Violating Equality in Social Dilemmas: Emotional and Retributive Reactions as a Function of Trust, Attribution, and Honesty

Jeroen Stouten
University of Leuven

David De Cremer
Tilburg University

Eric van Dijk
Leiden University

In social dilemmas, equality is an important coordination rule. When equality is violated, people seek explanations. In Experiment 1, the authors assessed dispositional trust and found that especially high trusters were affected by the given explanation. High trusters reacted less negatively to external than internal explanations. Experiment 2, using a manipulation of trust in others, revealed a similar pattern across a wider range of negative emotions. In Experiment 3, the authors only induced high trust and showed that when the external explanation turned out to be a lie, emotional and retributive reactions became more negative. Moreover, attribution information did not influence reactions when participants realized that the information was dishonest.

Keywords: *equality; emotions; retribution; social dilemmas; trust; honesty; attribution*

Individual and collective interests are often in conflict. Such a conflict is at the basis of the problem of the provision of public goods. To provide public goods, individuals should be willing to contribute to its provision while knowing that they can consume the public good even if they do not contribute (i.e., public goods are characterized by impossibility of exclusion). The problem of course is that individuals may then decide not to contribute and the threshold for provision of the public good will not be surpassed. This specific type of conflict represents a social dilemma (Komorita & Parks, 1994) and, more specifically, is defined as a step-level public good dilemma (Van der Kragt, Orbell, & Dawes, 1983).

Research on decision making in step-level public good dilemmas has shown that an important manner to ensure provision of public goods is that people anchor their decisions on certain distribution rules (see, e.g., E. Van Dijk & Wilke, 2000). For example, it was shown that in symmetric social dilemmas (in which all group members have an equal number of resources to contribute), people generally prefer to use the equality rule on which to base their decisions. People divide the threshold that has to be surpassed by the total number of group members (= equal share) to determine how much each should contribute (e.g., Deutsch & Gerard, 1955).

Prior research concentrated on what most people do and posited that people prefer the use of the equality rule because it is easy to use (see also Samuelson & Allison, 1994) and considered to be fair (Stouten, De Cremer, & Van Dijk, 2005). Because people use the equality rule out of efficiency or fairness concerns, it has been suggested that people will generally expect that others will use the equality rule too. Despite this assumption, it has not been investigated yet how people react and make sense of the situation when a group

Authors' Note: The present research was supported by a fellowship of the Netherlands Organization for Scientific Research (NWO, Grant 016.005.019) awarded to the second author. Please address correspondence to Jeroen Stouten, University of Leuven, Department of Psychology, Tiensestraat 102, 3000 Leuven, Belgium; e-mail: jeroen.stouten@psy.kuleuven.be.

PSPB, Vol. 32 No. 7, July 2006 894-906
DOI: 10.1177/0146167206287538
© 2006 by the Society for Personality and Social Psychology, Inc.

member violates the equality rule. How people react to violating equality is relevant to understand the role that equality plays within groups and to see how these issues influence people's emotional and retributive reactions.

In the present research, we examine the role that attribution processes play in determining people's reactions toward someone violating the equality rule (i.e., is the violator responsible or not). The fact that the violation is intentional (or not) should elicit negative emotions (Averill, 1983; Bies & Tripp, 2002). Furthermore, a focus on retributive actions is important because these actions restore the injustice done (Bies & Tripp, 1996; Carlsmith, Darley, & Robinson, 2002) and incorporate excluding the violating group member (Kerr, 1999) and punishment of this person (Yamagishi, 1986). In addition, we also argue that the influence of attribution processes will be a function of the degree of trust that group members express toward others.

ATTRIBUTION

Symmetric step-level public goods are most efficiently and fairly solved if all group members adopt the equality rule. However, if one group member violates this rule by contributing less than an equal share, groups fail in surpassing the threshold. As a consequence, such a violation can be perceived as unexpected, unfair, and unintelligent behavior (see, e.g., Rutte & Messick, 1995; Stouten et al., 2005). Under such circumstances, group members may be expected to pose the question of why this violation occurred and they will try to infer causes (Blount, 1995; Weiner, 1986). Thus, attribution processes will come into play to find out why the violator refrained from using the equality rule.

It has been argued that in the process of finding causal explanations, people look for the intentionality and responsibility for the act, which results in instances of blame (Greenberg, 1990; Rutte & Messick, 1995; K. G. Shaver, 1985). This responsibility and blame for an unexpected and unwanted outcome makes people upset and induces strong emotional reactions, particularly anger-related emotions (Averill, 1983; Bies & Tripp, 2002; Johnson & Rule, 1986). This suggests that attribution processes and ascriptions of blameworthiness activated by violations of equality are likely to elicit strong emotional responses. Using these insights, we suggest that if a group member is seen as intentionally violating equality, then other group members will be likely to display strong emotional and, consequently, retributive reactions to restore the injustice toward the violator (e.g., Kidd & Utne, 1978; K. G. Shaver, 1985; Weiner, 1985).

These attribution processes are based on the type of information that the violator will give: It was my own decision (i.e., an internal) or it was due to the situation (i.e., external). Therefore, it will be important to examine how people will react when they find out that the violator gives an external explanation. In these circumstances, the trust people have will play an important role because people's reactions will be influenced by whether they believe the violator's explanation. As such, it is more likely that the type of justification provided by the violator will be more easily accepted by others if they are high in trust toward people.

TRUST IN SOCIAL DILEMMAS

In social dilemmas, trust is an important factor because it has been shown that higher levels of trust increase levels of cooperation, and particularly so in public good dilemmas (De Cremer, Snyder, & Dewitte, 2001; Parks & Hulbert, 1995).[1] Although trust is of major importance to interdependent decision makers (see, e.g., Pruitt & Kimmel, 1977), it is also known that trust is not easily defined. A commonly accepted definition of trust is provided by Mayer, Davis, and Schoorman (1995), who argue that trust is

> the willingness of a party to be vulnerable to the actions of another party based on the expectations that the other will perform a particular action important to the truster, irrespective of the ability to monitor or control that other party. (p. 712)

This definition suggests that when trust is high, people will have confidence in another's goodwill and will expect others to act in a moral and honest way (De Cremer et al., 2001; Ring & Van De Ven, 1994).

Applying this to what happens when the violator of equality provides an explanation to why he or she violated the equality rule, high trusters will be more willing to believe the external explanation provided because those group members will have less doubt about the moral intent and goodwill of the person justifying his or her action. Hence, high trusters' reactions will be most likely influenced by this external explanation. Giving an explanation has been shown to be a good alternative to restore trust and can be effective to reestablish cooperation (Bottom, Gibson, Daniels, & Murnighan, 2002) and to improve people's perceptions of the violator's integrity (Kim, Ferrin, Cooper, & Dirks, 2004).

THE PRESENT RESEARCH

The reactions that were studied across all three studies are people's emotional reactions. To date, social

dilemma research has paid little attention to this type of reaction, despite the fact that recent literature specifically outlines the importance of emotions in decision making (Hertel, 1999; Knapp & Clark, 1991; Loewenstein & Lerner, 2002). Moreover, the perception of injustice (e.g., a violation of equality) often results in a range of emotional reactions (see, e.g., Mikula, Scherer, & Athenstaedt, 1998; Weiss, Suckow, & Cropanzano, 1999), which frequently elicit a number of behavioral and perceptual reactions toward those who violate the justice principle (see also Goldberg, Lerner, & Tetlock, 1999; Schroeder, Steel, Woodell, & Bembenek, 2003). Also, Weiner (1986) showed that depending on the attribution process, diverse emotional reactions may be evoked, in particular, emotions related to anger. Hence, the act of injustice may elicit feelings of blame and result in the experience of negative emotions, which may then be the instigator of punishing behavior (i.e., retributive justice; see Darley & Pittman, 2003; Tyler, Boeckmann, Smith, & Huo, 1997).

To examine our predictions, participants in the present experiments played a symmetric four-person public good dilemma. After the contribution session, group members learned that the group did not succeed in providing the public good because one group member violated the equality rule.[2] After this, each group member was asked to indicate which group member had to give an explanation about why he or she contributed that particular amount. Subsequently, participants learned that it was the alleged violator who was required to give an explanation.

EXPERIMENT 1

Experiment 1 is a preliminary test to provide some first empirical evidence that high trusters relative to low trusters indeed put more emphasis on the reasons that a violator provides to account for his or her violation of equality. How exactly will the type of attributions influence emotional reactions? If the violator gives an explanation that could be ascribed to personal characteristics, such as having the intention to exploit (internal attribution), then high trusters are expected to react severely because the violation emerged from an intentional act with a specific focus on exploiting the group's interests, that is, the violator acted out of self-interest. However, suppose that the violator attributes his or her action to an external factor (external attribution), then high trusters' emotional reactions are expected to be less severe because the reason behind the violation lies outside the violator. Low trusters, however, are not expected to be influenced by the attribution information. The emotion under investigation in Experiment 1 is irritation. As mentioned earlier, reactions toward unjust acts are accompanied by anger-related emotions (De Cremer, 2004; Weiss et al., 1999), and one specific and important member of the category of anger is "irritation" (Russell & Fehr, 1994). Moreover, this specific emotion is particularly likely to be elicited in a situation that can be characterized by low suddenness and medium predictability (Scherer, 1988) and if expectations are violated, which is the case among high trusters.

Method

PARTICIPANTS AND DESIGN

Participants were 80 undergraduate students participating in exchange for course credit. The design was a 2 (trust: high vs. low) × 2 (attribution: internal vs. external) between-participants design. Participants were assigned randomly to the attribution conditions. Because 3 participants contributed their entire endowment and, hence, failure feedback about the provision of the public good could never be credible, these participants were discarded.

PROCEDURE

Participants were approached by a research assistant, were seated at a table, and were given a questionnaire.

Assessment of trust. Before reading the scenario, participants first answered a general trust questionnaire (Yamagishi & Yamagishi, 1994). This questionnaire contains six statements (1 = *not at all*, 7 = *very much so*): (a) "most people are basically honest," (b) "most people are trustworthy," (c) "most people are basically good and friendly," (d) "most people are trustful of others," (e) "I am trustful," and (f) "most people will respond in kind when they are trusted by others." These items were combined to form one average trust score (Cronbach's $\alpha = .78$). Using a median split ($Mdn = 4.50$), 37 low trusters and 33 high trusters could be classified. Hence, 7 participants scored the median score and were excluded from analyses.

Introduction of the public good dilemma. Thereafter, the public good dilemma was introduced. Participants read the scenario in which it was told that together with three other group members, they would be going on a university study trip. Then, each participant was said to receive 500 euro from a state subsidy (each student in the Netherlands receives this to cover to a great extent their education expenses) that they, if they wished to, could invest in the study trip (the university considered extra study trips very valuable to students' education). If the group managed to invest a total amount of 1000 euros, then the university would provide a financial bonus for the payment of the trip. This means that

if the threshold of 1000 euros would be reached, the university would add another 2000 euros, which would be divided equally.

To check participants' understanding of the situation, some comprehension questions were asked. All participants answered those questions correctly. Then, participants decided which amount they wished to contribute from their personal endowment. Thereafter, participants were given additional information about the amount of money the other three group members contributed: Two members of the group used the equality rule (= 250) and the fourth group member violated the rule by contributing 100 euros. Hence, participants then learned that they failed to reach the threshold of 1000 euros.

Manipulation of attribution. Then, half of the participants were informed that the group member who violated equality gave the explanation that he or she thought that others would contribute a sufficient amount of money to reach the threshold so that he or she did not want to contribute much (internal attribution). The other half of the participants learned that the group member who violated equality said that he or she did not yet receive the state subsidy on his or her personal account so he or she did not dare to contribute much (external attribution).

To check for the effectiveness of the attribution manipulation, participants were asked to what extent they thought the given explanation of the violator was socially appropriate in a way that his or her behavior could be excused (on a 7-point scale ranging from 1 = *not at all* to 7 = *very much so*). After this, participants were asked to what extent they felt irritated (on a 7-point scale ranging from 1 = *not at all* to 7 = *very much so*) regarding what happened within the group. Afterward, participants were debriefed and thanked for their participation.

Results

MANIPULATION OF ATTRIBUTION

A two-way ANOVA on the attribution check item revealed only a main effect for attribution, $F(1, 66) = 23.47$, $p < .001$, $\eta^2 = .26$, showing that participants thought that the explanation was more appropriate (because the violator could be excused for his or her behavior) when an external ($M = 3.20$, $SD = 1.62$) rather than when an internal reason was given ($M = 1.71$, $SD = 0.75$). No effects for trust, $F(1, 66) = 0.25$, $p < .62$, $\eta^2 = .00$, or the interaction effect, $F(1, 66) = 1.78$, $p < .19$, $\eta^2 = .03$, were found.

CONTRIBUTION TO THE PUBLIC GOOD DILEMMA

As expected, a two-way ANOVA on the amount that participants contributed showed no significant effects ($M = 253.93$, $SD = 17.87$). This indeed shows that the equality rule is used by most participants.

TABLE 1: Means and Standard Deviations for Irritation as a Function of Trust and Attribution in Experiment 1

Trust	*Internal Attribution*	*External Attribution*
Low	5.39 (1.09)	5.16 (1.07)
High	6.00 (0.87)	4.25 (2.30)

NOTE: Higher ratings indicate higher levels of irritation. Standard deviations are within parentheses.

IRRITATION

A two-way ANOVA[3] on the irritation item revealed a main effect for attribution, $F(1, 66) = 8.56$, $p = .005$, $\eta^2 = .12$, and a significant interaction, $F(1, 66) = 5.03$, $p < .05$, $\eta^2 = .07$ (see Table 1). A closer examination of this interaction showed that high trusters were more irritated when the violator provided an internal rather than an external reason, $F(1, 66) = 12.64$, $p < .005$, whereas this was not the case among low trusters, $F(1, 66) = 0.25$, $p < .63$.

EXPERIMENT 2

Experiment 1 provides some first evidence that a violation of the equality rule and the type of explanation a violator gives influence emotional reactions in social dilemmas, especially if other group members are high in trust. However, in Experiment 1, trust was operationalized by means of a dispositional variable. In Experiment 2, trust will be manipulated rather than assessed. This will make it possible to generalize the obtained effects not only to a disposition of trust but also to a more global state of trust. Moreover, by manipulating trust, it becomes possible to examine the causal role of trust more confidently than in Experiment 1. Another important difference is that in Experiment 2, no scenario was used but participants played the social dilemma in real groups.

As in Experiment 1, participants were part of a four-person group, playing a step-level public good dilemma. Group members first made their contribution decision and afterward noticed that one group member violated the equality rule. Different from Experiment 1, participants were able to choose themselves which group member had to give an explanation for his or her decision. Hence, participants were asked to indicate which group member had to justify himself or herself. Again, as in Experiment 1, internal or external attribution information was given. Similar predictions as in Experiment 1 were made. In Experiment 2,

we decided to use a wider range of anger-based emotions as a dependent measure, including the emotions of disappointment, indignation, and embitterment, particularly because these emotions refer to feelings of expectations that are not met (Frijda, 1986) and, in the present studies, equality is the expected behavior. Moreover, the emotion of disappointment will be defined in terms of person-related disappointment because this emotion refers to an undesirable decision someone made and the emerging feeling that this person ought to apologize (W. W. Van Dijk & Zeelenberg, 2002). We expect that in the high trust conditions, group member's emotional reactions will be influenced by the attribution information, whereas group members in the low trust conditions will not differ in their emotional reactions.

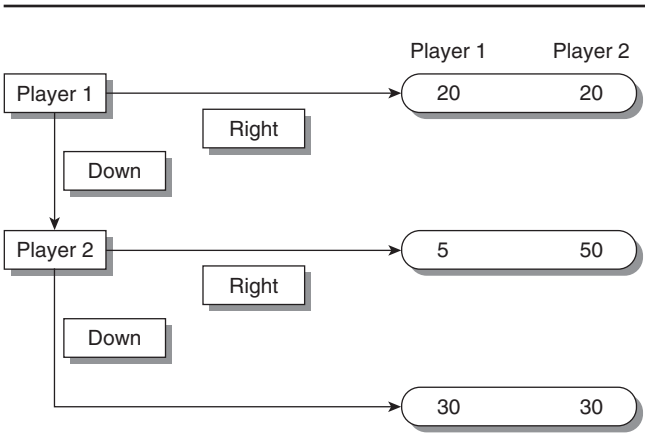


Figure 1 Game used in Experiments 2 and 3 to manipulate trust.

Method

PARTICIPANTS AND DESIGN

One hundred and eight undergraduate psychology students participated voluntarily and were paid 5 euros. Six participants did not remember correctly whether the threshold was reached by the group and 7 participants gave their entire endowment to the public good, which would imply that the bonus would be obtained and, hence, failure feedback would be regarded as false to them (see below). All of these participants were discarded, leaving a total of 95. Participants were assigned to a 2 (trust) × 2 (attribution) between-participants design and allocated randomly to both the trust and attribution conditions.

PROCEDURE

After arriving in the laboratory, participants were seated in separate cubicles containing a chair, a table, and a computer. All further instructions were presented on the computer screen.

Manipulation of trust. Before starting with the decision-making study, participants were first introduced to a supposedly other and unrelated study examining how people estimate situations and choices. In reality, this study was the trust manipulation, which has proven to be very successful in manipulating people's trust levels in social dilemmas (Mulder, Van Dijk, De Cremer, & Wilke, in press). The manipulation aimed to activate a sense of trust or distrust toward others, that is, previous research showed that people want to behave in a similar manner as other people (Schroeder, Jensen, Reed, Sullivan, & Schwab, 1983). Therefore, people showing trust evoke trust in others, and people showing distrust evoke distrust in others (Blomqvist, 1997).

Participants were told that in a previous study, people had to play a game in which two players were asked to make an independent decision about the allocation of profits. Hence, participants did not play the game themselves. This manipulation of trust is based on a trust or centipede game (Berg, Dickhaut, & McCabe, 1995) and is presented in Figure 1. The rules of this game were then explained. The first player in this game could choose between two options: the first option was that both players received an equal amount of money (choosing "right"). The second option was that the first player handed the choice over to the second player (choosing "down"). The second player, then, also could choose between right or down. Choosing right would imply that the first player would receive an amount of money that was the lowest amount this player could obtain. In this situation, the second player would then obtain the highest amount of money. However, the second player also could opt for the second option (down), which would mean that both players would receive an amount of money that was higher than the amount that player 1 could obtain for both players when choosing right. Hence, both players could obtain more money if player 2 would choose down. However, player 2 would receive the highest amount of money by choosing right. Player 1, thus, had to decide if player 2 could be trusted before handing over the choice to this player, because if player 1 would mistakenly trust player 2, there would be a considerable decrease in profits for player 1.

After the rules were explained, some comprehension questions were asked. All participants answered these questions correctly. Then, it was said that the results of four players (supposedly taken from previous studies), who were all in the position of player 1, would be shown. Furthermore, participants would learn the choices that each of these players made and the reasons why each player made that particular choice. In the low trust condition, participants learned that all four

players chose right, meaning that both players would receive an equal amount of money that was less than the amount that player 2 could obtain by choosing the down option. After the choice of player 1 was known, the reason for this player's decision was presented. An example is, "I don't trust upon player 2 choosing down because we don't know each other." In the high trust condition, participants learned that each of the four players chose the down option, which meant that player 1 handed the choice over to player 2. By doing this, player 1 indicated that player 2 was to be trusted. Here, each player also expressed a reason for choosing down: "I trust the other player will choose down, even if we don't know each other."

The introduction of the public good dilemma. After that, participants learned that they, together with three other group members, formed a group and that each group member would be referred to by means of a number between one and four (in reality, all participants received the number two).

Furthermore, participants learned that they possessed a personal endowment of 20 chips (each chip = 0.05 eurocents), which they, if they wished to, could contribute. If the group managed to reach a given threshold of 40 chips, then the group would receive a bonus, which would be divided equally among the four group members. Hence, when the threshold of 40 chips would be reached, the group would earn a bonus of 80 chips, that is, 20 chips each.

After explaining the situation, some comprehension questions were asked to check whether participants understood the situation. All participants answered these questions correctly. Then, participants could decide which amount they wished to contribute to the public good. After their decision, participants learned about the other members' contributions. First, it was said that the group did not contribute a sufficient amount of chips to reach the threshold. Then, the exact amount of chips each group member contributed was shown. Participants learned that two group members contributed an equal share (= 10 chips) and a third member violated the equal share by contributing 2 chips.

Manipulation of attribution. Following the presentation of group members' contributions, participants had to vote which group member would be asked by the experimenter to give an explanation about his or her decision. The group member who received the most votes would be asked to provide this information. Participants then wrote on a piece of paper the number of the group member from whom they wanted more information. The experimenter then collected the sheets of paper and supposedly handed them over to the group member who received the most votes. In reality, participants were always informed that the violator (i.e., contributing 2 chips) was asked for additional information. After this, participants waited until the experimenter reentered, giving them a handwritten note containing the explanation that the violator had given. In the internal attribution condition, participants learned that the violator gave the following explanation: "I gave a lower contribution because I thought that the others would contribute enough chips to reach the threshold so that I did not have to contribute much." In the external attribution condition, the violator gave the following information: "The computer program failed for a few seconds; hence, I was not able to read the amount that the group had to contribute and how much my endowment was."

Dependent measures. All questions were answered on a scale of 1 (*not at all*) to 7 (*very much so*). First, to check whether the manipulation of trust was successful, participants were asked three questions: (a) if I were player 1, I would choose down; (b) if I were player 1, I would trust player 2; and (c) if I were player 2, I would expect player 1 to choose down. These items were combined to form one average trust score (Cronbach's α = .90). Second, the successfulness of the attribution manipulation was checked by asking participants to what extent the contribution of the group member who was chosen to give some explanation could be ascribed to this person's own choice. Then, participants were asked how they felt about the situation in the group: disappointed, embittered, and resentful. Those items were combined to form one emotion scale (Cronbach's α = .78). Finally, participants were debriefed, thanked, and paid.

Results

MANIPULATION CHECKS

Manipulation of trust. A two-way ANOVA on the average trust item showed only a main effect for trust, $F(1, 91) = 16.35$, $p < .001$, $\eta^2 = .15$, no effect for attribution, $F(1, 91) = 0.03$, $p < .88$, $\eta^2 = .00$, or an interaction effect, $F(1, 91) = 0.33$, $p < .57$, $\eta^2 = .00$. The effect for trust showed that participants in the high trust condition ($M = 5.38$, $SD = 1.63$) were more trustful than were participants in the low trust condition ($M = 3.91$, $SD = 1.86$).

Manipulation of attribution. A two-way ANOVA on the attribution manipulation question showed no effect for trust, $F(1, 91) = 1.19$, $p < .28$, $\eta^2 = .01$, no interaction effect, $F(1, 91) = 0.00$, $p < 1$, $\eta^2 = .00$, but did show a main effect for attribution, $F(1, 91) = 16.82$, $p < .001$, $\eta^2 = .16$, indicating that participants in the internal

TABLE 2: Means and Standard Deviations for Negative Emotions as a Function of Trust and Attribution in Experiment 2

Trust	*Internal Attribution*	*External Attribution*
Low	3.64 (1.51)	4.25 (1.38)
High	4.32 (1.03)	3.55 (1.32)

NOTE: Higher ratings indicate higher levels of negative emotions. Standard deviations are within parentheses.

attribution condition ($M = 6.23$, $SD = 1.08$) felt that the violator's contribution was more the result of the group member's personal choice than when the explanation was based on an external attribution ($M = 5.06$, $SD = 1.62$).

CONTRIBUTION TO THE PUBLIC GOOD DILEMMA

As expected, a two-way ANOVA on the amount participants contributed showed no significant effects ($M = 10.07$, $SD = 2.13$). This shows that most participants used the equality rule.

EMOTIONAL REACTIONS

A two-way ANOVA on the emotion scale revealed only a significant interaction for trust and attribution, $F(1, 91) = 6.46$, $p < .05$, $\eta^2 = .07$. Participants in the high trust condition reacted more negatively when the group member provided an internal relative to an external attribution, $F(1, 91) = 3.82$, $p = .05$, whereas there were no differences in the low trust condition, $F(1, 91) = 2.67$, $p < .11$ (see Table 2). Of interest, although not significant, there is a tendency in the low trust conditions to react more negatively upon an external rather than an internal attribution. This unexpected finding could be the result of participants in the low trust conditions finding the external attribution less credible and uncertain than in the internal attribution conditions.

EXPERIMENT 3

The findings of Experiment 2 showed that when trust was manipulated rather than assessed as in Experiment 1, group members in the high trust conditions were more strongly influenced in their emotional reactions by the violator's explanation, but this time on a wider range of emotions than the ones used in Experiment 1. If the violation of equality is explained in terms of external reasons, negative emotional reactions are less likely to be experienced than when it is explained in terms of internal reasons. Because mainly participants in the high trust conditions were influenced by the given explanation, we decided to only include the high trust conditions in Experiment 3.

However, are people in the high trust conditions always influenced by the given attribution information? The findings of Experiments 1 and 2 were found under circumstances where people assumed that the given attribution information is honest. But what would happen if people actually find out that the given information is a lie? This is not an uncommon situation because research on negotiations has shown that interdependent individuals often behave strategically and, as such, group members sometimes tend to modify the truth and try to lie to the other group members (Boles, Croson, & Murnighan, 2000; O'Connor & Carnevale, 1997; Pruitt, 1981; Robinson, Lewicki, & Donahue, 2000). Because the provision of an external attribution explanation reduced negative reactions in Experiments 1 and 2, it could be expected that finding out that the violator lied would particularly affect the effectiveness of external information because lying results in negative reactions (see, e.g., Croson, Boles, & Murnighan, 2003). That is, people's reactions may become more negative if it turns out that the given external information was a lie relative to when people know that the information was honest, whereas this will not be the case if the information is internally attributed. Moreover, prior research showed that deception has particular effects on perceptions of trustworthiness (O'Sullivan, 2003). Therefore, we expect that honesty of the given external information will influence high trusters' reactions.

Furthermore, building on the above prediction, it also will be the case that if high trusters know that the violator lied about the explanation, the type of attribution information given will not influence their emotional reactions anymore. Under these circumstances, a lying violator will be perceived as an unreliable and untrustworthy person regardless of what he or she says (Bies & Tripp, 1996; O'Connor & Carnevale, 1997; O'Sullivan, 2003).

These predictions are not only expected for emotional reactions but also for retributive actions. In line with Schroeder et al. (2003), we argue that "attributions of intentionality regarding the harm done to others is one of the triggers for revenge, particularly if the defectors may be seen as violating the trust of the other group members" (p. 26). Thus, retributive actions will emerge regardless of attribution information when trust violation is proven (i.e., when it is known that the given attribution information is based on a lie). Therefore, in Experiment 3, we will also focus on multiple measures of retributive actions, which can be defined as the need to compensate by punishing the one responsible for the injustice (Schroeder et al., 2003). A first known action in the social dilemma literature is excluding the violator from the group because it communicates that the violator is unwanted by the

others and, as such, is socially punished (Kerr, 1999). This approach is also in line with research showing that people violating justice rules become a salient target for retributive actions (Niehoff, Paul, & Bunch, 1998; Rabin, 1993; Rucker, Polifroni, Tetlock, & Scott, 2004; Trevino, 1992).

Other retributive actions that may be taken also can be related specifically to the harm that is actually done. One such specific retributive action is punishment. Punishing the violator for deviant behavior is a preferred method to further the group's interest and to see to it that the violator gets his or her "just dessert" (e.g., Carlsmith et al., 2002). Punishing a group member is a known strategy to increase cooperation (e.g., Fehr & Gächter, 2002; McCusker & Carnevale, 1995; Yamagishi, 1986). Punishment and related forms of action can thus be expected in the high trust conditions if it turns out that the violator acted intentionally (internal attribution), as such following the suggestion that "deliberate defection requires retributive punishment, and the other group members . . . are eager to administer that punishment because they are very angry" (Darley & Pittman, 2003, p. 332). Hence, because emotional reactions may especially activate punishment, we also expect that the participants' negative emotional reactions underlie their willingness to punish. When the violator is known to lie, however, punishment will not be a function of attribution information.

Thus, in Experiment 3, we expect that participants in the high trust conditions will react more intensely toward external attribution information if it turns out to be a lie than when it is honest. More specifically, external attribution information that is supposed to be honest is important because it will justify the violator's behavior and, thus, soften people's reactions. But once they know that the information is dishonest, reactions will be more severe and intense. The reactions that will be assessed are negative emotions, the extent to which participants want to exclude the violator and the extent to which they want to punish the violator. Finally, we expect that group members will discount the attribution information if the violator is known to lie.

Method

PARTICIPANTS AND DESIGN

A total of 64 undergraduate psychology students participated voluntarily in exchange for 7 euros. Seven participants did not correctly remember whether the threshold was reached or not and were therefore discarded (no participants contributed a share that would be enough to reach the threshold). Participants were assigned to a 2 (attribution) × 2 (honesty) between-participants design and were allocated randomly to both the attribution and honesty conditions.

PROCEDURE

Participants were welcomed and seated in separate cubicles containing a table, a chair, and a computer. All further instructions were presented via the computer screen. Trust was first induced by using a manipulation similar to the one used in Experiment 2, except for the fact that all participants were now in the high trust condition to accurately test our predictions regarding attribution and honesty. To see whether the inducement of trust was successful, participants were asked to what extent they trusted the other group members. A two-way ANOVA was performed on this question. As expected, the analysis revealed no significant results for attribution, $F(1, 53) = 2.02$, $p < .17$, $\eta^2 = .04$, honesty, $F(1, 53) = 0.06$, $p < .81$, $\eta^2 = .00$, or for the interaction, $F(1, 53) = 0.29$, $p < .60$, $\eta^2 = .01$. Furthermore, a t test showed that responses to the item deviated significantly from the midpoint of the 7-point scale ($M = 4.75$, $SD = 1.27$), $t(56) = 4.48$, $p < .001$, indicating that we were successful in inducing a general high level of trust among participants.

The introduction of the public good dilemma. After that, the same explanation about the public good dilemma as in Experiment 2 was given. Participants were led to believe that they were part of a four-person group and were to play several sessions of a game. Participants were again given a personal endowment of 20 chips and the threshold that the group had to surpass (to earn the bonus of 80 chips) was again 40 chips.

After explaining the situation, some comprehension questions were asked to check whether participants understood the situation. All participants answered these questions correctly. Then, participants could decide which amount they wished to contribute to the public good. After participants made their decision, they learned about the other members' contributions. As in Experiment 2, it was said that the group did not reach the threshold and that two group members contributed an equal share (= 10 chips) and that a third member contributed 2 chips.

Manipulation of attribution. Following the presentation of group members' contributions, the same attribution manipulation as in Experiment 2 was introduced.

Introduction of the honesty manipulation. After this, the experimenter entered the room and gave participants information concerning the honesty of the violator's attribution explanation. In the honesty condition, the experimenter told participants, "When I was in the other room, I noticed that the explanation that the other group member gave you was indeed true. Hence, I am really convinced that this person did not lie when

TABLE 3: Means and Standard Deviations for the Dependent Measures as a Function of Honesty and Attribution in Experiment 3

	Honesty		*No Honesty*	
Dependent Measures	*Internal Attribution*	*External Attribution*	*Internal Attribution*	*External Attribution*
Negative emotions	4.70 (1.41)	3.05 (1.36)	3.69 (1.37)	4.18 (1.26)
Exclusion	5.00 (1.41)	2.84 (1.54)	4.33 (1.45)	4.54 (1.85)
Number of sessions to exclude	4.30 (3.83)	0.68 (1.25)	2.53 (3.00)	2.85 (3.05)
Financial punishment	31.20 (29.62)	10.21 (17.89)	22.40 (27.53)	28.46 (30.19)

NOTE: Higher ratings indicate higher levels of negative emotions and willingness to engage in retributive actions. Standard deviations are within parentheses.

explaining his decision in the first contribution game to you." In the dishonest condition, participants were told, "When I was in the other room, I noticed that the person who earlier on in the experiment gave you an explanation handled the game in a totally different way than he [she] told you. Hence, I am really convinced that this person lied when explaining his [her] decision in the first contribution game to you."

Dependent variables. All dependent variables were assessed on a 7-point scale ranging from 1 (*not at all*) to 7 (*very much so*). First, to check for the manipulation of honesty, participants were asked to what extent they evaluated the group member who provided them with an explanation as honest. Then, they were asked how irritated, disappointed, and frustrated they felt about the situation in the group. Both the emotions of irritation and frustration are known to be related to anger (P. Shaver, Schwartz, Kirson, & O'Connor, 1987), and disappointment refers to person-related disappointment (W. W. Van Dijk & Zeelenberg, 2002). These items were combined to form one emotion scale (Cronbach's $\alpha = .89$).

Furthermore, participants received the opportunity to exclude the violator from the group. It was asked which group member they wanted to exclude from the group and to what extent they wanted to exclude this person from the group. Then, it was asked how many sessions they wanted to exclude the violator. Finally, participants were provided with the opportunity to punish the violator. They could decide to give punishment points to the violator. Each point would punish the violator with one point, which would be subtracted from his or her personal endowment. Finally, participants were debriefed, thanked, and paid.

Results

MANIPULATION CHECK

To test for the effectiveness of the honesty manipulation, a two-way ANOVA was performed on the honesty question, revealing a main effect of honesty, $F(1, 53) = 10.64$, $p < .005$, $\eta^2 = .17$, and no effect for attribution, $F(1, 53) = 0.25$, $p < .88$, $\eta^2 = .00$, or the interaction, $F(1, 53) = 0.60$, $p < .44$, $\eta^2 = .01$. The effect of honesty showed that participants in the honesty condition evaluated the violator as more honest ($M = 4.59$, $SD = 1.78$) than did participants in the dishonest condition ($M = 3.00$, $SD = 1.61$).

CONTRIBUTION TO THE PUBLIC GOOD

As expected, a two-way ANOVA on participants' contributions showed no significant effects ($M = 9.35$, $SD = 3.20$). This shows that most participants anchored their decision on the equality rule.

EMOTIONAL REACTIONS

A two-way ANOVA on the average emotion scale showed the expected significant interaction effect, $F(1, 53) = 8.48$, $p < .01$, $\eta^2 = .14$ (see Table 3). Participants in the external attribution condition showed stronger negative emotions when the violator lied about the given explanation than when he or she was honest, $F(1, 53) = 5.39$, $p < .05$. No effect for honesty emerged in the internal attribution condition, $F(1, 53) = 3.37$, $p < .08$. In addition, when the violator was honest, participants showed stronger negative emotions in the internal rather than the external attribution condition, $F(1, 53) = 9.78$, $p < .005$. However, when the violator lied, no effect for attribution was found, $F(1, 53) = 0.92$, $p < .35$.

RETRIBUTIVE REACTIONS

Exclusion from the group. Results, first of all, showed that from the 57 participants, 54 chose the violator to be excluded from the group (94.7%). Furthermore, a two-way ANOVA on the exclusion item showed a main effect for attribution, $F(1, 53) = 5.21$, $p < .05$, $\eta^2 = .09$, and an interaction effect, $F(1, 53) = 7.62$, $p < .01$, $\eta^2 = .13$ (see Table 3). This interaction showed that group members in the external attribution condition wanted to exclude the violator more when he or she lied relative to when this person was honest, $F(1, 53) = 8.98$, $p < .005$. No differences were found for the honesty manipulation in the internal attribution condition, $F(1, 53) = 1.08$, $p < .31$.

Furthermore, when the violator was honest, participants chose to exclude the violator more when this person gave an internal rather than an external explanation, $F(1, 53) = 12.33$, $p < .002$. Attribution did not play a role when the violator lied, $F(1, 53) = 0.12$, $p < .74$.

A two-way ANOVA on the question of how many sessions participants wanted to exclude the violator from the group revealed a main effect for attribution, $F(1, 53) = 4.91$, $p < .05$, $\eta^2 = .09$, and an interaction effect, $F(1, 53) = 6.95$, $p < .05$, $\eta^2 = .12$ (see Table 3). The interaction showed that group members in the external attribution condition wanted to exclude the violator for more sessions when this person was dishonest relative to when this person was honest, $F(1, 53) = 4.81$, $p < .05$. No effect of honesty was found in the internal attribution condition, $F(1, 53) = 2.50$, $p = .12$.

Moreover, when the violator was honest, participants wanted to exclude this person for a higher number of sessions when he or she gave an internal rather than an external reason, $F(1, 53) = 11.42$, $p < .002$. When the violator lied, attribution played no role, $F(1, 53) = 0.09$, $p < .77$.

Financial punishment. A two-way ANOVA on the punishment question revealed a significant interaction effect, $F(1, 53) = 3.72$, $p = .05$, $\eta^2 = .07$ (see Table 3). When the violator gave an external reason, group members punished more when he or she lied than when he or she was honest, $F(1, 53) = 3.87$, $p = .05$. No effect for honesty was found in the internal attribution condition, $F(1, 53) = 0.70$, $p < .41$.

Moreover, when the violator was honest, group members punished more in the internal relative to the external attribution condition, $F(1, 53) = 4.35$, $p < .05$. However, when the explanation was a lie, the effect of attribution was not significant, $F(1, 53) = 0.39$, $p < .54$.

To check whether this effect on punishment was mediated by negative emotional reactions (as suggested by Darley & Pittman, 2003), a series of regression analyses were performed following Baron and Kenny (1986). First, a regression analysis of the independent variables on punishment showed a significant interaction, $\beta = .25$, $p = .05$, mirroring the ANOVA results. Second, a regression analysis on the mediator negative emotions showed a significant interaction, $\beta = .37$, $p = .005$, similar to the ANOVA results. Third, a regression analysis of the independent variables and the mediator on punishment showed a significant effect for the mediator, $\beta = .44$, $p = .001$, and revealed that the interaction effect was no longer significant, $\beta = .11$, $p < .42$. A Sobel test (Sobel, 1982) showed that this reduction was significant, $z = 2.26$, $p = .02$.

To summarize, these findings show that the reactions of high trusters are more intense and severe when it is known that the external attribution information is dishonest relative to honest. The results also showed that attribution information affected people's emotional and retributive reactions only if the given information was honest. In addition, participants' willingness to punish could, at least partly, be explained by negative emotional reactions.

GENERAL DISCUSSION

Three experiments examined how group members react when one group member violates an important coordination and fairness rule in symmetric social dilemmas, that is, the equality rule. We argued that under such circumstances, especially high trusters wish to know why a violator behaves like this to determine their reactions. In three experiments, we examined the roles of attribution information, trust, and honesty of the given information. We both assessed dispositional differences in trust and manipulated trust in others and found similar results, as such increasing our confidence that trust plays a crucial role in explaining emotional and retributive actions toward violators. Our manipulation of trust is a newly developed approach that recently has been proven to be very effective (see Mulder et al., in press), something the present findings again confirm. In the following paragraphs, we will discuss the most important findings.

Overall, the present findings showed that people are very much concerned about the use of equality in symmetric, step-level public good dilemmas. Earlier research has shown that decision makers in symmetric social dilemmas often use the equality rule themselves. However, the question remained how people react when others violate equality. The present results strongly suggest that group members consider the equality rule as something that should be applied by others. Consequently, both emotional and retributive reactions are then affected when another person violates the equality norm (a situation that has not been examined yet in social dilemmas). Moreover, the use of punishment was mediated by the expression of negative emotional reactions. The fact that emotional and retributive actions were so strongly elicited under circumstances of equality violation by someone else supports this perspective of looking at equality as a socially shared norm (Messick, 1993). This perspective of equality as a social norm also is supported by the claim that retribution (which was one of the dependent variables) is a likely response when social norms are violated (see Schroeder et al., 2003).

The first important finding was that only for high trusters, group members' negative emotional reactions

were influenced by the type of attribution information (i.e., internal vs. external) that the violator presented, that is, negative emotional reactions were elicited less when an external (i.e., the violation was caused by an external situational factor) rather than an internal attribution (i.e., the violation emerged from the violator's intention to exploit the group) was given. These findings support attribution theories suggesting that when something unexpected happens (i.e., a violation of an important coordination and fairness rule) people wish to know the cause behind this event and will base their emotional reactions on attributions of responsibility (Bies & Tripp, 2002; Rutte & Messick, 1995; Weiner, 1985). From the present results, it appears that such attribution information has important implications to determine the trustworthiness of those committing violations in social dilemmas (see, e.g., Bottom et al., 2002; Kim et al., 2004) and, therefore, among those high in trust, attribution information will particularly affect people's reactions. High trusters expect others to be of goodwill and act morally (De Cremer et al., 2001). As a result, it is important for them to see whether reasons exist that may reduce personal responsibility and confirm that it is justified to trust others (Greenberg, 1990). The present findings provide the first evidence, at least to our knowledge, of an interaction effect between trust and attribution on emotional reactions in social dilemmas.

To enhance the generalizability of our findings, we used a wide variety of negative emotions, all related to feelings of anger. Feelings of anger are mainly elicited if expectations are violated, as is shown in prior research demonstrating that people are highly upset when equality is violated both in terms of economic and fairness considerations (Stouten et al., 2005). Also, our measures of disappointment and embitterment that were added to the emotion score have been demonstrated to be primarily related to person-related disappointment (W. W. Van Dijk & Zeelenberg, 2002), which explains the finding that particularly in the high trust conditions, people reacted emotionally to the violator and the given explanation.

Another important finding is that the effect of attribution among those who used this type of information (i.e., high trusters) was moderated by the honesty of the attribution information, that is, our results showed that people were less likely to react negatively if external attribution information was given. However, if this information was dishonest, then reactions became particularly intense and negative. In many interdependent situations, for example, in negotiations, people behave strategically and do not always communicate valid information (Boles et al., 2000; Robinson et al., 2000), making it particularly important to look at the degree of honesty when explaining unexpected behaviors such as equality violation.

The degree of honesty about the given information was important for those in the high trust conditions because they used the attribution information to evaluate whether trust was violated and, consequently, to base their emotional reactions. As the present findings demonstrate, if participants in the high trust conditions realized that the given external explanation by the violator was a lie, they exhibited stronger negative emotional reactions and greater willingness to engage in retributive reactions. With respect to the retributive actions, our finding that in the high trust conditions people wanted to financially punish and exclude the violator from the group indicates that they felt misled in their trust and were clearly seeking revenge (see also Kim et al., 2004; Tyler et al., 1997). Moreover, the fact that the use of punishment was mediated by emotional reactions indicates that these emotions can be instigators of retributive actions (see also Darley & Pittman, 2003). The present findings are the first—at least to our knowledge—to experimentally examine and identify circumstances under which group members are willing to engage in retributive actions in social dilemmas. These findings are especially relevant for theory and research on social accounts (Bies, 1987). This line of research, for example, showed that justifications and explanations can reduce negative emotions. The present results show that the effects of these social accounts for justice violations can be moderated by the amount of trust people have in others. Moreover, the honesty of these accounts is also an important factor influencing people's reactions. Hence, both trust and honesty are important moderators of the effects of giving social accounts.

Moreover, another important strength is that our results showed that these social accounts or explanations influenced group member's emotions and retributive reactions. To date, hardly any social dilemma research has focused on the type of emotions and retributive actions that group members exhibit. Our findings show that particularly feelings of violated trust and justice serve as an instigator of these types of reactions in social dilemmas. Hence, it is also important to note that these emotions mediate subsequent behavior, particularly since a recent review of Bobocel and Zdaniuk (2005) noted that few studies have investigated the psychological processes underlying the effectiveness of social accounts. Another strength is that our research is also the first to study the impact of lying and honesty in public good dilemmas. Previous research on other interdependent situations such as negotiations and bargaining included this important variable, but social dilemma research has devoted little attention to it.

Adding this variable was indeed important because it identified a situation that determines the effectiveness of attribution information on people's reactions. Therefore, giving explanations not necessarily softens reactions on violations of negative outcomes. Not only should explanations be external rather than internal but the perceived honesty of these explanations also plays a role (see Greenberg, 1993, for reasons why people may value credible explanations). Violators who want to justify themselves also have to work on their credibility and perceived trustworthiness.

To conclude, the present research contributes to our understanding of the prominence of the equality rule in symmetric public good dilemmas by showing that equality matters in social dilemmas and that the consequences of a violation of equality cannot be restored so easily, except if an honest and external explanation can be given. However, this psychology of justification is only effective if trust is high within the group. Thus, violating equality can be seen as dangerous practice and emphasizes the hard-wired importance of justice in social decision making.

NOTES

1. Williams and Karau (1991), however, showed that in collective tasks, low trusters are more likely to compensate than high trusters. Yet, according to a recent review (Kerr & Tindale, 2004), this effect seems to be a function of whether one evaluates the outcomes as extremely important.

2. In the present studies, the group failed in obtaining the public good as a result of another group member violating the equality rule. Stouten, De Cremer, and Van Dijk (2005), however, showed that people also react on an equality violation when the group succeeds in obtaining the public good.

3. Because in Experiments 2 and 3 ANOVAs were used to report the results, we decided, for reasons of consistency and ease of interpretation, to use ANOVA in Experiment 1 as well. A hierarchical regression analysis using trust and attribution in Step 1 and adding the interaction term in Step 2 also revealed a main effect for attribution, $t(74) = -2.37$, $p < .05$, $\beta = -.27$, and an interaction effect, $t(73) = -2.70$, $p < .01$, $\beta = -1.89$, as such paralleling the ANOVA results. A simple slope analysis demonstrated that there was an effect for attribution among high trusters, $\beta = -.63$, $p < .001$. No effect was found among low trusters, $\beta = .07$, *ns*.

REFERENCES

Averill, J. R. (1983). Studies on anger and aggression: implications for theories of emotion. *American Psychologist*, *38*, 1145-1160.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173-1182.

Berg, J., Dickhaut, J., & McCabe, K. (1995). Trust, reciprocity, and social history. *Games and Economic Behavior*, *10*, 122-142.

Bies, R. J. (1987). The predicament of injustice: The management of moral outrage. In L. L. Cummings & B. M. Staw (Eds.), *Research in organizational behavior* (Vol. 9, pp. 289-319). Greenwich, CT: JAI.

Bies, R. J., & Tripp, T. M. (1996). Beyond distrust: "Getting even" and the need for revenge. In R. M. Kramer & T. R. Tyler (Eds.), *Trust in organizations. Frontiers of theory and research* (pp. 246-260). Thousand Oaks, CA: Sage.

Bies, R. J., & Tripp, T. M. (2002). Hot flashes, open wounds: Injustice and the tyranny of its emotions. In S. W. Gilliland, D. D. Steiner, & D. P. Skarlicki (Eds.), *Emerging perspectives on managing organizational justice* (pp. 303-221). Greenwich, CT: Information Age.

Blomqvist, K. (1997). The many faces of trust. *Scandinavian Journal of Management*, *13*, 271-286.

Blount, S. (1995). When social outcomes aren't fair: The effect of causal attributions on preferences. *Organizational Behavior and Human Decision Processes*, *63*, 131-144.

Bobocel, R. D., & Zdaniuk, A. (2005). How can explanations be used to foster organizational justice? In J. Greenberg & J. A. Colquitt (Eds.), *Handbook of organizational justice* (pp. 469-498). Mahwah, NJ: Lawrence Erlbaum.

Boles, T. L., Croson, R. T. A., & Murnighan, J. K. (2000). Deception and retribution in repeated ultimatum bargaining. *Organizational Behavior and Human Decision Processes*, *83*, 235-259.

Bottom, W. P., Gibson, K., Daniels, S., & Murnighan, J. K. (2002). When talk is not cheap: Substantive penance and expressions of intent in rebuilding cooperation. *Organization Science*, *13*, 497-513.

Carlsmith, K. M., Darley, J. M., & Robinson, P. H. (2002). Why do we punish? Deterrence and just deserts as motives for punishment. *Journal of Personality and Social Psychology*, *83*, 284-299.

Croson, R., Boles, T., & Murnighan, J. K. (2003). Cheap talk in bargaining experiments: Lying and threats in ultimatum games. *Journal of Economic Behavior & Organization*, *51*, 143–159.

Darley, J. M., & Pittman, T. S. (2003). The psychology of compensatory and retributive justice. *Personality and Social Psychology Review*, *7*, 324-336.

De Cremer, D. (2004). The influence of accuracy as a function of leader's bias: The role of trustworthiness in the psychology of procedural justice. *Personality and Social Psychology Bulletin*, *30*, 293-304.

De Cremer, D., Snyder, M., & Dewitte, S. (2001). The less I trust, the less I contribute (or not)? The effects of trust, accountability and self-monitoring in social dilemmas. *European Journal of Social Psychology*, *31*, 93-107.

Deutsch, M., & Gerard, H. B. (1955). A study of normative and informational social influences upon individual judgment. *Journal of Abnormal and Social Psychology*, *51*, 629-636.

Fehr, E., & Gächter, S. (2002). Altruistic punishment in humans. *Nature*, *415*, 137-140.

Frijda, N. H. (1986). *The emotions*. Cambridge, UK: Cambridge University Press.

Goldberg, J. H., Lerner, J. S., & Tetlock, P. E. (1999). Rage and reason: The psychology of the intuitive prosecutor. *European Journal of Social Psychology*, *29*, 781-795.

Greenberg, J. (1990). Looking fair vs. being fair: Managing impressions of organizational justice. In B. M. Staw (Ed.), *Research in organizational behavior* (Vol. 12, pp. 111-157). Greenwich, CN: JAI.

Greenberg, J. (1993). The social side of fairness: Interpersonal and informational classes of organizational justice. In R. Cropanzano (Ed.), *Justice in the workplace: Approaching fairness in human resource management* (Vol. 1, pp. 79-103). Hillsdale, NJ: Lawrence Erlbaum.

Hertel, G. (1999). Mood effects in social dilemmas: What we know so far. In M. Foddy & M. Smithson (Eds.), *Resolving social dilemmas: Dynamic, structural, and intergroup aspects* (pp. 227-243). Philadelphia: Psychology Press/Taylor & Francis.

Johnson, T. E., & Rule, B. G. (1986). Mitigating circumstance information, censure, and aggression. *Journal of Personality and Social Psychology*, *50*, 537-542.

Kerr, N. L. (1999). Anonymity and social control in social dilemmas. In M. Foddy & M. Smithson (Eds.), *Resolving social dilemmas: Dynamic, structural, and intergroup aspects* (pp. 103-119). Philadelphia: Psychology Press/Taylor & Francis.

Kerr, N. L., Tindale, R. S. (2004). Group performance and decision making. *Annual Review of Psychology*, *55*, 1-32.

Kidd, R., & Utne, M. (1978). Reactions to inequity: A perspective on the role of attributions. *Law and Human Behavior*, *2*, 301-311.

Kim, P. H., Ferrin, D. L., Cooper, C. D., & Dirks, K. T. (2004). Removing the shadow of suspicion: The effects of apology versus denial for repairing competence- versus integrity-based trust violations. *Journal of Applied Psychology*, *89*, 104-118.

Knapp, A., & Clark, M. S. (1991). Some detrimental effects of negative mood on individuals' ability to solve resource dilemmas. *Personality and Social Psychology Bulletin*, *17*, 678-688.

Komorita, S. S., & Parks, C. D. (1994). *Social dilemmas*. Dubuque, IA: Brown & Benchmark.

Loewenstein, G. F., & Lerner, J. S. (2002). The role of affect in decision making. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), *The handbook of affective sciences* (pp. 619-642). Oxford, UK: Oxford University Press.

Mayer, R. C., Davis, J. H., & Schoorman, F. (1995). An integrative model of organizational trust. *Academy of Management Review*, *20*, 709-734.

McCusker, C., & Carnevale, P. J. (1995). Framing in resource dilemmas: Loss aversion and the moderating effects of sanctions. *Organizational Behavior and Human Decision Processes*, *61*, 190-201.

Messick, D. M. (1993). Equality as a decision heuristic. In B. A. Mellers & J. Baron (Eds.), *Psychological perspectives on justice: Theory and applications. Cambridge series on judgment and decision making* (pp. 11-31). New York: Cambridge University Press.

Mikula, G., Scherer, K. R., & Athenstaedt, U. (1998). The role of injustice in the elicitation of differential emotional reactions. *Personality and Social Psychology Bulletin*, *24*, 769-783.

Mulder, L. B., Van Dijk, E., De Cremer, D., & Wilke, H. A. M. (in press). Undermining trust and cooperation: The paradox of sanctioning systems in social dilemmas. *Journal of Experimental Social Psychology*.

Niehoff, B. P., Paul, R. J., & Bunch, J. F. S. (1998). The social effects of punishment events: The influence of violator past performance record and severity of the punishment on observers' justice perceptions and attitudes. *Journal of Organizational Behavior*, *19*, 589-602.

O'Connor, K. M., & Carnevale, P. J. (1997). A nasty but effective negotiation strategy: Misrepresentation of a common-value issue. *Personality and Social Psychology Bulletin*, *23*, 504-515.

O'Sullivan, M. (2003). The fundamental attribution error in detecting deception: The boy-who-cried-wolf effect. *Personality and Social Psychology Bulletin*, *29*, 1316-1327.

Parks, C. D., & Hulbert, L. G. (1995). High and low trusters' responses to fear in a payoff matrix. *Journal of Conflict Resolution*, 39, 718-730.

Pruitt, D. G. (1981). *Negotiation behavior*. New York: Academic Press.

Pruitt, D. G., & Kimmel, M. J. (1977). Twenty years of experimental gaming: Critique, synthesis, and suggestions for the future. *Annual Review of Psychology*, *36*, 363-392.

Rabin, M. (1993). Incorporating fairness into game theory and economics. *American Economic Review*, *83*, 1281-1302.

Ring, P. S., & Van de Ven, A. H. (1994). Developmental processes of cooperative interorganizational relationships. *Academy of Management Review*, *19*, 90-118.

Robinson, R. J., Lewicki, R. J., & Donahue, E. M. (2000). Extending and testing a five factor model of ethical and unethical bargaining tactics: Introducing the SINS scale. *Journal of Organizational Behavior*, *21*, 649-664.

Rucker, D. D., Polifroni, M., Tetlock, P. E., & Scott, A. L. (2004). On the assignment of punishment: The impact of general-societal threat and the moderating role of severity. *Personality and Social Psychology Bulletin*, *30*, 673-684.

Russell, J. A., & Fehr, B. (1994). Fuzzy concepts in a fuzzy hierarchy: Varieties of anger. *Journal of Personality and Social Psychology*, *67*, 186-205.

Rutte, C. G., & Messick, D. M. (1995). An integrated model of perceived unfairness in organizations. *Social Justice Research*, *8*, 239-261.

Samuelson, C. D., & Allison, S. T. (1994). Cognitive factors affecting the use of social decision heuristics in resource-sharing tasks. *Organizational Behavior and Human Decision Processes*, *58*, 1-27.

Scherer, K. R. (1988). Criteria for emotion-antecedent appraisal: A review. In V. Hamilton, G. H. Bower, & N. H. Frijda (Eds.), *Cognitive perspectives on emotion and motivation: Vol. 44. NATO ASI series D: Behavioural and social sciences* (pp. 89-126). Dordrecht, the Netherlands: Kluwer.

Schroeder, D. A., Jensen, T. D., Reed, A. J., Sullivan, D. K., & Schwab, M. (1983). The actions of others as determinants of behavior in social trap situations. *Journal of Experimental Social Psychology*, *19*, 522-539.

Schroeder, D. A., Steel, J. E., Woodell, A. J., & Bembenek, A. F. (2003). Justice within social dilemmas. *Personality and Social Psychology Review*, *7*, 374-387.

Shaver, K. G. (1985). *The attribution of blame: Causality, responsibility, and blameworthiness*. New York: Springer-Verlag.

Shaver, P., Schwartz, J., Kirson, D., & O'Connor, C. (1987). Emotion knowledge: Further exploration of a prototype approach. *Journal of Personality and Social Psychology*, *52*, 1061-1086.

Sobel, M. E. (1982). Asymptotic intervals for indirect effects in structural equations models. In S. Leinhart (Ed.), *Sociological methodology* (pp. 290-312). San Francisco: Jossey-Bass.

Stouten, J., De Cremer, D., & Van Dijk, E. (2005). All is well that ends well, at least for proselfs: Emotional reactions to equality violation as a function of social value orientation. *European Journal of Social Psychology*, *35*, 767-783.

Trevino, L. K. (1992). The social effects of punishment in organizations: A justice perspective. *Academy of Management Review*, *17*, 647-676.

Tyler, T. R., Boeckmann, R. J., Smith, H. J., & Huo, Y. J. (1997). *Social justice in a diverse society*. Boulder, CO: Westview.

Van der Kragt, A. J. C., Orbell, J., & Dawes, R. M. (1983). The minimal contributing set as a solution to public goods problems. *American Political Science Review*, *77*, 112-122.

Van Dijk, E., & Wilke, H. (2000). Decision-induced focusing in social dilemmas: Give-some, keep-some, take-some, and leave-some dilemmas. *Journal of Personality and Social Psychology*, *78*, 92-104.

Van Dijk, W. W., & Zeelenberg, M. (2002). What do we talk about when we talk about disappointment? Distinguishing outcome-related disappointment from person-related disappointment. *Cognition and Emotion*, *16*, 787-807.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review*, *92*, 548-573.

Weiner, B. (1986). *An attributional theory of motivation and emotion*. New York: Springer Verlag.

Weiss, H. M., Suckow, K., & Cropanzano, R. (1999). Effects of justice conditions on discrete emotions. *Journal of Applied Psychology*, *84*, 786-794.

Williams, K. D., & Karau, S. J. (1991). Social loafing and social compensation: The effects of expectations of co-worker performance. *Journal of Personality and Social Psychology*, *61*, 570-581.

Yamagishi, T. (1986). The provision of a sanctioning system as a public good. *Journal of Personality and Social Psychology*, *51*, 110-116.

Yamagishi, T., & Yamagishi, M. (1994). Trust and commitment in the United States and Japan. *Motivation and Emotion*, *18*, 129-166.

Received May 10, 2005

Revision accepted December 27, 2005