

Reactions to group success and failure as a function of identification level: a test of the goal-transformation hypothesis in social dilemmas

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Abstract

This study examined the combined effects of identification level, social value orientation, and feedback on contributions in a public goods dilemma. Previous research has shown that strengthening group identity promotes cooperation. One explanation for this finding is that a strong group identity transforms people's motives from the personal to the collective level (the goal transformation hypothesis). Evidence for this hypothesis can be found in studies showing that a strong sense of group identity influences prosocials, relative to prosocials, to make larger contributions. In this experiment, we demonstrated that these findings are restricted to situations in which no feedback about a group's performance is provided. When performance feedback is provided, a strong group identity cancels the effects of individual differences in social value orientations. In particular, when a group fails, contributions increase if group identity is salient, but decrease if personal identity is salient, regardless of a person's social value orientation. But when a group succeeds, no differences between group and personal identity are found. These results are discussed in terms of the goal transformation hypothesis. © 2002 Elsevier Science (USA). All rights reserved.

In many groups and teams, the fact that personal and collective interests are at odds creates problems. Team members, for example, may be less willing to contribute some of their valued time and effort to team projects, because once a team project succeeds, everyone can benefit from it, regardless of their contributions. In social psychology, these interdependence situations are referred to as social dilemmas, or more specifically, as *public goods dilemmas* (Komorita & Parks, 1994; Messick & Brewer, 1983).

Rational choice theories (e.g., Luce & Raiffa, 1957) assume that people are mainly interested in pursuing their own self-interest, and so cooperation in groups is difficult to achieve, particularly in non-iterated games (Rapoport & Chammah, 1965). However, people seem to have a strong need to establish social links with others (see Baumeister & Leary, 1995), which can increase their motivation to cooperate. Experimental research has

shown, for example, that during the first trial of a social dilemma, cooperation may increase when decision makers identify with their groups (e.g., De Cremer & Van Vugt, 1999; Kramer & Brewer, 1984).

The purpose of our experiment is to complement and extend previous research by examining why exactly group identity (vs. personal identity) increases cooperation. We also examine how robust this effect is. For example, will a strong group identity still be beneficial when a group is unsuccessful at solving a dilemma? We hope to answer these questions by examining how individuals with different social value orientations react to identity manipulations (e.g., De Cremer & Van Vugt, 1999; Kramer & Goldman, 1995), and whether group success or failure influences the beneficial effect of a strong group identity.

Identification level and cooperation in social dilemmas

Over the last two decades, social dilemma research has often demonstrated the positive effect of salient

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group identity on people's willingness to contribute toward their collective welfare. It has been suggested that when individuals identify with a group, they use that identity as a reference point for their decision behavior, or in the words of Turner (1987) "the group is the basis of cooperation" (p. 34). But even though identity effects in social dilemmas are well documented, no consensus has yet been reached on how to explain those effects.

In the social dilemma literature, one explanation that has been proposed is that strengthening group identity (rather than personal identity) increases the value that people attach to the group's welfare versus their personal welfare (De Cremer & Van Vugt, 1999; Kramer & Goldman, 1995). When people have a strong sense of group identification, their self is defined at the level of the group, rather than at the level of their personal identity. As a result of this redefinition of the self, pursuing the group's interest becomes a direct and natural expression of self-interest. That is, collective and personal interests become interchangeable. As Brewer (1991) puts it: "when the definition of self changes, the meaning of self-interest and self-serving motivations also changes accordingly" (p. 476). Thus, strengthening group identity motivates people to turn a collective payoff into a more personal one, a process that is also believed to diminish productivity loss (e.g. Shepperd, 1993).

A second possible explanation is that group identity enhances mutual trust, thereby influencing cooperation levels (e.g., Kramer & Goldman, 1995). A major obstacle in social dilemmas is that people do not expect their efforts to be reciprocated by others (Pruitt & Kimmel, 1977). Because trust increases confidence in the goodwill of others, fear of exploitation is reduced, providing sufficient justification to engage in cooperation (De Cremer, Snyder, & Dewitte, 2001). Research has shown, for example, that ingroup members are judged more trustworthy and honest than outgroup members, thereby increasing intragroup cooperation, particularly when group identity is reinforced (Brewer, 1979). Thus, contrary to the first explanation, trust does not increase the value of the collective outcome, but rather decreases the subjective probability that others will free-ride on one's own contributions. Put another way, one is less likely to end up being a "sucker" (Kerr, 1983; Shepperd, 1993).

To advance theorizing, it would be helpful to determine whether strengthening group identity primarily influences the value one places on a collective outcome or one's levels of trust. Recent research by De Cremer and Van Vugt was the first empirical attempt to address this question. They adopted an approach in which the moderating influence of social value orientation on the effect of group identity was examined (see also Kramer & Goldman, 1995). Social value orientations are individual differences in how people evaluate outcomes for themselves and others in interdependent situations

(McClintock, 1972; Messick & McClintock, 1968). Broadly speaking, people can be classified as prosocial individuals (who want to maximize joint outcomes and the equality of outcomes), competitors (who want to maximize the difference between their own outcomes and those of others), or individualists (who want to maximize their own outcomes, regardless of others' outcomes). The latter two orientations are usually combined and defined as proself (Van Lange & Kuhlman, 1994). Previous research on this individual difference variable has convincingly demonstrated that prosocials exhibit more cooperative behavior than proselfs, and express a greater concern with the group as a whole (e.g., Kuhlman & Marshello, 1975; Van Vugt, Meertens, & Van Lange, 1995). How can this approach help us to identify how the beneficial effects of a salient group identity are best explained?

Consider Pruitt and Kimmel's (1977) goal/expectation theory, which states that cooperation is more likely when trust is enhanced, but only if people also have a prosocial orientation (the goal to achieve mutual cooperation), if the trust explanation is true, then people with a prosocial orientation should contribute more when group identity is salient. Prosocials, relative to proselfs, believe that others cooperate more, but they also expect some variability in levels of cooperation across persons (Kelley & Stahelski, 1970). Stronger feelings of trust should thus reduce this variability in expectations among prosocials, but not among proselfs. This analysis suggests that if group identity positively affects trust in others, then that would primarily affect the decisions of those with a prosocial orientation. We call this the *goal-amplification hypothesis*. In contrast, if group identity affects the weight people assign to the group's welfare versus personal welfare, then the decisions of proselfs are more likely to be affected by group identity. When group identity is strong, their motives are transformed from the personal to the group level, thereby increasing cooperation. Proselfs, who focus on their personal welfare, should thus be influenced more by a strong group identity. We call this the *goal-transformation hypothesis*.

The results of De Cremer and Van Vugt's (1999) research revealed strong support for the goal-transformation hypothesis. However, it is important to acknowledge that this study dealt with a "one-shot" public good dilemma in which group members made just one decision, without feedback on the group's prior performance. In reality, groups often know whether they have solved intragroup conflicts or not, and this knowledge presumably influences their future decisions. How can such knowledge affect their future behavior? And what role does identification play in this process? As we will argue and demonstrate, the goal-transformation hypothesis may help us to answer these questions.

Feedback about a group's performance is likely to provide members with a basis for expectations about

and interactions with one another (cf. Bettenhausen & Murnighan, 1985). Because people are generally optimistic, outcomes such as group failure, which is often unexpected, can have a strong impact on actions and decisions (e.g., Fiske & Taylor, 1984). Following attribution theories, we suggest that failure feedback will activate attributional processes that focus on explaining why the failure occurred (Weiner, 1985). Group success is less likely to activate such attributional processes, because success is consistent with people's optimistic and cooperative beliefs. We need to learn more about how group identity interacts with performance feedback and associated cognitive processes.

When group members receive positive feedback, the role of group identification on contributions may not be so important. Group success encourages the common belief that everything is going well and so no behavioral changes are required. That is, group members' decisions will be based on a simple win-stay heuristic (Macy, 1995). When group members receive negative performance feedback, however, we believe that group identification may play an important role in the effects of that feedback on their contributions. Previous research has shown that group failure generally weakens identification with a group (Snyder, Lassegard, & Ford, 1986), and may motivate group members to blame one another (Leary & Forsyth, 1987). Group members realize that change is required, and their decisions are thus based on a simple lose-change heuristic (Paese & Stang, 1998; also referred to as lose-shift, see Macy, 1995). One common change is that people become less motivated to contribute to the group's welfare (e.g., Bradfield & Aquino, 1999). However, such negative reactions may well be a function of people's strength of group identity.

When group identity is strong, a group-serving bias may arise, in which negative performance is attributed to causes outside the group (Leary & Forsyth, 1987). These outcome attributions will determine how group members behave in the future. Negative feedback may act as a signal that their group needs better coordination and performance, and so contributions will increase (Locke, Shaw, Saari, & Latham, 1981). When group identity is strong, a negative outcome may thus increase responsibility toward the group (Turner, Hogg, Turner, & Smith, 1984), and may motivate people to achieve the group's goals. When personal identity is strong, however, group members may attribute the group's failure to one another. As a consequence, they may reduce their contributions in order to avoid being "suckers."

Summary of hypotheses

Let us briefly summarize our predictions. First, an interaction between group identification and social value orientation is expected (Hypothesis 1). If the goal-

transformation hypothesis is correct, then the behavior of proselves should be affected more strongly by the type of identity that is salient (personal vs. group). But if the goal-amplification hypothesis is correct, then the behavior of prosocials should be affected more strongly by the type of identity that is salient. Second, an interaction between group identification and feedback is predicted (Hypothesis 2). When a group succeeds, the type of identity that is salient should be relatively unimportant. But when a group fails, a strong group identity will increase contributions, whereas a strong personal identity will decrease contributions. Finally, the interaction between identification, feedback, and social value orientation (Hypothesis 3) is intriguing. Previous research (De Cremer & Van Vugt, 1999) has shown that a strong group identity has more impact on the behavior of proselves (goal-transformation), suggesting that the interaction between feedback and type of identity should be larger among proselves than among prosocials. In other words, proselves should react more strongly toward performance feedback as a function of group identification than should prosocials. However, Van Lange (1999) has recently proposed an integrative model of social value orientation. He suggests that proselves, relative to prosocials, do not engage much in reciprocal cooperation and do not react strongly to feedback about the behavior of others. Because it is difficult to predict the exact shape of this interaction, our aim was merely to explore it.

Method

Participants

Participants were 142 undergraduate students (84 male and 58 female students, M age = 19.07 years, SD = 1.25 years) enrolled in an introductory social psychology course at a business school. Participation in the experiment partially fulfilled a course requirement.

Procedure

The experiment was part of a classroom exercise that involved several study groups. Upon arrival, participants in each session were divided into groups of seven and seated at separate tables. They were told that they were about to participate in a study on group decision making and that no communication among participants was allowed.

Assessment of social value orientation

As a first task, participants completed a written version of the nine-item Decomposed Games measure to assess their social value orientation (see Van Lange, Otten, de Bruin, & Joireman, 1997 for details). The

Decomposed Games measure has excellent psychometric qualities. It is internally consistent (e.g. Parks, 1994), reliable over substantial time periods (Eisenberger, Kuhlman, & Cotterell, 1992), and is not related to measures of social desirability (e.g., Platow, 1992).

The task consist of nine items, each containing three alternative outcome distributions with points for oneself and an (anonymous) other. Each outcome distribution represented a particular orientation. Participants were classified as prosocial, individualistic, or competitive when at least six choices (out of nine) were consistent with one of the three orientations (e.g., Van Lange & Kuhlman, 1994). Out of 142 individuals, 72 (51%) were classified as prosocials, 55 (39%) as individualists, and 10 (7%) as competitors. Five individuals (3%) could not be classified and were therefore excluded from further analyses. The individualists and competitors were combined to form one group of proselves ($N = 65$).

Introduction to the public good dilemma

After participants finished the decomposed games, they were told that many decisions in groups involve a struggle between personal and collective interests. Participants were provided with a real-life example to illustrate this conflict (the question of whether or not to contribute to the public broadcasting facilities of the BBC). After this information was given, each participant received an endowment of 300 cents and was told that he or she was free to contribute any amount between 0 and 300 cents. Moreover, if the group as a whole contributed at least 1050 cents, then the total amount contributed by the group would be multiplied by two and split equally among members, regardless of their contribution. The amount one decided to keep rather than contribute would accrue totally to oneself. However, if the provision point of 1050 cents was not reached, then contributions would not be multiplied, and the amount one tried to keep would be lost. After this was made clear, an example was given to illustrate the decision situation. Participants were told that they would be making several decisions. To avoid endplay, we did not tell participants what the exact number of sessions would be (see Murnighan & Roth, 1983).

Type of identity was manipulated by creating intergroup versus interpersonal comparisons (a method successfully used in previous research, see De Cremer & Van Vugt, 1999; Kramer & Brewer, 1984). In the *personal* identity condition, participants were told that we were interested in individual decision making, and so we would compare the decisions of each individual with those of the others. This created a differentiation among group members, consequently reinforcing a personal identity (Turner et al., 1987). In the *group* identity condition, participants were told that the study was being conducted at two locations (the Business School and the Psychology Department). Participants were told

that all group members were business students, and that we would compare the decisions of business student groups with the decisions of psychology student groups. By introducing such a “social competition” (the comparability of groups in relation to categorization, Turner, 1975), a strong sense of group identification was created (Turner et al., 1987). The distributions of prosocials and proselves were similar across the group identity (56% vs. 44%) and personal identity (52% vs. 48%) conditions.

To check whether there was indeed a difference in group identification, participants were asked three questions (7-point scales, ranging from not at all [1] to very much [7]), namely (1) “To what extent do you perceive several distinct groups or a number of distinct individuals to be present?,” (2) “To what extent do you feel like a group member, rather than a distinct individual?,” and (3) “To what extent do you feel you belong to this group?” (Cronbach’s $\alpha = .70$). These three ratings were averaged to produce a group identity score. Higher scores indicated a stronger sense of group identification. A 2 (Social Value Orientation) \times 2 (identification) \times 2 (Feedback) ANOVA on the average identification score revealed a significant main effect for identification, $F(1, 129) = 34.14$, $p < .001$. Participants in the group identity condition ($M = 4.08$) identified more strongly with their group than did those in the personal identity condition ($M = 3.06$). No other significant effects were found. These findings indicate that the identity manipulation was successful, although it should be noted that the mean score in the group identification condition was not much above the midpoint of the rating scale.

Participants were then asked how much of their 300 cents endowment they were willing to contribute to the group. After participants made that decision, the feedback manipulation was carried out. Half of the participants were told that their group did not contribute sufficiently (failure condition), while the other half of the participants were told that their group did contribute sufficiently (success condition). Afterwards, participants were asked again how much they wished to contribute in this group if they had an endowment of 300 cents and the group as a whole had to contribute at least 1050 cents. After this second contribution session, the experiment was finished, so participants were debriefed and thanked.

Results

Contribution session before feedback

A 2 (Social Value Orientation: Prosocial vs. Proself) \times 2 (Identification: Group vs. Personal) ANOVA on the contribution session without feedback revealed a

Table 1
Contributions (during session before feedback) as a function of identification and social value orientation

	Identification	
	Personal	Group
Proselfs	104.20 _a (78.92, <i>N</i> = 30)	210.00 _b (59.12, <i>N</i> = 35)
Prosocials	208.32 _b (61.62, <i>N</i> = 28)	185.50 _b (53.30, <i>N</i> = 44)

Note. Contributions could range from 0 to 300 cents. Means with a different subscript differ at $p < .05$. Standard deviations and cell sizes are given in parentheses.

main effect for identification $F(1, 129) = 14.51, p < .001$. Contributions were higher in the group ($M = 197.75$) than in the personal ($M = 156.26$) identity condition. A significant main effect for social value orientation was also found $F(1, 129) = 13.36, p < .001$. Prosocials ($M = 196.91$) contributed more than did proselfs ($M = 157.10$). Finally, in agreement with Hypothesis 1, a significant interaction between social value orientation and identification emerged $F(1, 129) = 34.87, p < .001$ (see Table 1). A close inspection of the means revealed that contributions among proselfs with a strong personal identity were significantly lower than contributions among participants in the other three cells (Tukey-test). This pattern of findings is consistent with the goal-transformation hypothesis, suggesting that a strong group identity transforms motives from the personal to the group level.

Contribution session after feedback

A 2 (Social Value Orientation) \times 2 (Identification) \times 2 (Feedback: Success vs. Failure) ANCOVA on the contribution session after feedback, including the contribution session before feedback as a covariate, revealed a significant main effect for the covariate ($\beta = .45$), $F(1, 128) = 42.25, p < .001$.¹ Participants who contributed more during the first session also contributed more during the second session. A significant main effect for social value orientation was also found $F(1, 128) = 4.14, p < .05$. Prosocials ($M = 190.44$) contributed again more than did proselfs ($M = 167.43$).

In agreement with Hypothesis 2, a significant interaction between group identification and feedback also emerged $F(1, 128) = 15.59, p < .001$. When failure feedback was provided, contributions were significantly higher in the group ($M = 205.75$) than in the personal

($M = 149.78$) identity conditions, $F(1, 69) = 9.32, p < .005$. In contrast, when success feedback was provided, no significant difference in contributions between the group ($M = 165.27$) and personal ($M = 194.94$) identity conditions was found $F(1, 67) < 1$. Furthermore, among participants in the group identity condition, contributions were significantly higher when the group failed rather than succeeded $F(1, 79) = 14.64, p < .001$. In the personal identity condition, this difference was only marginally significant, $F(1, 58) = 2.91, p < .09$.

To examine in more detail how performance feedback influenced contributions, simple effect tests were carried out (see Table 2). In agreement with Hypothesis 2, failure motivated participants in the group identity condition to contribute more when performance feedback was given ($M = 218.02$) than when it was not ($M = 200.02$), $p < .001$. But in the personal identity condition, contributions were lower when groups failed ($M = 144.39$) than when they succeeded ($M = 169.22$), $p < .05$. When success feedback was given, contributions were stable in the personal identity condition ($M = 170.72$ vs. $M = 170.75$), $p > .05$. In the group identity condition, contributions decreased slightly, but this difference was not significant ($M = 194.14$ vs. $M = 174.16$), $p > .05$.

There was no significant interaction involving social value orientation, group identification, and feedback, $F(1, 128) < 1$, but the ANCOVA did reveal an unexpected interaction between social value orientation and identification $F(1, 128) = 19.50, p < .001$. An inspection of the means (see Table 3) revealed that contributions among prosocials with a strong personal identity were significantly lower than the contributions of participants in the other three cells, who did not differ significantly from one another (Tukey-test on the adjusted means). This finding suggests that *after* receiving performance

Table 2
Contributions as a function of identification, feedback, and sessions

Identification	Feedback	Session before feedback	Session after feedback
Group	Failure	200.62 (54.44, <i>N</i> = 38)	218.02 (69.53, <i>N</i> = 38)
	Success	194.13 (57.95, <i>N</i> = 41)	174.16 (50.70, <i>N</i> = 41)
	Mean	198.54 (56.19, <i>N</i> = 79)	196.09 (60.11, <i>N</i> = 79)
Individual	Failure	169.22 (61.32, <i>N</i> = 32)	144.39 (95.94, <i>N</i> = 32)
	Success	170.72 (68.10, <i>N</i> = 32)	170.75 (65.06, <i>N</i> = 26)
	Mean	169.97 (68.10, <i>N</i> = 58)	157.57 (80.50, <i>N</i> = 58)

Note. Contributions ranged from 0 to 300 cents. Standard deviations and cell sizes are given in parentheses.

¹ A $2 \times 2 \times 2$ ANOVA on the contribution difference score (session 2–session 1) revealed the same significant effects as the ANCOVA. An ANOVA including trial (first vs. second session) as a repeated measures variable also revealed similar results. The cell means for the reported ANCOVA are adjusted means.

Table 3

Contributions (during session after feedback) as a function of identification and social value orientation

	Identification	
	Personal	Group
Proselfs	210.55 _b (63.26, <i>N</i> = 40)	170.33 _b (63.48, <i>N</i> = 35)
Prosocials	134.16 _a (97.73, <i>N</i> = 18)	200.69 _b (56.75, <i>N</i> = 44)

Note. Contributions ranged from 0 to 300 cents. Means with a different subscript differ significantly at $p < .05$. Standard deviations and cell sizes are given in parentheses.

feedback, prosocials reacted more strongly to our identity manipulation, which is in line with the integrative model of social value orientation (Van Lange, 1999). We will return to this point later.

Discussion and conclusions

The purpose of this experiment was to examine the primary psychological process underlying group identity effects in social dilemmas. In line with recent research (De Cremer & Van Vugt, 1999), the moderating effect of social value orientation on group identification was examined in a public good dilemma. To examine further the effects of group identity, we wanted to see whether reactions to group feedback differed as a function of identification level.

Our first important finding was that making group identity salient promoted contributions, but this identification effect was moderated by social value orientation. Proselfs in the group identity condition contributed more than did proselfs in the personal identity condition. No such difference was found for prosocials, providing support for the goal-transformation hypothesis (see also De Cremer & Van Vugt, 1999; Kramer & Goldman, 1995). Apparently, the primary effect of a strong group identity is for people to attach more value to the collective payoff, because at that moment, personal self-interest equals the group's interest.

A second important finding was that the effect of performance feedback appeared to be a function of identification level. When confronted with failure, people in the group identity condition started contributing even more, whereas people in the personal identity condition started contributing less. Why? As our results showed, strengthening group identity seemed to increase the value attached to the collective outcome. Thus, people in the group identity condition may have realized that a behavioral change was required to promote valuable group goals. Of course, just as collective interest coincides with personal interests when group identity is salient ("we" also means "I"), there may also be a personal issue at stake in the sense that group

failure indicates personal failure for some people. As a result, they may have engaged in a self-enhancement strategy, doing more to achieve group success, and hence personal success. In contrast, people in the personal identity condition did not value group outcomes as much as personal outcomes, so they may have perceived group failure as a signal that extra effort of their own would be exploited by others, leaving them to end up as a "sucker" (Kerr, 1983). As a result, their contributions decreased.

When success feedback was provided, people generally seemed to realize that no behavioral change (i.e., win-stay heuristic) was required, and so they did not increase their contributions. This was true whether group identity or personal identity was salient. It is interesting to note that under success conditions, people in the group identity condition decreased their contributions slightly. Maybe success feedback made these individuals a bit overconfident, so they reasoned that a slight decrease in contributions was justified (cf. Lindsley, Brass, & Thomas, 1995). Future research may be required to examine the relationship between group identification and overconfidence when positive group feedback is provided.

To summarize so far, the results suggest that the primary effect of group identity is to make the collective outcome seem more valuable, which then leads to more contributions. However, this transformation process does not seem to adequately explain the identity effect when group performance feedback is provided. Even though people in the group identity condition reacted in a positive way to group failure, whereas those in the personal identity condition reacted negatively, no moderating effect of social value orientation was found. This result shows that prosocials, like proselfs, do not exhibit the same level of cooperation across different feedback situations. That is, they do not react in a similar fashion to group success and failure. A similar point can be made about the unexpected interaction between social value orientation and group identification when group feedback was provided. That interaction is not entirely in line with the goal-transformation hypothesis, but recent work by Van Lange (1999) may help to explain it. His integrative model of social value orientation shows that prosocials, relative to proselfs, are more responsive to situational features, such as other people's levels of cooperation, and thus engage more often in reciprocity strategies than do proselfs, who act more consistently in different situations.

This reasoning may explain why the goal-transformation hypothesis does not fit exactly with the effects of identification on cooperation in social dilemmas once information about others' decisions is provided. Furthermore, it implies that once group performance feedback is given, the identification effect can be explained largely in terms of trust (the goal-amplification hy-

pothesis). Future research is needed to determine when the goal-transformation process versus the goal-amplification process accounts for the positive effects of group identity on cooperation in social dilemmas.

Before closing, some weaknesses and strengths of the present study need to be mentioned. One potential limitation is that group development may have influenced participants' contribution behavior. In the early phases of a group, norms and expectations are formed that are difficult to change during later phases (Gersick & Hackman, 1990). Maybe the feedback after the first trial was not sufficient to change the initial norms and expectations developed during the first trial, when no performance feedback was available. Another limitation is that we used a repeated game with only two rounds, which did not allow us to examine in more detail how group feedback would influence the identity effect over time. The prospect of future interaction often increases cooperation, and after a series of positive interactions, may create trust in the group (cf. Bendor, Kramer, & Stout, 1991). It would therefore be interesting to replicate the present experiment using a multi-trial game.

Despite these limitations, an important strength of this experiment is that it contributes to our understanding of the effects that group identity can have on behavior in social dilemmas by focusing explicitly on the moderating effect of performance feedback. We showed that without knowing any information about the choices of others, the effect of group identification might be explained primarily in terms of the goal-transformation hypothesis. When explicit group feedback is provided, however, perceptions of trust may explain why a strong group identity increases contributions, and a strong personal identity decreases contributions in groups that have failed. Because public services or goods are often difficult to maintain, understanding the psychological processes underlying group motivation is necessary. In this sense, it is encouraging to notice that group motivation can still be achieved in the face of failure.

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