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## What do you think is 'fair'? Effects of ingroup norms and outcome control on fairness judgments

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### *Abstract*

*Two studies are reported that examine whether fairness judgments in dyadic exchange situations are influenced by descriptive ingroup norms or the interdependence structure of the exchange situation. In both studies, these factors were varied within a minimal group categorization paradigm. Results showed that ingroup norms affected fairness judgments when participants interacted with another group member and interaction outcomes could be affected by this partner. However, in interactions with group members who could not influence the outcome of the partners no effects of ingroup norms were observed. Together, the results suggest that persons do not simply assimilate their fairness judgments to the normative context of their group, but adapt fairness judgments rather strategically to the expected behavior of their interaction partner in order to maintain general equality or reciprocity principles. Copyright © 2002 John Wiley & Sons, Ltd.*

A major challenge arises when persons have to work together on a project without knowing each other well, and without having much information about how cooperative their partner will be. For example, members of so-called 'virtual teams' (e.g. Lipnack & Stamps, 1997) sometimes work together without any face-to-face contact, and without clear feedback about the performance level of the other group members (Hertel, Deter, & Konradt; 'motivation gains in computer-supported groups', under review, 2000). Still, they have to make decisions regarding how much effort they will invest in the common project, how much effort other group members should exert, and how they want to share the outcomes of the project.

An important influence in such ill-defined exchange situations is what people think is 'fair', referring to moral obligations, rights, and entitlements in order to maintain a mutually satisfying

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relationship (cf. Deutsch, 1983). Besides considerations of procedural justice (e.g. van den Bos, Lind, Vermunt, & Wilke, 1997), considerations of distributive fairness—on which we focus here—affect not only allocation behavior in such interpersonal (and intergroup) transactions, but also the perceived legitimacy of and the reactions to allocation decisions of others (Deutsch, 1975, 1983; Mikula, 1981). And although some researchers argue that the impact of such moral principles is rather weak (e.g. Güth & van Damme, 1998), few would doubt that people are at least motivated to appear to be fair, that they feel more comfortable with fair solutions, and that charges of unfairness are serious reproaches in many kinds of conflict negotiations (cf. Diekmann, Samuels, Ross, & Bazerman, 1997; Greenberg, 1990; Thompson & Loewenstein, 1992; Törnblom, 1992).

But what exactly do persons perceive as fair distributions in exchange situations? Is distributive fairness always perceived in the same way, or are fairness judgments affected by social context conditions such as currently salient normative standards? During the last decades, a large body of research has been accumulated on fairness rules and principles such as equity, equality, need, or deservingness, and their relation to social factors (e.g. Allison & Messick, 1990; Deutsch, 1975, 1983; Feather, 1999; Leventhal, 1976; Törnblom, 1992). However, apart from (or in addition to) changes of such general principles, social context conditions might affect fairness judgments also by triggering *shifts* towards more equal or unequal distributions. Besides the fact that fairness judgments are often slightly biased in favor of the self compared to others (Messick & Sentis, 1983; Ross & Ward, 1995; Thompson & Loewenstein, 1992), recent research has shown, for instance, that fairness judgments can be more 'egoistic' (i.e. higher outcomes for the self than for the other are perceived to be 'fair') when persons interact with an outgroup member compared to interactions with an ingroup member (Hertel, Aarts, & Zeelenberg, 1999: 'What do you think is "fair"? Effects of ingroup norms and intergroup context on fairness judgments in dyadic exchange conflicts', presentation at the 12th Conference of the International Association of Conflict Management, San Sebastian, Spain).

The research reported in the present paper investigated such contextual effects of descriptive ingroup norms. Specifically, our goal is to demonstrate that fairness judgments are more unequal (i.e. specifying more resources for the self than for the other) when ingroup norms are competitive than when they are cooperative. Moreover, we aim to indicate that these influences are likely based on strategic considerations that take the expected behavior of interaction partners into account rather than due to simple conformity or cognitive assimilation of norms. In so doing, the present work is one of the first attempts to examine normative and structural influences on fairness judgments. In our research, fairness judgments were measured with a decomposed social dilemma game. In this game, the outcome of a person is a function of own allocations as well as allocations by another person, thus simulating interdependent exchange situations. Although these situations are more complex than questions of simple resource allocations, they are often more realistic considering the interdependent nature of many collaborative projects.

Before reporting our empirical work in more detail, let us first discuss some of the ways in which fairness perceptions and social norms might interact. Perhaps the most simple fairness rule in interdependent exchange situations is a general equality algorithm, stating that each person involved should receive the same amount of available gains or outcomes (e.g. Allison & Messick, 1990; Deutsch, 1975). Similarly, more refined rules of social justice that take into account how much each person can and does contribute to the joint outcome, as expressed in reciprocity (Gouldner, 1960) or equity principles (Adams, 1965), would come to the same result given that the necessary input of the different project parties is similar.

However, in team situations in which outcomes are not only determined by one person, equality principles are not easily to establish because people do not know in advance how their interaction partner will share outcomes that are under her or his control. One of the best simulations of this type of interaction are so-called 'mixed motive' conflicts such as the prisoner's dilemma, in which persons

simultaneously and often without prior communication have to decide between cooperative (maximizing common gains), individualistic (maximizing own gain), or competitive allocation options (maximizing the difference between own and others' gains; e.g. van Lange, Liebrand, Messick, & Wilke, 1992). In such interdependent settings, a simple equality algorithm is difficult to realize when necessary information about the allocation decision of the interaction partner(s) is not available at the time a decision is requested (see van Lange, 1999, for a detailed discussion and extension). Under these conditions, do people still think it is fair to allocate the outcomes that they control equally, or do they assimilate their fairness judgments to the normative context of the exchange situation?

There are some reasons to suspect that fairness judgments can be sensitive to social norms. Fairness considerations are a kind of normative reasoning (what *should* I do?), and thus might be affected by normative standards that are salient at the time of the decision (cf. Deutsch, 1983). Understanding social norms as expectations of how one ought to behave enforced by the threat of sanctions or the promise of reward administered by significant others (cf. Kerr, 1995), it follows that one of the most important sources of normative standards should be the group to which an individual belongs or feels that s/he belongs to (see also Festinger, 1950). In a similar way, self-categorization theory would suggest that the normative standards of a group have strong effects on persons' fairness perceptions given that the person identifies with this group (cf. Terry & Hogg, 1996; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). And, in the absence of explicit normative rules (prescriptive norms), persons often derive such behavior standards by assessing the behavior of the majority of relevant group members (so-called 'descriptive' or 'behavior norms', see Cialdini, Reno, & Kallgreen, 1990, or Kerr, 1995, for a more detailed discussion).

Following this reasoning, we presumed that normative standards of a currently salient ingroup, as expressed by the behavior of the group majority, might affect subjects' fairness judgments. For example, in a product development center where competition between colleagues is the rule and everybody tries to outperform the other with good ideas, the standards for judging competitive behavior as 'unfair' will be different than in a cooperative working team where everybody shares common interests and exhibits helpful behavior. In the former group, egoistic behavior is much more likely to be perceived as 'fair' because it is in accordance with the group's standards, whereas in the latter group it is contrary to the team's central norms of cooperation. It should be noted that such differences in fairness judgments would not necessarily be a matter of different applied fairness principles but could as well be due to shifts in the perceived outcomes for self and others.

First empirical evidence for such normative effects on fairness judgments can be found in a study by Marwell and Ames (1981, Experiment 12) in which cooperative attitudes of economics students and students from other faculties were compared. According to the results, economics students exhibited not only more free-riding in a public good experiment than participants in the control group, but expressed also fewer prosocial fairness norms in an explorative follow-up study. However, since the latter results were collected in a rather informal manner it is difficult to draw firm conclusions from them. Instead, it would be desirable to vary ingroup norms in a more controlled setting in order to attribute differences in fairness judgments more clearly to normative group standards. In the first experiment reported below our aim was to test the influence of descriptive ingroup norms on fairness judgments in such a highly controlled setting.

## STUDY 1

In this study we applied a minimal group categorization procedure based on an alleged perception test (Jetten, Spears, & Manstead, 1996) to experimentally induce interaction with an ingroup member.

Descriptive ingroup norms were varied by instructing the participants that the other members of their group usually act rather cooperatively or rather competitively. (Participants received no concrete information about the norms of the outgroup members).

As the main dependent variable we measured fairness judgments adapting a decomposed mixed-motive game that was originally developed to measure stable cooperative orientations, the Ring Measure of Social Values (Liebrand, 1984; see also Hertel & Fiedler, 1998; van Lange, 1999). This measure has been confirmed to be reliable and valid in a number of studies (e.g. Dehue, McClintock, & Liebrand, 1993). In the original measure, participants are asked to allocate monetary values to themselves and to another person, while this other person also allocates values to him/herself and the other participant. During several trials persons are presented with two different options for allocations (e.g. self 10.50 and other 10.50, or self 13.00 and other 7.50), and are asked to indicate in each trial the option that they would choose. Summing up the scores of own and other allocations for a test-person provides a measure of her or his general social orientation (cooperative, individualistic, competitive, etc.). In addition, this measure also contains an estimate of the consistency with which a person has followed a certain social orientation (see below for more details).

Taking advantage of this systematic measure we changed the instruction slightly, asking persons not to mark the option that they would choose in each trial, but rather to mark what they thought to be the *fairer* option of allocating resources in each trial. Assessing fairness judgments in this way provides a more refined measure than free descriptions of fairness rules (Marwell & Ames, 1981) since it is also sensitive to *gradual* shifts in fairness judgments. In addition, this procedure can measure fairness judgments in interdependent settings where the outcomes of an individual are not only determined by own decisions but also by the decisions of the interaction partner. During the judgment task, participants were instructed to imagine that their interaction partner makes the same allocation judgments so that each person's final outcome would depend on both own and interaction partner's allocations. Given our focus on dyadic exchange conflicts, this is more appropriate than investigating fairness judgments in intergroup interactions without personal involvement as in the classical Tajfel matrices (e.g. Tajfel, Billig, Bundy, & Flament, 1971). Moreover, contrary to ultimatum bargaining games, another paradigm to measure fairness perceptions (cf. Kahneman, Knetsch, & Thaler, 1986; Pillutla & Murnighan, 1996), persons in a decomposed game can be equal in power and control (although not necessarily, cf. Study 2 below).

Based on our earlier discussion, we expected that fairness judgments are affected by ingroup norms, resulting in more balanced, prosocial fairness judgments when persons interact with members of a cooperative ingroup, and more selfish fairness judgments when the relevant ingroup standards are rather competitive.

## **Method**

### *Participants and Design*

Fifty psychology students of the University of Amsterdam (31 males, 19 females) received 10 Dutch guilders for participation. They were randomly assigned to one of the following two experimental conditions: cooperative versus competitive ingroup norms.

### *Procedure*

The participants were told that the study was an investigation into 'modes of perceiving as part of personality research'. After being seated in front of a personal computer, a minimal group procedure

was employed that had been successfully applied in previous research (Jetten *et al.*, 1996). Participants were told that persons generally differ in their perception mode and that previous research had revealed two different types of persons, the detailed and the global perceiver. Part of the study would be to identify which kind of perceiver they were. A 'dots estimation task' followed during which participants had to estimate seven times different numbers of dots that were scattered on the computer screen during three-second trials. After these seven trials, the computer (allegedly) calculated their score and participants received feedback stating that they had been classified as detailed perceivers. According to earlier research the labels 'detailed perceiver' and 'global perceiver' are perceived as similar in valence (Jetten *et al.*, 1996). Ingroup norms were varied by providing participants with different information about detailed perceivers.

After this procedure participants were told that the first part of the study was over and that they would now proceed with a second part that is concerned with division of money. The decomposed game was thoroughly explained including an example of a typical item. Subjects learned that in each of the following trials they had to choose one of two options for allocating money to themselves and another person. While doing this, they had to imagine that the other person had to make similar decisions so that the personal outcome of each participant would depend on own allocations as well as on allocations of the other person. Participants were told to indicate in each of the 24 trials the option that they *perceived as fairer* for allocating money between themselves and another person. After the instructions, the decomposed game was run on a computer.

#### *Independent Variables*

Ingroup norms were manipulated by informing the participants after the dots estimation task and before the allocation task that the other members of their group usually act cooperatively or competitively. To keep the group characteristics equal in valence we only used positive terms based on pilot studies from earlier research (Hertel & Fiedler, 1998). The instruction to establish *cooperative ingroup norms* read:

Detailed perceivers consider it important to achieve things, but it is more important to them that everybody is well off. They want the best for everybody. Detailed perceivers are in general helpful, reliable, self-sacrificing and social. In summary, detailed perceivers are characterized by their social attitude and by the importance they attach to relations with others.

Participants in the *competitive ingroup norm* condition read:

Detailed perceivers consider it important to achieve more than others. They want to be better than the rest. Detailed perceivers are in general assertive, self-confident, independent, and strong-willed. In summary, detailed perceivers are characterized by their striving attitude and by the importance they attach to their own achievements compared to others.

Participants always interacted with an ingroup partner, that is the other person in the allocation tasks was always also a detailed perceiver. This was done in order to focus on effects within a group instead of interactions between groups.

#### *Dependent Variable*

The main dependent variable contained the accumulated fairness judgments in the modified Ring Measure of Social Values (Liebrand, 1984). Each of the 24 trials consisted of a pair of options describing different allocations of gains or losses to the self and to another person. Participants were asked to indicate in each task which of the two allocation options (e.g. self 10.50 and other 10.50, or

self 13.00 and other 7.50; this time in Dutch guilders) they perceived as fairer. The term ‘Ring Measure’ is suggested by the geometrical representation of the pairs of allocation options which all lie on the same circumference in a two-dimensional space, where the horizontal axis refers to the subject’s own gains or losses and the vertical axis to the other person’s gains or losses. Summing up the horizontal and vertical coordinates of all 24 choices yields an overall vector, the direction of which indicates the respondent’s social orientation that can then be classified in one of five basic social values (see Figure 1): *altruism* (maximize other’s outcome), *cooperation* (maximize joint outcome), *individualism* (maximize own outcome), *competition* (maximize difference between own and other’s outcome), and *aggression* (minimize other’s outcome). The length of the vector can be interpreted as the consistency (and thus reliability) with which the respondent exhibits a certain orientation. A small vector length thus indicates that a respondent has not shown any consistent orientation, which is the case when participants have not understood the task properly, are not concentrated, or are not motivated and answered rather unsystematically or randomly.

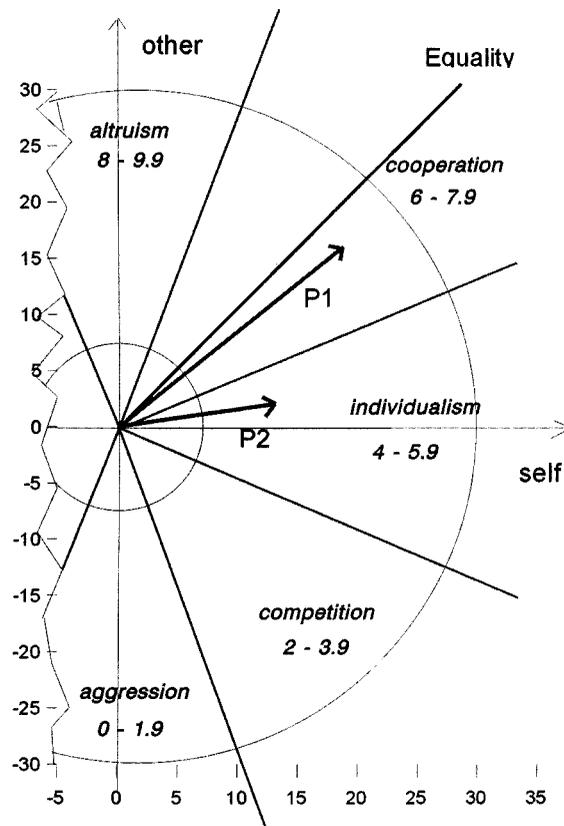


Figure 1. The aggregate of all pairwise choices in the Ring Measure can be represented as a vector, the direction of which reflects the dominant value orientation and the length of which reflects the consistency of this prevailing orientation. For example, Person P1 shows a rather consistent tendency to assign gains to the self as well as the other (cooperation); P2 is characterized by a less consistent tendency to assign gains mainly to the self and not to the other (individualism). Depending on whether the aggregate vector points downward or upward, and left or right, the value orientation can be crudely classified as falling in the aggression, competition, individualism, cooperation, or altruism sector. For convenience, a score between 0 (maximal aggression) and 9.9 (maximal altruism) is assigned to the sectors, converting the categorical scale to an interval scale. The perfect equality orientation (i.e. allocating exactly the same gains to self and other) with a score of 7 is also shown in this figure

Assuming that a current fairness attitude can be psychometrically measured in a similar way as a personality trait, this procedure offers a sound measure of fairness judgments in interdependent situations including an index of the reliability of each participant's answers. Importantly, fairness judgments with a consistency score below 25% (cf. Dehue *et al.*, 1993) should be treated with caution because participants might either have not understood the task properly, were not concentrated, or answered randomly due to low motivation.

Participants read the following instruction:

We are interested in what detailed and global perceivers consider to be *fair allocations*. Therefore, we will provide you with a number of money allocations, and we will ask you which method of allocation you believe is fairer. Please imagine that the other person also makes allocation decisions so that the total gain for each person depends not only on one's own allocation but also on the allocation made by the other person.

Thus, participants were instructed to make fairness judgments in an interdependent situation without knowing the decisions of their interaction partner, simulating more complex but also realistic decision conflicts. A post-experimental questionnaire after the decomposed game measured identification with the ingroup (four items, e.g. 'I identify myself with detailed perceivers'), and identification with the outgroup (four items, e.g. 'I identify myself with global perceivers'). We also measured perceptions of ingroup norms with two items ('I find detailed perceivers cooperative', 'I find detailed perceivers competitive'). All items had a 9-point answer scale labeled *not at all* (1) to *very much* (9). At the end of the study, participants were debriefed, paid, and thanked for their participation.

## Results and Discussion

### *Primary Analyses and Manipulation Check*

To test whether the creation of different minimal groups was successful, we first analyzed the items that asked participants whether they identified with the ingroup (detailed perceivers) or with the other group. Internal consistency analyses of the four items per measure revealed satisfying scale criterions,  $\alpha = 0.89$  and  $0.86$ , respectively. Participants' ingroup identification ( $M = 4.76$ ) differed significantly from the outgroup identification ( $M = 3.74$ );  $t(49) = 3.52$ ,  $p < 0.002$ . There were no significant differences in identification scores between the two experimental conditions,  $t < 0.3$ . However, four participants (three in the competitive and one in the cooperative norm condition) identified not at all with their ingroup, as was revealed by very low scores on all four ingroup identification items ( $M$ 's  $\leq 1.5$  on a scale from 1 = 'not at all' through 9 = 'very much'). Since such a low score indicates a general suspicion about the minimal group categorization (cf. Jetten *et al.*, 1996), we excluded those participants from further analyses. After all, the present research comprises a test of ingroup norms on fairness judgments, and thus participants have to identify at least to some extent with the ingroup. (It should be noted, though, that the main results were virtually the same when these four participants were included in the analyses). Three additional participants had to be excluded due to undefined/unreliable fairness scores in the Ring Measure (see below).

Forty-three participants remained in the main analyses. The average ingroup identification score of the remaining participants was  $M = 5.1$  in the cooperative and  $M = 5.2$  in the competitive norm condition,  $t < 0.2$ . The measure of the perceived ingroup norms revealed that the norm manipulation was successful. Participants in the cooperative ingroup norm condition perceived their group as less competitive ( $M = 4.6$ ) than participants in the competitive ingroup condition ( $M = 6.8$ ),  $t(41) = 4.98$ ,

$p < 0.001$ . On the other hand, participants in the competitive ingroup norm condition perceived their group as less cooperative ( $M = 5.2$ ) than participants in the other condition ( $M = 5.7$ ), although this contrast was not significant,  $t < 1.1$ .

### *Fairness Judgments*

The main dependent variable of the study were the fairness judgments in the modified Ring Measure. To obtain a general measure of fairness judgments we simply computed for each participants the total of her allocations to herself and to the other person. These two sum scores were taken as vector indices for each participant's fairness orientation in the Ring Measure that was projected onto a one-dimensional numerical scale from 0 to 9.9 (see Figure 1), representing aggressive (0 to 1.9), competitive (2.0 to 3.9), individualistic (4.0 to 5.9), cooperative (6.0 to 7.9), and altruistic orientations (8.0 to 9.9; cf. Hertel & Fiedler, 1998 for a similar procedure). The fairness scores of three participants (two in the competitive and one in the cooperative norm condition) fell outside this defined area of the Ring Measure. Since these undefined fairness scores were all connected with a very low consistency of judgments ( $< 25\%$ ), it is very likely that these fairness scores are a product of unsystematic distortions (poor understanding of the task, low concentration or motivation, etc.) rather than systematic fairness attitudes.<sup>1</sup> Thus, those three participants were also excluded from further analyses. Only two other participants had also such low consistency scores ( $< 25\%$ ), but their scores fell inside the defined area of the Ring Measure.

Comparing the fairness scores of the remaining 43 participants revealed that when persons interacted with a member of a cooperative ingroup, fairness judgments ( $M = 6.9$ ) were close to the perfect equality score of 7 (i.e. allocating the same amount of money to both persons),  $t < 1$ . Thus, participants under these conditions showed a nearly unbiased adoption of an equality/equity rule. However, when persons interacted with a member of a competitive ingroup, fairness judgements ( $M = 6.3$ ) differed significantly from the perfect equality score of 7,  $t(20) = 3.14$ ,  $p < 0.01$ , and were more selfish and less prosocial than the fairness scores in the cooperative ingroup norm condition,  $t(41) = 1.91$ ,  $p < 0.04$  (tested one-sided; this effect was even stronger when we also excluded the remaining two participants with a consistency below 25% in their fairness judgments,  $t(39) = 2.21$ ,  $p < 0.02$ , one-sided). This effect is consistent with our hypothesis.

So far our results have shown that fairness judgments can be affected by ingroup norms. However, the observed effect of ingroup norms on fairness judgments when persons interacted with ingroup members can be explained by two different psychological processes. Considering fairness judgments as one form of social judgments, the observed results might be due to *cognitive assimilation processes* (Schwarz & Bless, 1992), assuming that people include normative standards of the ingroup into the 'on-line' development of fairness judgments when these standards are available and perceived as relevant. In a similar way, self-categorization theory (Turner *et al.*, 1987) suggests salience and relevance as pre-conditions for rather non-conscious effects of ingroup standards on behavior-related decisions (cf. Terry & Hogg, 1996; Turner *et al.*, 1987).

On the other hand, the observed effects could be based on *strategic processes*, assuming that participants tried to apply general equality rules by estimating their partner's behavior according to the

<sup>1</sup>Two of those participants ended up with negative rather than positive outcomes both for the self and the other, and would be located in the lower left quartile of Figure 1 beyond the area that is defined as 'aggression'. Accordingly, they produced the only negative fairness scores in the sample, which were more than three standard deviations below average ( $M = 6.3$ ,  $sd = 1.9$ ). Another participant ended up with positive outcomes for the other but negative outcomes for the self, and would be located in the upper left quartile in Figure 1 beyond the area that is defined as 'altruism'. Again, no other participant was located in this undefined area. Although one could argue that a person might consider such orientations as 'fair', the extremeness of these scores combined with the very low consistency of the answer behavior ( $< 25\%$ ) let us assume that these fairness scores are much more likely the product of unsystematic biases such as poor understanding of the task, low concentration, low motivation, and the like.

social context information (particularly when these partners are new and unknown, as in Study 1), and replaced missing behavior information by these assessments in order to compensate for expected egoistic biases of the partner (cf. Messé, Hymes, & MacCoun, 1986). Indeed, earlier studies have shown that persons in group tasks tend to match the level of output that they expect from their coworkers (e.g. Jackson & Harkins, 1985).

Since the results of Study 1 do not allow a distinction between these explanations, we conducted a second study. A possible way to distinguish between the processes mentioned above is to compare ingroup norm effects in *interdependent* (mutual outcome control; cf. Kelley & Thibaut, 1978) and *independent* (single outcome control) allocation tasks. If the observed context effects on fairness judgments are mainly based on strategic processes, they should occur only in interdependent exchange situations when the decisions of the interaction partner affect own outcomes, and egoistic biases of the other can be compensated by own decisions (cf. Van Dijk & Vermunt, 2000; for a similar discussion on strategic processes as a function of outcome control). In contrast, when context effects on fairness judgments are mainly based on cognitive assimilation or self-categorization processes, they should affect fairness judgments in both interdependent and independent allocation situations.

## STUDY 2

Study 2 was conducted to compare the effects of ingroup norms on fairness judgments in interdependent and independent allocation settings. Moreover, Study 2 was conducted in the USA, thus enabling us to explore whether we can replicate the central ingroup norm effect in a slightly different cultural context. The general procedure was similar to Study 1. A minimal group categorization procedure, this time based on an alleged cognitive test that was conducted with paper and pencil (cf. Hertel & Kerr, 2001), created two groups of cognitive representers ('shape-dependent', 'shape-independent'). All participants were classified in the same category (shape-dependent). Ingroup norms were varied again by informing the participants that members of their group usually act rather cooperatively or competitively, respectively. Fairness judgments as the main dependent variable were again measured with the Ring Measure procedure.

However, this time only half of the participants were instructed that their partner would also make allocation decisions that affect their outcome (mutual outcome control). The other half of the participants were instructed that their own outcome as well as that of their partner depended only on their own allocation decisions (single outcome control). If ingroup norms affect fairness judgments by cognitive assimilation of normative concepts and/or self-categorization processes, fairness judgments should show ingroup norm effects independently of the control structure in the exchange setting. On the other hand, if fairness considerations are influenced mainly by strategic processes, ingroup norms should affect fairness judgments only in interdependent settings when the interaction partner can affect own outcomes.

## Method

### *Participants and Design*

Ninety-three psychology students at Michigan State University participated to gain course credit. They were randomly assigned to one of the conditions of the 2(ingroup norms)  $\times$  2(outcome control) design of the study.

### Procedure

The participants were seated in separate booths in which a booklet had been placed that contained the instructions and the experimental tasks. The experimenter explained that recent research had revealed two different types of person, the shape-dependent and the shape-independent perceiver. A part of the study would be to identify which kind of perceiver they were. It was explained that these modes of perception were not related to intelligence in order to prevent status differences. In five tasks of the following test, participants had to arrange five symbols (letters, numbers, stars, etc. that differed in size and form) in a way that they perceived as meaningful. Due to the sampling of these symbols there was no 'true' solution, creating relatively ambiguous tasks. The test booklets were then collected by the experimenter and each participant received a printed note revealing his or her 'perception mode'. All participants were classified as shape-dependent. In order to accomplish the variation of ingroup norms, a short description of 'shape-dependent representers' was attached to the feedback note, varying according to the cooperative or competitive ingroup norm condition. The descriptions used were similar to those in Study 1.

After participants had read the feedback notes, they were told that the first part of the study was over and that the second part would now commence concerning what shape-dependent and shape-independent representers think to be a fair way to allocate resources. Then the Ring Measure procedure was explained. In the condition with mutual outcome control, participants were instructed to imagine that own outcomes would depend on own choices and on other's choices, and that the same holds for their partner. In the condition with single outcome control, participants were informed that they were the only person who decided about own and other's outcomes. Then participants completed 24 fairness judgments. Finally, a post-experimental questionnaire measured agreement with the categorization ('I agree with my categorization as a shape-dependent or shape-independent representer according to the arrangement tasks'), identification with the ingroup (two items, e.g. 'I identify with the group of persons that have the same representation style as me'), and perceived ingroup norms (two items: 'I expect shape-dependent representers to be helpful/assertive') as manipulation checks. All items were measured on a 7-point scale labeled *strongly disagree* (1) to *strongly agree* (7). At the end of the study participants were debriefed and thanked for their participation.

## Results and Discussion

### Manipulation Checks

Six participants were excluded from further analyses because they strongly disagreed with their categorization (score of 1 on a scale from 1 = 'strongly disagree' through 7 = 'strongly agree') or expressed suspicion about the cover-story. Another participant was excluded due to a very low ingroup identification score of 1.5 on a scale from 1 through 7 (cf. Study 1). Sixteen participants (which were evenly distributed across the four experimental conditions,  $\chi^2 = 0.49$ , ns) showed consistency scores below 25% in their fairness judgments. However, all of the resulting fairness scores fell inside the defined area of the Ring Measure (cf. Figure 1). Hence, we decided to include these participants in the main analyses.

Thus, 86 participants remained in the main analyses. The manipulation check of the perceived ingroup norms revealed that the norm manipulation was successful. Participants in the cooperative ingroup norm condition rated their group significantly more helpful ( $M = 4.8$ ) than participants in the competitive ingroup norm condition ( $M = 3.9$ ). A 2(ingroup norms)  $\times$  2(outcome control) ANOVA

showed only a significant main effect for ingroup norms,  $F(1, 78)^2 = 8.83, p < 0.005$ ; other  $F$ 's  $< 1.7$ . There were no significant differences in the assertiveness ratings,  $F$ 's  $< 1.6$ . More interestingly, no significant differences in ingroup identification occurred between the four experimental conditions,  $F$ 's  $< 0.2$ .

### *Fairness Judgments*

The main dependent variable was again the fairness score according to the accumulated 24 judgments in the modified Ring Measure. Testing the effects of the two independent variables, a 2(ingroup norms)  $\times$  2(outcome control) ANOVA revealed no main effect of the norm manipulation,  $F < 0.6$ . Thus, no evidence was found that ingroup norms affect fairness judgments by assimilation of normative concepts and/or self-categorization processes. Also, no main effect for outcome control occurred,  $F < 1.8$ . However, a significant interaction was observed,  $F(1, 82) = 6.64, p < 0.02$ . Testing the specific expectations of the strategic approach with simple main effects within the different outcome control conditions showed that the fairness judgments were biased by ingroup norms only when both the participant and their interaction partner had control over interaction outcomes (MOC). In this case, fairness judgments of participants with cooperative ingroup norms ( $M = 6.4$ ) were significantly more prosocial than fairness judgments of participants with competitive ingroup norms ( $M = 5.4$ ),  $F(1, 82) = 5.14, p < 0.03$ . On the other hand, when the participants alone determined the interaction outcomes, fairness judgments of participants with cooperative ingroup norms ( $M = 6.0$ ) were even less prosocial than fairness judgments in the competitive ingroup norm condition ( $M = 6.6$ ), although this difference was not significant,  $F < 1.5$ . (It should be noted that the interaction effect was virtually the same when participants with consistency in their judgments lower than 25% were excluded from the analysis).

These results replicate the pattern found in Study 1 under mutual outcome control conditions. In addition, the data suggest that ingroup norms affect fairness judgments mainly due to strategic calculations rather as a result of cognitive assimilation or self-categorization processes. Ingroup norms only biased fairness judgments when the partner could also affect outcomes of the participants. Under these conditions, members of a competitive group seemed to compensate for expected egoistic biases of their ingroup partner, which led to more egoistic fairness judgments compared to members of a cooperative ingroup. However, when participants were solely responsible for determining outcomes, fairness judgments of members of a competitive ingroup were similar or even slightly more prosocial compared to judgments of members of a cooperative group. Thus, rather than simply adopting available normative principles, participants seemed to modify their fairness judgments in a strategic manner when social context information suggests that their outcomes might be affected by egoistic tendencies of their partner.

## GENERAL DISCUSSION

The objective of the present research was to investigate the influence of descriptive ingroup norms on fairness judgments in dyadic exchange situations. The results of both experiments showed that fairness judgments can indeed be affected by ingroup norms. When both interaction partners had outcome control, cooperative ingroup norms led to more balanced and prosocial fairness judgments compared to competitive ingroup norms. However, when the participant was the only person of a dyad who

<sup>2</sup>Different degrees of freedom are due to missing values.

decided about the outcomes of both interaction partners, no such ingroup norm effect occurred. Together, these results suggest that ingroup norm effects on fairness judgments are not based on general group conformity or assimilation processes. Instead, consistent with our assumption of a strategic process, ingroup norms seem to affect fairness judgments only when they are relevant for the interaction, suggesting that participants generally try to maintain equity or equality principles by replacing behavior information about their partner with assessments based on information from the social environment. Expected egoistic tendencies of others could thus be compensated by shifts in fairness judgments. This also suggests that the observed biases in fairness judgments are driven by defensive or protective motives rather than by aggressive desires to outdo or exploit others. Very similar results have been found in research on the motivation of competitors in social dilemmas (e.g. Kuhlman, Camac, & Cunha, 1986), as well as on motivational processes during ingroup favoritism in minimal group experiments (Insko, Schopler, Hoyle, Dardis, & Graetz, 1990; Ng, 1986; Vivian & Berkowitz, 1992).

The presented research has interesting implications for interdependent project teams and related exchange situations with mutual outcome control, particularly when interaction partners have limited information about their partners. When persons consider (distributive) fairness, they do not simply apply general principles such as equality or equity rules, but seem to shift their fairness judgments in accordance with the expected behavior of their interaction partners. Particularly when these partners are expected to behave egoistically (e.g. based on competitive ingroup norms), fairness judgments are corrected towards more self-serving allocations.

Ingroup norms are only one example of context factors that might affect such compensations. Other factors that also provide information about the probable behavior of an interaction partner should shape fairness judgments in a similar way, but only when the behavior of the partner is relevant for own outcomes. Such shifts in fairness judgments can make it easier for an allocator to justify egoistically biased own allocations, and other group members might perceive egoistically biased allocations more easily to be legitimate. However, since both (or all) involved interaction partners are likely to correct their fairness perceptions accordingly, it will be also more difficult to solve exchange conflicts because both (all) partners will claim 'fair' solutions that are biased in their direction. Under such conditions, it might be interesting to provide only one party with outcome control because this might lead to more balanced fairness judgments since persons do not have to be as protective. Such a procedure certainly has its risks because it might hurt feelings of procedural justice, and because the expression of balanced fairness norms does not guarantee that persons also will behave accordingly. However, asking the conflict parties at least fictitiously what they would perceive as 'fair' when they would be the only party that controls the outcomes might help to correct overly biased fairness perceptions.

It should be noted that the present research is one of the first attempts to examine normative and structural influences on fairness judgments. As such, our results provide preliminary evidence for the existence of such processes. Therefore, to be more conclusive about the genuineness and robustness of these effects, future research should be conducted to replicate the present results in other and more complex settings. Such replication studies should also provide more data on the assumed psychological processes, for example by assessing participant's expectations about the behavior of their interaction partners. Another important question that should be addressed is whether strategic fairness judgments and behavior are based on thoughtful computations of gains and losses for the self and the other, or are based on rather vague 'feelings' of what oneself and the other deserve. Analyses of decision latencies might be helpful to explore this question.

The two described studies investigated effects of social context information in a controlled 'minimal group categorization' paradigm. Although this procedure has many advantages, it could be argued that the lack of evidence for a more general normative influence is due to the missing history of the groups that might have lowered the impact of ingroup norms (cf. Mullen, Brown, & Smith,

1992). On the other hand, strategic adaptations of fairness judgments in order to protect equality or equity principles might be particularly important in natural groups when persons already have made experiences with cooperative or competitive ingroup members. Indeed, Hertel and colleagues (Hertel, Aarts, & Zeelenberg, 1999. 'What do you think is 'fair'? Effects of ingroup norms and intergroup context on fairness judgments in dyadic exchange conflicts', presentation at the 12th Conference of the International Association of Conflict Management, San Sebastian, Spain) have found in another study that economics students exhibited not only more egoistic ingroup norms, but also more egoistic fairness judgments compared to social science students when they interacted with students of their own university (ingroup). Moreover, in a follow-up study with a similar design as Study 2 (Hertel, 1999, unpublished data), these differences only occurred strongly in dyads in which both partners had mutual outcome control. When only one partner of the dyad decided about outcomes, economic and social science students displayed rather similar fairness judgments.

Finally, there are some limitations of the presented studies in the main dependent measure that have to be mentioned. Although the allocation options in our Ring Measure had positive and negative values, we did not generally distinguish between positive and negative outcomes as a factor, which may be important for fairness judgments on the inter-individual as well as on the inter-group level (cf. Mummendey & Otten, 1998; Törnblom, 1992). Future studies could vary the numerical values of the Ring Measure systematically (cf. Dehue *et al.*, 1993) in order to test different effects of positive and negative values on fairness judgments. Another limitation is that the Ring Measure of social value orientations does not distinguish clearly between an equality orientation and a maximizing joint gains strategy (cf. Dehue *et al.*, 1993, Liebrand, 1984). Although this is not problematic for our research because we were mainly investigating egoistic tendencies in fairness judgments, replications with other fairness measures would be desirable. Despite these limitations, it certainly will be a challenge for future research to develop measures of fairness judgments that provide the specific advantages realized in the Ring Measure, such as precision and explicit consistency estimations.

But, to return to the general idea that motivated the research we have reported here, the findings of the present studies inform us about something that is fundamental for the social psychology of fairness in dyadic situations. Extending research results that demonstrate context dependent biases of outcome allocations for self and other, the current findings show that also our conceptualization of 'what is fair' can dependent on the social context in which we are asked to make such a judgment. It is especially interesting that our results imply that such judgments not simply reflect assimilation toward the normative context of the ingroup, but more likely demonstrate strategic processes adapting to the expected behavior of the interaction partner. In this way, the present research has explored the sensitivity of fairness perception to strategic considerations.

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