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Concerns about the Privatization of Public Goods:
A Social Dilemma Analysis*

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Abstract

This study advanced a social dilemma analysis to examine the role of self-interested and prosocial concerns in the approval of a real-life structural solution: the privatization of the British national railway system in 1996. As predicted, disapproval of privatizing this public good increased when people were more concerned about the transition costs of privatization, and about how privatization would affect their personal outcomes (e.g., travel convenience) and the outcomes for the collective (e.g., railway accessibility). Moreover, the approval of privatization among people guided primarily by their self-interest (i.e., pro-self individuals) was influenced more strongly by personal outcome concerns. Contrary to hypothesis, however, prosocial individuals' approval of privatization was not influenced more strongly by collective outcome concerns. Finally, people who disapproved of privatization also exhibited a weaker intention to travel by train in the future, an indication that the willingness to engage in collectively desirable behavior may decrease when people fail to endorse a structural solution.

Private faces in public places
Are nicer and wiser
Than public faces in private places
-- W.H. Auden (Collected Poems IV)

Societies around the world increasingly face problems in which their citizens' personal interests are at odds with the interest of the public at large. Such situations are generally called social dilemmas; they can be classified further into problems related to the preservation of resources or to the maintenance of public goods and services (e.g., Komorita and Parks 1994; Messick and Brewer 1983). Over the past decades, social psychologists have devoted considerable attention to the determinants of people's decisions to engage voluntarily in cooperative actions to preserve resources or maintain public goods (for a recent overview, see Komorita and Parks 1994).

Recently, more attention has been paid to conditions under which people support structural solutions to social dilemmas -- that is, the creation of a superordinate authority or sanctioning system (e.g., Messick et al. 1983; Rutte and Wilke 1985; Samuelson 1993; Samuelson et al. 1984; Yamagishi 1988). Various social dilemma theorists believe that such structural changes are necessary to promote cooperative behaviors, particularly in large-scale social dilemmas (e.g., Rusbult and Van Lange 1996; Yamagishi 1986). Research on structural solutions, however, has been conducted primarily in experimentally created dilemmas with small groups; it remains to be seen whether these findings can be applied easily to real-world problems (Vlek 1996).

One of the more problematic social dilemmas in society today concerns the decision between individual and collective forms of transportation (Van Vugt, Meertens, and Van Lange 1995). For example, from a societal viewpoint it is important to stimulate the use of trains and buses because this helps to overcome collective problems related to energy use, environmental pollution, and traffic congestion (Lowe 1990; Stern 1992). Yet

most individuals typically prefer to travel by car because it is considered more reliable, more convenient, and quicker (Van Vugt et al. 1995). Privatization of these public goods is a recent trend in the policy of states and governments to stimulate use of collective transportation. It is widely held that privatization helps to develop collective transportation because private companies can operate transportation networks more efficiently and more competitively, and are better able to provide high-quality service to customers (e.g., Clemow 1992; Foreman-Peck and Milward 1994; Gomez-Ibanez and Meyer 1993).

In this study we examine reactions to the privatization of the British national railways, which took place in early 1996. On the basis of different social dilemma theories, we develop a conceptual framework to clarify how the approval of privatization depends not only on concerns about the personal outcomes of privatization, but also on concerns about its collective implications. Moreover, the importance of these concerns is expected to vary with preexisting stable individual differences in social value orientation (Messick and McClintock 1968). To examine these issues, we conducted a survey among train customers in Britain, shortly after the privatization of the railway system.

Solutions to Social Dilemmas

Social dilemma theorists generally distinguish between two kinds of strategies to promote cooperation in social dilemmas (e.g., Messick and Brewer 1983; Yamagishi 1986). The first type is aimed at influencing people's beliefs and attitudes toward cooperation (e.g., collective transportation) and noncooperation (e.g., individual transportation). It attempts to modify the way people interpret the dilemma situation -- for example, by increasing the awareness of the consequences of their decisions. Interventions based on this individual-psychological approach usually encompass persuasion and information campaigns, such as campaigns stressing the need for restraint in individual transportation.

The second type of solution involves interventions that alter the situation at hand by modifying the structural properties of the dilemma situation. This could be achieved by changes in the incentive patterns associated with cooperative or noncooperative behavior, by physical or organizational rearrangements, or by reducing or eliminating individuals' freedom to choose (Vlek 1996). Because these strategies attempt to alter the objective characteristics of the decision situation, they are generally known as the structural approach to solve social dilemmas.

In the domain of structural solutions, we propose a further distinction between (on the one hand), interventions that directly affect individuals' outcomes. Examples of these direct structural solutions are the provision of tax benefits for users of collective transportation or the implementation of separate lanes for carpoolers (Van Vugt et al 1996). Indirect structural solutions, on the other hand, attempt to promote cooperation via changes in the size or authority structure of the dilemma (Messick and Brewer 1983; Yamagishi 1986). Real-world examples of this approach are processes of decentralization, territorialization, and privatization in the management of collective goods and resources. These activities break down a large-scale problem into smaller components that are easier to manage.¹

Self-interested and Prosocial Motives Underlying Approval of Privatization

Under what conditions will people favor or disfavor an indirect structural solution such as privatization of public goods? If people followed only their self-interest, we would expect them to be more supportive of privatization when they expected the change to bring them better outcomes, such as greater travel convenience and better services. One of the major conclusions of experimental social dilemma research, however, is that expectations about personal outcomes are not sufficient to generate acceptance for implementation of structural solutions (for an overview, see Samuelson and Messick 1995).

We propose, first, that people also will evaluate indirect structural solutions on the basis of expected problems associated with moving from one kind of authority structure to another. Indeed, any rearrangement in the organizational structure of a social dilemma is likely to entail immediate transition costs (Ostrom 1990; Samuelson and Messick 1995; Yamagishi 1986). In the case of privatization of a public railway system, these costs may result from the modernization of infrastructure, the development of new jurisdiction (e.g., complaint procedures), and/or the establishment of coordination mechanisms between the privatized parts of the network (e.g., train connections between different areas). It is likely that the transition process will create some uncertainty among railway customers, which may increase their general resistance to the privatization operation.

Although these motives (concerns about personal outcomes and transition costs) may shape the reactions to privatization to a large extent, we believe that these concerns are too limited to fully explain when people will endorse a structural solution. Indeed, this model would imply that people take account of the consequences of the change only in terms of short-term personal interests (avoiding uncertainty) or long-term personal interests (improved travel benefits). Following theorizing about social dilemmas and structural change (Kelley and Thibaut 1978; Samuelson and Messick 1995), however, we assume that people also take broader considerations into account in evaluating structural solutions. In particular, people may be concerned about the impact of these solutions on the welfare of others or on society as a whole ("fairness"; see Samuelson 1993). Railway privatization, for example, may elicit concerns about the availability of these goods for people most in need of collective transportation (e.g., people without access to cars). It also may raise doubts as to whether the public can control the railway policies ("procedural fairness", see Tyler and Lind 1992). We believe that these collective concerns, in addition to concerns directly related to the expected personal outcomes may shape the acceptance of privatization.

Individual Differences in Approval of Privatization

Although the above concerns will affect all individuals' approval of privatization to some degree, we propose that the relative importance of these concerns will depend on the weights people assign to either their self-interest or the collective interest. Among other factors, such evaluations may vary with preexisting individual differences in social value orientation. Social value orientation is a stable personality trait, reflecting a consistent preference for a distribution of outcomes between oneself and other people across various situations (Messick and McClintock 1968). Frequently a distinction is made between people with a preexisting prosocial orientation (who tend to maximize the sum or minimize the difference of outcomes for self and for others) and people with a preexisting pro-self orientation. The latter category contains both individualists who tend to maximize outcomes for self regardless of the outcomes for others and competitors, who tend to maximize differences between outcomes for self and for others (Kuhlman and Marshello 1975; Van Lange and Kuhlman 1994).

Over the past decades, numerous studies have revealed that people with different social value orientations behave quite differently in experimentally created social dilemmas: Prosocials exhibit greater cooperation and exercise greater restraint than either individualists or competitors (e.g., Kramer, McClintock, and Messick 1986; Samuelson 1993). Similar findings have been obtained in research on various real-world social dilemmas. In relation to pro-selfs, prosocials, for example, make greater concessions during negotiations, exhibit greater willingness to sacrifice in close relationships, and engage in environment-preserving behaviors (De Dreu and Van Lange 1995; McClintock and Allison 1989; Van Vugt et al. 1995). At present, however, there is only limited evidence that social value orientation may predict reactions to structural change. In an experimental resource dilemma task, Samuelson (1993) found that pro-selfs and prosocials differed in their evaluations of structural solutions: Pro-selfs assigned greater weight to the implications in terms of

their self-interest, and prosocials assigned greater weight to the fairness of the change.

Extending this line of research, we propose that concerns about the various outcomes of the railway privatization will have differential effects on people with different social value orientations. That is, pro-self individuals are likely to be particularly sensitive to beliefs about how the privatization will affect their personal well-being; This presumably is related to their perception of the personal benefits associated with the privatization, such as greater travel convenience and better services. In contrast, prosocials will be particularly sensitive to beliefs about how privatization may affect the well-being of other people and society at large, such as in accessibility of railways.

This point leads to the following sets of hypotheses. First, we predict that people will exhibit stronger disapproval of the railway privatization when they perceive the transition costs of the change as higher (Hypothesis 1).

Second, we predict that people will exhibit stronger disapproval of privatization when they expect the personal outcomes (Hypothesis 2a) and collective outcomes (Hypothesis 3a) of privatization to be less favorable.

More important, we expect that the relationship between these concerns and the endorsement of privatization will be moderated by social value orientation. That is, we predict that concerns about personal outcomes will more strongly affect the approval of privatization among people with pro-self (versus prosocial) orientations (Hypothesis 2b). Moreover, we anticipate that concerns about collective outcomes will more strongly affect the approval of privatization among people with prosocial (versus pro-self) orientations (Hypothesis 3b).

Finally, we expect that the extent to which people approve or disapprove of privatization also might shape their decisions about transportation. If train customers believe that privatization is neither personally nor collectively very desirable, they may develop a negative attitude toward the

railways, which may cause them to reconsider their travel options (see Ajzen and Fishbein 1980). Thus we predict that disapproval of railway privatization will be associated with a weaker intention to travel by train in the future (Hypothesis 4).

Method

Context of the Study

We conducted this study in the context of the privatization of the public railway system in Britain. In the spring of 1996, after the system had operated for over 50 years as a nationalized industry, the British Conservative government sold large parts of British Rail to numerous private companies. The merchandise consisted of a full range of network activities including infrastructure, trains, services, and personnel. Our survey was conducted in southern England. As in all other regions of the country, the local railway system in the south was split into parts; these were sold to various private companies.

Participants

The study was based on a sample of 300 train customers recruited at two major railway stations in and near Southampton, an industrial city at the south coast of England, on two consecutive weekday mornings in March 1996 from 8 a.m. to 11.30 a.m. One of the stations was located in the city centre and the other near the local airport. We selected these from among six local railway stations because they covered virtually all the train traffic from Southampton to destinations in the east (e.g., London), the west (e.g., Bournemouth), and the north (e.g., Oxford). We were not interested in a particular group of customers; instead we approached (with permission from the local railway authorities) approximately every fifth customer entering the station platforms. Customers were approached by a research assistant who asked whether they would be interested in participating in a study regarding the railway privatization. The research assistant explained that responses would be anonymous and that the customers could complete the questionnaire at their own "leisure" (i.e., in a self-paced procedure). After people had expressed their willingness to participate, they

received a stamped self-addressed return envelope and a survey. (Almost everyone agreed to cooperate, but some were in a hurry and simply took the survey without receiving any further instruction.)

Out of 300 people (150 recruited at each station), 137 individuals returned the questionnaire, yielding a less than optimal response rate of 45.7 percent. The sample consisted of 113 men (82.5 percent) and 23 women (16.8 percent) with an average age of 37.65 years. (One respondent failed to indicate gender.) The majority of respondents indicated that they were traveling by train for work-related purposes (78.6 percent), while others indicated they were making recreational (18.3 percent) or school (3.1 percent) journeys. Most participants (87.5 percent) reported awareness that the railway company on which they traveled had been privatized recently. The samples from the two stations were fairly similar in response rates and demographic characteristics.²

The Questionnaire

Respondents were told that the study was conducted by researchers from the University of Southampton and that their answers would help in understanding public attitudes toward railway privatization in Britain. The survey consisted of two smaller questionnaires.

Social value orientation. The first questionnaire examined individuals' social value orientation by means of a short-item list. Participants were provided with a set of decomposed games to measure social value orientation (see Messick and McClintock 1968). Each decomposed game represents various combinations of possible outcomes for self and for hypothetical other person who was described as someone the respondent did not know and would never meet. The outcomes were expressed in points, and participants were asked to imagine that these points were of interest to them. (For further details about the procedure, see, for example, Van Lange and Kuhlman 1994). This method for measuring social value orientations has high internal validity (e.g., Liebrand and Van Run 1985), is stable across time, and

appears to be free of socially desirable response tendencies (e.g. Platow 1995). Finally, evidence is accumulating for the ecological validity of this concept in various real-world social dilemmas such as negotiation, sacrifice in romantic relationships, and volunteering (e.g., De Dreu and Van Lange 1995; McClintock and Allison 1989; Van Lange et al. forthcoming).

Paralleling earlier work on social value orientations, each decomposed game entails three alternatives corresponding to one of three social value orientations: cooperation, individualism, and competition. In a decomposed game the cooperative option provides the greatest joint outcome for self and for the other (e.g., 480 points for self and 480 points for other); the individualistic option, the greatest outcome for self regardless of other's outcome (e.g., 540 points for self and 240 points for other); and the competitive option, the greatest difference between outcomes for self and for other (e.g., 480 points for self and 80 points for other). As in prior research (McClintock and Allison 1989; Van Lange and Kuhlman 1994), participants were classified if at least six of their nine choices were consistent with a dominant value orientation. On the basis of this criterion, 86 of the 137 participants were classified as prosocials (62.8 percent), 31 as individualists (22.6 percent), and 14 as competitors (10.2 percent). Six respondents could not be categorized on the basis of this consistency criterion. As in previous research (see Kramer et al. 1986), the individualists and the competitors were combined to form a group of individuals with essentially pro-self orientations.³

Questions about privatization: The second questionnaire consisted of different sets of questions given to participants in a prefixed order. We assessed them in the form of statements, using Likert-type response scales ranging from 1 (very strongly disagree) to 7 (very strongly agree).

Personal outcome concerns of privatization: The following items measured people's concerns with their personal outcomes after privatization: "Compared to a public railway system, the privatized railway system will improve my convenience of

travelling by train," "improve the quality of services on the train," "decrease the travel time of my journey," "reduce the number and lengths of my delays," "make it more difficult for me to catch connecting trains" (this last item was reverse coded).

Collective outcome concerns of privatization: Concerns about the collective implications of privatization (i.e., fairness of the change) were measured by the following items: "Compared to a public railway system, the privatized railway system will make trains more accessible to people in need of transport," "will improve the treatment of complaints from customers," "will increase the influence that customers have on railway policy," "will increase the opportunity of customers to voice their opinion," "will be fairer to customers," "will be better equipped to consider the needs of customers," "will cut train services that are not cost effective" (reverse coded).

Perceived transition costs of privatization: The following items measured the perceived costs of the transition from a public to a private railway network: "The process towards privatization costs too much money," "takes too much time," "creates many new problems," "causes too much uncertainty among customers". "The costs of the privatization process are being met by customers"; "I accept that the privatization process will cost some effort, time, and money" (reverse coded); "I feel frustrated by the change to a privatized railway system."

Approval of privatization: The degree to which individuals endorsed the railway privatization was measured by three items tapping different aspects of approval: "I support more strongly a private than a public railway system"; "I would sign a petition against the governmental decision to privatize the railways"; "In the forthcoming election I would vote for a party that would reconsider the decision to privatize the railways." The two latter items were reversely coded: A low score indicated weak approval of privatization and a high score, strong approval.

Intended train use: This was measured by a single item: "Do you think that you will use the train more or less frequently in the near future?" (1 = less frequently, 7 = more frequently).

Results

Descriptive Statistics

Before conducting the main analyses, we performed some descriptive statistics on the data. Table 1 contains a summary of the means, standard deviations, internal reliabilities, and interscale correlations of the four constructs (personal and collective outcome concerns, transition costs, and approval). Each scale shows high internal consistency (alphas between .73 and .93).⁴ Yet the table also reveals fairly substantial interscale correlations between the constructs (r s between -.53 and .70), suggesting that constructs might have one or more common underlying factors (e.g., a general pro- or antiprivatization attitude). To examine this possibility, we performed a confirmatory factor analysis (Bentler 1990) including all items that make up our theoretical model with four concepts: concern about personal versus collective outcome, transition costs, and approval. This model fitted quite well (comparative fit index = .95, with item loadings between .60 and .90), and much better than a model with a single common factor (comparative fit index = .70). A comparative fit index of .90 or higher is generally regarded as a sign of good fit. According to this criterion, the four-factor model also fitted much better than a two-factor model, in which items related to transition costs and to personal and collective concerns were combined (comparative index = .73), and a three-factor model, in which personal and collective outcome items were combined into a single factor (comparative index = .82). Hence we have good reason to believe that the operationalized constructs are sufficiently independent from each other to justify our a priori theoretical model and to let us proceed with our analysis.

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Insert Table 1 about here.

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Approval of Privatization: Testing Hypotheses 1 to 4

First we performed a hierarchical regression analysis to examine the predicted relation between the approval of

privatization and people's concerns about privatization in terms of transition costs (Hypothesis 1), their personal outcomes (Hypothesis 2a) and the collective outcomes of privatization (Hypothesis 3a). In addition, we examined the predicted moderating effects of social value orientation on the impact of personal and collective outcome concerns (Hypotheses 2b, 3b). Before conducting the regression analysis, we centered the scores on all continuous variables by including deviation scores so that the means became zero so as to eliminate nonessential correlations between the predictors and their interactions. Such correlations normally are produced when product terms for interaction effects are calculated (Aiken and West 1991).

The results of this regression analysis are shown in Table 2. In the first step, the four main factors (transition costs, personal outcome concern, collective outcome concern, and social value orientation) were entered in the equation, followed in the next step by the three interactions between each of these factors with social value orientation.⁵ As shown in the table, the amount of variance explained for by the four main factors was considerable (adjusted $R^2 = 64.23$ percent, $F(4,127) = 59.36$, $p < .001$). The additional variance explained by the three two-way interactions was marginal (adjusted $R^2 = 67.06$ percent; change in $R^2 = 2.83$ percent), but still yielded a significant improvement in the prediction of approval of privatization ($F(7,124) = 35.78$, $p < .001$).

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Insert Table 2 about here.
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First, in support of Hypothesis 1, we found a negative relation between approval and the perceived transition costs of privatization (beta = $-.33$, $p < .001$), indicating that individuals who expected the transition costs to be higher appeared to be more disapproving of privatization.

Second, as shown in Table 2, concern about personal outcomes was related positively to the approval of privatization (beta = $.37$, $p < .001$), indicating that people disapproved of privatization

more strongly if they expected their personal outcomes to be less favorable (in support of Hypothesis 2a). Moreover, this relationship was different for people with different social value orientations, as indicated by the significant interaction between social value orientation and personal outcome concern ($\beta = .13, p < .05$). Figure 1 displays this relationship graphically (see procedure described in Aiken and West 1991). Tests of the slopes for both social value orientations revealed that for pro-self persons the slope was significantly different from zero, $t(44) = 3.63, p < .01$; whereas the slope for prosocial persons did not differ from zero, $t(85) = 1.27, p = .20$. This finding provides evidence that concerns about personal outcomes affected the approval of privatization more strongly among people with pro-self orientations than among those with prosocial orientations (Hypothesis 2b).

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Insert Figure 1 about here.
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Third, in Hypothesis 3a we predicted that disapproval of privatization would be greater when people were more concerned about the collective outcomes of privatization. In line with this claim, we obtained a positive relationship between collective outcome concern and approval ($\beta = .21, p < .01$; see Table 2). More important, in Hypothesis 3b we predicted that concern about collective outcomes would primarily affect the approval ratings of prosocial (versus pro-self) individuals. As shown in Table 2, however, the two-way interaction between social value orientation and concern about collective outcome failed to reach significance ($\beta = .11, p = .21$). Accordingly there is no evidence that expectations about collective outcomes of privatization affected the approval of privatization more strongly among prosocials than among pro-self respondents.

Unexpectedly, we obtained a significant two-way interaction between the perceived transition costs and social value orientation ($\beta = .16, p < .05$). The pattern of this interaction is displayed in Figure 2: The impact of transition

costs is much more pronounced for prosocials than for proselfs. Indeed, tests of the slopes for these two groups revealed that only the slope for prosocials differed significantly from zero, $t(85) = -5.24$, $p < .001$ (for pro-selfs, $t(44) = -1.44$, $p = .15$). Thus it appears that a concern about the transition costs had a stronger effect on the approval of privatization among people with a pro-social than proself orientation. We address this point below in the discussion.)

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Insert Figure 2 about here.
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Finally, in a second regression analysis, we tested the hypothesis that people would exhibit a weaker intention to travel by train insofar as they disapproved more strongly of railway privatization (Hypothesis 4). Accordingly, we first regressed intended train use on approval of privatization. Next, although we had no a priori expectations about additional links with intended train use, we entered the four main factors into the equation (perceived transition costs, concern about personal and collective outcomes, and social value orientation). In the third step we included the three two-way interactions involving social value orientation.

As predicted, this regression analysis revealed that travel intention was predicted significantly by the approval of privatization ($\beta = .21$, $p < .05$); yet the explained variance was quite modest (adjusted $R^2 = 4.04$). This finding indicates a positive relation between intended train use and approval of privatization.

Moreover, above and beyond the impact of approval ratings, the second and final significant predictor of intended train use was social value orientation ($\beta = -.18$, $p < .05$). In keeping with previous research (Van Vugt et al. 1995), we found that relative to proselfs prosocial individuals exhibited a greater intention to use the train than did pro-self individuals.

Taken together, the above findings provided strong evidence for our hypotheses regarding the effects of transition costs and

of concerns about personal and collective outcomes on approval of privatization (Hypotheses 1, 2a, 3a). More important, pro-self people appeared to be more sensitive to the expected personal outcomes of privatization than did prosocial people (Hypothesis 2b). Yet we found no evidence for our prediction that prosocial people would be more sensitive to the expected collective outcomes of privatization (Hypothesis 3b). Finally, we obtained some preliminary evidence that people's intended train use was determined, at least in part, by their approval of the privatization (Hypothesis 4).

Discussion

In this study we employed a social dilemma approach to examine people's reactions to a structural solution aimed at promoting the use of collective transportation, namely the 1996 British railway privatization. The findings were generally consistent with our hypotheses.

One important contribution of the study derives from the finding that the approval of privatization depended not only on concerns with the personal outcomes of privatization (e.g., greater travel convenience and efficiency), but also on beliefs about its collective implications (e.g., accessibility of railways, public control of railways). This finding is important because it shows that people not only consider their immediate personal rewards when they evaluate a structural solution (Messick et al 1983), but also examine the broader implications of these solutions, such as how they may affect the outcomes for others or for society as a whole ("fairness"; see Samuelson 1993).

The railway privatization may have elicited these concerns among the participants in our sample, first, because privatization challenges the widespread belief that such public goods ought to be equally accessible to all people, regardless of their income or size of contribution. When such goods are provided by private companies, it is indeed more likely that they will be distributed according to standard economic rules, which prescribe that those who pay more should receive more ("equity

principle"; see Deutsch 1975; Lane 1986). In regard to railway privatization, this may lead to a situation in which unprofitable train services are either cut entirely or become so expensive that some people no longer can afford to travel by train. Although this may affect the outcomes of all train customers to some extent (including the participants in our sample), it is particularly likely to influence individuals who cannot afford a car and/or live where there is little demand for collective transport (e.g., in rural areas). Second, train customers may have been concerned about the opportunities to exercise control over the railways ("procedural fairness"; see Tyler and Lind 1992). When public goods are privatized, there may be doubts about whether society will still have a voice in the policies regarding these services. Because democratic control is absent, people may fear that the railway authorities can quite easily maximize their profits at the cost of all customers -- for example, by setting high prices.

A second major conclusion of this research is that a concern with the personal benefits of privatization was not an equally important motive among all participants. When the personal outcomes were expected to be low, both pro-self and prosocial individuals strongly disapproved of the privatization; when personal outcomes were believed to be high, however pro-selfs in particular were more supportive of privatization. This is one of the first studies to show that social value orientations are meaningfully related to the way people perceive and respond to structural solutions in social dilemmas. Most of the literature on social value orientation has reported differences only in relation to individual-psychological solutions, whereby prosocials tend to respond with greater cooperation than pro-selfs (e.g., when faced with a resource crisis; see Kramer et al. 1986). Until now it was quite unclear how people with pro-self orientations could be motivated to cooperate (Komorita and Parks 1994). The present findings suggest that structural solutions could be quite effective in promoting cooperation among pro-self people, if only they produce sufficient personal benefits.

The current research did not yield any evidence for the prediction that people with a prosocial orientation would be more strongly affected by concerns about the collective implications of privatization (e.g. accessibility). One possible explanation is that these outcomes reflect a concern both for others' and for one's own well-being (e.g. "How would railway privatization affect my travel opportunities relative to others?"; "distributive fairness"; see Tyler and Lind, 1992). Hence pro-selfs may have been concerned about the fairness of privatization, albeit for a more self-interested reason. This is not to imply, however, that prosocial and pro-self individuals will have similar views on what structural solutions are considered collectively desirable and fair. That is, prosocials may consider structural solutions to be fair if those solutions minimize differences in outcomes between individuals (e.g., by maintaining cost-inefficient railway lines). Pro-selfs, however, may find these solutions unacceptable and may support only those which allow for differential treatment (e.g., better services for those who pay more). Further research is needed to examine the outcome distributions that people with different social value orientations would consider fair and how these would affect their support for various structural solutions.

Two additional findings are worth discussing. First, we found that the approval of privatization was determined by concerns about the immediate costs and about the uncertainty associated with the transition from a public to a privatized railway system. It is conceivable that these costs are expected to be so high that people will prefer the maintenance of the current system, even when it clearly provides worse outcomes than alternative systems may offer (Ostrom 1990; Samuelson and Messick 1995). Unexpectedly, prosocials, appeared to be particularly sensitive to perceptions about the transition costs of privatization. That is, when the transition costs were perceived to be high, prosocial people approved the privatization much less strongly than pro-selfs. It may be that prosocials are less willing to take risks in supporting a structural solution that

may or may not provide better outcomes. Rather, they may prefer to stay with the current system, perhaps thinking that people could be motivated to cooperate as well under this system. Hence they may perceive a drastic and costly structural change such as privatization to be unnecessary. Indeed, prosocials are generally more optimistic than pro-selfs about the chance of improving their outcomes in unsatisfactory relationships (see Van Lange 1994).

Second, the disapproval of privatization was linked to a weaker intended use of trains. This finding is important because, to our knowledge, this is the first social dilemma study showing a direct relationship between the acceptance of a structural solution and the willingness to cooperate voluntarily. When structural solutions are implemented, policy makers almost automatically assume that incentives associated with cooperation will be sufficient to elicit behavioral change (Van Vugt et al. 1996). The present research, however, suggests that the willingness to cooperate may depend, at least to some extent, on people's approval of the structural solution. If this is true, then if structural solutions are to be successful, perhaps they should be accompanied by activities aimed at gathering public support for the proposed solution, such as educational messages (see Stern 1992).

We conclude by pointing out a weakness and some potential strengths of this study. An apparent weakness concerns the survey methodology. Because all data are correlational, we should be fairly cautious in drawing any causal inferences about the relations in our theoretical model. For example, it is conceivable that disapproval of railway privatization merely shaped people's worries about their personal and collective outcomes, because many people in Britain have developed an almost instinctive aversion to privatization; many public goods in Britain have been privatized with mixed success (see Foreman-Peck and Milward, 1994). Yet experimental work suggests at least partial support for the proposed causal chain of these effects. This work shows that preferences for structural change increase

when people expect to receive more favorable outcomes for themselves as well as for the group (Messick et al. 1983; Samuelson et al. 1984). Also, qualitative research on real-world dilemmas has shown that communities are less likely to accept structural solutions that are biased toward particular members or groups (Ostrom 1990). Thus it is not unreasonable to believe that concerns about collective and personal outcomes, to some extent, shape the approval of structural solutions. Nevertheless we believe that more field and experimental research is clearly needed to examine how structural solutions, once they have been implemented, may affect individuals' attitudes and decisions (e.g., Van Vugt et al. 1996).

The current research extends and complements laboratory research on structural solutions in at least two important ways. First, it examines the impact of an indirect structural solution in a real-life social dilemma -- that is, the effects of privatization on decisions regarding individual versus collective transportation. Previous researchers on structural solutions asked when unorganized groups would opt for the establishment of an authority to manage the dilemma situation (e.g., Messick et al. 1983; Rutte and Wilke 1985). In real life, however, the management of social dilemmas is more complicated because an authority structure almost always exists, but changes from time to time; for example, it shifts between public and private authorities (see Edney and Harper 1978; Tyler and Degoe 1995). This point has implications for social dilemma research on structural solutions: we believe that such research should focus more strongly on the determinants of individual support for institutional changes.

In addition, our research suggests that concerns about personal outcomes alone cannot fully explain why people may accept structural solutions. Approval of structural solutions also depends on perceptions of the transition costs and on the perceived (collective) fairness of the change. Thus, even if people expect to receive greater personal benefits from a structural change, they may oppose it if they believe it creates

too much uncertainty and does harm to the welfare of others or society at large (e.g., by limiting access to public goods). The implication is that if structural solutions are to succeed, they must be designed carefully so as to minimize immediate implementation costs and maximize the benefits for individuals and for society as a whole. These issues are especially important in policies regarding changing travel patterns, because it is highly unlikely that many people will consider collective transportation if they are not certain that it is individually and collectively the most desirable option.

REFERENCES

- Aiken, L.S. and S.G. West. 1991. Multiple Regression: Testing and Interpreting Interactions. Newbury Park, CA: Sage.
- Ajzen, I. and M. Fishbein. 1980. Understanding Attitudes and Predicting Social Behavior. Englewood Cliffs, NJ: Prentice-Hall.
- Bentler, P.M. 1990. "Comparative Fit Indexes in Structural Models." Psychological Bulletin 107:238-46.
- Clemow, B. 1992. "Privatization and the Public Good." Labor Law Journal (June): 344-49.
- De Dreu, C.K.W. and P.A.M. Van Lange. 1995. "Impact of Social Value Orientations on Negotiator Cognition and Behavior." Personality and Social Psychology Bulletin 21:1178-88.
- Deutsch, M. 1975. "Equity, Equality, and Need: What Determines Which Value Will Be Used As Basis Distributive Justice?" Journal of Social Issues 31:137-49.
- Edney, J.J. and C.S. Harper. 1978. "Heroism in a Resource Crisis: A Simulation Study." Environmental Management 2: 523-27.
- Foreman-Peck, J. and R. Milward. 1994. Public and Private Ownership of British Industry. Oxford: Clarendon.
- Gomez-Ibanez, J.A. and J.R. Meyer. 1993. Going Private: The International Experience with Transport Privatisation. Washington DC: Brookings Institute.
- Kelley, H.H. and J.W. Thibaut. 1978. Interpersonal Relations: A Theory of Interdependence. New York: Wiley.

- Komorita, S.S. and C.D. Parks. 1994. Social Dilemmas. Dubuque: Brown.
- Kramer, R., C.G. McClintock and D.M. Messick. 1986. "Social Values and Cooperative Response to a Simulated Resource Conservation Crisis." Journal of Personality 54:101-17.
- Kuhlman, D.M. and A. Marshello. 1975. "Individual Differences in Game Motivation as Moderators of Preprogrammed Strategy Effects in Prisoner's Dilemma." Journal of Personality and Social Psychology 32:922-31.
- Lane, R.E. 1986. "Market Justice, Political Justice." American Political Science Review 80:383-402.
- Liebrand, W.B.G. and G.J. Van Run. 1985. "The Effects of Social Motives Across Two Cultures on Behavior in Social Dilemmas." Journal of Experimental Social Psychology 21:86-102.
- Lowe, M.D. 1990. "Alternatives to the Automobile: Transport for Livable Cities." World Watch Paper 98 (October).
- Martichuski, D.K. and P.A. Bell. 1991. "Reward, Punishment, Privatization, and Moral Suasion in a Commons Dilemma." Journal of Applied Social Psychology 21:1356-69.
- McClintock, C.G. and S.T. Allison. 1989. "Social Value Orientation and Helping Behavior." Journal of Applied Social Psychology 19:353-62.
- Messick, D.M. and M.B. Brewer. 1983. "Solving Social Dilemmas: A Review." pp. 11-14 in Review of Personality and Social Psychology Vol 4 edited by L. Wheeler and P. Shaver. Beverly Hills: Sage.
- Messick, D.M. and C.G. McClintock. 1968. "Motivational Basis of Choice in Experimental Games." Journal of Experimental Social Psychology 4:1-25.
- Messick, D.M., H.A.M. Wilke, M.B. Brewer, R.M. Kramer, P.E. Zemke and L. Lui. 1983. "Individual Adaptations and Structural Change as Solutions to Social Dilemmas." Journal of Personality and Social Psychology 44:294-309.
- Ostrom, E. 1990. Governing the Commons: The Evolution of Institutions for Collective Action. New York: Cambridge University Press.

- Platow, M.J. 1995. "An Evaluation of the Social Desirability of Prosocial Self-other Allocation Choices." Journal of Social Psychology 134:61-68.
- Rusbult, C.E. and P.A.M. Van Lange. 1996. "Interdependence Processes." 564-96 in Social Psychology: Handbook of Basic Principles, edited by T. Higgins and A. Kruglanski: Guilford Press.
- Rutte, C.G. and H.A.M. Wilke. 1985. "Preference for Decision Structures in a Social Dilemma Situation." European Journal of Social Psychology 15:367-70.
- Samuelson, C.D. 1993. "A Multivariate Evaluation Approach to Structural Change in Resource Dilemmas." Organizational Behavior and Human Decision Processes 55:298-324.
- Samuelson, C.D. and D.M. Messick. 1995. "When Do People Want to Change the Rules for Allocating Shared Resources?" pp.146-62 in Social Dilemmas, edited by D. Schroeder. New York: Praeger.
- Samuelson, C.D., D.M. Messick, C.G. Rutte, and H.A.M. Wilke. 1984. "Individual and Structural Solutions to Resource Dilemmas in Two Cultures." Journal of Personality and Social Psychology 47:94-104.
- Stern, P.C. 1992. "Psychological Dimensions of Global Environmental Change." Annual Review of Psychology 43:269-302.
- Tyler, T.R. and P. Degoey. 1995. "Collective Restraint in Social Dilemmas: Procedural Justice and Social Identification Effects on Support for Authorities." Journal of Personality and Social Psychology 69:482-97.
- Tyler, T.R. and E.A. Lind. 1992. "A Relational Model of Authority in Groups." Advances in Experimental Social Psychology 25, edited by New York: Academic Press.
- Van Lange, P.A.M. 1994. "Toward More Locomotion in Experimental Games." Pp. 25-43 in Social Dilemmas and Cooperation edited by U. Schulz, W. Albers and U. Mueller. New York: Springer.

- Van Lange, P.A.M., C.R. Agnew, Harinck, & Steemers.
Forthcoming. "From Game Theory to Real-Life: How Social Value Orientation Affects Willingness to Sacrifice in Ongoing Close Relationships." Journal of Personality and Social Psychology.
- Van Lange, P.A.M. and D.M. Kuhlman 1994. "Social Value Orientations and Impressions of Partner's Honesty and Intelligence: A Test of the Might versus Morality Effect." Journal of Personality and Social Psychology 67:126-41.
- Van Vugt, M., R.M. Meertens and P.A.M. Van Lange 1995. "Car versus Public Transportation? The Role of Social Value Orientations in a Real-life Social Dilemma." Journal of Applied Social Psychology 25: 258-78.
- Van Vugt, M., P.A.M. Van Lange and R.M. Meertens 1996.
"Commuting by Car or Public Transportation? A Social Dilemma Analysis of Travel Mode Judgements." European Journal of Social Psychology 26: 373-95.
- Van Vugt, M., P.A.M. Van Lange, R.M. Meertens and J.A. Joireman 1996. "How a Structural Solution to a Real-world Social Dilemma Failed: A Field Experiment on the First Carpool Lane in Europe." Social Psychology Quarterly 59:364-74.
- Vlek, C.A.J. 1996. "Collective Risk Generation and Risk Management: The Unexploited Potential of the Social Dilemmas Paradigm." Pp. In Frontiers in Social Dilemmas Research. Edited by W. Liebrand and D. Messick. Berlin: Springer.
- Yamagishi, T. 1986. "The Structural Goal/Expectation Theory of Cooperation in Social Dilemmas." Pp. 51-87. Advances in Group Processes 3. Edited by E. Lawler.
- 1988. "The Provision of a Sanctioning System in the United States and Japan." Social Psychology Quarterly 51:264-70.

NOTES

¹ In the social dilemma literature, the concept of privatization refers to the division of a common resource pool into private segments for individuals (Martichuski and Bell 1991; Messick and Brewer 1983; Ostrom 1990). We use the term privatization slightly differently to indicate the change from public to private ownership of a particular good (Foreman-Peck and Milward 1994). In both conceptualizations, however, the aim is to solve a large scale social dilemma by breaking it down into smaller, manageable components, each with its own regulating authority (e.g., a private organization).

² Because the sample was recruited during working days, commuters are overrepresented in our sample; This may account for the high proportion of males. To avoid sample biases, it would have been preferable to recruit participants during the weekend as well. According to the railway authorities, however, commuters are by far the largest customer group: Approximately 70 percent of train journeys are business-related. This fact provides at least some justification for our sample choice.

³ The distribution of social value orientations in the sample is fairly consistent with those obtained in other studies using the decomposed games method (e.g., De Dreu and Van Lange 1995; Van Vugt, Van Lange, and Meertens 1996). In part this may reflect a response bias because prosocials presumably are more likely than pro-selfs to participate as research volunteers (McClintock & Allison 1989).

⁴ The item "will cut train services that are not cost effective" was removed from the collective concern scale because it exhibited weak correlation with the other scale items.

⁵ In a preliminary regression analysis we included all other possible two-way interactions as well. Yet because none of them was significant, and because our hypotheses predicted interactions with social value orientation only, we dropped these interactions from subsequent analyses.

Table 1. Standard Deviations, Reliabilities, and Correlations among Constructs.

	Mean	SD	Alpha	PC	CC	PRI	TU
Transition Costs (TR)	5.11	.92	.82	-.53	-.59	-.68	-.22*
Personal Concerns (PC)	3.59	.94	.73	.67	.70	.21*	
Collective Concerns (CC)	3.25	1.27	.93		.67	.24*	
Approval of Privatization (PRI)	3.23	1.65	.88			.23*	
Intended Train Use (TU)	3.85	1.03

Notes: The scores for each scale are based on the average rating across the relevant items (1 = very strongly disagree, 7 = very strongly agree); all correlation coefficients differ significantly from zero at $p < .001$ level, except those marked with an asterisk.

* $p < .01$

Table 2. Results of Hierarchical Regression Analysis for Predicting Approval of Privatization.

Variable entered	Multiple R^2	Standardized beta
Step 1	64.23	
Perceived transition costs (TR)		-.33***
Personal concerns (PC)		.37***
Collective concerns (CC)		.21**
Social value orientation (SVO)		.09
Step 2	67.06	
TR		-.44***
PC		.32***
CC		.15*
SVO		.10
SVO x PC		.13*
SVO x CC		.11
SVO x TR		.16*

Notes:

* $p < .05$; ** $p < .01$; *** $p < .001$

Figure Captions

Figure 1. Approval of Privatization as Function of Social Value Orientation and Concern with Personal Outcomes.

Figure 2. Approval of Privatization as Function of Social Value Orientation and Perceived Transition Costs.