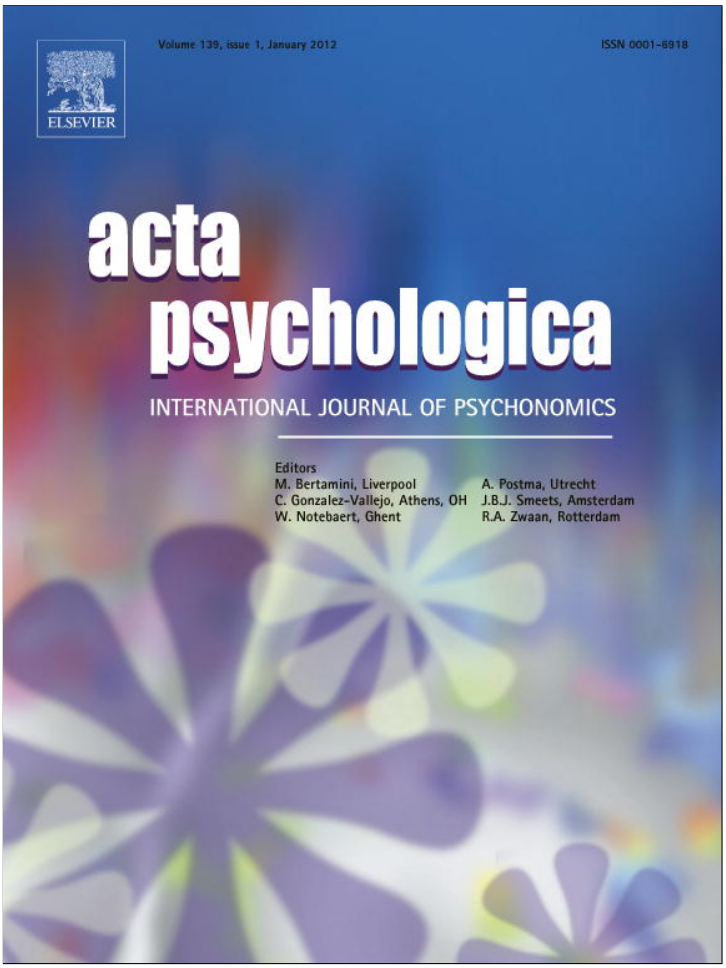

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Differences in risk-defusing behavior in deciding for oneself versus deciding for other people

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ABSTRACT

In naturalistic risky decision-making tasks, risk-defusing behavior plays a central role. A risk-defusing operator (RDO) is an action carried out by the decision maker in order to decrease the risk of an alternative. Post-event RDOs (i.e., applied after the occurrence of a negative event) are more risky, but are associated with lower costs than pre-event RDOs (i.e., applied before the occurrence of a negative event). Two studies examine whether the choice between pre-event and post-event RDOs is influenced by detection probability, by involvement type (i.e., whether the decision has consequences for the decision maker or for other people), and by the interaction between these two variables. The results indicate that the effect of detection probability on choice was stronger if other people were involved than if the decision makers themselves were involved. Thus, in naturalistic risky decision tasks with consequences for themselves, people take detection probabilities into account to a lesser extent than in decisions with consequences for other people.

1. Introduction

When confronted with risky situations, people tend to search for opportunities to reduce the risk. In naturalistic risky tasks, risk-defusing behavior plays a central role in the decision-making process. A risk-defusing operator (RDO) is an action carried out by the decision maker in addition to an existing alternative in order to decrease the risk of this alternative (e.g., Huber, 2007; Huber, Bär, & Huber, 2009; Huber & Huber, 2003, 2008; Wilke, Haug, & Funke, 2008). According to Huber and Huber (2003), it is possible to distinguish between pre-event RDOs, which are applied before the occurrence of a negative event, and post-event RDOs, which are applied after the occurrence of a negative event. RDOs are relevant in various situations in everyday life. People can, for instance, decide to use pre-event RDOs such as getting a vaccination, using anti-virus software or investing in flood protection when building a house. Alternatively, people can employ post-event RDOs such as deciding to get medical treatment after a possible infection, consulting a computer expert after the computer has been infected by a virus, or using flood defenses when a flood has already occurred.

RDOs have positive effects (the prevention or mitigation of negative consequences), but also generate costs, e. g., the price or side effects of a vaccination (Huber, 2007; Huber & Huber, 2003). Pre-event and post-event RDOs, however, differ in terms of their costs. The cost of a pre-event RDO is deterministic, i.e., the costs have to be supported, even if the potential negative consequences do not occur, whereas the costs of a post-event RDO are probabilistic, i.e., they only arise if the potential negative consequence has, in fact, occurred. Therefore, in situations with a perfect detection probability of the occurrence of a negative consequence and effective treatment opportunities, the post-event RDO should be preferred, provided everything else is equal (Huber & Huber, 2003). However, if the timely detection of the negative consequence is not certain, the choice of a post-event RDO is risky. For instance, an infection may not be detected in time to take the appropriate medicine. Detection probabilities thus influence the choice between post-event and pre-event RDOs (Huber & Huber, 2003).

Research on RDOs has thus far neglected a relatively new area of research, namely regarding the notion that there might be a difference between making risky decisions for oneself and making risky decisions for other people (e.g., Beisswanger, Stone, Hupp, & Allgaier, 2003; Borresen, 1987; Fernandez-Duque & Wifall, 2007; Stone & Allgaier, 2008; Stone, Yates, & Caruthers, 2002; Wray & Stone, 2005). Important decisions often have consequences for other people. For instance, a politician confronted with the risk of a viral infection in the country might have to decide between ordering a reserve of medication in advance (pre-event RDO) or buying the medication when the virus has actually arrived (post-event RDO). Most empirical studies on RDOs have arbitrarily used decisions with consequences for the decision makers themselves and decisions with consequences for other people; the perspective was not regarded as important in terms of

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decision making. An indication that this self-other difference could be interesting in the context of RDOs is the finding that under justification pressure, people search more RDOs, and the search is more persistent (Huber, Arlette, & Huber, 2009). It is possible that, when other people are involved, decision makers think that they have to justify their decisions more than when the decision has consequences only for themselves, and therefore make more reasonable choices.

Depending on the situation, people were found to be more or less willing to take risks in decisions with consequences for others compared to decisions with consequences for the decision makers themselves (e.g., Atanasov, 2010; Beisswanger et al., 2003; Stone & Allgaier, 2008; Stone et al., 2002; Wray & Stone, 2005). In the domain of financial decision making, studies have either shown no difference between decisions with consequences for the decision maker and those with consequences for others (e.g., Stone et al., 2002), or that people tend to be more risk-averse when deciding for others than for themselves (for a review, see Atanasov, 2010). However, the opposite was found with regard to decisions about relationships: people made more risky relationship decisions for a friend than for themselves in low-impact relationship scenarios, whereas no difference was found in high-impact scenarios (Beisswanger et al., 2003; Wray & Stone, 2005). Beisswanger et al. (2003) argue that the contradicting results for financial versus relationship-based decisions might be explained by the difference in outcome evaluation. In the relationship-based studies, the potential negative outcome of the decision (e.g., suffering a rebuff) was considered as less troublesome when deciding for other people than when deciding for oneself. In contrast, they argue that, for financial decisions, the potential outcome (e.g., losing 10 Euro) might be valued as similarly important whether experienced by oneself or by other people. However, they do not provide empirical evidence for this hypothesis. In a review by Atanasov (2010), it was argued that one's risk-aversion increases when deciding for other people, especially in situations where the chooser expects to be held accountable for her choices, when losses are possible, and when the two parties have an ongoing relationship. Another explanation for contradicting results regarding self-other differences is the social value theory (Stone & Allgaier, 2008), which indicates that people make riskier decisions for others in situations where risk taking is valued, but not in situations where risk taking is not valued. The authors showed that previously documented self-other differences only occur in situations where risk is valued: risk taking was valued in low-impact relationship decisions, but not in high-impact relationship decisions and monetary situations. People are therefore guided by a perceived norm regarding how to decide for other people.

In the classic study by Huber and Huber (2003), only one out of three tasks confronted participants directly with the outcome of the decision, whereas in the other tasks, other people were affected by the outcome of the decision. The findings reported above, however, suggest that the choice between a pre-event and a post-event RDO could differ according to whether the decision maker only or other people are affected by the outcome of the decision. Therefore, in the present studies, we have explicitly distinguished between self-involvement scenarios and others-involvement scenarios.

The results of the study by Beisswanger et al. (2003) indicate that people may experience more intense emotions when anticipating negative consequences for themselves than when thinking of negative consequences for others. The risk-as-feeling hypothesis (Loewenstein, Weber, Hsee, & Welch, 2001) proposes that emotional reactions to risky situations often do not correspond with cognitive evaluations of those risks, and when such a difference emerges, emotional reactions influence actual behavior. The authors even provide evidence for the idea that self-other differences in risky decisions are produced by self-other differences in feelings towards the risky options. When predicting feelings and decisions for other people, participants ignored the impact of emotional reactions, arriving to more risky decisions. Moreover, people are less sensitive to variations in the probability of affect-rich outcomes than they are for affect-poor outcomes (Rottenstreich & Hsee, 2001). Thus, people deciding for themselves might not take into account information regarding detection probabilities, and may exaggerate the risk of choosing the post-event RDO, even with a high detection probability. When thinking of negative consequences for others, affect may be lower and, thus, not only are the consequences being considered, but the probability that they will occur is also taken into account to a greater extent. This would lead to an interaction effect between detection probability and involvement type: when people themselves are involved, they should be more averse to risk, even when there is a higher detection probability, whereas when others are involved, detection probabilities should be taken into account to a greater extent. Our hypothesis, therefore, is that the effect of detection probabilities on the choice of RDO is stronger if others are involved than if the decision maker is involved.

2. Study 1

2.1. Method

The study sample comprised 384 participants (296 females, 88 males) with a median age of 25 years ($M = 27.12$ years, $SD = 8.14$). The majority (299) reported that they were students of various disciplines.

In an online study, each participant was presented with four naturalistic risky situations. Similar to the study by Huber and Huber (2003), the participants were encouraged to vividly imagine being confronted with a situation in which they had to choose one of two alternatives: a pre-event RDO or a post-event RDO. Two variables were experimentally manipulated: involvement type and detection probability.

2.1.1. Involvement type

Involvement type was varied between subjects and had two levels: self-involvement and others-involvement. Participants were randomly assigned to either the self-involvement or the others-involvement condition. The self-involvement scenarios implied risks that only threatened the participants themselves. In the others-involvement scenarios, the risk did affect other people.

2.1.2. Scenarios

In a pre-test, a variety of different scenarios were examined for comprehensibility, the ease of imagining oneself in the situation, and the distribution of chosen RDOs. Based on the pre-test, eight naturalistic risky situations were chosen for the present study, four of which involved self-involvement and four of which involved others-involvement. In the self-involvement scenarios, the participants were confronted with the risk of a viral infection in a foreign country, a computer virus, a flood damaging the participant's house, and a defective piece of furniture. In the others-involvement scenarios, the participants took the role of an employee of a governmental department confronted with the risk of a viral infection in the country, an employee responsible for the city's parks confronted with the risk of a pest infestation, a manager of a retail store confronted with the risk of scarce storage facilities, and an employee of an animal shelter confronted with the risk of a parasite infestation. The translation of the original German wording of the virus infection scenario is given as an example[1]: "You have just booked a holiday in a foreign country, which you are looking forward to. In this country a viral infection, which evokes high fever, is circulating. If you are not infected with the virus, a wonderful and relaxing holiday is lying ahead of you. You can decide between two alternatives: (a) you get a vaccination

[1] The wording of the other scenarios are available on request.

before the trip and are protected from the infection. However, the vaccination is costly and evokes 2 days of sickness as a side effect (pre-event RDO) or (b) in case of an infection you can buy expensive medicine. However, the medicine only helps if the infection is detected in time. It is *unlikely*/*possibly*/*most likely*/*certain* that the infection will be detected in time (post-event RDO with varying detection probabilities)."

2.1.3. Detection probability

Detection probability varied across four levels: unlikely, possibly, most likely, and certain. In contrast to Huber and Huber (2003), who used exact percentages, detection probabilities in the present study were presented verbally. This was intended to make the scenarios more realistic and vivid, and to increase the difference between these scenarios and classical gambling situations. Detection probability was varied within-subjects across scenarios, i.e., each participant received one scenario which was "unlikely," one scenario which was "possibly," one scenario which was "likely" and one scenario which was "certain" in a random order.

2.1.4. Additional variables

Because we used different scenarios in the self- and others-involvement conditions, the scenarios might differ with regard to important factors, which could lead to self-other differences. Two of these factors are the subjective threat and negativity indicated by the scenarios. We therefore measured these factors and used them as control variables in our later analyses. After making the decision between pre-event and post-event RDO, the participants were asked to rate the subjective negativity of the negative outcome on an 11-point scale ranging from 1 = "neutral" to 11 = "very negative," and the subjective threat of the scenario on a 5-point scale ranging from 1 = "not at all" to 5 = "extremely." In addition, as a manipulation check for detection probability, the participants reported how likely they perceived the detection of the negative event to be on an 11-point scale ranging from 1 = "under no circumstances" to 11 = "completely certain."

2.2. Results

As a manipulation check, a repeated measure analysis of variance with the manipulated detection probabilities as the independent variable and the subjective probability ratings as the dependent variable was conducted. The manipulated detection probability had a significant effect on the subjective probability ratings ($F(3, 1149) = 83.27$, $p < .01$, $\eta^2 = .18$). Planned contrasts revealed that the probability ratings for unlikely events ($M = 4.57$, $SD = 3.02$) were lower than for possible events ($M = 6.15$, $SD = 3.04$, $F(1, 383) = 67.91$, $p < .01$, $\eta^2 = .15$), and that the probability ratings for possible events were lower than for the events labeled as most likely ($M = 6.98$, $SD = 2.91$, $F(1, 383) = 22.43$, $p < .01$, $\eta^2 = .06$). Only the probability ratings for the consequences described to be most likely and certain ($M = 7.25$, $SD = 3.05$) did not differ significantly ($F(1, 383) = 2.58$, $p = .11$).

To analyze the expected effects of detection probability and involvement type on the choice between pre-event and post-event RDOs, the scenarios were combined into four variables representing the detection probabilities. In a mixed effect logit model with random slopes, the choice between RDOs was regressed on detection probability, involvement type, and the interaction between these two variables. For detection probability, a dummy coding with the reference category "certain" was used. The participants were included as random factors and the scenarios as fixed factors. The estimated variance of the random slopes was 0.003, which is marginally significant ($p = .06$). Table 1 illustrates the effects of each variable. The post-event RDO was chosen more frequently when others were involved than when decision makers themselves were involved. The post-event RDO was chosen less frequently when the probability of the detection of the negative event was unlikely or possible than when it was certain. Between "most likely" and "certain," no difference in choice of RDO emerged. The interaction terms indicate that the differences in choice of RDO between the probabilities "unlikely" and "certain," as well as between "possibly" and "certain" (marginally significant) is stronger in the others-involvement condition than in the self-involvement condition. Again, no difference between "most likely" and "certain" emerged. The effect of detection probability was significant in both involvement type conditions; however, the effect was much stronger in the others-involvement condition. Frequencies of choice between pre-event and post-event RDOs in Table 2 suggest that when detection of the negative consequences was unlikely, in both involvement type conditions, a minority of participants chose the risky option of post-event RDO (22% in the self-involvement condition and 33% in the others-involvement condition). When the detection of the negative consequence was certain, however, less than half of the participants in the self-involvement condition chose the post-event RDO (41%) while, in the others-involvement condition, the majority of participants chose the post-event RDO (84%).

To explore whether the control variables of subjective negativity and subjective threat differed between the different conditions, two 4 (detection probability: unlikely, possibly, most likely, certainly, within-subjects factor) × 2 (involvement type: self versus others, between-subjects factor) analyses of variance were estimated for the dependent variables of subjective negativity and subjective threat. For subjective negativity, the analysis revealed that involvement type had a significant effect ($F(1, 382) = 17.82$, $p < .01$, $\eta^2 = .05$). The main effect of detection probability ($F(3, 1146) = 0.66$, $p = .58$) and the interaction ($F(3, 1146) = 1.81$, $p = .14$) were not significant. With regard to subjective threat, the analysis again showed a significant main effect of involvement type ($F(1, 382) = 15.89$, $p < .01$, $\eta^2 = .04$), a non-significant main effect of detection probability (F

Table 1
Study 1: choice of RDO regressed on involvement type and detection probability.

	Estimate	SE	df	t	p
Constant	0.56	0.11	881.88	4.94	<.01
Involvement type	−0.44	0.05	1526.53	−9.51	<.01
Probability unlikely	0.19	0.04	937.95	4.20	<.01
Probability possibly	0.10	0.04	937.95	2.22	.03
Probability most likely	0.00	0.04	937.95	0.00	1.00
Involvement type * probability unlikely	−0.33	0.06	1001.82	−5.25	<.01
Involvement type * probability possibly	−0.11	0.06	1001.82	−1.71	0.09
Involvement type * probability most likely	−0.05	0.06	1001.82	−0.81	0.42

RDO choice: 1 = post-event RDO, 0 = pre-event RDO; Involvement type: 1 = others, 0 = self.

Table 2
Study 1: choice of RDO, subjective negativity, and subjective threat by detection probability and involvement type.

		Choice of RDO		Subjective negativity	Subjective threat
	Detection probability	Pre-event	Post-event	M (SD)	M (SD)
Self-involvement (n = 192)	Unlikely	149	43	6.66 (2.85)	2.96 (1.10)
	Possibly	132	60	6.69 (3.03)	2.93 (1.14)
	Most likely	113	79	6.53 (3.25)	2.93 (1.08)
	Certain	113	79	6.33 (3.00)	2.86 (1.08)
	Total	126.75	65.25	6.55 (1.99)	2.92 (0.61)
Others-involvement (n = 192)	Unlikely	129	63	7.66 (3.02)	2.82 (0.99)
	Possibly	69	123	7.20 (3.22)	2.71 (0.96)
	Most likely	39	135	7.34 (2.91)	2.61 (0.90)
	Certain	29	162	7.65 (2.87)	2.58 (0.99)
	Total	66.50	120.75	7.46 (2.23)	2.68 (0.58)

(3, 1146) = 2.16, $p = .09$), and a non-significant interaction ($F(3, 1146) = 0.65$, $p = .58$). The mean values in Table 2 illustrate that subjective negativity was rated lower when the participant was involved ($M = 6.55$, $SD = 1.99$) than when others were involved ($M = 7.46$, $SD = 2.23$). However, subjective threat was rated higher when the participant was involved ($M = 2.92$, $SD = 0.61$) than when others were involved ($M = 2.68$, $SD = 0.58$). Combining across detections, probabilities, and involvement types, subjective negativity ($r = -.18$) as well as subjective threat ($r = -.39$) were significantly correlated with choice of RDO. The post-event RDO was more likely to be chosen when the consequences of the event were perceived to be less negative and less threatening.

Due to the correlations between the control variables and choice of RDO and the significant differences in the control variables between the conditions, the mixed logistic regression analysis was re-run, including the covariate subjective negativity and subjective threat, which did not change the significant results presented above.

2.3. Discussion

In Study 1, a post-event RDO, which constitutes the riskier option, was more likely to be chosen when detection probability was high, rather than when it was low; it was also more likely to be chosen when others were involved, rather than when the decision makers were involved. Furthermore, detection probability was taken into account to a greater extent when other people were involved rather than when the decision makers were involved. When other people were involved, the consequences of the negative event were rated more negatively, but the event was rated as less threatening.

A limitation of Study 1 is that different situations were used in the self-involvement and others-involvement conditions. In Study 2, we therefore used parallel scenarios in the two involvement type conditions.

3. Study 2

3.1. Method

The sample of Study 2 comprised 269 students of various disciplines (193 females, 76 males) with a median age of 23 years ($M = 24.82$ years, $SD = 5.72$).

In a paper questionnaire, each participant was presented with one scenario in which they had to choose between a pre-event RDO and a post-event RDO. Instead of the dichotomous choice between RDOs, participants were asked to rate their tendency between the two options on a 9-point scale ranging from 1 = "alternative A" to 9 = "alternative B." As in Study 1, involvement type and detection probability were experimentally manipulated.

3.1.1. Involvement type

Involvement type was varied between subjects, and participants were randomly assigned to either the self-involvement or the others-involvement condition. For the self-involvement scenario, we used the first scenario of Study 1 (virus infection). This scenario is a widely used example of a decision between pre-event and post-event RDO (e.g., Huber & Huber, 2003). For the others-involvement scenario, we used the same wording as in the self-involvement condition, only replacing "you" with "another person" and making the necessary grammatical adjustments.

3.1.2. Detection probability

Detection probability was varied between subjects and participants were randomly assigned to three probabilities: unlikely, possibly, and certain. The probability most likely was not included in Study 2 because the manipulation check as well as the main analyses of Study 1 revealed no difference between the probabilities most likely and certain.

3.1.3. Additional variables

As in Study 1, participants were asked to rate the subjective negativity of the negative outcome (9-point scale ranging from 1 = "neutral" to 9 = "very negative"), and the subjective threat of the scenario (9-point scale ranging from 1 = "not at all" to 9 = "extremely").

3.2. Results

To analyze the effects of detection probability and involvement type on the continuous choice between pre-event and post-event RDOs, a 3 (detection probability: unlikely, possibly, certain, between subjects) × 2 (involvement type: self versus others, between subjects) analysis of variance was conducted. Results revealed a significant interaction effect ($F(2, 263) = 3.04$, $p = .049$, $\eta^2 = .02$). The main effects of detection probability ($F(2, 263) = 1.38$, $p = .26$) and involvement type ($F(1, 263) = 0.02$, $p = .90$) were not significant. The means in Table 3 and Fig. 1 illustrate that in the self-involvement condition the choice between pre-event RDO and post-event RDO does not significantly vary between detection probabilities ($F(2, 122) = 0.21$, $p = .82$) whereas, in the others-involvement condition, the post-event RDO is chosen more often with increasing detection probability ($F(2, 141) = 4.18$, $p = .02$, $\eta^2 = .06$). Thus, detection probability was only taken into account when others were involved.

In order to explore whether the control variables of subjective negativity and subjective threat differed between the different conditions, two 3 (detection probability: unlikely, possibly, certainly, between subjects) × 2 (involvement type: self versus others, between subjects) analyses of variance were conducted for the dependent variables of subjective negativity and subjective threat. For both variables, neither the effect of probability (negativity: $F(2, 263) = 0.32$, $p = .72$; threat: $F(2, 263) = 0.08$, $p = .92$), nor the effect of involvement type (negativity: $F(1, 263) = 0.06$, $p = .81$; threat: $F(1, 263) = 1.15$, $p = .29$) or the interaction (negativity: $F(2, 263) = 1.16$, $p = .31$; threat: $F(2, 263) = 0.44$, $p = .65$) were significant. Descriptive statistics of the two variables are presented in Table 3.

3.3. Discussion

In Study 2, which used a parallel scenario in the self- and others-involvement conditions, the interaction effect between involvement type and detection probability, which was found in Study 1, was replicated. Detection probability was only taken into account when deciding for other people. The consequences of the negative event and the threat of the event were rated similarly in the self- and others-involvement conditions.

4. General discussion

The results of Study 1 indicate that a post-event RDO was chosen more often when the detection probability increased. This result

Table 3
Study 2: choice of RDO, subjective negativity, and subjective threat by detection probability and involvement type.

			Choice of RDO	Subjective negativity	Subjective threat
	Detection Probability	n	M(SD)	M (SD)	M (SD)
Self-involvement	Unlikely	42	3.55 (2.23)	6.31 (2.08)	5.00 (2.30)
	Possibly	41	3.56 (1.72)	6.39 (1.94)	5.12 (1.87)
	Certain	42	3.31 (2.07)	6.60 (1.42)	5.21 (1.73)
	Total	125	3.47 (2.01)	6.43 (1.82)	5.11 (1.97)
Others-involvement	Unlikely	51	2.92 (1.92)	6.73 (1.60)	5.43 (1.65)
	Possibly	49	3.39 (1.94)	6.20 (1.93)	5.47 (1.75)
	Certain	44	4.20 (2.65)	6.20 (2.04)	5.16 (1.74)
	Total	144	3.47 (2.22)	6.39 (1.86)	5.36 (1.70)

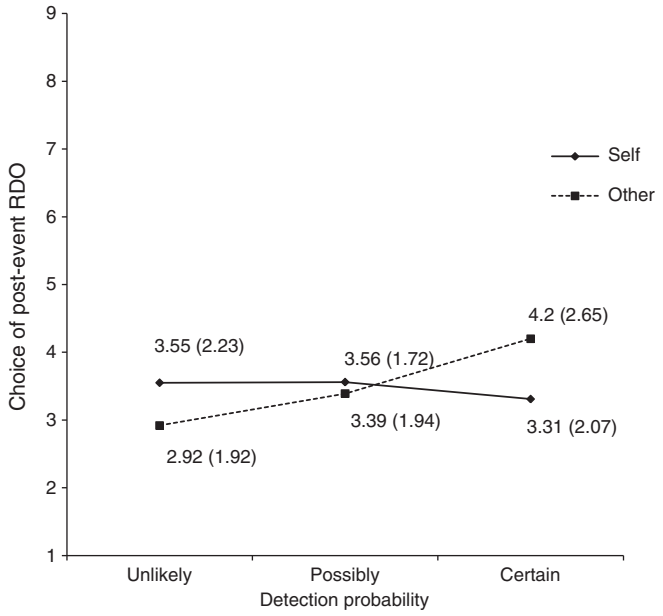

Fig. 1. Study 2: means and standard deviations of choosing a post-event RDO by detection probability and involvement type.

replicates the finding of the study by Huber and Huber (2003) using verbally presented detection probabilities. Moreover, the post-event RDO, which constitutes the riskier option, was chosen more often when others were involved than when the decision makers were involved. This result is in line with the finding that people made more risky relationship decisions for a friend than for themselves (Beisswanger et al., 2003; Wray & Stone, 2005). Moreover, detection probability was taken into account to a greater extent when others were involved than when the decision makers themselves were involved. However, in Study 1, the scenarios of the self- and others-involvement conditions were not completely equivalent. It is therefore not completely clear whether the results are really due to the self-other difference or due to the differences in scenarios. In Study 2, we therefore used a similar scenario in the two conditions.

In Study 2, the main effects of Study 1 were not replicated, indicating that these main effects might have been produced solely by the different scenarios used. However, the interaction between detection probability and involvement type was replicated in Study 2: detection probability was only taken into account when others were involved, but not when the decision makers themselves were involved. Despite the fact that when the detection of negative consequences is certain, the post-event RDO should be preferred because the cost of a pre-event RDO is deterministic (i.e., they arise, even if the potential negative consequences do not occur), whereas the costs of a post-event RDO are probabilistic (they only arise if the potential negative consequence has, in fact, occurred), the majority of participants who would be affected by the decision themselves still acted in a risk-averse way and chose the pre-event RDO. On the contrary, if others were affected, the information about detection probability was considered more strongly. When the detection of the negative consequences was certain, the majority of participants choose the post-event RDO. A possible explanation for this finding is that people may experience more intense emotions when thinking of negative consequences for themselves, and are consequently less sensitive to variations in probability (Hsee & Rottenstreich, 2004). As a result, they exaggerate the risk of choosing the post-event RDO, even for a high detection probability. When thinking of negative consequences for others, their effect might be lower, and therefore information regarding probability is taken into account to a greater extent.

The results of the present studies indicate that research on RDOs and on naturalistic risky decisions in general should take into account that results depend on whether the decisions have consequences for the decision makers themselves or for other people. Furthermore, the results have implications for the research area of self-other differences in risky decision making. So far, research has mainly focused on whether decisions for other people are more risk-seeking than decisions for the decision makers themselves. The present research indicates that decisions made for others might not be more risk-seeking per se, but cognitive evaluations are more relevant than when deciding for oneself. In decisions with consequences for the decision makers themselves, emotions play a more important role, i.e., the risk-as-feelings hypothesis (Loewenstein et al., 2001) becomes more apparent and probabilities are taken less into account.

The results also have practical implications because in the real world, important decisions often have consequences for other people. For instance, politicians or managers make such decisions on a daily basis. They have to decide whether to invest a lot of money in precautions or to wait until a negative event occurs to invest money in damage limitation. The results of this study indicate that, in these decisions with consequences for other people, information regarding probability is taken into account to a greater extent than in decisions with consequences for oneself.

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