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De Cremer, D.; Tyler, T.R.; den Ouden, N.

Published in:
Journal of Economic Psychology

Publication date:
2005

[Link to publication](#)

Citation for published version (APA):
De Cremer, D., Tyler, T. R., & den Ouden, N. (2005). Managing cooperation via procedural fairness: The mediating influence of self-other merging. *Journal of Economic Psychology*, 26(3), 393-406.

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Journal of Economic Psychology 26 (2005) 393–406

JOURNAL OF
**Economic
Psychology**

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Managing cooperation via procedural fairness: The mediating influence of self-other merging

David De Cremer^{a,b,*}, Tom R. Tyler^c, Nathalie den Ouden^a

^a *Tilburg University, Tilburg, The Netherlands*

^b *New York University, New York, NY, USA*

^c *Department of Psychology, New York University, 6 Washington Place,
Room 550, NY 10003, United States*

Available online 23 February 2005

Abstract

The present research examined the process underlying the effect of procedural fairness on cooperation. It was predicted that fair procedures have a positive effect on cooperation, and that the psychological process of self-other merging (between the group authority and the group member) mediate this effect. Results from a scenario experiment, and a cross-sectional survey supported these predictions. It is concluded that procedural fairness engenders cooperation because it enhances the process of self-other merging between the group authority and the group member. The importance of including the behavioral notion of cooperation into procedural fairness theories is discussed with particular relevance to social decision making. © 2005 Elsevier B.V. All rights reserved.

JEL classification: D23; K20; M54; A13

PsycINFO classification: 3020; 3660; 4250; 2360

Keywords: Procedural fairness; Cooperation; Self-other merging

* Corresponding author. Address: Department of Economic and Social Psychology, Tilburg University, P.O. Box 90153, 5000 LE Tilburg, The Netherlands. Fax: +31 13 466 2067.

E-mail address: d.decremer@uvt.nl (D. De Cremer).

The issue of fairness is a theme that quite often dominates group life, as witnessed by group members not only talking and negotiating about issues related to questions about whether they received the appropriate outcomes (i.e., *distributive fairness*; Deutsch, 1985) but also about whether correct and fair decision making procedures have been used by authorities and the group to arrive at those outcomes (i.e., *procedural fairness*; Tyler, 1988). In fact, more recently, it has even been argued that because in most groups “tragedy strikes when self-interest and social interest diverge” (Baden, 1998, p. 51), it is necessary that social arrangements have to emerge to restrain competitive actions and promote cooperative urges of group members (Posner, 2000; Schroeder, Steel, Woodell, & Bembenek, 2003; Tyler, Boeckmann, Smith, & Huo, 1997). As such, it is clearly advocated that the establishment of such arrangements will foster a group climate in which “procedural fairness” is a given (Schroeder et al., 2003).

What do we know about procedural fairness? First of all, a vast amount of research within the field of social psychology has demonstrated that the fairness of procedures influences people’s outcome (e.g., salary) evaluations (Tyler, 1990; Van den Bos, Vermunt, & Wilke, 1997), impressions and support of authorities (e.g., supervisors) (Tyler & Lind, 1990; Van den Bos, Wilke, & Lind, 1998), emotions and transient mood (Mikula, Scherer, & Athenstaedt, 1998), and compliance with authorities (Lind & Tyler, 1988; Tyler, 1988). However, although economists have considered outcome or monetary fairness as important, particularly since the work of Kahneman, Knetsch, and Thaler (1986), not much is known to date about the role of procedural fairness within the field of economics. Indeed, recently, Anand (2001, p. 249) argued that “although there is a larger psychological literature on procedural fairness, . . . , relatively little discussions of applications to economic theory or behavior exists”. Responding to the above claim, some recent research has therefore started to incorporate the concept of procedural fairness in studying economic issues such as contingent valuation method (Fuji, Kitamura, & Suda, *in press*) and both economic and social choice (Anand, 2001).

One relevant finding to both fields of social psychology and economics (due to their common focus on behavior), however, is that recently evidence has been gathered that procedures also appear to influence cooperation within groups (see e.g. Tyler & Blader, 2000, for an overview). This observation is important for a variety of reasons. First, from a social and economic psychology perspective this finding is interesting because despite claims of rational choice theories that people aim to maximize self-interest (Luce & Raiffe, 1957), people in general seem to value cooperative interactions and research in behavioral economics has shown that in social interactions some degree of cooperation is a given (Ledyard, 1995). Thus, promoting our understanding of how and why cooperation emerges is an important and necessary research question within social sciences. Second, and, even more important, is the fact that prior literature on procedural fairness has hardly included *behavioral reactions* as part of the fairness construct. Furthermore, literature on social decision making and cooperation hardly focused on the role of procedures in monitoring group and decision-making behavior to promote cooperation (Cropanzano & Schminke, 2001; De Cremer & Van Vugt, 2002; Tyler & Blader, 2000; Tyler &

Dawes, 1993). In the present paper, we, therefore, argue that research is needed that integrates insights from research on social decision making and research on procedural fairness to try to explain why procedures have behavioral consequences such as the promotion of cooperation.

We start from the assumption that although behavioral consequences as a function of procedural fairness have hardly been demonstrated – but seems logic from a theoretical point of view – amazingly little effort has been done to understand why such an effect could occur. In fact, Tyler and Blader (2000, p. 198) argue that “a new model is needed to explain people’s motivations for actively participating and engaging in groups.” A first attempt to explain such behavioral effect is provided by the recently developed group engagement model (Tyler & Blader, 2000, 2003). This model integrates the insights of the group-value model (Lind & Tyler, 1988) and the relational model of authority (Tyler & Lind, 1992), but is broader in its scope. In essence, the group engagement model broadens the focus of procedural fairness models by positing a general model of the relationship between people and groups. In doing so, this model tries to understand why people engage in their groups and to what extent procedures may play a role in this process.

According to this model the reasons why procedures, such as providing voice to group members or making decisions in a consistent manner (Leventhal, 1980), have the potential to motivate people toward group engagement is because it communicates information relevant to the identity and self of group members. That is, authorities using fair procedures say in a symbolic way to their group members that they are valued and respected members. Indeed, group members receiving voice or being treated honestly or consistently, may also infer that the authority considers them worthy group members who deserve a fair and respectful treatment. In turn, this symbolic message will then have a profound impact on group members’ self-worth and identity. Due to these self-relevant processes, group members will be more likely to affiliate with the group and its representative authority. In turn, the promotion of such type of affiliation in which the self merges with the group or the representative authority is considered to be the primary factors shaping attitudes, values, and behaviors in groups. Taken together, the contribution of the group engagement model is that it assumes that procedures influence people’s self-definition in such a way that the group becomes important to oneself. Consequently this self-relevant process will in turn guide group behavior like, for example, cooperation (Tyler & De Cremer, 2005); a proposition that has not been tested empirically yet.

A similar argument has been put forward by social psychological research on social dilemmas to explain the emergence of cooperation. Research has demonstrated that cooperation levels increase when group members feel affiliated with the group (Kramer & Brewer, 1984), and this effect has recently been explained by showing that an enhanced sense of group identity or affiliation goes together with the process of merging the group into one’s own self-concept. As a result, the goals of the group become one’s personal goals and group members will be intrinsically motivated to pursue the group’s interest (see De Cremer & Van Vugt, 1999; De Cremer & Van Dijk, 2002). In a similar vein, experimental economics research has shown that to overcome the free-rider problem one’s own interest should be broadened to include

other's welfare as well (Gächter & Fehr, 1999; Kjell, 1996; Solow & Kirkwood, 2002). In fact, research showed that an increase in familiarity, cohesiveness, sympathy or morality leads to a reduction of coordination problems in mixed-motive situations because they move decision-makers to consider an equilibrium that serves the collective best. This has been observed in research on, for example, public good dilemmas (Solow & Kirkwood, 2002), voting behavior (Schram & Sonnemans, 1996), and welfare issues (Bennett & Blaney, 2002).

Summarizing the above, we suggest that it is time to examine more in detail how procedures are able to influence cooperation within groups. To do this, we rely on assumptions of the group engagement model in stating that procedural fairness is able to promote group members' willingness to engage in cooperation, because being treated fairly and respectfully motivates group members to consider the group (and its goals) as defining to self, consequently promoting behaviors enhancing joint benefits.

In social psychology, one way to measure this process of merging the group (and its representative authority) in the self can be derived from the literature on interpersonal relationships, and more specifically, self-expansion theory (see Aron & McLaughlin-Volpe, 2001, for a recent review). This theory argues that in interdependent relationships, our behavior and decisions can significantly be influenced by others, in such a way that others are treated as self, a process which is referred to as *self-other merging*, or as Aron and Aron (1986, p. 19) suggest in their self-expansion theory "including others in the self". This process of experiencing others as part of the self has been illustrated by an impressive line of studies (see Aron & McLaughlin-Volpe, 2001, for a recent review), and its findings seem to extend to both the interpersonal level and the intragroup context (e.g., De Cremer & Stouten, 2003; Smith, Coats, & Walling, 1999). Indeed, the usefulness of this self-other merging process for both types of relationships is articulated well by Aron and McLaughlin-Volpe's (2001) observation that "the idea of including the other in the self, represents a useful conceptual framework that, in addition to its potential and previous primary focus on understanding interpersonal relationships, yields a number of important insights regarding the self and group context" (p. 105).

This self-other merging process is usually assessed by using an Inclusion of Other in the Self Scale (IOS scale, see Appendix A for an example of 6-point scale [taken from Karremans, 2002]). For example, Aron, Aron, and Smollan (1992) demonstrated that the way people experience closeness to others, can be successfully assessed by means of a series of overlapping circles. The more people experience inclusion of other in the self, the more they are likely to consider their relationship with this other as overlapping. Following this line of thinking, Aron, Aron, Tudor, and Nelson (1991) demonstrated that if interaction partner(s) are considered to be part of one's self, decisions about allocations are communal, that is, both own and other's resources will be considered as interchangeable, consequently leading to an increase in cooperation. Thus, the process of self-other merging can be considered as a very useful way to activate the process of installing a goal of mutual cooperation. Delineating from this, we propose that it is necessary to examine the role that self-other merging plays in explaining the positive effect of procedural fairness

on cooperation; something that – to the best of our knowledge – has not been demonstrated yet empirically.

Before moving to our studies, we briefly summarize our main predictions. First, we expect that procedural fairness will positively promote cooperation, and, in addition, this effect is expected to be mediated by the process of self-other merging. That is, group members are expected to merge with the source of the procedural information, that is, the authority representing the group, into self (see Hogg & Abrams, 1988, for the suggestion that authorities are often seen as “the group”).

Both experimental research and field research have their strengths and weaknesses, and the strengths of the one may compensate for the weaknesses of the other (Dipboye, 1990). Therefore, we tested our predictions in a scenario experiment (Study 1), and a field survey (Study 2). The scenario experiment allowed us to draw conclusions concerning causality, whereas the field study allowed us to extend our study to people in actual group settings and to another measure of cooperation. In Study 1, the manipulation of procedural fairness constituted allowing group members voice in decision procedures or not. Since Thibaut and Walker's (1975) work on dispute resolution procedures (i.e., process control), and the research on the “voice-effect” by Folger (1977), an impressive number of experiments on procedural fairness have been conducted using the manipulation of voice (i.e., the opportunity to express one's opinion or not; see e.g., Van den Bos, 1999), and it appears that voice is now the most accepted and most frequently used manipulation of procedural fairness. Further, recently it has also been shown that voice is associated with a range of fairness-based reactions, including cooperation (De Cremer & Van Vugt, 2002).

1. Study 1

1.1. Method

Participants and design. Seventy-eight undergraduate students at a Dutch University participated voluntarily in exchange for a fixed fee of 2 euro. They were randomly assigned to either the voice condition or the no voice condition.

1.2. Procedure

Participants were approached by a research assistant and asked whether they were willing to participate in a paper-and-pencil study. When students agreed they were given the materials and were seated at a table.

Students were required to read a scenario as if they were experiencing the situation themselves. The scenario read that participants were an employee at a company producing and selling computer games and software. In this company, employees worked together in teams. Thereafter, it was told that the supervisor of the participant's team had to decide whether their team would take a new computer game in production or not. Then, the voice manipulation was introduced (modeled after Van den Bos, 1999). In the *voice* condition, participants read that their supervisor

asked their opinion in order to use it during the decision-making process. In the *no voice* condition, participants read that their opinion was not asked and as such would not be used in the decision-making process. In the latter condition, we explicitly told participants that they did not receive voice, because prior research has shown that if participants are not told anything about the procedure, they will be more ambiguous about the situation and about what kind of information to use to base their actions on (Van den Bos, 1999). Consequently, because we wanted participants to base their behavior on the procedural fairness information, we implemented an explicit no voice manipulation.

After this, the dependent measures were introduced. All the items were answered on a 7-point scale, ranging from very much so (1) to not at all (7). To check the effectiveness of the voice manipulation, participants were asked to what extent they received voice. After this, the degree of merging between self and others in the group was measured. For this purpose, we used the IOS-scale as presented in Aron et al. (1992). This scale consists of seven series of diagrams of overlapping circles (rather than six as taken from Karremans, 2002) from which the participant selects one diagram that best reflects his/her relationship. It has been noted in the literature that this scale can take the form of 5-, 6-, or 7-point scales without lowering its reliability and validity. Indeed, this scale (across different forms) has been shown to have high levels of reliability and validity and is a strong predictor over time (see Aron & McLaughlin-Volpe, 2001). In the present study, we used this scale to assess the closeness between self and the representative of the team (as is suggested by Tyler and colleagues), that is, the supervisor. For data analyses and presentation, we then converted the diagrams to a Likert-scale that ranged from 1 (=being apart) to 7 (=overlapping). Then, cooperation was assessed by asking participants to what extent they were willing to “cooperate with” and “help” the team supervisor ($r = 0.66$, $p < 0.001$). Finally, participants were thanked, debriefed, paid and dismissed.

1.3. Results

Manipulation check. A one-way ANOVA on the voice measure showed that participants in the voice conditions indicated having received more voice than those in the no voice conditions ($M_s = 4.90$ vs. 2.02 , $SD_s = 1.25$ and 1.47 ; respectively), $F(1,78) = 87.97$, $p < 0.001$. Thus, our manipulation was successful.

Self-other merging. A one-way ANOVA on the self-other merging score showed that participants engaged in more self-other merging in the voice conditions than in the no voice conditions ($M_s = 3.10$ vs. 2.42 , $SD_s = 1.33$ and 1.19 ; respectively), $F(1,78) = 5.66$, $p < 0.05$.

Cooperation. A one-way ANOVA on the cooperation score revealed that participants in the voice conditions intended to cooperate more than those in no voice conditions ($M_s = 4.05$ vs. 3.28 , $SD_s = 1.52$ and 1.48 ; respectively), $F(1,78) = 5.14$, $p < 0.05$.

Mediation analysis. To test the mediating role of self-other merging, we conducted an ANCOVA on cooperation using self-other merging as a covariate. This analysis

revealed a significant effect for the covariate, $F(1,77) = 41.38$, $p < 0.001$, showing that self-other merging was positively related to cooperation. With self-other merging added to the design, the effect of voice on cooperation disappeared, $F(1,77) = 1.04$, $p < 0.31$. A calculation of the Sobel-test (see Sobel, 1982) showed that the reduction of the effect of voice was significant, $z = 2.26$, $p < 0.05$, suggesting that self-other merging mediated the effect of voice on cooperation.

Conclusion. As expected, the findings of Study 1 show that procedural fairness is an important tool to manage cooperation within groups. In addition, the psychological mechanism underlying such effect appears to be the extent to which group members merge self with the group representative, in this case, their supervisor. An important feature of Study 1 is its experimental nature, allowing us to draw conclusions about causality for the voice-cooperation. Moreover, Study 1 also provides much needed experimental evidence for the reasoning that leaders are able to promote cooperation by using fair procedures such as allowing voice (see De Cremer & Tyler, 2005; De Cremer & van Knippenberg, 2003; Tyler & Blader, 2000). Even so, an obvious question is whether these effects may also be observed in a field setting.

Study 2 was designed to address that question. Following De Cremer and Van Knippenberg (2002), we operationalized cooperation as organizational citizenship behavior (OCB), specifically keeping-up-to-date and helping the organization (Organ, 1988; Podsakoff, MacKenzie, Paine, & Bachrach, 2000). OCB refers to activities that go beyond job requirements and benefit others or the collective without necessarily benefiting the individual (Organ, 1988), and includes aspects as interpersonal helping, and taking the consequences of own actions for others into account, (e.g., Podsakoff et al., 2000). OCB has been argued to reflect the organizational cooperative behavior Katz (1964) and others alluded to (Organ, 1988). Previous research has shown that OCB is positively related to procedural fairness (e.g., Moorman, 1991). Further, because OCB reflects a decision that people make to engage in prosocial behavior in interdependent situations (organizations are considered a prime example of this) they do not reflect immediate positive financial consequences, but rather reveal (on the long-term) better performances, communal and equitable work cultures, and a reduced tendency of group members to withdraw from the organization. These consequences all related closely to the notions of exit, collaboration, and fairness considerations that are emphasized in economic frameworks on cooperation. Thus, studies on organizational behavior like OCB may also reveal insights for economic decision behavior outside work. In fact, Peterson, Miranda, Smith, and Haskell (2003, p. 521) argue that “organizational researchers ... do assume that the overriding objective of decision making is to arrive at an economically viable or profitable solution.”

Another difference with Study 1 is that in Study 2 we assess the quality of treatment not by using procedural fairness perceptions, but, by assessing how respectful people feel treated. In the procedural fairness literature, it has been argued and demonstrated that respect constitutes an important relational feature of procedures, which significantly affects reactions to procedural fairness (De Cremer & Tyler, in press; Tyler, 1999). Indeed, respect and instances of procedural fairness, like voice,

are related in such a way that they both have similar implications for people's identity and self-definition. The reason for this is that both influence how worthy and valued people feel within the group (Tyler, 1999). Further, prior research has shown that measures of respect and procedural fairness correlate highly (Tyler & Smith, 1999), and Tyler and Blader (2000) recently suggested that procedural fairness can be seen, at least in part, as consisting of *informal* qualities that include the interpersonal treatment between group members when these procedures are enacted. Finally, because the group engagement model explicitly makes a prediction regarding the impact of the fairness of enacted procedures on people's self-worth and identity, it is thus interesting and recommended to include a highly related (to procedural fairness) and direct measure assessing the informal quality of procedures; something we decided to do in Study 2.

2. Study 2

2.1. Method

Sample and Procedure. Data were collected by mailing questionnaires to employees from a Dutch company. The questionnaires included the measures of respectful treatment, OCB, and self-other merging. After responding to these measures respondents mailed their completed questionnaire back to the researchers. One hundred ninety-eight employees completed all measures. Of this final sample, 66.5% were females. Average age was 30.18 years ($SD = 9.65$), and average organizational tenure was 2.50 years ($SD = 1.62$).

Dependent measures. All items were answered on 5-point scales (1 = *not at all*, 5 = *very much so*).

Respectful treatment by colleagues. Respectful treatment was assessed by five questions assessing the quality of relationship with employees' colleagues (see also Tyler, 1999): "My colleagues care about my opinions", "My colleagues treat me in a polite manner", "My colleagues do not show concern for me (R)", "My colleagues treat me with dignity", and "My colleagues treat me with respect" (Cronbach's $\alpha = 0.86$).

Self-other merging. As in Study 1, the IOS-scale of Aron et al. (1992) was used to assess the process of self-other merging between each individual employee and his/her colleagues. Thus, the process of merging included incorporating the group of co-workers into one's own self-concept. This time, for data analyses and presentation, we converted the diagrams to a Likert-scale that ranged from 1 (=being apart) to 5 (=overlapping).

Organizational citizenship behavior. OCB was assessed with three items from (cf. Moorman & Blakely, 1995): "I gain knowledge, skills, and abilities that will be of benefit to my colleagues and the organization", "I take action to protect the organization and colleagues from potential problems", and "I keep up to date with the changes related to the organization and its colleagues" (Cronbach's $\alpha = 0.65$).

Table 1

Means, standard deviations, and intercorrelations of OCB, self-other merging, and respectful treatment by colleagues, Study 2

	<i>M</i>	<i>SD</i>	OCB	SOM	RT
OCB	3.34	0.77			
Self-other merging	3.16	1.06	0.25		
Respectful treatment by colleagues	3.83	0.62	0.27	0.37	

Note: $N = 198$. All correlations are significant at $p < 0.001$.

2.2. Results

Means, standard deviations, and intercorrelations for the study variables are displayed in Table 1. We used regression analysis to test our hypotheses. An analysis with respectful treatment as the predictor of OCB showed that treatment was positively related to OCB, $\beta = 0.27$, $p < 0.001$. A second analysis with respectful treatment as the predictor of self-other merging showed that treatment also was significantly related to self-other merging, $\beta = 0.37$, $p < 0.001$. Finally, to test our hypothesis regarding mediation, we conducted a regression analysis in which respectful treatment, and self-other merging as a covariate, were entered as predictors of OCB. This analysis showed that self-other merging, $\beta = 0.17$, $p < 0.05$, was positively related to OCB, and that the effect of respectful treatment was reduced, $\beta = 0.20$, $p < 0.01$. This reduction of the effect of respectful treatment is marginally significant ($z = 1.73$, $p < 0.09$; cf. Sobel, 1982), suggesting that, as in our experimental study, the relationship of respectful treatment with OCB is, at least partly, mediated by self-other merging.

3. General discussion

Taken together, the results reveal that procedural fairness and the related concept of respect were positively associated with cooperation. In addition, this procedural effect was explained, at least partly, by the process of self-other merging. Thus, evidence supports the prediction that a procedural fairness climate may be useful for managing positive group behavior like cooperation. This observation is as such important because original conceptions of procedural fairness did not include behavioral consequences as part of the definition of what a fair procedure constitutes (Tyler & Blader, 2000). Moreover, from a social evolutionary perspective, for example, it becomes clear that groups may indeed have to rely on the installment of a procedural climate to ensure the viability and survival of their resources, and the quality of group life (see e.g. Caporeal & Brewer, 1991; Leakey, 1978; Posner, 2000). Also, economic interactions between agents may benefit from the application of fair and respectful procedures as such acts have the potential to positively influence cooperative interactions between, for example, employers and employees, voters and political institutes and so forth (see also Anand, 2001). Therefore, it is our belief that inclusion of the notion “cooperation” as part of procedural fairness theories, will

significantly increase, and, in addition, demonstrate, the important value of procedures as part of both group life and economic exchanges (De Cremer & Tyler, *in press*, 2005; Tyler & De Cremer, 2005).

Further, the present results are consistent with the group engagement model (Tyler & Blader, 2000), which assumes that procedural information influences group members' self-definition. That is, being treated fairly and respectfully will install among group members a feeling of inclusiveness (Lind, 2001), and as such will promote strong feelings of group affiliation and the associated process of merging the group into self. To date, however, research on the group engagement model has been scarce and only correlational in nature. Also, the existing research has provided very limited evidence that identity processes are involved (e.g., Tyler, 1999), but it has *not* yet demonstrated that it is exactly the process of self-other merging that explains the procedural effect. Thus, the present research complements and extends prior research by demonstrating the mediating influence of self-other merging.

Of course, we hasten to say that the effectiveness of procedural fairness may not only depend on the its ability to symbolically influence the process of self-other merging, but also on other factors like trust, positive affect, and perceptions of self-efficacy (Brockner et al., 1998; De Cremer, den Ouden, & Stouten, *in press*; Van den Bos et al., 1998). Indeed, prior research has demonstrated that procedures may also positively influence these psychological variables, and because trust, affect and efficacy perceptions have been linked to increased cooperation (e.g., De Cremer, Snyder, & Dewitte, 2001; Kerr, 1996), future research is needed to examining the mediating role of these psychological processes in the relationship between procedural fairness and cooperation. However, the purpose of the present research was to test explicitly, for the first time, the assumption that the process of self-other merging is involved to explain potential positive effects of procedural fairness on cooperation, and in this respect the present findings can be regarded as sufficient and satisfactory.

In addition, an important strength is that these effects were demonstrated by using two different research methods. Study 1 yields experimental evidence with high internal validity for the predicted effects, and Study 2 added external validity to our findings. Thus, although Study 2 might be criticized for being correlational in nature (i.e., rendering it mute in matters of causality), for relying on self-reported behavior rather than an actual measure of behavior, and for the fact that all variables were assessed in a cross-sectional survey (i.e., making common method variance a potential problem). Yet, in combination with the experimental design of Study 1, these concerns are less of a threat to the overall conclusions of the present study.

To conclude, the present research thus has important theoretical implications for the field of procedural fairness in a way that the concept of procedure also appears to include a behavioral component. Moreover, the fact that the effect of procedures on cooperation can be explained by the process of self-other merging relates closely to findings in the social dilemma and in particular the public good dilemma literature. As such, it follows that both the procedural fairness literature and social decision-making literature seem to share common understandings to explain group behavior and economic exchanges (De Cremer & Tyler, 2005; Tyler & Dawes, 1993). There-

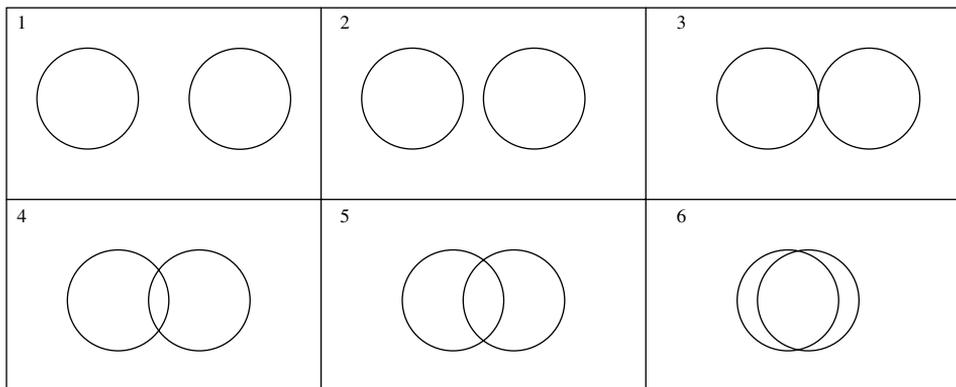
fore, an integration of these two fields may be useful to deepen our understanding of pro-social behavior within groups.

Acknowledgement

The present research was supported by a grant from the Netherlands Organization for Scientific Research (NWO, grant no. 016.005.019) awarded to the first author.

Appendix A. Example of a 6-point IOS scale (Karremans, 2002)

Below you see six pairs of circles. One circle represents yourself and the other circle represents the other group members. Indicate, by circling one of the numbers (1–6) which pair of circles reflects best how you feel towards the others, at this moment.



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