



Report

Group transformation: How demonstrability promotes intra-group cooperation in social dilemmas

Timothy Hopthorw*, Dominic Abrams

Centre for the Study of Group Processes, School of Psychology, University of Kent Canterbury Kent, CT2 7NP, United Kingdom

ARTICLE INFO

Article history:

Received 4 March 2010

Available online 29 April 2010

Keywords:

Social dilemmas

Group decision making

Cooperation

ABSTRACT

Intra-group cooperation in a social dilemma is increased after a group has discussed and reached a decision, especially if the dilemma is easily understood ('demonstrable'). This paper examines how demonstrability affects the decision of a group that consists entirely of participants who are initially non-cooperative. Thirty-eight 6-person groups with unanimous prior preference for cooperation or non-cooperation discussed a prisoner's dilemma before making a group decision. When demonstrability was low groups reflected the prior (either cooperative or non-cooperative) preferences of their members. When demonstrability was high we found that groups showed no effect of prior preference. Specifically, groups of prior non-cooperators made more cooperative group decisions and subsequently their members remained cooperative when asked to express preferences individually. The combined advantages of group process and high demonstrability for facilitating optimal cooperation are discussed.

© 2010 Elsevier Inc. All rights reserved.

Introduction

Is it possible to change the decision of a unanimous group? Most social psychological research and evidence suggests that in the absence of new information, new members, or external pressure there would be no reason for groups to change their decision. However, the evidence we present in this article suggests that, under certain conditions, groups will exhibit enlightened self-interest and that it is the process of group discussion and decision that can provide the basis for such a transformation. A social dilemma arises when individuals each stand to benefit at others' expense if they allocate resources to one-another non-cooperatively, but all will be better off on average if all cooperate (Dawes, 1980). Groups and society as a whole stand to gain if, when placed in such dilemmas, we can encourage individuals to be cooperative. For example, fishing stocks can only be sustained if overfishing in open seas is curtailed. Individual trawlers can increase their profits relative to others by overfishing, but ultimately the total yield, and average per trawler, is imperilled. Likewise, tackling global warming depends on mutual cooperation requiring countries to forego potential competitive advantages of using carbon-producing technology. As illustrated by the inconclusive 2010 Copenhagen summit on climate change, there is often significant opposition and difficulty reaching agreement on such issues. Arguably, our collective survival depends on finding ways to reach collectively optimal outcomes. Therefore, it is important to know whether, even when

all individuals are strongly motivated to gain maximum advantage for themselves, there are conditions and decision processes under which a group can recognise and adopt the optimal strategy of cooperation. Moreover, even when cooperative decisions are made collectively there may be strong incentives for individuals to exploit others' cooperativeness and seize an advantage. Therefore, just as important as the decision itself is whether members remain committed to it.

A very reliable finding in social dilemma research is that when group members have an opportunity to discuss a social dilemma prior to making their choice this can increase cooperation rates (Caldwell, 1976). One explanation for this is that the discussion period provides group members with an opportunity to coordinate their actions and reduce their fear that they will be exploited (Kerr & Kaufman-Gilliland, 1994). It could also be that exposure to cooperative individuals highlights the social desirability of cooperativeness. Furthermore, Hopthorw and Hulbert (2005) found that once a collective decision has been made to cooperate this promotes higher cooperation in subsequent decisions by group members.

Demonstrability

Cooperativeness can also be affected by the demonstrability of the optimality of this strategy. Laughlin (1980) proposed that group members who identify a correct answer to a problem facing the group can often demonstrate the correctness of that answer to a doubting, but otherwise capable, group member. Demonstrability is on a continuum from low to high, with many tasks falling at some point between the two endpoints. Tasks in which the

* Corresponding author. Fax: +44 1227 823070.

E-mail address: t.hopthorw@kent.ac.uk (T. Hopthorw).

correct answer is quite easily shown (e.g. a math problem) are known as intellectual or high in demonstrability. Tasks on which the answer is less easily shown to be correct (e.g. nature or nurture) are known as judgmental, or low in demonstrability. It follows that increasing the demonstrability of the solution to a social dilemma should make it easier for a *group* to determine the optimality of every group member choosing to cooperate. Consistent with this idea, Hothrow and Hulbert (2005) demonstrated that, in groups comprised of a mixture of cooperators and non-cooperators higher demonstrability led to more cooperative decisions and these in turn led to more subsequent cooperative decisions by individual group members.

The present article examines whether demonstrability can affect group decisions even when all group members hold identical prior preferences to cooperate or compete. This is an important issue to consider as it does reflect real life situations, such as when food or fuel shortages arise (e.g. looting of shops following an earthquake). Continuity of supply for all depends on steady demand, but if people decide to stock up personally, supplies may become scarce and some people may be left with none, endangering their lives. In a social dilemma, demonstrability can be manipulated through changes to the absolute values of fear and greed (i.e. size of losses or benefits). The present study uses the dilemma matrices from Hothrow and Hulbert (2005). In these the ratio between fear and greed remains constant, and hence the so called *K'* value (Komorita, 1976) remains the same in each dilemma at 0.346. As the two dilemmas have the same *K'* any individuals would be expected to choose similarly in each dilemma. However, the absolute values of fear and greed in the low demonstrability dilemma are 10 times larger than in the high demonstrability dilemma. The absolute value of the temptation to defect (1 person choosing non-cooperatively and the remaining group members choosing cooperatively) is therefore relatively higher in the low demonstrability dilemma. Kahneman, Slovic, and Tversky (1982) describe a mechanism by which this may arise, namely anchoring. They found that when participants were asked to estimate a numerical answer to a problem their answers showed a systematic bias depending upon the size of the numbers that were initially presented. Moreover, Morrison (1999) has argued that when groups face social dilemmas they are likely to transform the objective matrix presented to them into a more subjective one. According to Doise (1978) groups may be especially prone to focus on biasing information because locating a salient common point of reference facilitates the functioning of the group as a whole. For example, Doise (1969) argued that, "Groups more than individuals, put stress on certain aspects of the material under discussion in order to make interaction between their members possible . . ." (p. 71). This idea is in line with Tindale, Sheffey, and Scott's (1993) proposal that groups generally have an immediate goal of reaching consensus. Therefore we would expect changes in demonstrability to affect a group's subjective judgement of the dilemma.

We argue that in the lower demonstrability dilemma the high value of 1 person not cooperating makes it more difficult for group members to perceive the relative value of universal cooperation, as each is more motivated to be the only non-cooperator and therefore receive a substantial personal payout. On the other hand, under higher demonstrability, groups should be more likely to recognize and decide to be cooperative.

Moreover, if demonstrability effects are dependent on group process, these should only emerge during and after group interaction. In line with this contention, Hothrow and Hulbert (2005) found that prior to group interaction the same proportion of individuals indicated a preference for a non-cooperative choice when considering a high or low demonstrability dilemma. Demonstrability only had an effect once they considered the dilemma in a group. This highlights that it is the perception of the dilemma that can be

altered and has an effect, not its fundamental property in terms of fear and greed.

Preference distribution

Seibold, Meyers, and Sunwolf (1996) argue that group communication research concentrates largely on group process without considering the 'input'. An important input is individuals' prior judgments regarding cooperation. This is likely to affect communication within the group and the subsequent group decisions.

Parks and Nelson (1999) examined how initial preference distribution and the content of group discussions affected group decisions. Even when members all held the same initial preference, groups still spent time discussing the possible alternatives and the prospective decision that they were going to make. This feature of group process, which seems to involve additional information processing, means that groups have the potential to reveal information that results in decisions that depart from an, initially unanimous, preference. We argue that increasing the demonstrability of the dilemma should make it more likely that a group composed entirely of non-cooperators will identify the cooperative choice as the optimal response (Hothrow & Hulbert, 2005).

Bouas and Komorita (1996) showed evidence for a consensus building process during group discussion of a dilemma. Prior to group discussion participants may be naive to the notion that there could be consensus. Hence they may indicate their preference for non-cooperation as a protection against exploitation (Kerr, 1983). However, if during discussion participants become aware that no members intend to cooperate they may each realise that they will all lose substantially rather than benefit from their individual non-cooperative position. This may make them reassess their choices. We assume higher demonstrability should make it easier to determine the utility of the mutually cooperative position. Such reassessment is likely to promote an increase in cooperative choices.

The present study considers an extreme but important scenario, in which all group members start with the same preference – either to cooperate or not to cooperate. If demonstrability modifies the decision and subsequent individual choices of a group of non-cooperators this would be a clear demonstration that group process is responsible for the effect. In other words, cooperation could only be an emergent consequence of group process and could not be attributable to inputs. In particular if the combination of higher demonstrability and group decision making can lead non-cooperators to become cooperative it could greatly aid collective solutions to social dilemmas with real world consequences.

Within a group consisting entirely of advocates of cooperation a high demonstrability dilemma should not convey any structural reason to change preferences, so such groups should simply persist in opting for their initial mutually cooperative position. However, we note Parks and Nelson's (1999) suggestion that a feature of group processes is, that there is a tendency to be different or novel. Ironically, this could undermine cooperativeness. Thus if innovativeness is an important consequence of group discussion we would expect both groups of cooperators and non-cooperators to become less homogeneous in their preferences. But if demonstrability were a key process we would only expect a change among non-cooperative groups.

In sum, groups have the potential to revisit information presented to them even if they consist entirely of members that prefer the same alternative. A group may therefore change its preference owing a re-evaluation of the parameters of their decision. We predict that this is more likely under high demonstrability. Specifically, within groups composed entirely of non-cooperators high demonstrability should promote cooperative group decisions.

The present study also addresses the likely sustainability of collective decisions by investigating individuals' preferences after

Download English Version:

<https://daneshyari.com/en/article/948656>

Download Persian Version:

<https://daneshyari.com/article/948656>

[Daneshyari.com](https://daneshyari.com)