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The choice between allocation principles: Amplifying when equality dominates

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One hundred and ninety participants (95 undergraduates and 95 employees) responded to a factorial survey in which a number of case-based organizational allocation tasks were described. Participants were asked to imagine themselves as employees in fictitious organizations and chose among three allocations of employee-development schemes invested by the manager in different work groups. The allocations regarded how such investments should be allocated between two parties. Participants chose twice, once picking the fairest and once the best allocation. One between-subjects factor varied whether the parties represented social (i.e., choosing among allocations between two different work groups) or temporal comparisons (i.e., choosing among allocations between the present and the following year). Another between-subjects factor varied whether participants' in-group was represented by the parties or not. One allocation maximized the outcome to one party, another maximized the joint outcome received by both parties, and a third provided both parties with equal but lower outcomes. It was predicted that equality, although always deficient to both parties, would be the preferred allocation when parties represented social comparisons and when choices were based on fairness. When parties represented temporal comparisons, and when choices were based on preference, maximizing the joint outcome was hypothesized to be the preferred allocation. Results supported these hypotheses. Against what was predicted, whether the in-group was represented by the parties or not did not moderate the results, indicating that participants' allocation preferences were not affected by self-interest. The main message is that people make sensible distinctions between what they prefer and what they regard as fair. The results were the same for participating students who imagined themselves as being employees and participants who were true employees, suggesting that no serious threats to external validity are committed when university students are used as participants.

Cent quatre-vingt-dix participants (95 étudiants universitaires et 95 employés) ont répondu à une enquête factorielle dans laquelle un certain nombre de tâches d'allocation de nature organisationnelle étaient décrites. Les participants devaient s'imaginer eux-mêmes en tant qu'employés dans des entreprises fictives et choisir parmi trois allocations représentant des schèmes d'investissement employés-développement effectués par le directeur dans différents groupes de travail. Les allocations tenaient compte de la façon dont les investissements devaient être attribués entre deux partis. Les participants ont choisi deux fois, une première fois en regard de ce qui leur apparaissait le plus juste et une autre fois en regard de ce qui leur semblait le mieux. Un facteur intergroupe variait selon que les partis représentaient des comparaisons sociales (c.-à-d. choisir parmi des allocations à distribuer entre deux groupes de travail différents) ou temporelles (c.-à-d. choisir parmi des allocations à distribuer entre le présent et l'année à venir). Un autre facteur intergroupe variait selon que l'endogroupe était représenté par les partis ou non. Une allocation bénéficiait à un parti, une autre favorisait conjointement les deux partis et une troisième bénéficiait également aux deux partis, mais dans une moindre mesure. Il était prédit que l'égalité, quoique toujours déficiente pour les deux partis, serait l'allocation préférée quand les partis représentaient des comparaisons sociales et quand les choix étaient basés sur la justice. Quand les

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partis représentaient des comparaisons temporelles et quand les choix étaient basés sur la préférence, il était attendu que l'allocation préférée serait le bénéfice conjoint. Les résultats ont soutenu ces hypothèses. Contrairement à ce qui était attendu, le fait que l'endogroupe soit représenté par les partis ou non n'a pas modéré les résultats, indiquant que les préférences d'allocation des participants n'étaient pas affectées par leurs intérêts personnels. Le message principal est que les gens font des distinctions sensibles entre ce qu'ils préfèrent et ce qu'ils croient être juste. Les résultats ont été les mêmes pour les participants étudiants qui s'imaginaient en tant qu'employés et les participants qui étaient de réels employés, suggérant qu'aucune menace sérieuse à la validité externe n'a été commise en utilisant des étudiants universitaires comme participants.

Cientonoventa participantes (95 estudiantes universitarios y 95 empleados) respondieron un cuestionario factorial en el que se describían una serie de tareas de asignaciones organizacionales basadas en casos. Se pidió a los participantes que se imaginaran a ellos mismos como empleados en organizaciones ficticias y que escogieran entre tres asignaciones de esquemas de desarrollo para trabajadores, las cuales eran utilizadas por el gerente en diferentes grupos de trabajo. Las asignaciones consideraron cómo tales inversiones se distribuirían entre dos partidos. Los participantes tuvieron la posibilidad de escoger dos veces, una, tomando en consideración la asignación más justa, y otra, considerando la mejor asignación. Uno de los factores de relación entre sujetos variaba si los grupos empleaban comparaciones sociales (p.e., escoger entre asignaciones en relación a dos diferentes grupos de trabajo) o temporales (p.e., escoger entre asignaciones correspondientes al año presente o al venidero). Otro factor de relación entre sujetos variaba si los participantes en el grupo eran representados por el partido o no. Mientras que una asignación maximizó los resultados de un partido, la otra maximizó los resultados conjuntos recibidos por ambas partes y la tercera posición proporcionó a ambos partidos resultados iguales pero bajos. Se predijo que, la igualdad, aunque siempre deficiente para ambas partes, sería la asignación preferida cuando los partidos utilizaban comparaciones sociales y las elecciones se basaban en lo justo. Cuando los partidos empleaban comparaciones temporales, y las elecciones se basaron en preferencias, se hipotetizó que la maximización de los resultados conjuntos sería la asignación preferida. Los resultados apoyaron estas hipótesis. En contra de lo predicho, si la experiencia intragrupal fue representada o no por los partidos no afectó a los resultados, indicando que las preferencias de asignación de los participantes no fueron afectadas por el propio interés. El mensaje más importante de este estudio es que las personas hacen una sensible distinción entre lo que prefieren y lo que consideran justo. Los resultados fueron los mismos en estudiantes que participaron en el estudio y se imaginaron a sí mismos como siendo empleados y participantes que eran realmente empleados, sugiriendo que no hay amenazas serias para la validez externa cuando estudiantes universitarios son utilizados como participantes.

When people in groups allocate resources between members of their group, they most often consider equal allocations to be fairest and, therefore, choose to give equal shares to all group members when possible (e.g., Allison & Messick, 1990). This is especially true when inputs from group members do not differ. In such circumstances, equality coincides with equity, suggesting that a resource should be allocated proportionally to inputs (Adams, 1965). However, people often still choose to allocate resources equally even when inputs differ (e.g., Messick & Schell, 1992) and when alternative allocations would be more beneficial to all (Eek & Gärling, 2006; Selart & Eek, 2005). Thus, it is fair to say that splitting resources equally is an often-used method of allocation and that equality sometimes qualifies as some form of heuristic or shallow process (for a review, see Selart & Eek, 1999).

In this article we present an experimental study demonstrating that choices of allocation principle depend to a large extent on the dimension that is used as the criterion for the evaluation. As an example, *fair* principles for allocation differ quite dramatically from *preferred* allocation principles. Furthermore, equality is often preferred even though utility is not maximized as prescribed by decision theory (e.g., Von Neuman & Morgenstern, 1947). Hence, the main purpose of our study is to make as transparent as possible the environmental circumstances under which equality dominates as a principle. It is argued that contextual dimensions, such as type of comparison (social/temporal), in-group representation (in-group/out-group), and response mode (fairest/most preferred option), explain whether or not equality dominates. The perspective taken is that social decision behaviour is context dependent and that preference is constructed in the decision situation (Payne, Bettman, & Johnson, 1993; Selart, 1996; Selart & Eek, 1999). We argue that equality in certain contexts may be chosen as a result of fairness perceptions and not necessarily as a result of simplicity. We also argue that contextual factors are able to evoke reasons that provoke individuals to reason based more on

maximization or self-interest, thus establishing preference structures that depart from equality.

Equality and other allocation principles

Equality prescribes equal shares to all recipients and an abundance of previous research has been devoted to providing answers to why this principle is endorsed so often (for reviews see, e.g., Messick, 1993, 1995). Several interesting and important conclusions can be inferred. For instance, in line with what was first theorized by Deutsch (1975), equality is the dominating allocation principle when people have social concern as the goal of their interaction (e.g., Kazemi, Eek, & Gärling, 2005a, b; Selart & Eek, 2005). One reason is that equality stresses the cooperative aspects of a relationship between status-equals. In contrast, the equity principle (e.g., Adams, 1965) stresses competitive aspects among members of a collective (e.g., Sampson, 1975). Diekman, Samuels, Ross, and Bazerman (1997) argued that it may be the particular value of signalling equal status among people that often turns equality into the most preferred allocation principle.

Equality is also an appealing solution, since deviations from equality often seem to produce greater displeasure in participants who achieve less than they produce pleasure in participants who achieve more (Messick & Sentis, 1985). In a similar line of reasoning, it is argued that equality serves as an ''anchor'' that defines the minimum people will take when dividing a resource. People only deviate from such anchors when there are certain conditions present, such as ambiguity about division criteria or others' contributions, or a resource pool that is difficult to divide equally (Allison & Messick, 1990; Messick, 1995; Thompson & Loewenstein, 1992).

Despite the many advantages of the equality principle, it is still only one among several allocation principles. When there are goals other than social concern, other principles may serve better. Sampson (1975) argued that equality and equity are the two major solutions to distributive problems in economic and other spheres of life. These solutions vary considerably in their understanding of the conditions appropriate to create harmony, cohesion, and justice. Deutsch (1975) offered a similar categorization of rules determining fair allocations, equity, equality, and need, and suggested that each of the principles favours a certain goal of a relationship (cf. Kazemi et al., 2005a, b; Lane, 1986; Mannix, Neale, & Northcraft, 1995). Thus, allocations according to equality, equity, or need capture what most people consider fair, and which principle is chosen in the end is largely dependent on the goal or purpose of the allocation.

The present study focuses on factors moderating the implementation of equality. We do not compare equality to equity and need, but to allocation strategies that are more beneficial for all in that they provide all parties with larger shares than equality. Equality has two advantages in addition to those reviewed above; it is both fair and simple. The distinction between the fairness and the simplicity aspects of the implementation of equality has been debated in previous research. Even though equality most often is a cognitively simple strategy, easily understood by everyone, and quickly implemented (Messick & Schell, 1992; Roch, Lane, Samuelson, Allison, & Dent, 2000), research has shown that it is also implemented when it requires extensive calculations (e.g., Van Dijk & Wilke, 1995). Equality is often known as one of many decision heuristics used in people's everyday life. Such heuristics are not the results of careful deliberations; they are merely rules-of-thumb (Allison & Messick, 1990).

Deutsch (1975) noted that different goals may conflict with one another. An example is the problem that equality may not maximize the common good. Sometimes, a principle other than equality is a collectively better choice in that some, or even all, would receive more by its implementation. Still, as demonstrated by Eek and Gärling (2006), equality is often preferred even though there are other principles that are more beneficial to all. Based on these results, we argue that equality is chosen so frequently because it satisfies people's fairness concerns, and not because of simplicity. Furthermore, we test this assumption in two ways. First, we ask participants to choose the fairest among several allocations and compare it to the same participants' choices of the best allocation. By asking the same participants to choose the best and the fairest allocation, respectively, we could directly test whether fairness considerations dictate choices of equality. Second, by comparing conditions where issues of fairness are clearly relevant to conditions where fairness is less relevant, we could also test the explanation in a more subtle way. Hence, we hypothesized that fairness is only relevant when social comparisons are possible. In one condition we asked participants to allocate resources between two groups. In another condition, we asked participants to allocate the same resources within one group at different points in time (i.e., a ''temporal comparison'').

In the study, participants in organizational settings chose between equality and other allocation principles that, compared to equality, were more beneficial to all parties. If equality is a heuristic, participants should choose equality irrespective of what kind of comparisons they make, and irrespective of whether they choose the best or the fairest allocation. In contrast, if choices of equality are explained by fairness considerations, participants should only choose equality when fairness becomes relevant through social comparisons.

Factors influencing evaluations of outcomes

In research on outcome evaluations there has been a discussion about different judgment or evaluation dimensions (Brockner & Wiesenfeld, 1996; Van den Bos, Wilke, Lind, & Vermunt, 1998). An evaluator may judge an outcome in terms of fairness, but also in terms of preference. It has been argued that these evaluation dimensions (fairness vs preference) can be equated because some research has shown that they often converge in people's minds. *Outcome fairness* refers to the legitimacy of the outcome in relation to the prevailing definition of justice. *Outcome preference* refers to the extent of material benefit in the outcome being judged. Van den Bos et al. demonstrated that fairness and preference judgments do indeed differ. In the present study, we deliberately separated the two dimensions of evaluations with the aim of investigating whether certain allocation principles are chosen primarily out of fairness or out of preference.

Since it has been known for a long time that evaluations largely depend on standards or referents, researchers in the area of outcome evaluations have also theorized in terms of reference points (e.g., Van den Bos et al., 1998). Norms are evoked by the decision context and subsequently used as reference points in the evaluation process (Boles & Messick, 1995). One important such reference point in the process of evaluating outcome fairness is what comparisons are being made. Equity theory is based on the idea that others' outcomes are important to a person who evaluates his or her own outcome. It has been shown that outcomes are judged as fairer and better when they are equal to, as opposed to different from, outcomes received by others (Messick & Sentis, 1983). Van den Bos et al. (1998) draw a distinction between what is implied by social comparisons and other reference points such as, for instance, expectations: Social comparisons are more directly connected to fairness judgments, and this, in turn, may reveal a difference between evaluations of fairness and evaluations of preference. Another aim of the present study was to investigate the effect of nature of comparison on fairness and preference evaluations.

The design of the present study

Participants were asked to imagine that they were members of a work group at a fictitious company where the managers planned to invest money for various employee-development schemes. The participants' task was to choose between different allocations of the money invested. For some groups of participants, the parties of the allocations made social comparisons possible. For other groups, temporal comparisons were present instead. Our focus was to study which allocation participants preferred under the different comparisons. We expected that fairness issues should be more relevant for the former groups, and that participants therefore should choose equality, whereas participants in the latter groups were expected to choose an allocation that was more beneficial.

Given that choices between allocation principles partly depend on self-interest (e.g., Wilke, 1991), another factor that we assumed would moderate participants' choices was whether or not their own group was represented by the receiving parties. Equality might be chosen as the best principle between other parties, but not as much when one is a member of one of the receiving parties. Thus, participants allocating money between their own work group (i.e., in-group) and another work group (i.e., out-group) should choose different principles from participants distributing money between two out-groups. In similar experiments, Selart and Eek (2005) showed that no matter if the own or the neighbouring municipality gain was prominent, both groups preferred equality. However, it was also shown that pro-self motives based on group identity mattered a lot in explaining preferences for other alternatives that favoured the in-group to different degrees. For instance, systematically giving inappropriately large shares (i.e., overweighting biases) was more easily observed when pro-self motives based on group identity were present than when pro-other motives were present. It may therefore be hypothesized that self-interest related to the in-group would moderate participants' choices. Features like in-group interest, in-group

based goals, and in-group favouritism may play a part in this.

The allocation principles. In addition to an *equality* alternative (e.g., 2950 for own group and 2950 for the other group), participants chose from a *maximization* alternative that maximized the jointly invested money and provided both parties with more money than the equality alternative (e.g., 3190/3450) and an *own-best* alternative that maximized the money invested in one of the parties and gave less to the other, but still provided both parties with more money than the equality alternative (e.g., 3500/3000). A fourth allocation alternative that gave a lot more to one of the parties (90% of the sum of the equal alternative) and very little to the other (the remaining 10%) (e.g., 590/5310) was also included. However, given that hardly any participants ever chose this alternative, it was excluded from the analyses.

Hypotheses. In sum, the focus of the present study was to investigate under what circumstances equality is chosen as the allocation principle. The aims were to (1) investigate what allocation principles are chosen when choices are based on fairness and what principles are chosen when choices are based on preference, and to investigate (2) the moderating effect of nature of comparison, and (iii) the moderating effect of self-interest. With regard to evaluation dimension, we hypothesized that participants generally would prefer *equality* when asked to choose the fairest allocation (H1a), and *maximization* when asked to choose the best allocation (H1b). In contrast to making a choice based on fairness, a request for a preference judgment evokes reasoning based on self-interest to a higher extent. Therefore, participants were hypothesized to opt for a maximization of outcomes. We also expected an interaction effect between nature of comparison and allocation principle such that *equality* would be chosen when the allocation event included social comparisons (H2a), and that *maximization* would be chosen when the allocation event included temporal comparisons (H2b). The reason is simply that fairness makes no sense when temporal comparisons are made salient. Finally, we expected an effect of self-interest in that the *own-best* allocation would be chosen as the best allocation when the allocation event included the in-group and when social comparisons were made salient (H3a). When only out-groups were included in the allocation event, self-interest has no role, and as a result we hypothesized that *equality* then would be chosen as the fairest allocation (H3b).

Finally, although it was not the main interest in the study to generalize the results to real-life settings, in order to increase the external validity, we included two different groups of participants. Apart from undergraduates, who are commonly used as participants, we also recruited employees from various private companies. Should the effects of the manipulated factors be the same for undergraduates as for employees, it would indicate that research questions identified in organizational settings can be meaningfully studied under controlled settings in the laboratory.

METHOD

Participants and design

Ninety-five undergraduates (46 psychology undergraduates with a mean age of 27.2 years and 49 business school undergraduates with a mean age of 24.7 years) and 95 employees (mean age = 34.9 years) at different companies participated in the experiment. Among the psychology undergraduates, 22 were women and 24 were men; among the business school undergraduates, 25 were women and 24 were men; and among the employees, 46 were women and 49 were men. All undergraduates had completed at least two semesters of their educational programs. Participants were randomly assigned to one condition in a 2 (Group: in-group vs out-group) × 2 (Comparison: social vs temporal) factorial design.

Materials

In a questionnaire, each participant was asked to imagine that he or she was a member of a work group at a fictitious company. In order to increase the competence within its staff, the managers of the company planned to invest money for various employee-development schemes for the different work groups. The task for participants was to choose between three different allocations (A, B, or C) of such investments.

Two between-subjects factors regarded the parties of these allocations. One factor, *group*, operationalized self-interest by informing participants in the in-group conditions that their own group was represented by one of the two parties in the allocation task. For instance, the instructions to the allocation tasks in the in-group conditions read (translated from the Swedish): ''Your group and another group will both receive money for employee-development schemes. Among the allocations below, choose the one that you think is the

fairest/best.'' An example of the different allocations to choose from is:

	A	B	C
SEK per year and employee in your group	3500	3190	2925
SEK per year and employee in the other group	3000	3450	2925

Alternative A is the *own-best* alternative, B is the *maximization* alternative, and C is the *equality* alternative. Equality provided both parties an equal split of 90% of the joint outcome of the own-best alternative. Equality was thus deficient both to maximization and own-best, which was necessary to test the hypotheses.

In order to test the hypotheses, maximization and own-best needed to be distinguishable with regard to self-interest. That is, if both parties would be better off by maximization as compared to own-best, a choice based on self-interest would be confounded with a choice based on collective rationality. Therefore, own-best needed to provide the in-group with more money than maximization, but both groups overall with less money than maximization. A second necessary condition for maximization not to be confounded with self-interest is that maximization and own-best overall should appear equally good. Therefore, using another 36 psychology and 36 business school undergraduates as participants in a pilot study, the own-best and maximization alternatives were matched to appear equally attractive. In the pilot study, one figure out of four was left out and participants' task was to fill in the missing figure and thereby render the two alternatives equally attractive (i.e., ''Fill in the missing figure so that you think that alternatives A and B are overall equally good''). For the above example of allocations, participants in the pilot study were asked to make alternatives A and B equally attractive by filling in the missing figure in the following example:

	A	B
SEK per year and employee in your group	3500	_____
SEK per year and employee in the other group	3000	3450

Participants' mean rating for each task (i.e., 3190 in the example above) was used in the present experimental material. The pilot study also used a 2 (Group: in-group vs out-group) × 2 (Comparison: social vs temporal) between-subjects factorial design. Since no statistical differences were found between the groups in the pilot study, the overall prominent means were used in the main study.

In the out-group conditions, two out-groups were represented by the parties (i.e., ''Your previous work group and another group will both receive money for employee-development schemes. Among the allocations below, choose …'').

The other between-subjects factor, *comparison*, regarded the nature of comparison made in the allocation tasks. For the social conditions, social comparisons were made in that money was allocated between two different groups, as in the examples above. In the temporal conditions, money was allocated between the present and the next year. For instance, in the in-group condition with temporal comparison, the instructions read: ''Your group will receive money for employee-development schemes both the present year and the next year. Among the allocations below, choose the one that you think is the fairest/best.'' Thus, the label of the first line in the tasks exemplified above was replaced with ''SEK per year and employee in your group for the present year'' and the second line was replaced with ''SEK per year and employee in your group for the next year.'' In the out-group condition with temporal comparison, the same instructions were given except that ''your group'' was exchanged with ''other group.''

For each task (i.e., each page in the questionnaire), half of the participants were first asked to indicate which allocation (A, B, or C) they perceived as the fairest one. Thereafter, they were asked to indicate which allocation they perceived to be the best (most preferred) one. The other half of participants made these choices in the reverse order. All participants completed a total of 12 replication tasks, resulting in 24 choice responses for each participant. The 12 tasks held the differences between the three allocations (own-best, maximization, and equality) constant and, as such, constituted different numerical representations of the three allocation alternatives. The allocations were counterbalanced to the labels (A, B, and C) in the 12 tasks.

Procedure

In economics and psychology classes, undergraduates were asked to complete a questionnaire about decision making and fairness. Participants were informed that they would be paid SEK 50 (approximately US$6.5) if they agreed to

participate and that they were guaranteed anonymity. Those who agreed to participate completed the questionnaire individually immediately after class.

After contact had been made with the different companies' staff managers by the experimenter, employees were asked to complete a questionnaire about decision making and fairness. They received the same information regarding payment and anonymity as did the undergraduates. Employees who agreed to participate completed the questionnaire individually at their work place in groups ranging from 5–15 in size. The employees were recruited from a representative sample of organizations in the private sector in the large municipal district of Göteborg, Sweden.

All questionnaires were handed out in randomized order. Thus, participants were randomly assigned to one condition in the 2 (Group) × 2 (Comparison) factorial design. Completing the questionnaire required about 30 minutes, after which participants were paid and debriefed.

RESULTS

Six participants (two male and one female psychology undergraduates, one female business school undergraduate, and one male and one female employee) failed to complete the questionnaire properly. They were therefore excluded from the data analyses. With regard to sex and participant group (i.e., psychology, business school, and employees), the remaining 184 participants were roughly equally balanced between the experimental conditions: of the psychology undergraduates, 9 were in the *out-group/temporal comparison* condition, 12 in the *out-group/social comparison* condition, 10 in the *in-group/temporal comparison* condition, and 12 in the *in-group/social comparison* condition. The corresponding figures for the business school undergraduates were 12/12/12/12, and for the employees, 22/23/24/24.

Initial analyses were performed with sex (male vs female), participant group (psychology undergraduates vs business school undergraduates vs employees), and response order (fairness ratings before preference ratings vs fairness ratings after preference ratings) as independent variables. These factors had no effects on participants' choices. They were therefore excluded from the reported data analyses.

Participants made a total of 24 choice responses; 12 of the fairest and the remaining 12 of the best of the three different allocations (A, B, and C). The mean number of times each of the allocations was chosen as the fairest and as the best allocation, respectively, related to the between-subjects factors *group* and *comparison* are provided in Table 1. Means were submitted to a 2 (Group: in-group vs out-group) × 2 (Comparison: social vs temporal) × 2 (Evaluation Dimension: best alternative vs fairest alternative) × 3 (Allocation: own-best vs maximization vs equality) ANOVA with repeated measures on the last two factors.

The main effect of allocation was significant, $F(2, 360) = 51.39$, $p<.001$, $\eta_p^2 = .22$. This effect indicated that equality ($M = 11.40$) was overall the most chosen allocation, followed by maximization ($M = 8.10$) and own-best ($M = 3.54$). Bonferroni-corrected t-tests at $p = .05$ revealed that all mean comparisons were significant. The Allocation × Evaluation Dimension interaction was significant, $F(2, 360) = 71.80$, $p<.001$, $\eta_p^2 = .28$, and follow-up Bonferroni-corrected t-tests at $p = .05$ indicated, in line with H1a, that equality ($M = 7.50$) was chosen more often than maximization ($M = 3.00$) or own-best ($M = 1.15$) when participants

TABLE 1
Mean number of times the allocations were chosen as related to evaluation dimension, group, and comparison

			Allocation[a] *and evaluation dimension*					
			Own-best		*Maximization*		*Equality*	
Group	*Comparison*		*Fairest*	*Best*	*Fairest*	*Best*	*Fairest*	*Best*
In-group	Social	*M*	1.04	3.50	0.94	3.88	9.88	4.50
		(*SD*)	(2.29)	(4.42)	(2.29)	(4.66)	(3.23)	(4.37)
	Temporal	*M*	1.18	2.11	5.18	6.98	4.98	2.35
		(*SD*)	(2.69)	(4.08)	(4.74)	(4.39)	(4.72)	(3.42)
Out-group	Social	*M*	1.08	2.89	0.30	2.81	10.60	6.15
		(*SD*)	(1.93)	(3.50)	(0.75)	(4.10)	(2.15)	(4.57)
	Temporal	*M*	1.29	0.91	5.56	7.32	4.55	2.05
		(*SD*)	(2.66)	(2.38)	(4.85)	(4.91)	(4.38)	(3.46)

[a] Due to the between-subjects factors *group* and *comparison*, the labelling of the own-best allocation is somewhat misleading. Still, for participants, the allocations were only referred to as A, B, or C.

chose the fairest allocation. They also indicated, in line with H1b, that maximization ($M = 5.25$) was chosen more often than equality ($M = 3.76$) or own-best ($M = 2.35$) when participants chose the best allocation.

The Allocation × Comparison interaction was significant, $F(2, 360) = 62.52$, $p<.001$, $\eta_p^2 = .26$, and follow-up Bonferroni-corrected t-tests at $p = .05$ indicated, in line with H2a, that equality ($M = 7.78$) was chosen more often than maximization ($M = 1.98$) or own-best ($M = 2.13$) when social comparisons were made; in line with H2b they indicated that maximization ($M = 6.26$) was chosen more often than equality ($M = 3.48$) or own-best ($M = 1.37$) when temporal comparisons were made. The Allocation × Comparison × Evaluation Dimension interaction, $F(2, 360) = 8.59$, $p<.001$, $\eta_p^2 = .05$, indicated that the preferred rating of equality as the fairest allocation was particularly the case for a social comparison context, whereas the preferred rating of maximization as the best allocation was particularly the case for temporal comparisons.

H3a and H3b predicted a significant four-way interaction of Group × Evaluation Dimension × Allocation × Comparison. However, this interaction effect was not significant, $F(2, 360) = 0.19$, $p = .828$, $\eta_p^2 = .00$. Thus, the hypothesis that the own-best allocation would be chosen as the best allocation due to a motive based on self-interest in the in-group/social comparison condition (H3a) was not supported. Still, H3a was indirectly supported in that Bonferroni-corrected paired samples t-tests at $p = .05$ indicated that participants in the in-group/social comparison group, when choosing the best allocation, did not distinguish between the three allocations. In contrast, and in line with H3b, for participants in the out-group/social comparison condition, equality was significantly more preferred than the other allocations.

DISCUSSION

Equality was the most frequently chosen allocation overall. This is worth noting given that equality was always deficient to the other allocations. Participants thus preferred less money for all parties to unequal allocations of more money. Obviously, equal outcomes appeal to people. In line with our focal argument, equality was the only allocation that was chosen more often as the fairest allocation than as the best allocation. The large discrepancy between equality as the fairest and as the best allocation clearly indicates that equality seems to appeal to people's conceptions of fairness, whereas choices of the other two allocations seem to be driven to a higher extent by other motives, such as rationality (maximization) or self-interest (own-best). In contrast to the view of equality as a heuristic (e.g., Allison & Messick, 1990; Harris & Joyce, 1980; Messick & Schell, 1992), but in line with research by Van Dijk and Wilke (1995), people regard equality as fair, and they are entrapped by being fair (cf. Eek & Gärling, in press).

As expected, choices of equality were moderated by the nature of comparison. Thus, in line with H2a, in groups where social comparisons were made, equality was chosen more often than in groups where temporal comparisons were made. This supports our notion that relevant comparisons are needed for fairness considerations to affect behaviour. Equality was certainly perceived as the fairest allocations, which supported H1a. Again, in groups where social comparisons were made, the difference between equality as the best and as the fairest allocation was largest. Thus, the results demonstrate that equality will most likely be chosen as the allocation principle when it is a matter of evaluations on the fairness dimension and when social comparisons are made.

The clear disadvantage of choosing equality in the present tasks was that the alternative allocations *maximization* and *own-best* provided more money. Both parties in the allocation tasks would have been better off if a principle other than equality had been chosen. The results showed that maximization was perceived as the best allocation that verified hypothesis H1b. More importantly, though, maximization was chosen more often as the best than as the fairest allocation. Again, there were effects of the nature of comparison. As expected in H2b, participants in groups where temporal comparisons were made chose maximization more often than participants in the other groups. For participants in the temporal comparisons groups, there was no conflict between being fair and getting the most. Thus, what is fair is far more difficult to grasp in temporal comparisons than in social comparisons.

The own-best allocation was, in H3a, expected to appeal to a selfish motive among participants in the in-group/social comparison condition. Thus, this group was the only one that could actually act on the basis of a selfish motive. Even though the own-best and the maximization allocations had been matched as equally attractive by other participants in the same context, the own-best allocation maximized the own group's outcome, which was only relevant for participants in the

in-group/social comparison condition. However, the hypothesis was not supported. Still, participants in the in-group/social comparison condition, as opposed to participants in the out-group/social comparison condition, did not choose equality as the best allocation. This lower preference for equality may point at a selfish component, although not as clearly as hypothesized.

The finding that equality was chosen more often as the fairest allocation than as the best one is important since it contradicts the arguments put forward by Brockner and Wiesenfeld (1996), who argued for the legitimacy of equating evaluations of fairness and evaluations of preference in outcome decisions. Based on arguments in equity theory, revealing high correlations between preference and fairness in judgments, they concluded that the focus could reasonably be set on the convergence rather than on the divergence between preference judgments and fairness judgments. Other researchers have, in the same way, either deliberately or accidentally, treated fairness and preference in outcome evaluations as identical (see Van den Bos et al., 1998, for an overview). However, we believe that the size of this conceptual overlap may vary with conditions, with divergence dominating convergence in some situations. Therefore, it may be wise to keep the two dimensions of evaluations separated. This argument is further supported by research on the connection between people's fairness conceptions and their behaviour in social dilemmas. As reviewed by Eek and Biel (2003), when people estimate how high a fair level of cooperation is, and thereafter decide to what extent they prefer to cooperate, the correlations between fairness and behaviour are very high. However, when the two responses are separated in time, the correlations decline drastically (Biel & Eek, 2005).

The finding that social comparisons increase choices of equality was expected, since it goes in line with proposals and experimental results in previous research (Messick & Sentis, 1983; Selart & Eek, 2005; Thompson & Loewenstein, 1992). An explanation of this phenomenon has to point to some particular causes. For instance, situations in which social comparisons are made demand different considerations from situations in which temporal comparisons are made. Social comparisons bring into play a norm prescribing an appropriate behaviour, and the central norm in resource allocation tasks seems to be equality. A reasonable explanation to the central position of the equality principle when social comparisons are made could be its conflict-avoiding potential (Diekman et al., 1997; Messick & Sentis, 1985). Thus, an equal allocation does not surface and evaluate individual differences in, for instance, social status. Moreover, it is perhaps the peace-promoting potential in equal allocations that explains the use of equality as a heuristic and anchor in social contexts. In contrast, for groups where temporal comparisons were made, participants considered maximization as the best and fairest allocation. A situation without social comparisons does not evoke a norm of equality, probably because equality here has no "social" function. In such situations there is more room for other considerations, such as the goal of maximizing overall outcomes or one's own outcome (Deutsch, 1975, 1985; Thompson & Loewenstein, 1992).

One strength of the present study was that both undergraduates and employees from various organizations and companies were recruited as participants. Even though we used scenarios that did not necessarily mirror employees' real working life, the employees completed the task in their everyday work environment. No differences were found between the two groups. Before any strong and causal implications can be drawn, it is of course desirable to replicate results from studies using scenarios with studies using other experimental methods. With this in mind, we still believe that it is promising that the two sample groups did not differ, since it shows that important questions in organizational contexts can be studied experimentally with undergraduates as participants without committing serious violations to the external validity.

Future research should further explore definitions and categorizations of evaluation dimensions in outcome evaluations, and under what conditions these dimensions converge and diverge. Further research is also clearly needed on how the adoption of different principles for resource allocation is influenced by individual differences such as social value orientations, and situational factors such as, for instance, group goals. Recent studies by Kazemi and Eek (2007) show that people may choose allocation principles that they do not necessarily perceive as fair, just as long as they believe that the principles are instrumental in achieving given group goals (e.g., economic productivity). Furthermore, in Kazemi et al. (2005b), selfish motives seem to be downplayed by group goals. In organizational settings, such results, in conjunction with the results of the present study, can help to explain why different work groups choose different principles for allocating their outcomes (cf. Mannix et al., 1995). For instance, in a work group where

rewards and bonuses are given in relation to present and expected future performance (i.e., a temporal comparison), a different allocation principle will probably be chosen from that in a work group where bonuses are given in relation to the group members' different levels of performance (i.e., a social comparison).

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