude) mixed model ANOVA (see Figure 2). As in Experiment 1, participants were more risk-taking over losses (M=41.18 [38, 44.38]) than over gains (M=33.13 [30.30, 35.95]) ($F_{1,276}$=13.99, p<.001, η_p^2=0.05) which was qualified by an interaction with recipient where participants took more risk for others in a gain frame (t_{119}=-3.72, p<.001, d=0.22) but not in a loss frame (t_{119}=0.99, p=.324, d=0.06) ($F_{1,276}$=9.98, p=.002, η_p^2=0.03). Participants were overall more risk-taking for someone else but the main effect of

recipient was not statistically significant ($F_{1,276}$=2.87, p=.091, η_p^2=0.01). We did not find a main effect of magnitude ($F_{1,276}$=0.46, p=.498, η_p^2<0.01), although there was an interaction between magnitude and recipient ($F_{1,276}$=6.37, p=.012, η_p^2=0.02). Participants were more risk-seeking for others in the large magnitude condition (t_{138}=-2.96, p=.004, d=0.25) but not the small magnitude condition (t_{138}=0.60, p=.555, d=0.05). However, we did not find a three-way interaction between recipient, frame and magnitude ($F_{1,276}$=0.10, p=.753, η_p^2<0.01).

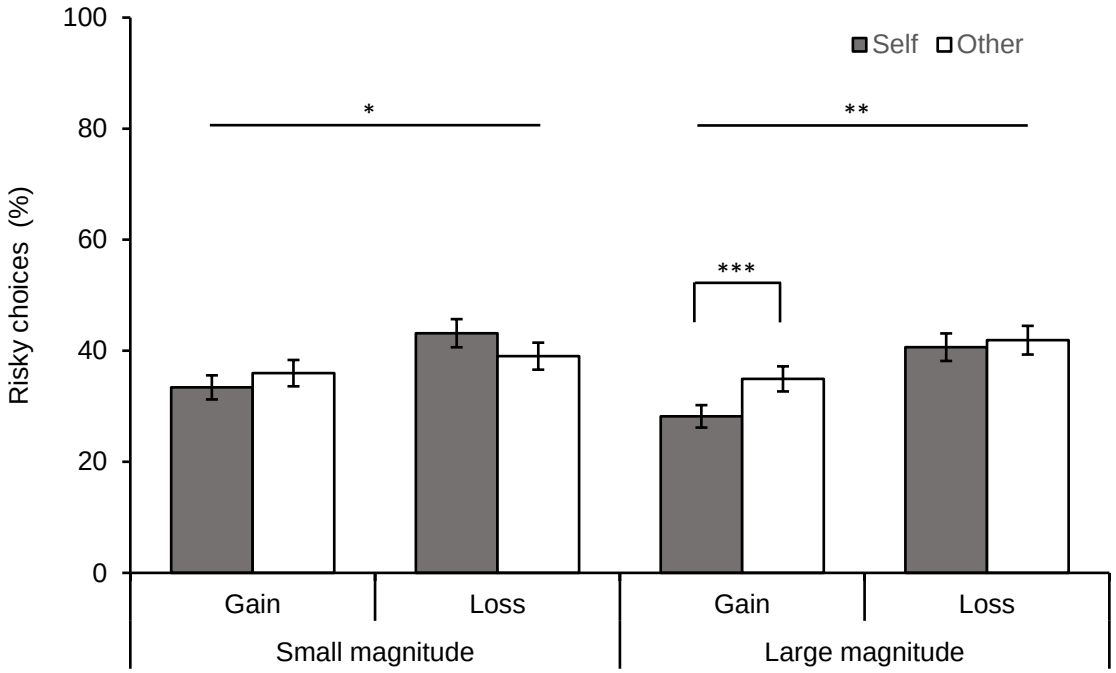

Figure 2: Percentage of risky choices participants made in each condition in Experiment 2. Error bars represent the standard error of the mean. *** p<.001, ** p<.01, * p<.05.

To provide an overview of our findings Experiments 1 and 2, we assess which effects hold when both experiments are analysed together. Participants were more risk-taking for someone else ($F_{1,394}$=10.43, p=.001, η_p^2=0.03). This was qualified by an interaction with frame ($F_{1,394}$=20.57, p<.001, η_p^2=0.05), where participants were more risk-taking for others over gains (t_{397}=-5.30, p<.001, d=0.27) but not losses (t_{397}=0.86, p=.393, d=0.05). The effect of recipient was also qualified by an interaction with magnitude ($F_{1,394}$=7.90, p=.005, η_p^2=0.02),

where participants were more risk-taking for others over large magnitudes (t_{397}=-3.89, p<.001, d=0.27) but not small magnitudes (t_{397}=0.05, p=.958, d<0.01). Participants were more risk-taking over losses than over gains ($F_{1,394}$=34.71, p<.001, η_p^2=0.08) and there was no significant main effect of magnitude ($F_{1,394}$=3.71, p=.055, η_p^2=0.01). There were no significant interactions between frame and magnitude ($F_{1,394}$=3.42, p=.065, η_p^2=0.01) or between recipient, frame and magnitude ($F_{1,394}$=0.40, p=.529, η_p^2<0.01).

These effects do not seem to differ by experiment. Indeed, there were no significant interactions between recipient and experiment ($F_{1,394}$=2.41, p=.122, η_p^2=0.01), frame and experiment ($F_{1,394}$=2.55, p=.111, η_p^2=0.01), recipient, magnitude and experiment ($F_{1,394}$=0.10, p=.755, η_p^2<0.01), frame, magnitude and experiment ($F_{1,394}$=0.94, p=.333, η_p^2<0.01), recipient, frame and experiment ($F_{1,394}$=0.95, p=.331, η_p^2<0.01), and recipient, frame, magnitude and experiment ($F_{1,394}$=0.97, p=.325, η_p^2<0.01). However, participants were more risk-taking in Experiment 2 ($F_{1,394}$=8.01, p=.005, η_p^2=0.02). This seems to go against the finding that incentives reduce risk-taking (Holt & Laury, 2002), although could be explained by the gambles involving much smaller amounts in Experiment 2. With very large amounts, people might be more satisfied with the safe gain and particularly avoid the risky loss.

Discussion

As in Experiment 1, we find that self-other differences vary by frame, with decisions for others being more risk-taking in a gain frame but not in a loss frame. This time, we find that self-other differences are present in the large magnitude condition rather than the small magnitude condition, which we also find when analysing both experiments together. It could be that we failed to find an interaction between magnitude and recipient in Experiment 1 because the study was underpowered. Indeed, we found an equivalent effect size for the interaction between recipient and magnitude in both experiments (η_p^2=0.02), as also shown by

the joint analysis. This suggests that self-other differences are present with large magnitudes in the economic domain, but in the opposite direction to self-other differences in the medical domain.

General discussion

Our aim was two-fold. Our first aim was to examine whether the significance of the decision affects financial risk-taking for others. We find evidence that outcome magnitude affects self-other differences when choices are incentivised. People seem more willing to take risks for someone else than they would for themselves in situations where larger amounts of money are at stake. This suggests that the mechanisms which lead to self-other differences are at play when outcomes are more significant. When outcomes are less significant, people seem to make similar decisions for others than for themselves. This could signal that they are more inclined to rely on a projected perspective (i.e. what they would do for themselves), perhaps because they put less effort into the decision, as expected by Tunney and Ziegler's model of surrogate decision-making (2015).

Our second aim was to test whether the cautious shift account applies to significant financial decisions, as in medical decisions (Batteux et al., 2019b). This does not seem to be the case. If anything, caution was decreased for others relative to the self in decisions of high significance. This means that diverging effects in both domains cannot be explained by outcome magnitude alone. Economic and medical surrogate decisions are not directly comparable – context matters. We cannot yet speak of self-other differences as if they were interchangeable between domains. This is consistent with Tunney and Ziegler's (2015) model of surrogate decision-making insofar as the specific features of the decision matter and should be accounted for in theories of surrogate decision-making. In contrast, accounts such as the cautious shift are far more context-dependent and have less explanatory power.

It is difficult to say whether our findings support the risk-as-feelings account. People were more inclined to choose risky options for others than for themselves, which suggests they are more risk-taking for others. We find this to be the case for larger outcomes, which could be because the risk is more significant and therefore elicits stronger emotional reactions. Given that people were risk-averse for themselves, our findings suggest they are more risk-neutral for others, which is support for the risk-as-feelings account. From an economic perspective, this could be interpreted as decisions for others being more optimal. An optimal decision-maker would be indifferent between the risky and sure option in our study as they both have the same expected value. People show more indifference for others and could therefore be considered to be more optimal, which there is a precedent for in risky choice (Batteux et al., 2017), intertemporal choice (Ziegler & Tunney, 2012) and information search (Liu, Polman, Liu, & Jiao, 2018). Similarly to the risk-as-feelings account, this has been explained by the presence of an empathy gap (Loewenstein, 1996), whereby people are emotionally removed from the outcome of the decision in a surrogate context. This means they are less susceptible to emotional influences on their decision-making, which would for instance reduce framing effects (Nabi et al., 2020). Alternatively, being more indifferent between risky and sure options could be interpreted as people behaving more randomly for others. This seems less plausible given the theoretical and empirical support for other interpretations, but worth keeping in mind for this particular study. Teasing apart these alternative explanations in future research would be useful.

We did not find evidence of self-other differences over losses. This contrasts previous findings showing that risk-seeking is reduced for others over losses (Batteux et al., 2019a). However, in our experiments people's decisions over losses were actually risk-averse. This is unusual for risky choice findings, although not unprecedented in studies which like ours still find a clear framing effect (e.g. Aczel, Szollosi, & Bago, 2018). According to the risk-as-

feelings hypothesis, this would not lead to reduced risk-taking for others given that people's own risk preferences were not risk-seeking. In fact, it should increase risk-taking, as we found over gains. This is evidence against the account that people are more risk-neutral or more optimal for others. There seems to be something else about the gain domain which leads to increased risk-taking for others in our study. It could be that people are making decisions based on their perception of the other's preferences, as has been shown (Batteux et al., 2019b). Indeed, people expect others to be less risk-averse than them over gains (Faro & Rottenstreich, 2006; Hsee & Weber, 1997). Over losses, people expect others to be less risk-seeking, although this is the case if they themselves are risk-seeking. If people are risk-averse over losses perhaps they expect others to be as well and to the same degree, which could explain our findings and be explored in further research.

It is possible that if people here had been risk-seeking over losses they would have reduced their risk-taking for others, as has been found in previous studies (Sun et al., 2016; Zhang et al., 2017; Ziegler & Tunney, 2015). Although it is not clear whether our findings in the loss domain would hold when people are particularly risk-seeking for themselves, they are decisive on the fact that we do not see a clear reduction in risk-taking for others, including over larger magnitudes which stands in contrast to findings in the medical literature. For a clearer comparison we would need to check this is the case with mixed gambles, although we are likely to obtain the same findings given that there do not seem to be self-other differences over mixed gambles in the financial domain (Batteux et al., 2019a).

Why might we see a cautious shift in medical but not financial decisions? Economic and medical decisions seem to elicit different decision processes, where the former is focused on probabilities and the latter on outcomes (Pachur, Hertwig, & Wolkewitz, 2014; Popovic, Pachur, & Gaissmaier, 2019). Moreover, increased risk-taking for others in financial decisions and decreased risk-taking in medical decisions is the pattern that manifests itself in the field,

which could have affected decision-makers in our study. Financial agents have been accused of excessive risk-taking with other people's money (Wengström, Andersson, Holm, & Tyran, 2013), whereas medical professionals have been pointed out to be more conservative when treating patients (Garcia-Retamero & Galesic, 2012). Interestingly, there seems to be an absence of accountability held against financial decision-makers when things go wrong (Koudijs, Salisbury & Sran, 2018), a contrast to the rise in litigations against medical professionals which seem to explain their conservative choices (Garcia-Retamero & Galesic, 2012). If financial decision-makers were similarly held accountable for their decisions, perhaps a cautious shift would be observed. This supports theoretical accounts which highlight that accountability (Tunney & Ziegler, 2015) and social values (Stone & Allgaier, 2008) are important when making decisions for others, perhaps more than when deciding for oneself.

Our finding that people are more risk-taking for others over large amounts echoes the concern raised in the aftermath of the financial crisis that agents acting on behalf of investors are prone to higher risk-taking because they are removed from the outcome of their decisions. However, the effect here was small and there are undoubtedly more factors at play in investors' decision-making. Nonetheless, it is worth checking whether the effect persists in situations which are more representative of these decisions. Testing whether this also applies when decisions involve gains with the prospect of a loss, when they are made on behalf of a group and when they are made by financial agents themselves would all strengthen our understanding of real financial risk-taking. Field studies which further increase the significance of decisions would also be valuable to understanding how the feeling of responsibility manifests itself in financial decisions for others.

To conclude, this study has contributed to closing the gap concerning the effect of outcome magnitude in financial surrogate decisions, while shedding some new light on domain differences. Future work should further explore the effects of other decision features to refine

theoretical accounts of surrogate decision-making. This will also lead to a better understanding of real-world surrogate decisions, which are often highly complex.

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Data availability

The data from Experiments 1 and 2 is available as Electronic Supplementary Materials.