

Will Cooperators Manage to Cooperate?*

– Experimental Evidence –

by

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Abstract. It is often claimed that, if one could sense whether the other is going to cooperate or not, cooperators will manage to cooperate. Our experiment tries to shed new light on this debate. Participants could make their strategies in an asymmetric prisoner's dilemma game and a trust game dependent on their partners' individual donation shares to a self-selected charity and on whether their partner belongs to a group with high or low average donations (group affiliation).

On average, a high donation share was often rewarded by the cooperative choice, whereas a low donation share triggered a noncooperative response more often. This result was, however, observable only in the trust game. Participants were found not to condition their choices on group affiliation.

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1. Introduction

The frequently claimed cooperative choices in one-shot social dilemma games¹ have been attributed to intrinsic motivation and to morality (e.g., Frank, 1987). Morally

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¹ This "stylized fact" is often stated but rarely empirically validated. The few experimental studies (e.g., Andreoni and Miller, 1993; Kahn and Murnighan, 1993) mostly rely on a much higher payoff for mutual cooperation than for mutual opportunism so that efficiency considerations become the dominating motive. For more moderate efficiency gains by cooperation, the "stylized fact" is questionable.

motivated individuals in a social dilemma game are likely to play cooperatively, thereby earning higher payoffs if they meet other cooperators, but also facing the risk of being exploited by opportunistic partners. Theoretical studies (e.g., Güth and Kliemt, 2000; Albert and Heiner, 2001) have shown that morality can guarantee a higher or lower degree of mutually profitable cooperation if others' morality can be more or less reliably detected. Thus, moral preferences can be evolutionarily stable as long as there is sufficient and reliable information about the other's moral predisposition.

Previous experiments partly support (e.g., Frank, 1987) and partly question (e.g., Hass, 1998) these theoretical predictions. In such experiments one can, like Frank, simply presuppose common but uncontrolled detection techniques like eye contact or body language. The alternative, also adopted here, is to experimentally provide some signal of others' morality, thus allowing for better experimental control of the detection process.

In our attempt to shed new light on this important debate, we randomly assigned participants to two different endowment conditions (ATS 40 versus ATS 80). Participants were asked to donate 10%, 50% or 90% of their monetary endowment to a self-selected charity from a prespecified list. By code numbers the set of participants was split up into equally large groups A and B. Of these, the group with the larger total amount of donations was called X, the other group Y. Only the donations of group X were doubled. The donations by members of group Y remained unchanged. The subsequent main experiment confronted each pair of participants with two games, an asymmetric prisoner's dilemma game² and a trust game.³ Participants had to play both games, taking both roles, and could condition their choices on (i) their partner's donation share (10%, 50%, 90%) and (ii) their partner's group affiliation (X, Y).

Compared to earlier studies, our study explores the willingness of participants to condition their own behavior on (own and) other's morality (as measured by donation share and group affiliation). Our design also allows us to investigate whether behavior depends on initial monetary endowment (ATS 40 versus ATS 80), or whether the willingness to condition one's behavior on other's morality is influenced by the participant's own degree of morality, and examine self-serving attitudes, that is, whether one is nice when one's partner donated the same share (even when this is below 90%).

² Previous prisoner's dilemma experiments are reviewed, e.g., by van Lange, Liebrand, Wim, Messick and Wilke (1992).

³ Previous trust experiments have been done, e.g., by Croson and Buchan (1999), Güth, Ockenfels and Wendel (1997) and Snijders and Keren (1994).

2. The Experiment

2.1 Participants

One hundred and eight students, enrolled at the University of Vienna, participated in the experiment. On average, participants earned ATS 154.34, approximately USD 10 in December 2000 when the experiment was conducted. The standard deviation was ATS 55.14 (about USD 3.60). Earnings ranged from a minimum of ATS 44 to a maximum of ATS 302. The experiment was performed in six sessions with 18 participants each. Fifty-eight females and 50 males, aged 18 to 34 ($M = 23.05$, $SD = 3.19$) participated in the experiment. The experiment lasted about 45 minutes.

2.2 Experimental Procedure

The experiment was conducted in two stages. In the first stage, participants received their monetary endowment of either ATS 40 or ATS 80 (between-subjects factor) in envelopes. Based on a prespecified list of charities, participants were asked to donate a share of either 10%, 50% or 90% (within-subjects factor) of their monetary endowment to one self-selected charity from the list. The remainder was kept by the participants.

Participants were informed that all subjects were split up randomly into two groups of equal size by the experimenters. These groups were referred to as group A and group B (between-subjects factor). However, participants were not informed to which of the two groups they had already been assigned. After collecting all decision forms and envelopes with the individual donations, the experimenters computed the total amount of donations for both groups. The group, either A or B, with the larger aggregate donation was called group X, the other group was referred to as group Y. Participants were informed that all donations of group X would be doubled by the experimenters, that is, the specified charities would receive twice the amount of what had been donated, whereas the donations of group Y would be passed on unchanged.⁴

Participants were not informed at the beginning of the experiment that there would be a second stage, in order to avoid strategic behavior in the first stage. In the second stage, participants were introduced to four decision tasks. More precisely, they had to play an asymmetric prisoner's dilemma game (PD, see Table 1) and a trust game (TG,

⁴ Team competition is known to trigger a more cooperative within-group behavior (see Bornstein, Winter and Goren, 1996). Here this seems less relevant since participants confronted isolated decision problems in the first stage.

see Figure 1) taking both roles, role a and role b (within-subjects factor). The two player positions in these two games were used to define four decision tasks for all participants:

- the choice between K and L in role a
- the choice between P and Q in role b
- the choice between G and H in role a
- the choice between R and S in role b

Table 1. Prisoner's dilemma game of situation I (1st and 2nd entry refers to role a's, b's payoff, respectively)

Role a / role b	P	Q
K	100, 100	0, 150
L	125, 0	50, 50

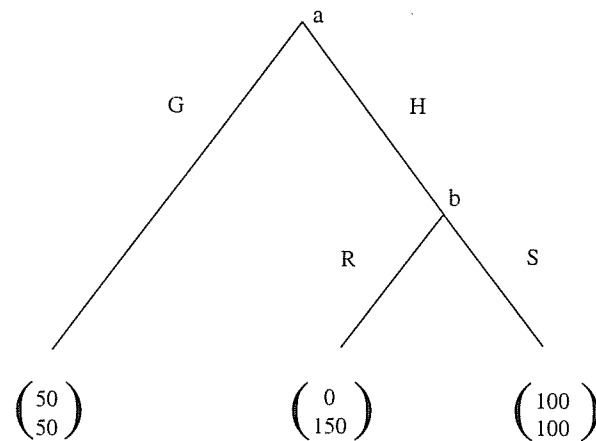


Figure 1. Trust game of situation II (upper and lower payoff refers to what role a, b earns, respectively)

Participants were informed that they would be interacting with another participant whose identity would not be revealed, and that both would have the same chances of earning money. Only after all decisions were collected was it determined by chance

whether a pair was paid according to their choices in situation I or II, and who of the two partners was assigned to role a or b in this situation. Thus, each participant had to submit a strategy vector for both games. In the two games, participants were given the opportunity to condition their choices on (i) their partner's donation share (10%, 50%, 90%) and (ii) on their partner's group affiliation (group X or Y) by using the strategy-method.

After being paid participants were asked to fill out a short postexperimental questionnaire, asking for motives of choices, their understanding of the instructions and the decision effort. An English translation of the instructions as well as of the decision form of the first stage can be found in App. A, a translation of the instructions of the second stage and the corresponding decision forms in App. B, and an English translation of the postexperimental questionnaire in App. C.

2.3 Experimental Results

2.3.1 Donation Behavior

Participants' donation shares were fairly high. Only 15 participants donated 10% of their monetary endowment, whereas 53 donated 50%, and 40 participants even donated 90% of their endowment. These figures are even more surprising if one takes into account that participants received their monetary endowment cash in envelopes and had to make their donations by returning the money to the experimenters physically. One explanation for these high donation shares could be the so-called desirability bias. It is based on the assumption that subjects' actions in an experimental setting are not solely intrinsically motivated but, to a large extent, also extrinsically motivated: Subjects wish to be seen in a good light by the experimenter in spite of their anonymity and exhibit a behavior that they consider as socially desirable. To reduce desirability in this sense one could have employed double blind procedures, which, however, would have greatly complicated the experiment.

Overall, the donations amounted to ATS 3,816 (about USD 250). Figure 2 indicates that there is no statistically significant difference between the donation shares of the participants in the low endowment treatment and those in the high endowment treatment ($\chi^2 = 0.94, p = .63$). Generally, most of the donations were assigned to an organization helping children with cancer ("Kinderkrebshilfe"), followed by "Amnesty International" and "Doctors without Borders" (see Table 2). There is no statistically significant difference between the donation assignments of participants in the low endowment treatment and those in the high endowment treatment ($\chi^2 = 17.22, p = .31$).

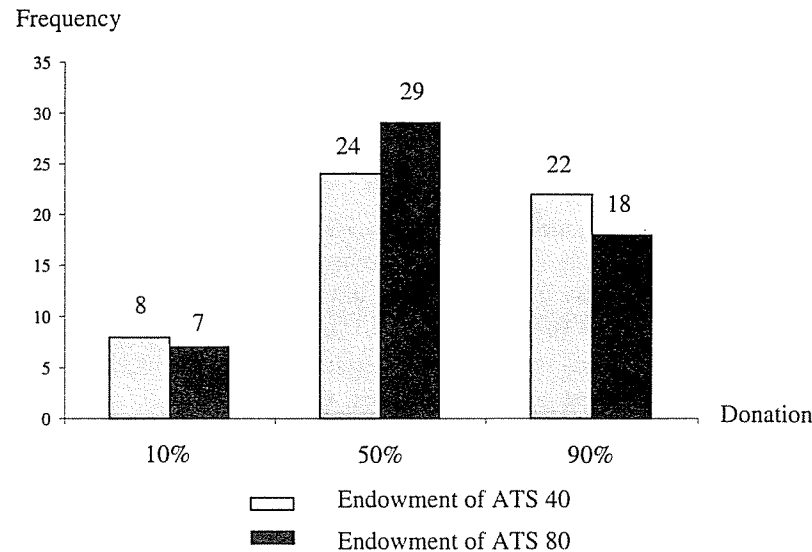


Figure 2. Donation share of participants in the high and low endowment treatment

Table 2. Donations to charities

Number	Organization	Purpose	Donation (in ATS)	Frequency of donations	M	SD
1	Aids Aid	Medical care	344	9	38.22	15.11
2	Amnesty International	Human rights	352	10	35.20	17.97
3	Doctors without Borders	Medical care	324	10	32.40	22.43
4	Care Austria	Various	0	0	0	0
5	Caritas	Various	60	3	20.00	0
6	Clown Doctors	Children	108	5	21.60	16.15
7	Global 2000	Environment	120	3	40.00	32.00
8	Greenpeace	Environment	240	7	34.29	22.85
9	Kinderhilfswerk	Children	128	3	42.67	26.63
10	Kinderkrebshilfe	Children	960	27	35.56	20.04
11	Licht ins Dunkel	Various	284	7	40.57	15.57
12	Menschen für Menschen	Various	40	2	20.00	0
13	Möwe	Crime victims	376	9	41.78	26.01
14	Blindenverband	Medical care	56	2	28.00	11.31
15	Red Cross	Medical care	96	3	32.00	10.58
16	Samariter Bund	Medical care	0	0	0	0
17	Tierschutzverein	Animals	248	6	41.33	26.37
18	Vier Pfoten	Animals	80	2	40.00	45.25

Unlike Okunade, Wunnava and Walsh (1994) and Rai and Gupta (1996), we found no gender effects with respect to individual donations ($\chi^2 = 2.17, p = .14$). There was no correlation between the age of participants and their donating behavior ($r(108) = .05, p = .61$) nor any statistically significant difference in donation shares ($\chi^2 = 3.28, p = .77$) and in donations amounts ($\chi^2 = 1.49, p = .96$) with respect to the usage of the donations by the receiving organizations, as indicated in Table 2.

Questionnaire results indicate that participants with a donation share of 10% regarded their choice as suitable and sufficient in the experiment. They more emphatically agreed with item 11, stating that a donation share of 10% was suitable in this experiment, more so than they did with items 12 and 13, stating that a donation share of 50% and 90%, respectively, was suitable ($\chi^2 = 29.29, p < .001$). The same results hold for participants who chose a donation share of 50% and 90%, respectively, who also thought that their respective choice was more suitable than any other ($\chi^2 = 39.95, p < .001; \chi^2 = 30.90, p < .001$). Thus, with respect to the participants' donations, the questionnaire results correspond strongly to participants' actual choices in the experiment.

Participants who regarded a donation share of 10% as suitable in the experiment reported that they tried to earn as much as possible (correlation item 11 with item 4: $r(106)_{11, 14} = .41, p < .001$), while regarding a donation share of 90% as unreasonable ($r(106)_{11, 113} = -.43, p < .001$). Participants who regarded a donation share of 90% as suitable stated that they gave to charities on a regular basis ($r(106)_{113, 12} = .26, p < .01$).

2.3.2 Conditioning on Donation Shares

Participants could condition their strategies in the asymmetric prisoner's dilemma (PD) and in the trust game (TG) on the donation shares (10%, 50%, 90%) of their partners. Figure 3 indicates that participants indeed made their choices in the two games dependent on their partners' donation shares: the higher the donation share, the higher the cooperation rate, and vice versa, the lower the donation share, the lower the cooperation rate. An increase in the partner's donation share reduced the frequency of low cooperation rates ($r \leq 1/3$), from 56 for a donation share of 10% to 34 for a donation share of 90%, while at the same time leading to an increase in the frequency of high cooperation rates ($r \geq 2/3$), from 25 for a donation share of 10% to 35 for a donation share of 90%.

The median of cooperative strategies, computed according to an index ranging from 0 = never cooperating to 1 = always cooperating, increased proportionally with an increase in the partner's donation share for the two games ($MD_{10\%} = .25, Q_{10\%} = .31; MD_{50\%} = .38, Q_{50\%} = .19; MD_{90\%} = .50, Q_{90\%} = .25; \chi^2 = 10.91, p < .01$).⁵

⁵ Q indicates the mean quartile distance, computed as $(Q_{75} - Q_{25})/2$.

However, this pattern could not be observed in the prisoner's dilemma game ($\chi^2 = 2.59, p = .27$). In this game, the relative frequency of cooperative strategies did not depend statistically significantly on the partner's donation share.⁶ The mean ranks of the relative frequency of cooperative game strategies almost remained constant as the partner's donation share increased. The mean rank for a donation share of 10% was 1.94; for a donation share of 50% 1.98 and for a donation share of 90% it was 2.08.

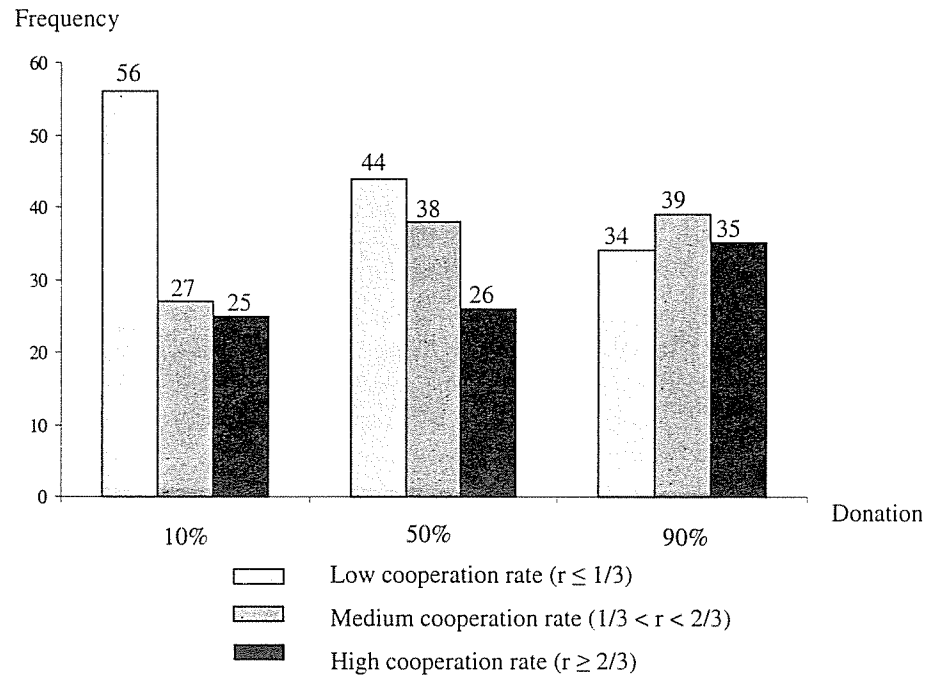


Figure 3. Frequency of cooperative game strategies with respect to donation shares

According to the choice pattern of the trust game, on the other hand, participants strongly reacted to the donation share of their partners ($\chi^2 = 24.63, p < .001$). The mean rank of the relative frequency of cooperative strategies increased with the donation share of the participants' partners, from 1.81 for a donation share of 10%, to 1.93 for a share of 50%, and finally to 2.26 for a donation share of 90%.

⁶ The similar results of Hass (1998) are therefore at least not only due to too low monetary incentives.

Is the increase in cooperative strategies larger for the increase in the donation share from 50% to 90% than for the increase from 10% to 50%? The results do not support this conjecture ($\chi^2 = 1.88, p = .17$), indicating that participants increased their cooperation rates equally in both cases. In addition, it was investigated whether there were gender differences with respect to the relative frequency of cooperative behavior in the two games. But there exists neither a statistically significant difference between strategy choices of males and females ($MD_M = .50, Q_M = .19; MD_F = .42, Q_F = .16; \chi^2 = 0.92, p = .34$) nor a correlation between age and the relative frequency of cooperative strategies ($r(108) = .11, p = .28$).

In a further step, it was analyzed whether participants showed a more cooperative behavior toward partners with an equally high donation share compared to their own. The results do not support this conjecture in case of participants with a donation share of 10% and 50%, respectively ($\chi^2 = 0.50, p = .48; \chi^2 = 0.03, p = .85$). In both cases, cooperation indices were not higher for those partners with equally high donation shares. However, participants with a donation share of 90% treated partners with an equally high donation share more cooperatively than others ($MD_{90\%} = .50, Q_{90\%} = .36; MD_{\rightarrow 90\%} = .28, Q_{\rightarrow 90\%} = .19; \chi^2 = 7.76, p < .01$). They discriminated between donation shares, and made their choices dependent on whether or not partners' chose equally high donation shares compared to their own.⁷ One can describe this as a significantly stronger solidarity between "full cooperators".

In a univariate regression analysis it was investigated whether one's cooperation frequency can be predicted by one's donation share. However, the results do not support this conjecture. The relative frequency of cooperative behavior in the experiment was not related to participants' individual donation shares ($R^2 = .01, p = .78$). In a further univariate regression analysis it was investigated whether individual responses to the questionnaire can predict cooperative strategies in the two games, PD and TG. The results indicate that the relative frequency of cooperative strategies can be predicted from item 4 and item 6 ($R^2 = .41, p < .001$). Participants who stated in the questionnaire that they did not aim at earning as much money as possible, and who expected that their partner would also play cooperatively, cooperated significantly more often in the two games than others.

Overall, 36 of the 108 participants always chose the same strategy irrespective of the donation share of their partners in both games. From these 36 participants, 10 defected, whereas 6 cooperated throughout the experiment. The remaining 20 participants did not constantly defect or cooperate. As expected, those participants who showed a constant reaction to their partner's donation share stated more emphatically than other participants that they had not made their choices dependent on their part-

⁷ In the (repeated) trust game experiments, initiated by Berg, Dickhaut and McCabe (1995), full trust in reciprocity usually also proves more rewarding than halfhearted trust.

ners' donation shares (item 2: $MD_C = 1$, $Q_C = 0$; $MD_{NC} = 6$, $Q_{NC} = 1.88$; $\chi^2 = 47.02$, $p < .001$), and that their choices generally had not followed a certain strategy (item 5: $MD_C = 1$, $Q_C = 0.5$; $MD_{NC} = 2$, $Q_{NC} = 1.50$; $\chi^2 = 7.92$, $p < .01$).

2.3.3 Behavior and Group Affiliation

Participants could condition their strategies in the asymmetric prisoner's dilemma and in the trust game not only on the donation shares (10%, 50%, 90%) of their partners, but also on their group affiliation (group X or Y). Recall that group X refers to the group, A or B, with the larger total amount of donations. Figure 4 indicates that participants did not make their choices in the two games dependent on the partners' group affiliation.

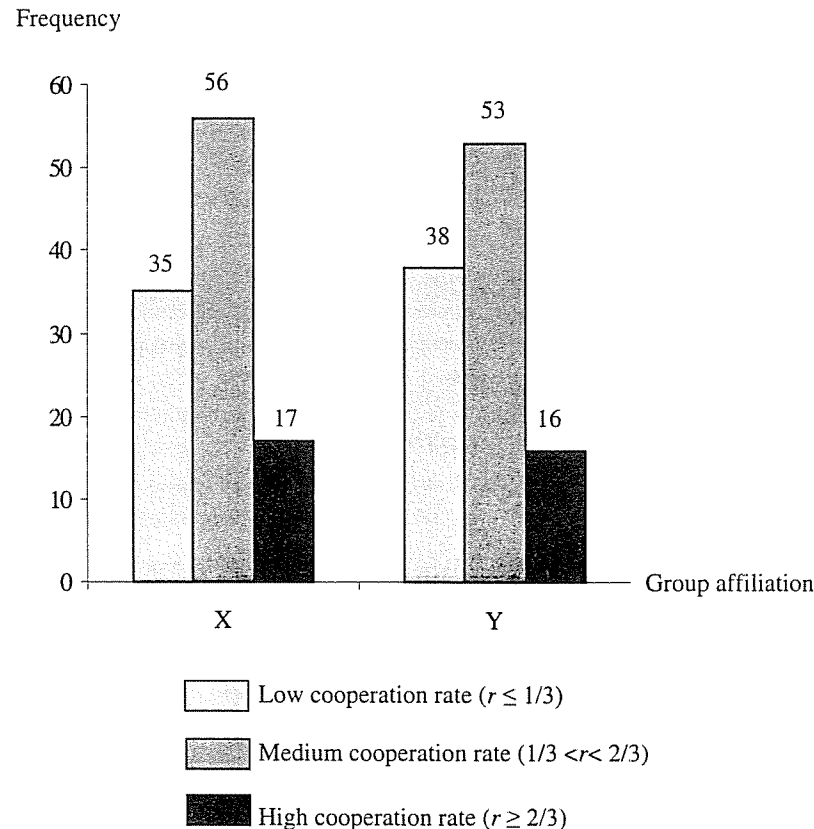


Figure 4. Frequency of cooperative game strategies with respect to group affiliation

The median of cooperative strategies, computed according to an index ranging from 0 = never cooperating to 1 = always cooperating, was not statistically significantly different for group X and group Y ($MD_X = .50$, $Q_X = .17$; $MD_Y = .42$, $Q_Y = .17$; $\chi^2 = .90$, $p = .34$). This result also holds if one analyzes the two games separately. In neither, participants conditioned their choices on the group affiliation of their partners ($\chi^2 = 1.49$, $p = .22$, $\chi^2 = 1.58$, $p = .21$).

Overall, 68 of the 108 participants always chose the same strategy irrespective of the group affiliation of their partners in both games. Out of these 68 participants, 10 always defected, whereas 6 constantly cooperated throughout the experiment. The remaining 52 participants employed another strategy than constantly defecting or cooperating. Out of the 36 participants who employed the same strategy regardless of the donation shares of their partners, 31 also did not condition their choices on group affiliation.

In a further step, only the choices of those 40 participants were considered who had not displayed constant behavior throughout the experiment. The results indicate that even those participants who varied their choices with respect to their partners' group affiliation did not systematically condition their strategies on the affiliation. The median of cooperative game strategies, computed according to an index ranging from 0 = never cooperating to 1 = always cooperating, is not statistically significantly different for group X and group Y for both games, the prisoner's dilemma and the trust game ($MD_{X, NC} = .50$, $Q_{X, NC} = .16$; $MD_{Y, NC} = .46$, $Q_{Y, NC} = .06$; $\chi^2 = 0.90$, $p = .34$). This result also holds if one only analyzes the choices in the prisoner's dilemma ($\chi^2 = 0.53$, $p = .47$). In the trust game, however, those participants who varied their choices with respect to their partner's group affiliation at least tended to show higher cooperation indices for group-X partners than for group-Y partners ($MD_{X, NC} = .50$, $Q_{X, NC} = .15$; $MD_{Y, NC} = .42$, $Q_{Y, NC} = .23$, $\chi^2 = 3.57$, $p = .06$).

Questionnaire results indicate that those participants who employed a constant strategy with respect to their partner's group affiliation stated, as expected, more emphatically than other participants that they had not made their choices dependent on their partners' group affiliation (item 3: $MD_C = 1$, $Q_C = 0.38$; $MD_{NC} = 4$, $Q_{NC} = 2$; $\chi^2 = 37.30$, $p < .001$), and that their choices generally had not followed a certain strategy (item 5: $MD_C = 1$, $Q_C = 0.50$; $MD_{NC} = 3$, $Q_{NC} = 1.38$; $\chi^2 = 22.56$, $p < .001$). However, participants who did not make their choices conditional on the group affiliation of their partners indicated that they generally had considered their choices in the experiment more carefully (item 8: $MD_C = 6$, $Q_C = 1$; $MD_{NC} = 5$, $Q_{NC} = 1.50$; $\chi^2 = 17.66$, $p < .001$), and that they had understood the possible strategies better (item 9: $MD_C = 6$, $Q_C = 1$; $MD_{NC} = 5$, $Q_{NC} = 1.50$; $\chi^2 = 10.88$, $p < .01$), compared to those who varied their choices.

3. Discussion

On average, participants conditioned their game strategies in two games, an asymmetric prisoner's dilemma game and a trust game, on their partner's donation share: the higher the donation share, the higher also the relative frequency of cooperative game strategies. Different individual monetary endowments neither influenced donations nor the relative frequency of cooperative game strategies. Although the effect of the partner's donation share on the frequency of cooperation is significant, it is not as strong as one might have expected, especially in view of the fact that a high donation share requires a substantial monetary sacrifice (and even more substantial when the endowment is large). It is also troublesome that the effect is not universal but rather game-dependent. Why are higher donation shares triggering more cooperation in trust games but not in prisoner's dilemma games?⁸

In addition, the results indicate that participants with a donation share of 10% or 50% did not cooperate more frequently with partners who chose the same donation share as they did. Participants with a donation share of 90%, on the other hand, rewarded partners more often who had also donated 90% of their monetary endowment. This seems to suggest a perception on the part of participants that being nice means to be really nice. As soon as one starts balancing own and other's concerns, one reveals that one behaves more or less strategically, i.e., one is not really nice and cannot be fully trusted.

It was also investigated whether one's own donation share was a reliable predictor of cooperative behavior. Our results do not support this conjecture. Individual cooperation rates were found to be unrelated to individual donation shares. Behaving ethically or morally in a situation triggering ethical concerns like the donation task in the first stage should therefore not be mixed up with cooperating in strategic decision environments. As already suggested by Harsanyi (1955; 1956), people seem to distinguish situations where ethical concerns are decisive from those where opportunism is justified, and the partitioning is usually of the form that donation tasks trigger ethical, strategic games opportunistic considerations.

⁸ Note, however, that we did not control for position effects in this experiment. Hence, the observed effect may be due to the position of the two games in the experiment and not to their structure. Only in cases where "position" has no influence can one conclude that the donation rate as a cooperation trigger interacts with the game type, e.g., sequential or not. Could it be that participants adequately perceived the sequential aspect of the trust game (see Figure 1), although the instructions presented it in the normal form? This question could be answered experimentally by running a similar experiment with the sequential version of our prisoner's dilemma. Finding out whether sequentiality and donation rates interact in triggering cooperation is more difficult since the two games differ in other aspects as well (in the trust game only the second mover has a weakly dominant strategy, in the prisoner's dilemma game both have strictly dominating strategies), although their payoff vectors for (mutual) cooperation and (mutual) noncooperation are the same.

In our experiment, participants could also condition their choices on their partner's group affiliation, that is, whether s(he) belonged to the group with the larger (group X) or smaller (group Y) total amount of donations. The results show that, generally, participants did not condition their game strategies on group affiliation. Questionnaire results indicate that participants who had not varied their choices with respect to their partners' group affiliation had understood the possible game strategies better and in general had also considered their choices in the experiment more carefully.

References

- Albert, M. und R.A. Heiner (2002), "An indirect-evolution approach to Newcomb's problem", *Homo Oeconomicus*, 18 (forthcoming, presumably *Homo Oeconomicus* XIX).
- Andreoni, J.A. and J.H. Miller, (1993), "Rational cooperation in the finitely repeated prisoner's dilemma: Experimental evidence", *Economic Journal*, 103, 570-585.
- Berg, J., J.W. Dickhaut, and K.A. McCabe (1995), "Trust, reciprocity, and social history", *Games and Economic Behavior*, 10, 122-142.
- Bornstein, G., E. Winter, and H. Goren (1996), "Experimental study of repeated team-games", *European Journal of Political Economy*, 12, 629-639.
- Crosno, R. and N. Buchan (1999), "Gender and culture: International experimental evidence from trust games", *American Economic Review*, 89, 386-391.
- Frank, R. H. (1987), "If homo oeconomicus could choose his own utility function, would he want one with a conscience?", *American Economic Review*, 77, 593-604.
- Güth, W. and H. Kliemt (2000), "Evolutionarily stable co-operative commitments", *Theory and Decision*, 49, 197-221.
- Güth, W., P. Ockenfels, and M. Wendel (1997), "Cooperation based on trust: An experimental investigation", *Journal of Economic Psychology*, 18, 15-43.
- Harsanyi, J.C. (1955), "Cardinal welfare, individual ethics, and interpersonal comparisons of utility", *Journal of Political Economy*, 63, 309-321.
- Harsanyi, J.C. (1956), "Approaches to the bargaining problem before and after the theory of games: A critical discussion of Zeuthen's, Hick's, and Nash's theories", *Econometrica*, 24, 144-157.
- Hass, B.H. (1998), "Risikobereitschaft und 'Gewissen' als Determinanten für kooperatives Verhalten im Gefangenendilemma", Discussion Paper 115, Humboldt-University of Berlin.
- Kahn, L.M. and J.K. Murnighan (1993), "Conjecture, uncertainty, and cooperation in prisoner's dilemma games: Experimental evidence", *Journal of Economic Behavior and Organization*, 22, 91-117.
- Okunade, A.A., P.V. Wunnava, and R. Walsh, (1994), "Charitable giving of alumni: Micro-data evidence from a large public university", *American Journal of Economics and Sociology*, 53, 73-84.
- Rai, S.N. and M.D. Gupta (1996), "Donating behaviour as a function of age, culture and outcome feedback conditions", *Psycho-Lingua*, 26, 105-110.
- Snijders, C. and G. Keren (1994), "Giving trust and honoring it: An experimental test of two utility transformations", Working Paper, University of Utrecht, The Netherlands.
- Van Lange, P.A.M., W.B.G. Liebrand, D.M. Messick, and H.A.M. Wilke (1992), "Social dilemmas: Introduction and literature review", in: *Social Dilemmas: Theoretical Issues and Research Findings*, W.B.G. Liebrand, D.M. Messick and H.A.M. Wilke (eds.), Oxford: Pergamon, 3-28.

Appendix A

Instructions

Welcome to our experiment!

You will now receive your monetary endowment in an envelope. You can use your endowment in two ways, namely:

1. donate a share for a self-selected charity from a prespecified list
2. and keep the rest for yourself

Thus, your only decisions are:

- You will determine your donation share.
- You will select from the list a charity which will receive the money.

Since you can only choose between a donation share of 10%, 50%, and 90%, you will keep at least 10% of your monetary endowment for yourself.

Furthermore, you cannot donate to more than one charity, i.e., you can and must choose only *one* charity from the list.

Important!

The group of all participants is split up by code numbers into *two* groups of equal size. These groups are referred to as group *A* and group *B*. You have already been assigned to one of the two groups. You will be informed about your group only after you have made your decisions.

After collecting all donation forms and the envelopes with the donated money in it, we will compute each group's total donations. The group (A or B) with the *larger total amount of donations* is called group *X*, the other group is called group *Y*.

Whereas all donations of group *X* are *doubled*, i.e., the charities will receive twice the amount of what has been donated, the donations of group *Y* are *passed on unchanged*. Whatever you keep for yourself will remain unchanged.

Decision Form

Code No.:

Your endowment in ATS amounts to:

40 / 80

How many percent of your endowment do you wish to donate?

- 10%
- 50%
- 90%

Please, tick one charity which will receive your donation:

- | | |
|--|--|
| <input type="checkbox"/> Aids Hilfe | <input type="checkbox"/> Kinderkrebshilfe |
| <input type="checkbox"/> Amnesty International | <input type="checkbox"/> Licht ins Dunkel |
| <input type="checkbox"/> Ärzte ohne Grenzen | <input type="checkbox"/> Menschen für Menschen |
| <input type="checkbox"/> Care Österreich | <input type="checkbox"/> Möwe |
| <input type="checkbox"/> Caritas | <input type="checkbox"/> Österreichischer Blindenverband |
| <input type="checkbox"/> Clown Doctors | <input type="checkbox"/> Rotes Kreuz |
| <input type="checkbox"/> Global 2000 | <input type="checkbox"/> Samariter Bund |
| <input type="checkbox"/> Greenpeace | <input type="checkbox"/> Tierschutzverein |
| <input type="checkbox"/> Kinderhilfswerk | <input type="checkbox"/> Vier Pfoten |

Please, put your *donated amount of money* in the envelope with the *blue point* on it. The envelope will now be collected by the experimenters.

Appendix B

Instructions

In Phase I of the experiment, all participants have decided how much of their endowment they wish to donate to a nonprofit organization.

In Phase II more decisions have to be made, which will be explained to you in detail now:

You will be interacting with another participant whose identity will not be revealed to you. Both of you will have the same chances of earning money.

You will confront four decision tasks in which you always have to choose one of two alternatives. You – and your partner – may condition your decisions on:

- your partner's donation share (10%, 50%, 90%) in Phase I
- your partner's group *X* or *Y*

Thus you may, but need not, make different decisions for different donation shares of your partner or different groups (*X* or *Y*). Since there are three possible donation shares (10%, 50%, 90%) and two groups (*X* or *Y*), you have to make $3 * 2 = 6$ choices, which may, but need not, differ, in each of the four decision tasks.

We now introduce the four decision tasks.

Two decision tasks in *Situation I* playing role *a* and role *b*.

Two decision tasks in *Situation II* playing role *a* and role *b*.

Situation I

In this situation there are two roles to which we refer as role *a* and role *b*. You and your partner will be randomly assigned to the two roles after all choices have been made. Thus, *both of you* have to decide playing *both roles*.

Playing role *a*, you can choose between alternatives *K* and *L*, playing role *b*, between alternatives *P* and *Q*. In Situation I you have to decide playing both role *a* and *b*.

The monetary consequences in Austrian Schillings for role *a* and role *b* are as follows:

Playing ROLE a:

		Payoff in Austrian Schillings	
I choose	My partner chooses	My payoff	My partner's payoff
K	P	100	100
K	Q	0	150
L	P	125	0
L	Q	50	50

Playing ROLE b:

		Payoff in Austrian Schillings	
I choose	My partner chooses	My payoff	My partner's payoff
P	K	100	100
P	L	0	125
Q	K	150	0
Q	L	50	50

Since you have to choose while playing both role *a* and *b*, situation I poses two decision tasks. But as mentioned before, you have to decide between *K* and *L* playing role *a*, as well as between *P* and *Q* playing role *b*, not only once since you may condition your choice on your partner's donation share (10%, 50%, 90%) and group assignment (*X* or *Y*).

Situation II

In this situation there are two roles to which we refer as role *a* and role *b*. You and your partner will be randomly assigned to the two roles after all choices have been made. Thus, *both of you* have to decide playing *both roles*.

Playing role *a*, you can choose between alternatives *H* and *G*, playing role *b*, between alternatives *S* and *R*. In Situation II you have to decide playing both role *a* and *b*.

The monetary consequences in Austrian Schillings for role *a* and *b* are as follows:

Playing ROLE a:

		Payoff in Austrian Schillings	
I choose	My partner chooses	My payoff	My partner's payoff
G	R	50	50
G	S	50	50
H	R	0	150
H	S	100	100

Playing ROLE b:

		Payoff in Austrian Schillings	
I choose	My partner chooses	My payoff	My partner's payoff
R	G	50	50
R	H	150	0
S	G	50	50
S	H	100	100

Since you have to choose while playing both role a and b, situation II poses two decision tasks. But as mentioned before, you have to decide between *G* and *H* playing *role a*, as well as between *R* and *S* playing *role b*, not only once since you may condition your choice on your partner's donation share (10%, 50%, 90%) and group assignment (*X* or *Y*).

Now we have described to you all four decision tasks based on two situations with two roles each. For each situation you will receive a separate decision form which

- reminds you of the details of this situation and
- asks you for your choices in both roles.

If, after carefully reading these instructions, you still do not understand them completely, please raise your hand. An experimenter will help you to clarify things privately.

Unfortunately, we can only *pay you* for *one* of the *four decision tasks*. As to which one will be determined by lot after all decision forms have been collected. We first determine whether a pair of partners is paid for situation I or situation II and then, again by lot, which partner assumes which role. The decisions regarding this constellation determine how much each partner will earn.

After answering questions privately, we will distribute both decision forms (for situations I and II).

Thank you for your kind cooperation!

Decision Form Situation I

Situation I

Code No.:

You play *role a*!

The monetary consequences of your choices are shown in the table in your instructions.

Please remember that you can choose between alternatives *K* and *L* in *role a*.

You are free to make your decisions dependent on your partner's donation share (10%, 50% or 90%) as well as on his/her group affiliation (*X* or *Y*). You have to tick one of the two alternatives (*K* or *L*) in each of the six boxes of the decision table since you know neither your partner's donation share nor his/her group affiliation.

Role a: I choose *K* or *L*, my partner chooses *P* or *Q*

	My partner belongs to group <i>X</i>		My partner belongs to group <i>Y</i>	
My partner donated 10%	K <input type="checkbox"/>	L <input type="checkbox"/>	K <input type="checkbox"/>	L <input type="checkbox"/>
My partner donated 50%	K <input type="checkbox"/>	L <input type="checkbox"/>	K <input type="checkbox"/>	L <input type="checkbox"/>
My partner donated 90%	K <input type="checkbox"/>	L <input type="checkbox"/>	K <input type="checkbox"/>	L <input type="checkbox"/>

You play *role b*!

The monetary consequences of your choices are shown in the table in your instructions.

Please remember that you can choose between alternatives *P* and *Q* in *role b*.

You are free to make your decisions dependent on your partner's donation share (10%, 50% or 90%) as well as on his/her group affiliation (*X* or *Y*). You have to tick one of the two alternatives (*K* or *L*) in each of the six boxes of the decision table since you know neither your partner's donation share nor his/her group affiliation.

Role b: I choose P or Q, my partner chooses K or L

	My partner belongs to group X		My partner belongs to group Y	
My partner donated 10 %	P <input type="checkbox"/>	Q <input type="checkbox"/>	P <input type="checkbox"/>	Q <input type="checkbox"/>
My partner donated 50 %	P <input type="checkbox"/>	Q <input type="checkbox"/>	P <input type="checkbox"/>	Q <input type="checkbox"/>
My partner donated 90 %	P <input type="checkbox"/>	Q <input type="checkbox"/>	P <input type="checkbox"/>	Q <input type="checkbox"/>

Decision Form Situation II

Situation II

Code No.:

You play role a!

The monetary consequences of your choices are shown in the table in your instructions.

Please remember that you can choose between alternatives *G* and *H* in role *a*.

You are free to make your decisions dependent on your partner's donation share (10%, 50% or 90%) as well as on his/her group affiliation (X or Y). You have to tick one of the two alternatives (K or L) in each of the six boxes of the decision table since you know neither your partner's donation share nor his/her group affiliation.

Role a: I choose G or H, my partner chooses R or S

	My partner belongs to group X		My partner belongs to group Y	
My partner donated 10%	G <input type="checkbox"/>	H <input type="checkbox"/>	G <input type="checkbox"/>	H <input type="checkbox"/>
My partner donated 50%	G <input type="checkbox"/>	H <input type="checkbox"/>	G <input type="checkbox"/>	H <input type="checkbox"/>
My partner donated 90%	G <input type="checkbox"/>	H <input type="checkbox"/>	G <input type="checkbox"/>	H <input type="checkbox"/>

You play role b!

The monetary consequences of your choices are shown in the table in your instructions.

Please remember that you can choose between alternatives *R* and *S* in role *b*. You are free to make your decisions dependent on your partner's donation share (10%, 50% or 90%) as well as on his/her group affiliation (X or Y). You have to tick one of the two alternatives (K or L) in each of the six boxes of the decision table since you know neither your partner's donation share nor his/her group affiliation.

Role b: I choose R or S, my partner chooses G or H

	My partner belongs to group X		My partner belongs to group Y	
My partner donated 10 %	R <input type="checkbox"/>	S <input type="checkbox"/>	R <input type="checkbox"/>	S <input type="checkbox"/>
My partner donated 50 %	R <input type="checkbox"/>	S <input type="checkbox"/>	R <input type="checkbox"/>	S <input type="checkbox"/>
My partner donated 90 %	R <input type="checkbox"/>	S <input type="checkbox"/>	R <input type="checkbox"/>	S <input type="checkbox"/>

Appendix C

Questionnaire

Code No.:

Age:

Gender: female male

Studies enrolled:

1. I donate money to charities on a regular basis.
I do not agree I fully agree
2. I conditioned my choices on my partner's donation share (10%, 50%, 90%).
I do not agree I fully agree
3. I conditioned my choices on my partner's group affiliation (X or Y).
I do not agree I fully agree
4. My aim in the experiment was to earn as much money as possible.
I do not agree I fully agree
5. My choices did not follow a certain strategy.
I do not agree I fully agree
6. I expected that my partner would play cooperatively.
I do not agree I fully agree
7. I expected that my partner would play egoistically.
I do not agree I fully agree
8. I have carefully considered my choices.
I do not agree I fully agree

9. I have well understood the possible strategies.
I do not agree I fully agree
10. Instructions were clear and easy to understand.
I do not agree I fully agree
11. A donation share of 10% is suitable in this experiment.
I do not agree I fully agree
12. A donation share of 50% is suitable in this experiment.
I do not agree I fully agree
13. A donation share of 90% is suitable in this experiment.
I do not agree I fully agree

Comments and remarks:

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Thank you very much for your participation!

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