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## COLLECTIVE IDENTITY AND COOPERATION IN A PUBLIC GOODS DILEMMA: A MATTER OF TRUST OR SELF-EFFICACY?

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### ABSTRACT

*According to Self-Categorization Theory people may define their self-concept in terms of collective identity when engaged in intergroup comparisons and in terms of personal identity when engaged in interpersonal comparisons. This difference in level of categorization (collective versus personal identity) is believed to affect the extent people identify with their group and subsequently their behavior in social dilemma situations. The present study investigates whether people contribute more in a public goods dilemma when collective identity is made salient than when personal identity is made salient, and further which processes may underlie this behavioral effect. Results revealed that people identified more strongly with the collective and contributed more when collective identity was made salient compared to when personal identity was made salient. Furthermore, this behavioral effect seemed to be mediated by perceptions of self-efficacy rather than by perceptions of the trustworthiness of people's fellow group members.*

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### INTRODUCTION

One of the pervasive problems in contemporary society is the fact that many services --like libraries, art museums and other public facilities-- are hard to maintain due to lack of contributions. Although people know that these services are useful and that the cooperation of all community members is required, many people still do not contribute towards the provision of these services as they prefer to avoid personal losses (Luce & Raiffa, 1957; Olson, 1965). Such social interdependence situations where personal and collective interests are in conflict are called social dilemmas or public goods dilemmas (Messick & Brewer, 1983; Komorita & Parks, 1994).

At the same time, however, many individuals still contribute to a surprising degree (Hamburger, 1979). That is, contrary to Dawes (1980) assumption, that not contributing is the dominant behavioral option, many people sometimes place more value on the collective welfare. A possible explanation for this finding may be that people's behavior in interdependence situations is sometimes determined by the extent to which they categorize themselves with their community or collective and consequently identify with it (see Brewer & Schneider, 1990 for an overview). That is, when an interdependence situation is defined in terms of personal identity, self-interest will be more important; whereas, when people consider themselves as a member of a group, the collective outcome will be more important. The present study examines the effect of social categorization and identification on level of contribution and attempts to identify psychological and perceptual factors that underlie this effect.

### **Social Categorization and Cooperation**

Previous research on the effect of social categorization on peoples' behavior in social dilemmas has mainly been based on self-categorization theory (Turner, Hogg, Oakes, Reicher & Wetherell, 1987, SCT). SCT represents a theoretical framework for the way people's self-concept can be categorized at different levels of social complexity. According to this theory, there are three distinguishable levels of self-categorization: self-categorization at the human level relative to other living species (superordinate or collective identity); self-categorization in terms of the in-group relative to the out-group (social identity); and self-categorization as a unique individual relative to other individuals within the in-group (personal identity). Because a social dilemma represents a conflict between self-interest at the personal level and self-interest at the group level, the distinction between collective and personal identity seems relevant to in social dilemmas.

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According to SCT, individuals involved in intergroup comparisons define their self-concept more in terms of common group-values and group goals, what in turn leads to an enhanced sense of in-group identification (i.e. collective identity). As a result, increased group identification motivates people to differentiate the in-group from relevant out-groups by evaluating in-group members more positively than out-group members (Tajfel, 1978; Tajfel & Turner, 1986), for example as being more trustful and fair than out-group members (Brewer, 1979; Brewer & Silver, 1978). However, when people are involved in interpersonal comparisons within a group, their self-concept will be defined more in terms of unique, distinctive personal characteristics, resulting in strong personal identification but low group identification. Consequently, people focused on personal identity will not display these positive in-group evaluations because they are motivated to distinguish themselves from other in-group members.

Following from previous research (see Brewer & Schneider, 1990 for an overview), level of self-categorization is believed to affect people's behavior in a social dilemma situation. That is, when a collective identity is reinforced, people will be more willing to pursue collective goals and contribute more to the collective welfare. In contrast, when personal identity is made salient, people will be more interested in serving their personal interest (due to a low sense of collective identification), rather than contributing to the collective welfare. Therefore, in situations where personal and collective interests are at odds, it can be expected that people will contribute more

when collective identity is reinforced compared to when personal identity is reinforced. According to a social identity perspective (Tajfel & Turner, 1986), especially people with a strong collective identification will be motivated to display positive evaluations of in-group members. Thus, when collective identity is reinforced, fellow group members will be evaluated as more trustful than when personal identity is reinforced. Indeed, several social dilemma researchers noted that under conditions of collective identity, other group members were perceived as more trustful. Consequently, a higher level of trust enhances cooperation by making it easier for group members to justify their decision to contribute (Brewer, 1981; Kramer & Goldman, 1995; Kramer, Brewer & Hanna, 1996).

Although previous research has been able to show the positive behavioral effect of making salient collective identity versus personal identity (e.g. Brewer & Kramer, 1986; Kramer & Brewer, 1984; Kramer & Brewer, 1986; Kramer, Pommerenke, & Newton, 1993), hardly any evidence in support of the mediational role of positive evaluations, such as trust, has been found. Until now only two studies (Wit & Wilke, 1992; De Cremer & Van Vugt, 1997) have found a relationship between positive evaluations of fellow group members and cooperation in conditions where collective identity was reinforced, although these studies did not examine if positive evaluations also mediate this effect. Thus, positive perceptions of trustworthiness may not be the main factor underlying the behavioral effect of a salient collective identity.

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Perceptual processes such as self-efficacy (Bandura, 1986; Kerr, 1989) provide an alternative explanation for this behavioral effect. According to Messick and Brewer (1983) it may well be that strong group identification motivates people to contribute more by enhancing perceptions of self-efficacy, i.e., one's perception that his or her contribution may make a difference in obtaining a public good (see Kerr & Kaufman-Gilliland, 1994). Indeed, as Messick and Brewer (1983) suggest "... when individuals feel ... that their actions are representative of some larger social entity, the perceived impact of those actions is magnified and the individual's sense of personal responsibility for collective outcomes enhanced" (p.28). This suggestion can be interpreted in the following way. When individuals perceive themselves as representatives of a collective (due to a strong identification with this collective), they may feel the need to live up to the standards of this collective, i.e. to place a higher utility on the collective welfare. As a result, those individuals may then perceive their contribution as having a large impact on the success of the collective to obtain the bonus, i.e., perceptions of self-efficacy. Thus, individuals with a salient collective identity may perceive their actions as more efficacious than individuals with a salient personal identity.

In summary, the first purpose of the present study was to examine if people will contribute more when collective identity, rather than personal identity, is reinforced. The second purpose was to examine whether perceptions of trust or perceptions of self-efficacy mediate this behavioral effect.

## **METHOD**

## Participants and design

Ninety-three undergraduate students from Southampton University participated in this study. The study was run in groups of up to six, with each participant being paid £2 (approximately 3 US dollars). Participants were placed in cubicles when they arrived and if one or more of the six participants failed to show up, they were simulated to complete a six-person group. The independent variable in the present study was level of social categorization, i.e., collective versus personal identity. Each participant was randomly assigned to one of the experimental conditions. The number of participants per condition ranged from 45 to 48.

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## Procedure

Participants were taken individually to an experimental cubicle and were placed in front of a Macintosh computer. They were told that they would be given feedback about the other group members' actions via these computers. In reality, however, all instructions and feedback was pre-programmed. First, the nature of a public goods dilemma and the different outcome possibilities (e.g. free-riding, see Stroebe & Frey, 1982) were explained. Each participant was told that they would receive an endowment of 300 pence, and that they were free to contribute as much or as little as they preferred (ranging from 0 to 300 pence). If the group as a whole would obtain 1200 pence (meaning that every group member should contribute 200 pence, cf. step-level public goods, Van de Kragt, Orbell, & Dawes, 1983), the group as a whole would receive a bonus of £30 (i.e., £5 per group member). It was made clear that if the group as a whole were successful, each group member would receive the bonus, even those who did not contribute.

After explaining the rules of the public goods dilemma, the level of social categorization manipulation was introduced. Participants were first told that the present study was also conducted at other Universities in the South of England (and not only at Southampton University). In the collective identity condition, an intergroup comparison was created by telling participants that the contribution decisions made by Southampton University students would be compared with the decisions made by students from other participating universities (see also Kramer & Brewer, 1984; Kramer, 1988). In the personal identity condition, an interpersonal comparison was created by informing participants that the individual decisions of each student would be compared. In both conditions it was stressed clearly that the group as a whole needed 1200 pence to succeed, thereby creating no difference between the two conditions in emphasizing the relevance of the collective welfare and the group members interdependence.

After this manipulation, questions about group identification, reciprocal trust and self-efficacy were presented. Following this, the contribution session was introduced where participants had to decide the amount to contribute. Finally, participants were debriefed and paid.

## Dependent measurements

All questions were answered on 7-point scales (ranging from not at all (1) to very much (7)).

After the social categorization manipulation, participants were asked to evaluate (1) how much they trusted their group members to reciprocate their cooperative behavior (reciprocal trust) and (2) how much impact their contribution would have on earning the group bonus (self-efficacy).

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Furthermore, to check participants' level of identification, two group identification questions were asked (see Brown, Condor, Mathews, Wade & Williams, 1986): (1) "How much do you identify yourself with this group?" and (2) "Do you consider yourself as belonging to this group?" ( $\alpha = .70$ ).

Finally, participants were asked to indicate how much they wished to contribute (ranging from 0 to 300 pence).

## RESULTS

### Manipulation check

A one-way ANOVA on the average identification score revealed a significant effect for level of social categorization,  $F(1, 91) = 15.66, p < .001$ . Participants in the collective identity condition ( $M = 3.98, SD = 1.3$ ) identified stronger with their group members than participants in the personal identity condition ( $M = 3.00, SD = 1.1$ ).

### Evaluative measurements

A one-way ANOVA on the reciprocal trust measure revealed significance for level of social categorization,  $F(1, 91) = 13.02, p = .001$ . Participants in the collective identity condition ( $M = 4.78, SD = 1.1$ ) perceived their group members as more trustful than participants in the personal identity condition ( $M = 3.94, SD = 1.1$ ).

A one-way ANOVA on the self-efficacy question also revealed a significant effect for level of social categorization,  $F(1, 91) = 8.82, p < .005$ . Participants in the collective identity condition ( $M = 5.42, SD = 1.2$ ) felt more efficacious in their actions than participants in the personal identity condition ( $M = 4.69, SD = 1.2$ ).

### Contribution behavior

A one-way ANOVA on participants' contribution score revealed a significant effect for level of social categorization,  $F(1, 91) = 7.85, p < .001$ . The level of contribution was higher in the collective identity condition ( $M = 211.11, SD = 47.34$ ) than in the personal identity condition ( $M = 180.65, SD = 56.67$ ).

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To examine which factors may mediate this behavioral effect of level of categorization, a hierarchical regression analysis was performed. The first regression equation included level of social categorization and accounted for a significant amount of variance in contributions

(adjusted  $R^2 = 6.90$  per cent,  $p < .01$ ), showing that participants' in the collective identity condition were, indeed, more willing to contribute than in the personal identity condition ( $\beta = .28$ ,  $p < .01$ ). A second regression equation included self-efficacy and reciprocal trust, and explained a reasonable amount of variance (adjusted  $R^2 = 17.21$  per cent,  $p < .0005$ ). Both perceptions of self-efficacy and reciprocal trust appeared to be significant ( $\beta = .23$ ,  $p < .05$  vs.  $\beta = .30$ ,  $p < .005$ , respectively). Finally, the interactions between self-efficacy and trust with social categorization were entered, showing that the additional variance explained by the two-way interactions was marginal, but significant (adjusted  $R^2 = 18.60$  per cent, change in  $R^2 = 1.39$  per cent,  $F(3, 89) = 8.01$ ,  $p < .0001$ ). Perceptions of self-efficacy appeared to be significant ( $\beta = .38$ ,  $p < .0005$ ), contrary to perceptions of reciprocal trust ( $\beta = .009$ , ns.). Furthermore, level of social categorization was not related significantly to level of contributions ( $\beta = .16$ ,  $p < .12$ ).

In order to facilitate the interpretation of our data, also an ANCOVA was conducted using reciprocal trust and self-efficacy as covariates. This analysis revealed a significant effect for self-efficacy,  $F(1, 89) = 19.00$ ,  $p < .001$ ,  $b = .38$ . The regression weight of .38 indicates that stronger perceptions of self-efficacy are related with higher levels of contributions. However, no significant effect was found for reciprocal trust,  $F(1, 89) < 1$ ,  $b = .05$ , making the covariate not suitable to conduct further analyses. Although this pattern suggests a weak relation between reciprocal trust and self-efficacy, calculation of Pearson's coefficient still revealed a significant relationship,  $r = .21$ ,  $p < .05$ . Furthermore, and more importantly, the results also showed that with self-efficacy as a covariate the significant effect of level of social categorization was eliminated,  $F(1, 89) = 2.53$ ,  $p < .12$ .

In sum, these results indicate that the positive behavioral effect of level of social categorization can be explained, at least partly, by people's perceptions of self-efficacy but not by perceptions of trust.

## DISCUSSION

The purpose of the present study was to examine the effect of level of social categorization (collective versus personal identity) on people's willingness to contribute towards the provision of a public good and to explore which psychological factors (self-efficacy, trust) mediate this behavioral effect.

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Following from previous social dilemma research (Brewer & Schneider, 1990) and assumptions of SCT (Turner et al., 1987) it was expected that when collective identity was reinforced by group comparisons participants would contribute more than when personal identity was reinforced by interpersonal comparisons. The results show that this was the case: level of contributions was higher in the collective identity condition than in the personal identity condition. Although participants in the collective identity condition evaluated their in-group members as more trustworthy, the hierarchical regression and mediational analysis showed that these evaluations did not mediate participants' contribution behavior. Thus, contrary to



assumptions made by certain intergroup and social dilemma researchers (Brewer, 1981; Kramer & Goldman, 1995; Kramer et al., 1996), perceptions of trustworthiness do not explain the behavioral effect of level of social categorization.

According to our results, the factor that mediated this effect was perceptions of self-efficacy. As noted in the introduction, it was expected that a strong sense of group identification might cause people to perceive their actions as representative of the collective, which in turn might enhance perceptions of self-efficacy. Indeed, the results showed that perceptions of self-efficacy mediated the positive influence of a reinforced collective identity on participants' contributions, suggesting that group identification has an effect on perceptions of self-efficacy. As such, this study is the first to (1) provide a direct insight into the processes underlying the behavioral effect of level of social categorization in a social dilemma, and to (2) give empirical support to Messick and Brewer's (1983) assumption that group identification enhances perceptions of self-efficacy, resulting in more cooperation (cf. Kerr, 1992). A criticism, however, may be that the importance of self-efficacy in the present study may have been emphasized by using a public goods dilemma. That is, previous social dilemma research has shown that perceptions of self-efficacy are more salient in a public goods dilemma and therefore can be considered as a crucial factor in determining cooperation (Komorita & Parks, 1995).

Finally, this result also has some practical value for solving large-scale social dilemmas (e.g. environmental pollution, energy consumption) in which perceptions of self-efficacy are generally low (Stern, 1992; Van Vugt, Van Lange & Meertens, 1996). In such situations, past research has shown that the larger the number of people confronted with the social dilemma, the lower perceptions of self-efficacy will be (Kerr, 1989; Stroebe & Frey, 1982). Our results show that enhancing group identity by reinforcing a collective identity may create an "illusion" of efficacy (see Kerr, 1989), and thereby motivate people to contribute to the solution of such large-scale dilemmas. As such, an important task of educational campaigns may then be to emphasize the common problems we all face, with the hope that this may enhance feelings of group belongingness and in turn make people feel more efficacious in their actions.

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## ENDNOTE

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