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Social value orientations and the strategic use of fairness in ultimatum bargaining

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Abstract

One of the main issues in research on ultimatum bargaining is whether bargainers are motivated by self-interest or by a concern for fairness. It is difficult to distinguish between both motivations, because it may be in the own interest to make fair offers. In the current paper on ultimatum bargaining, it is investigated whether bargainers are truly motivated to be fair, or whether they merely strategically use fairness as a means to increase their own outcomes. The results of two experimental studies indicate that social value orientations play an important role: strategic use of fairness is mainly displayed by proselfs.

Keywords: Ultimatum bargaining; Social utility; Social values; Fairness; Self-interest; Power

Introduction

Theorizing on motivated bargainer behavior suggests that bargainers may be motivated by a concern for their own outcomes and by a concern for the outcomes of the other parties involved (see e.g., the dual concern model, Pruitt & Carnevale, 1993). More specifically, it has been argued and demonstrated that in bargaining two motives stand out: self-interest and fairness (e.g., Blount, 1995; De Dreu, Lualhati, & McCusker, 1994; Handgraaf, Van Dijk, Wilke, & Vermunt, 2003; Loewenstein, Thompson, & Bazerman, 1989; Messick & Sentis, 1985; Van Dijk & Vermunt, 2000). The question of whether bargainers are mainly motivated to further their own interest or whether they primarily are concerned with fairness has stimulated much research. An important tool to study these differential motives in the context of bargaining, is the ultimatum bargaining game, developed by Güth, Schmittberger, and Schwarze (1982). In the ultimatum bargaining game, two players have to decide on how to distribute a certain amount of money. One of the players, the allocator, offers a proportion of the money to the other player, the recipient. If the recipient accepts, the money will be distributed in agreement with the allocator's offer. If the recipient rejects the offer, both players get nothing.

If bargainers are only motivated to maximize their own outcomes, allocators should offer the recipients the smallest amount possible greater than zero. After all, if recipients only care for their own outcomes they should accept any offer greater than zero, reasoning that accepting the smallest offer yields them higher outcomes than the alternative of rejecting the offer and receiving nothing. The simple structure, and the fact that game-theoretic predictions are very clear, makes the ultimatum game an attractive tool to assess the relative importance of self-interest and fairness considerations (see e.g., Blount, 1995; Boles & Messick, 1990; Larrick & Blount, 1997; Van Dijk & Vermunt, 2000).

The main focus of prior research on the ultimatum bargaining game has been to investigate whether bargainers *in general* are more motivated by self-interest or by fairness. Early studies suggested that fairness carries great weight. This conclusion was largely based on the observation that allocators generally proposed an equal

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distribution (i.e., a 50–50 split) of the money (see for overviews e.g., Camerer & Thaler, 1995; Thaler, 1988).[1]

Indeed, preferences to divide outcomes equally can be explained on the basis of, for example, equity theory (Adams, 1965; Messick & Cook, 1983; Walster, Berscheid, & Walster, 1973; Walster, Walster, & Berscheid, 1978). According to equity theory, people prefer outcomes to be distributed in proportion to their inputs. In the case of equal inputs—the standard situation in research on ultimatum games—people are expected to prefer an equal distribution of the outcomes. However, subsequent studies have suggested that this behavior may reflect strategic and selfish behavior on the part of the allocator. That is, in an ultimatum game it may be in the own interest to offer an equal split if one fears that the recipient will reject unfair offers. To investigate this possibility, research has also employed experimental paradigms that reduced the fear of rejection. For example, Van Dijk and Vermunt (2000, experiment 1) designed an ultimatum game in which bargainers had to divide 100 chips that were worth twice as much to the allocator than to the recipient. In half of the conditions the allocators were informed that the recipient knew about this differential value. In these conditions, allocators tended to compensate for the differential value, by frequently offering twice as many chips to the recipient than to themselves. In the other half of the conditions, however, the allocators learned that the recipient did *not* know about the differential value. In this case, there appears to be a simple way for the allocator to end up with more money. Because the recipient does not know about the differential value, one can offer to split the chips equally—a seemingly fair offer—without much fear of rejection. An equal split of the chips may seem fair to the uninformed recipient, but it can hardly be looked upon as being truly fair, because it implies that the allocators take off with twice as much money as the recipients do. In agreement with the suggestion that equal offers that were observed in prior studies on ultimatum bargaining may have been motivated by fear of rejection rather than a "true" preference for fairness, results indicated that participants made lower offers if they believed the recipient was not aware of the fact that chips were worth more to the allocator. Similar findings in other bargaining studies (e.g., Boles, Croson, & Murnighan, 2000; Croson, 1996; Kagel, Kim, & Moser, 1996; Pillutla & Murnighan, 1995; Roth & Malouf, 1979; Roth & Murnighan, 1982; Straub & Murnighan, 1995) have led researchers (e.g., Camerer & Thaler, 1995; Pillutla & Murnighan, 2003) to conclude that what has generally been interpreted as fair behavior in the traditional ultimatum game may in fact have been selfish behavior in disguise. That is, positive offers may not be as much a result of "true fairness," but it may be more appropriate to speak of "strategic fairness."

This conclusion may be premature, however. In particular, the fact that *on average*, offers go down in the case of Asymmetric Information, does not necessarily imply that *all* allocators respond to an information advantage in a strategic manner. It may be that the fear of rejection explanation pertains to some, but not all allocators.[2] In the current article, we will try to further elaborate on this issue by relating the fear of rejection hypothesis to current insights about the role of social value orientations in social decision-making.

Social values

Social value orientations are individual differences in how people evaluate outcomes for themselves and others in interdependent situations (Kuhlman & Marshello, 1975; Messick & McClintock, 1968). Many orientations can be distinguished, depending on the weight people assign to own and others' outcomes, but most people can be classified as being a prosocial, competitor, or individualist (Van Lange, 1999). Prosocials tend to strive for maximizing joint outcomes and equality in outcomes. Individualists seek to maximize their own outcome, regardless of other's outcome. Competitors are motivated to maximize the difference between outcomes for self and other. These latter two—individualists and competitors—are usually taken together and defined as proselfs (Van Lange & Kuhlman, 1994), because they both assign a higher weight to the own outcomes than to the outcomes of others.

In this article, we investigate whether the conclusion that positive offers reflect selfish behavior (i.e., positive offers are mainly the result of strategic considerations such as fear of rejection) should be qualified or not. It may be that social value orientations may distinguish between the two types of fairness that may play a role in bargaining, i.e., "true fairness" and "strategic fairness." In particular, we will investigate the possibility that the "fear of rejection explanation," which accounts for positive offers in the traditional ultimatum game (i.e., the game in which both the allocator and recipient possess the same information), mainly serves to explain the behavior of proselfs. To examine this possibility we designed two experimental studies in which we related

[1] Most studies on ultimatum bargaining have been conducted in western countries. It may be noted, however, that recent studies have reported cultural differences in ultimatum bargaining behavior. For example, in some cultures, like the Peruvian Machiguenga (Henrich, 2000; Henrich et al., 2001), allocators appear to make lower offers.

[2] In fact, a closer inspection of prior findings reported by Van Dijk and Vermunt (2000) does indeed suggest that in their ultimatum game with Asymmetric Information part of the participants did compensate for the differential values by allocating twice as many chips to the recipient as to themselves, whereas others allocated the chips equally.

allocations made by allocators during ultimatum bargaining to their social orientations.

Experiment 1: What if you do not know what i know?

To investigate whether proselfs are more willing than prosocials to take advantage of the poor information level of recipients, we designed an ultimatum game in which we manipulated information level, and assessed the participants' social value orientation. Concentrating on allocator behavior, participants were assigned the allocator role, and they were informed that chips were worth twice as much to them as to the recipient (see for similar manipulations of information e.g., Boles et al., 2000; Van Dijk & Vermunt, 2000). Half of the participants learned that the recipient knew about this differential value (i.e., Symmetric Information), whereas the other half learned that the recipient was unaware of this difference (i.e., Asymmetric Information). Our main interest was in whether the participants would be affected by the manipulation of information. We expected information and social value orientation to interact. Reasoning that the fear of rejection explanation applies more to proselfs than to prosocials, we hypothesized that the manipulation would more strongly affect proselfs than prosocials. More specifically, we predicted lower offers in the Asymmetric Information conditions than in the Symmetric Information conditions, particularly for proselfs. There is also an alternative way to describe this interaction. Reasoning that in the case of Symmetric Information "true fairness" cannot be distinguished from "strategic fairness" (i.e., you might make a fair offer out of a true concern for fairness and because you might fear that an unfair offer will be rejected), we expected similar offers from prosocials and proselfs in this situation. In the case of Asymmetric Information, where it is possible to assess whether people truly want to be fair or whether they only want to appear fair, we expected lower offers from proselfs than from prosocials.

Method

Design and participants

The experiment used a 2 (Social Value: Proself vs Prosocial) $\times$ 2 (Information: Symmetric vs Asymmetric) between-participants factorial design in which participants were randomly assigned to one of the two information conditions and social values were assessed using the Decomposed Games Measure. The participants, 108 first year undergraduate students at Maastricht University, participated voluntarily. The experiment was part of a classroom exercise of a course on psychology, marketing, and organizations. Participants had no prior experience with ultimatum bargaining. Participation would not affect the grade they would receive.

Assessment of social value orientation

As a first task, participants completed a written version of the nine-item Decomposed Games Measure to assess their social value orientation (see for details, Van Lange, Otten, de Bruin, & Joireman, 1997). The Decomposed Games instrument has excellent psychometric qualities. It is internally consistent (e.g., Liebrand & Van Run, 1985; Parks, 1994), reliable over substantial time periods (Eisenberger, Kuhlman, & Cotterell, 1992; Kuhlman, Camac, & Cunha, 1986), and is not related to measures of social desirability or indices of mood (e.g., Kuhlman et al., 1986; Platow, 1994). Moreover, there is evidence for its ecological validity in various domains (e.g., De Dreu & Van Lange, 1995; Van Lange, Van Vugt, Meertens, & Ruiter, 1998).

The task consists of nine items, in which participants choose among combinations of outcomes for oneself and an (anonymous) other. These choices are made in a nonstrategic setting (i.e., the combinations of outcomes are in no way related to possible actions of the other, they only depend on what the participant chooses). Outcomes are represented by points, and participants are instructed to imagine that the points have value to themselves as well as to the other person. Each option represents a particular orientation. An example is the choice between alternative A: 500 points for self and 500 points for other, B: 560 points for self and 300 for other, and C: 500 points for self and 100 for other. Option A represents the *cooperative* or *pro-social* orientation, because it provides an equal distribution of outcomes (i.e., 500 for self and other), and generates the highest number of collective outcomes (i.e., 1000). Option B represents the *individualistic* option because own outcomes are maximized (560 vs choice A: 500, and C: 500) irrespective of other's outcomes. Finally, option C represents the *competitive* orientation because this distribution maximizes the difference between own outcomes and other's outcomes (Choice C: $500 - 100 = 400$, vs A: $500 - 500 = 0$, and B: $560 - 300 = 260$).

Participants are classified as pro-social, individualistic or competitive when at least six choices (out of nine) are consistent with one of the three orientations (e.g., McClintock & Allison, 1989; Van Lange & Kuhlman, 1994). In the present experiment, out of a total number of 108 individuals, five people could not be classified and were therefore excluded from further analyses. Of the 103 remaining individuals, 65 (63.1%) were identified as pro-socials, 30 (29.1%) as individualists, and 8 (7.8%) as competitors. The individualists and competitors were combined to form one group of proselfs ($N = 38$).

The ultimatum bargaining study

After this, participants were told that they would participate in a study on group-decision making. They were informed that they were paired with one of the

other students, and that each pair had to divide 100 chips. The participants received a booklet with further instructions. They learned that each chip was worth 0.10 Dutch Guilders to the allocator and 0.05 Dutch Guilders to the recipient (at the time of the experiment, 1 Dutch Guilder equaled US $.40). Participants read that positions were assigned on the basis of a chance procedure. Subsequently, all participants learned that they were assigned to the allocator position. In all conditions, participants learned that they should make an offer to the recipient, and that if the recipient would reject the offer, they would both receive nothing. If the recipient would accept the offer, the chips would be distributed in accordance with the offer. In the Symmetric Information conditions, participants were informed that recipients knew about the differential value in chips. In the Asymmetric Information conditions, they were told that recipients did not know about the differential value in chips. When all participants had indicated their offer, and the offers had been collected, the details of the current experiment were explained and discussed. At this point it was announced that in addition to the course credits, 15 participants would be randomly selected to receive the money they had allocated to themselves. All participants agreed to this procedure.

Results

Number of chips offered to the recipient

A 2 (Information) × 2 (Social Value) analysis of variance (ANOVA) yielded main effects for information ($F(1,99) = 16.89$, $p < .0001$) and social value ($F(1,99) = 9.33$, $p < .01$). The main effect for information indicated that the participants offered more chips to the recipient in the case of Symmetric Information ($M = 58.71$) than in the case of Asymmetric Information ($M = 50.56$). The social value main indicated that prosocials offered more chips ($M = 57.60$) to the recipient than did proselfs ($M = 50.32$).

These two main effects were qualified by a significant Information × Social Value interaction ($F(1,99) = 6.42$, $p < .02$). The mean allocations for the four conditions are depicted in Table 1. In agreement with our predictions, the Table shows that only the offers of the proselfs were significantly affected by the manipulation of information: they offered fewer chips in the case of Asymmetric Information than in the case of Symmetric Information ($F(1,99) = 17.59$, $p < .001$, $\eta^2 = .15$). Prosocials were not significantly affected by the manipulation of information ($F(1,99) = 1.67$, *ns*, $\eta^2 = .02$). As we noted in our introduction there is also an alternative way to describe the interaction: in the Symmetric Information conditions proselfs and prosocials made similar offers ($F(1,99) = .14$, *ns*, $\eta^2 = .001$), but in the asymmetric conditions, proselfs made lower offers than prosocials did ($F(1,99) = 15.33$, $p < .001$, $\eta^2 = .13$).

Table 1
Number of chips offered to the recipient as a function of Information Level and Social Value, Experiment 1

	M	*SD*	*n*
Proself			
Asymmetric	43.45[a]	9.01	20
Symmetric	57.94[b]	11.85	18
Prosocial			
Asymmetric	55.64[b]	10.77	28
Symmetric	59.08[b]	10.71	37

Note. Means with different superscript differ significantly (Tukeys, $p < .05$).

Discussion

As a first test of our ideas, the results confirmed our reasoning. That is, proselfs did adjust their offers to the alleged information level of the recipient. They lowered their offer when they believed that the recipient lacked the information to detect that the chips were worth more to the allocator than to the recipient. Prosocials were not influenced by the information level of the recipient. They tended to compensate for the differential value regardless of the information level of the recipient. It thus indeed seems that the fear of rejection explanation primarily serves to explain the behavior of proselfs.

Some limitations should be noted here, however. First of all, it should be noted that the experiment was conducted as part of a classroom exercise. Being part of a classroom exercise, we limited the number of dependent measures and concentrated on the assessment of the social value orientations and the actual offers, thereby leaving other measures that might be relevant to our understanding aside. Although these data sufficed as a first test, we felt it would prove insightful to complement data on the offers with data on the participants' (self-reported) motivation, and some data on how the participants thought the recipient would react. These data would be insightful, for example, because they might shed more light on the reasoning of the proselfs: why do they take advantage of the ignorance of the recipient? A possible answer would be that they—being primarily interested in securing their own outcomes—just don't care about the fact that the offer was unfair. Note, however, that there might also be another explanation here: Proselfs might reason that "what the eye doesn't see, the heart doesn't grieve about." That is, proselfs might have justified their unfair offer by arguing that if the recipient does not realize that she is being cheated out of some money, it is not all that bad to do so.

To address these issues and to explore whether our reasoning also applies to situations other than the issue of Symmetric vs Asymmetric Information, we designed Experiment 2.

Experiment 2: What if you are too weak to really hurt me?

The results of Experiment 1 indicated that proselfs lower their offers if they feel the recipient lacks the information to assess whether the offer is unfair. These results support the notion that in ultimatum bargaining, seemingly fair offers may be made out of fear of rejection. Note, however, that the inability of the recipient to assess whether an offer is unfair may not be the only condition that can free proselfs from their fear of rejection. Even if the recipient is fully aware that she has been treated unfairly, proselfs may still decide to offer a low number of chips if the impact that the recipient has on the distribution—the power to strike back—is limited. Therefore, to further elaborate on the "fear of rejection" hypothesis, it seems relevant to expand the analysis to the distribution of power.

The recipients' impact in the ultimatum game pertains to what would happen should the recipient reject. As we noted, in the typical ultimatum bargaining study, the recipient has the power to leave the allocator empty-handed. Put differently, in the typical ultimatum game, the recipient has the power to "undo" the allocation made by the allocator. However, it is also possible to construct variations where the power of the recipient is more limited. Suleiman (1996) designed a modification of the ultimatum game in which the power of the recipient can be varied. In this game, referred to as the "delta game," rejection of the offer means that the offer is multiplied with a factor delta. Thus, for delta = 0, the delta game is identical to the standard ultimatum game (i.e., if the recipient rejects, the recipient and the allocator both end up with nothing). It is apparent that with higher values of delta, the recipient becomes less powerful. For example, in the case of delta = 0.9, rejection means that the offer is only diminished by 10%.

In his experimental study, Suleiman (1996) demonstrated that offers tend to go down as delta increases. This is in agreement with the notion that positive offers may reflect fear of rejection. If there is less to fear, offers go down. Again, it remains to be investigated whether this is an adequate description of the behavior of *all* allocators, or whether it should be qualified. In line with the reasoning that the fear of rejection explanation is particularly relevant to describe proselfs, it may be anticipated that proselfs may be more likely to adjust their offers to the power position of the recipient. To investigate this possibility, we manipulated the delta, and assessed social value orientations. Delta was either set at 0, or at 0.9.[3] We anticipated that social value orientation and delta would interact: variations of delta should have a stronger effect on offers made by proselfs than on offers made by prosocials. As in Experiment 1, there is also an alternative way of describing the interaction. Based on the notion that in the traditional ultimatum bargaining game seemingly fair offers may be made out of a strong fear of rejection, we hypothesized that behavior of prosocials and proselfs would differ more strongly in the case of delta = 0.9 than in the case of delta = 0.

Also note that the current setup allows us to address the issue of whether the strategic use of fairness by proselfs might be due to their reasoning that it is not that bad to make an unfair offer if the recipient is in no position to infer (and thus to feel) that the offer is unfair. After all, in the current setup—with Symmetric Information—recipients are not left in the dark about how much money they are offered and how much money the allocator keeps to him- or herself. In such a situation, allocators can hardly maintain that an unfair offer would not be experienced as such by the recipient. If we were to replicate the basic findings of Experiment 1 in the sense that proselfs would now make lower offers if they feel the power position of the recipient is weak, this would render such an explanation less plausible. To complement the data, and to be able to paint a more complete picture, we now also gathered additional information on the motivations of the participants, and on the behavioral and affective reactions they expected from the recipient.

Method

Design and participants

The participants, 183 first year social science students at Leiden University, participated voluntarily in our laboratory study, and were informed that they would be paid for their participation. They had no prior experience with ultimatum bargaining. The experiment used a 2 (Social Value: Proself vs Prosocial) × 2 (Delta: 0 vs 0.9) between-participants factorial design in which participants were randomly assigned to one of the two delta conditions and social values were assessed using the Decomposed Games Measure.

Procedure

The participants were invited to the laboratory to participate in a study on group decision-making. Upon arrival, they were placed in separate cubicles, each containing a computer connected to a server. This computer was used to present the information and to register the dependent measures.

Assessment of social value orientations

First, participants completed the nine-item Decomposed Games Measure to assess their social value orientation. We were able to classify 160 participants out of

[3] We did not opt for the extreme of delta = 1, because this would imply that the recipient would have no say at all, in which case one could even argue that there is no game at all, since no formal response is required from the recipient. Also note, that such a "game" is generally referred to as the "dictator game" (e.g., Camerer & Thaler, 1995).

a total of 182. Of these 160 participants, 47 (29.4%) were identified as individualists, 24 (15.0%) as competitors, and 89 (55.6%) as prosocials. As in Experiment 1, the individualists and competitors were combined to form one group of proselfs ($N = 71$).

The ultimatum bargaining study

After the social value measure, participants took part in an unrelated study. Subsequently, they participated in the current study on ultimatum bargaining. At the start of the instructions, the participants were informed that they would be paired with one of the other participants, and that in each pair of participants (referred to as person A and B) a certain amount of money had to be divided. All participants learned that they were assigned the position of person A, the allocator. They had to divide 100 chips; 1 chip was said to be worth 0.10 Dutch Guilders. These outcomes would constitute the earnings of the participants involved.

In all conditions, participants learned that they could indicate how they wanted the 100 chips to be divided, and that their division would be sent to the recipient. If the recipient agreed to the division, the chips would be distributed accordingly. In the Delta = 0 conditions, participants learned that if the recipient turned down the division, neither the recipient nor the allocator would receive any money, i.e., no chips would be divided. In the Delta = 0.9 conditions, participants learned that if the recipient turned down the division, the division would be reduced by 10%.

At the end of the experiment, participants were thoroughly debriefed and paid 10 Dutch Guilders. All participants agreed to this procedure.

Results

Manipulation checks

Our manipulation of Delta was intended to affect the relative power of the recipient. To check whether our manipulation had been successful, we asked the participants (a) how powerful they felt person B was (1 = powerless; 7 = very powerful) and (b) how much influence person B could have on the distribution of the chips (1 = very little influence; 7 = very strong influence). As expected, both questions only yielded main effects for delta ($F(1,156) = 27.62$, $p < .0001$ and $F(1,156) = 33.29$, $p < .0001$, respectively). Participants in the delta = 0 conditions rated the recipient as more powerful and more influential ($M = 4.27$, and $M = 4.61$, respectively) than participants in the delta = 0.9 conditions ($M = 2.73$, and $M = 2.89$, respectively). These results indicate that our manipulations were successful.

Number of chips offered to the recipient

A 2 (Delta) × 2 (Social Value) analysis of variance (ANOVA) yielded main effects for delta ($F(1,156) = 20.09$, $p < .0001$) and social value ($F(1,156) = 15.85$, $p < .0001$). The main effect for delta indicated that the participants offered more chips to the recipient in the case of delta = 0 ($M = 47.30$) than in the case of delta = 0.9 ($M = 38.65$). The social value main effect indicated that prosocials offered more chips ($M = 46.61$) to the recipient than did proselfs ($M = 38.06$).

As expected, these two main effects were qualified by a significant Delta × Social Value interaction ($F(1,156) = 7.09$, $p < .01$). The mean allocations for the four conditions are depicted in Table 2. This Table shows that, in agreement with our hypothesis, the delta did not significantly affect the offers of prosocials ($F(1,156) = 1.88$, *ns*, $\eta^2 = .012$) whereas proselfs offered fewer chips in the case of delta = 0.9 than in the case of delta = 0 ($F(1,156) = 22.85$, $p < .0001$, $\eta^2 = .13$). Viewed differently, the interaction shows that in the case of delta = 0, prosocials and proselfs made similar offers ($F(1,156) = .83$, *ns*, $\eta^2 = .005$), whereas in the case of delta = 0.9, proselfs made lower offers than prosocials did ($F(1,156) = 23.24$, $p < .0001$, $\eta^2 = .13$).

Anticipated reactions of the recipient

To assess how the participants thought that the recipient would react to their offer, we asked them how satisfied they expected person B to be with their offer (1 = very unsatisfied; 7 = very satisfied). A 2 × 2 ANOVA on the answers to this question yielded main effects for delta ($F(1,156) = 17.57$, $p < .0001$) and social value ($F(1,156) = 14.09$, $p < .0001$). The social value main effect indicated that prosocials felt that the recipient would be more satisfied with their offer than proselfs did ($M_{\text{prosocial}} = 5.21$; $M_{\text{proself}} = 4.04$). The Delta main effect indicated that participants in the delta = 0 conditions ($M = 5.30$) thought that the recipient would be more satisfied than participants in the delta = 0.9 conditions did ($M = 4.13$). The main effects were qualified by a significant interaction ($F(1,156) = 7.36$, $p < .01$). The relevant means are depicted in Table 3. The pattern parallels the pattern of Table 2: Prosocials were not significantly affected by delta, whereas proselfs strongly reacted to delta. They felt that the recipient would be

Table 2
Number of chips offered to the recipient as a function of Delta and Social Value, Experiment 2

	M	*SD*	*n*
Proself			
Delta = 0	45.78[b]	7.18	32
Delta = 0.9	31.72[a]	19.42	39
Prosocial			
Delta = 0	48.38[b]	5.08	45
Delta = 0.9	44.80[b]	12.44	44

Note. Means with different superscript differ significantly (Tukeys, $p < .05$).

Table 3
Anticipated reactions of the recipient, as a function of Delta and Social Value, Experiment 2

	Proself		Prosocial	
	Delta		Delta	
	0	0.9	0	0.9
Satisfaction	5.13[b]	3.15[a]	5.42[b]	5.00[b]
Likelihood to accept	5.75[b]	3.62[a]	6.04[b]	5.66[b]

Note. For each row, means with different superscript differ significantly (Tukeys, $p < .05$).

less satisfied in the delta = 0.9 conditions than in the case of delta = 0.

In addition to these data on satisfaction, we also asked the participants about the expected behavioral response of the recipient by asking them how likely it would be that the recipient would accept their offer (1 = very unlikely; 7 = very likely). Again, main effects for delta ($F(1,156) = 22.36$, $p < .0001$) and social value ($F(1,156) = 19.25$, $p < .0001$) were found. The social value main effect indicated that prosocials ($M = 5.85$) thought that the recipient was more likely to accept their offer than proselfs did ($M = 4.58$). The delta main effect indicated that participants in the delta = 0 conditions ($M = 5.90$) felt they would be more likely to accept their offer than participants in the delta = 0.9 conditions did ($M = 4.70$). As in the case of the satisfaction data, the two main effects were qualified by a significant interaction ($F(1,156) = 10.77$, $p < .001$), that indicated that prosocials were not significantly affected by delta, whereas the expectations of proselfs were strongly affected by delta. They felt that the recipient would be less likely to accept their offer in the delta = 0.9 conditions than in the case of delta = 0. The relevant means are depicted in Table 3.

Our reasoning implies that expectations regarding the recipients' willingness to accept should mediate the effects of delta and social value on the offers. To test for mediation, we performed a series of regressions (cf. Baron & Kenny, 1986). First, we performed a regression analysis with delta, social value, and the Delta × Social Value interaction on the offers. This analysis yielded main effects for delta ($\beta = -0.32$, $p < .0001$), social value ($\beta = 0.28$, $p < .0001$) and a significant Delta × Social Value interaction ($\beta = -0.19$, $p < .01$). Second, we performed a similar analysis but now on the expected willingness to accept. This analysis also yielded main effects for delta ($\beta = -0.33$, $p < .0001$), social value ($\beta = 0.30$, $p < .0001$) and a significant Delta × Social Value interaction ($\beta = -0.23$, $p < .001$). Third, we added the expected willingness to accept (i.e., the supposed mediator) to our first analysis on the offers. This analysis indicated a highly significant effect of expected willingness to accept ($B = 0.66$, $p < .0001$). In addition, it indicated that the main effects of delta ($\beta = -.10$, $p = .09$), social value ($\beta = -.08$, $p = .16$), and the Delta × Social Value interaction ($\beta = -.04$, $p = .49$) ceased to be significant. Sobel tests indicated that these reductions were significant ($z = -4.32$, $z = -4.04$, and $z = -3.14$, respectively; if the absolute z-score is higher that 1.96 it is significant at the .05-level). Thus, there is strong evidence that the effects of social value and delta on the offers are largely mediated by the expected willingness to accept.

Self-reported motivation

After participants had indicated their offer, we asked them about the importance of three possible motives. We asked them how important it had been for them to: (1) to earn as much money for themselves as possible, (2) to earn more than B, (3) to earn the same amount as B (1 = very unimportant; 7 = very important). For all three motives, only social value main effects were observed ($F(1,156) = 9.64$, $p < .01$; $F(1,156) = 9.95$, $p < .01$; and $F(1,156) = 29.88$, $p < .0001$, respectively). Compared to prosocials, proselfs reported that they were more strongly motivated to earn as much money for themselves as possible, ($M_{\text{proself}} = 4.13$; $M_{\text{prosocial}} = 3.01$), more motivated to earn more than B ($M_{\text{proself}} = 3.21$; $M_{\text{prosocial}} = 2.18$), and less motivated to earn the same amount as B ($M_{\text{proself}} = 3.48$; $M_{\text{prosocial}} = 5.35$).

We also asked them to what extent it had been important to them that they felt it was morally inappropriate to offer less than an equal number of chips to B. Only a main effect for social value appeared ($F(1,156) = 0.41$, $p < .0001$). This had been more important to prosocials ($M = 5.12$) than to proselfs ($M = 3.61$).

Discussion

The results of Experiment 2 indicate that only the offers of the proselfs were significantly affected by the power of the recipient. Thus, only proselfs offered fewer chips if rejection of the offer would reduce the allocation by 10% than if it implied that they would not receive anything (i.e., in the traditional ultimatum game). These findings corroborate the view that especially proselfs are likely to strategically use fairness as a way to increase their own outcomes. That in this pursuit they may show relatively little regard to the recipient's concerns is illustrated by the data on the anticipated reactions of the recipient. These data show that in the delta = 0.9 conditions, proselfs were fully aware that their low offers would probably not be appreciated by the recipients. Apparently, they did not care that the recipient would be dissatisfied, or even that the recipient might turn down their offer. Given the slight impact of rejection, proselfs seemed to reason that this was not all that important because they themselves would end up with a high number of chips. The fact that they did offer a

higher number of chips in the traditional ultimatum bargaining game (i.e., in the delta = 0 condition, they offered almost half of the chips), and that offers were mediated by their expectations regarding the recipient's willingness to accept, does indeed suggest that they made strategic use of fairness.

In this respect it is also important to note that the data on the self-reported motivation only showed main effects of social value orientation. Thus, it was not the case that proselfs were less motivated to maximize their own outcomes in the traditional ultimatum game (delta = 0) than in the case of delta = 0.9. Nor was it the case that they felt it was more inappropriate to offer a low number of chips in the delta = 0 condition than in the delta = 0.9 condition. It thus seems that they realized that in order to maximize their own outcomes in the traditional ultimatum game, they would better make a relatively high offer.

General discussion

Taken together, the results of the two studies presented here suggest that the "fear of rejection" explanation of fair offers (ultimatum) bargaining, can mainly serve to explain the behavior of proselfs, and not the behavior of prosocials. It therefore seems appropriate to complement Camerer and Thaler's (1995) conclusion that "self-interested behavior is alive and well, even in ultimatum games" with the notion that "other-interested" behavior is not ready to be buried either.

With the current study, we followed up on Van Lange's (2000) plea to take an interaction approach when studying the effects of social value orientation. In his review of effects of interpersonal orientations in situations of interdependence, he advocated that theoretical analyses would benefit from taking account of both a situational view and a dispositional view, and that it is essential for research on social decision making to increase understanding of how dispositional and situational factors interact. As Van Lange (2000) even put it: "one should obtain statistical interactions of disposition-and-situation" (p. 319). The interactions observed in our two studies underscore van Lange's theoretical analysis.

At this point, it is appropriate to acknowledge a limitation of the present study. Like many other studies on social value orientations and decision-making, we measured the social value orientations prior to the ultimatum bargaining studies. We explicitly presented the social value measurement and the bargaining studies as separate studies, and in our Experiment 2, we included another study (on an unrelated topic, i.e., curiosity and regret) in between the social value measurement and the bargaining study. We have no indication that our participants thought the social value measurement was related to the ultimatum bargaining studies. Nevertheless in future research in might also be worthwhile to strive for a stronger disconnection in time, e.g., by assessing the social values one week prior to the bargaining studies. The fact that prior studies on stability of social values (see e.g., Kuhlman et al., 1986; Van Lange & Semin-Goossens, 1998) do indicate that social values are stable over time, lead us to expect that the basic findings of the current studies would also hold under these more stringent conditions.

With regard to the fact that prosocials and proselfs did not act differently in the traditional ultimatum game, the current findings illustrate that in situations of bargaining, fair offers may be made out of self-interest and out of a true concern for fairness. In the conditions where it was possible to distinguish between true fairness and self-interest, however, we were able to distinguish proselfs and prosocials as in these conditions, proselfs made lower offers than the prosocials. Moreover, the additional data obtained in Experiment 2 suggest that the interest that proselfs may have in how the recipient will feel (i.e., will she be satisfied with the offer) is mainly strategic in the sense that they do not seem to care much about the recipient's feelings if the recipient lacks the power to have a strong impact on their own outcomes. The picture arising from all this, is that of proselfs acting as "wolves in sheep's clothing," who throw off their cover in the dark (i.e., when the opponent lacks the information to recognize the unfairness, and when the power of the opponent is limited).

It thus seems that proselfs are very responsive to situational cues such as the recipient's information and power position. At first sight, this conclusion may seem at odds with prior research in social dilemmas that identifies prosocials as the ones who are especially responsive to the social environment (e.g., Kelley & Stahelski, 1970). Note, however, that the current insights pertain to a different kind of responsiveness. That is, the prior research that stressed the responsiveness of prosocials, was focused on their tendency to show behavioral assimilation (De Cremer & Van Lange, 2001; Van Lange, 1999): if they are confronted with cooperation, they tend to respond with cooperation, and if they are confronted with self-interested behavior, they tend to respond with self-interested behavior. In a similar vein, it has been shown recently, that prosocials may be less willing to deceive if they are confronted with a cooperative other, than with a competitive other (Steinel & De Dreu, 2001). The environmental sensitivity of the proselfs that emerges from the current study is different because it pertains to the attention proselfs pay to the environmental cues that determine how their self-interest is best served. Thus, the current results do not indicate that proselfs adjust their goal to the situation (their primary concern under all conditions is to maximize own outcomes). Rather, the results indicate that proselfs

realize that in order to achieve this goal, they should adjust their behavior to the situational context. As a result, they are motivated to take into account the information level and power position of the recipient.

It is also appropriate to note that the results of the second experiment fit well with the notion that proselfs tend—more than prosocials—to view situations of interdependence in terms of might, i.e., in terms of power of the other player (e.g., Liebrand, Jansen, Rijken, & Suhre, 1986; Sattler & Kerr, 1991; Van Lange & Kuhlman, 1994; Van Lange & Liebrand, 1989). Again, there is a difference in focus here, because in prior theorizing the focus was on how proselfs interpret cooperative and noncooperative partners in social dilemmas. The finding that in social dilemmas proselfs view a cooperative partner as "weaker" than a noncooperative partner, is—although related—different from the current finding that proselfs adjusted their behavior to the power position of the recipient.

Prior studies on the relation between social value orientations and bargaining behavior have focused on bargaining styles, e.g., on whether or not people rely on tough or soft bargaining tactics and whether or not people are likely to follow a problem-solving approach to bargaining. These insights suggest that proselfs adopt tougher bargaining styles and are less likely to take a problem-solving perspective (e.g., De Dreu & Van Lange, 1995; Olekalns, Smith, & Kibby, 1996). In the current studies, new behaviors are studied, such as the tendency to misrepresent the true values in Experiment 1. Of course this was done in a rather indirect way, in the sense that participants did not (and could not) explicitly inform the recipient about the value of the chips (see for recent studies in which such behaviors were studied in a bargaining setting e.g., Boles et al., 2000; Steinel & De Dreu, 2001). However, participants could "fool" the recipient in an indirect manner by dividing the chips equally, and thus letting the recipient believe the chips did not differ in value.

As Tenbrunsel and Messick (2001) noted, negotiation and bargaining situations are often prone to a variety of unethical behaviors, such as selective disclosure of preferences, deception, and false promises. In a similar vein, Lewicki and Litterer (1985) noted that "lying and deceit are an integral part of effective negotiation." Whereas such behaviors are generally viewed as being inappropriate, bargainers sometimes turn to such behaviors. Not surprisingly, the willingness to engage in such behaviors has been linked to the motivation to further the own outcomes. People may act unethically out of greed, and the more money is at stake, the more likely it is that people will turn to deception (Tenbrunsel, 1998). O'Connor and Carnevale (1997) found that explicitly instructing participants to further the own outcomes or the collective outcomes affected willingness to misrepresent. In addition to such situational factors, the current studies suggest that social value orientations may be relevant here. Moreover, the current findings also suggest that what may be seen as unethical by one person may be seen as acceptable by another. In a way, the differential views of proselfs and prosocials in our study resemble the debate in the scientific literature about the acceptability of behavioral strategies like deception, where some authors argue that deception is allowed in bargaining, whereas others regard such behavior as unethical (see e.g., Strudler's (1995) remarks on the ethics of deception in bargaining).

Taken together, the findings of the studies reported here illustrate the potential benefits of a motivational account of bargaining behavior. The current findings suggest that in bargaining situations, the relative importance of self-interest and fairness may be moderated by people's social value orientations. In this article, we restricted our analysis to ultimatum bargaining. For the current purposes, this approach sufficed. It may, however, be relevant to compare the current insights to those obtained in the field of integrative bargaining. Integrative bargaining is often defined as bargaining with the possibility of a win–win solution (e.g., Fisher & Ury, 1981). In such situations with integrative potential, it is assumed that bargainers fare better if they disclose their own preferences to the other parties involved (Friedman & Shapiro, 1995). It has been shown that in integrative bargaining proselfs may perform worse than prosocials, and that this may be (partly) due because of their greater reluctance to share (truthful) information and their higher tendency to impose their will onto the other (see for a meta-analytic review De Dreu, Weingart, & Kwon, 2000). The current findings seem to corroborate that view. The main difference, of course, is that in the current article, such behaviors would not necessarily have yielded them lower outcomes. We did not study the actual reactions to the offer, because in the current studies we were mainly interested in the motives behind (seemingly) fair offers. Nevertheless, it seems plausible to assume that in the traditional ultimatum game, in which proselfs and prosocials showed similar behavior, the proselfs would have obtained as much money as the prosocials. In the case of Asymmetric Information (Experiment 1), and a weak recipient (Experiment 2), it even appears that proselfs would have ended up with higher outcomes. And this, it seems, is what the proselfs were after in the first place.

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