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Collective action in culturally similar and dissimilar groups: an experiment on parochialism, conditional cooperation, and their linkages☆,☆☆

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Abstract

This study examines the effects of ingroup favoritism and outgroup hostility ("parochialism"), as well as of conditionally cooperative strategies, in explaining contributions to experimental public goods games. The experimental conditions vary group composition along two culturally inheritable traits (political party preference and religious affiliation) and one trivial, "minimal" trait (birth season). We contrast ingroup, outgroup, and random group conditions and investigate the relation between the own contribution to the public good and the expectations about other group members' behavior in each one of them. We find evidence for ingroup favoritism but no support for a separate tendency towards outgroup hostility. Further, conditional cooperation and ingroup bias are, to some extent, linked. Subjects had higher expectations of the contributions of ingroup members, and their own behavior was more strongly conditioned on other group members' expected behavior in the ingroup conditions. In ingroup contexts, subjects displayed a form of "strong reciprocity" by giving more than they expected others to at high expectation levels but less at low expectation levels. Once these interactions are taken into account, we do not find a direct effect of ingroup bias anymore. We discuss these results in the light of theories of cultural group selection and conclude that too much emphasis may have been laid on direct intergroup conflict. Our results suggest that differential cooperativeness, rather than parochialism, may characterize the behavior of individuals in cultural ingroups and outgroups.

Keywords: Collective action; Public goods; Cultural group selection; Parochialism; Conditional cooperation

1. Introduction

Humans often cooperate on a large scale with nonrelatives in order to obtain public goods. Public goods are goods that cannot be obtained by individual action and that are nonexcludable: once a public good is obtained, it is not possible to withhold group members from benefiting from the good, even if they have not contributed to its production. It has long been recognized that, although it is in the interest of a group of individuals that many people work together to obtain public goods, this does not explain why an individual would contribute to such "collective action." The influence an individual has on obtaining the good decreases as a function of group size, or in other words, the cost/benefit ratio increases with group size. Therefore, it is harder to explain cooperation in collective action than in dyadic cooperation (Hardin, 1968; Olson, 1965).

Many scholars have tried to explain the evolution of this human capacity for collective action. After all, the fact that people participate in it while they would be better off free riding on the participation of others poses a problem for individual-level selection theories. Traditional mechanisms to explain the evolution of cooperative behavior fail to explain the evolution of collective action (for an overview, see Henrich, 2004). One of the mechanisms that is able to explain cooperation among unrelated individuals is reciprocal altruism. This mechanism can explain the evolution of cooperation in repeated dyadic interactions. Essential for reciprocal altruism to evolve is that the cooperation is conditional: cooperative behavior must be targeted towards cooperators, and defections must be targeted towards those

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who defect (Axelrod, 1984; Trivers, 1971). Conditional cooperation is also a common finding in collective action. Social psychological research has shown that the more people expect others to participate in a political protest event, the more likely they are to join themselves (Klandermans, 1984; 1997). Further, experimental research on the public goods game, which is a good experimental representation of the collective action problem because it entails the same tension between individual and group interests, shows that people contribute more the more they expect others to contribute (e.g., Dawes, 1980; Falk & Fischbacher, 2002; Fischbacher, Gächter, & Fehr, 2001; Marwell & Ames, 1979; Messick & Brewer, 1983). However, even though the cooperation is conditional, individual-level selection cannot explain the evolution of this large-scale cooperation. In collective action, targeting of cooperation and defection is impossible: when an individual cooperates, both cooperators and free riders benefit equally from the obtained good (e.g., Gil-White & Richerson, 2003). The fact that public goods are, by definition, nonexcludable implies that it is not possible to prevent free riders from enjoying the public good. Mathematical models have indeed shown that the larger the group, the more unlikely it is that cooperation for public goods can evolve (Boyd & Richerson, 1988).

An explanation for the evolution of collective action that has recently been proposed is cultural group selection (Boyd & Richerson, 1982, 1985; Henrich, 2004). In short, this theory states that if groups differ with respect to culturally evolved traits, groups with the most group-beneficial traits, like norms promoting participation in collective action, will be selected when there is between-group competition. Mathematical models have shown that if cultural group selection is responsible for the evolution of the human capacity for collective action, people should be more likely to participate in collective action when the public good that can be obtained will benefit members of one's own "cultural ingroup" than when it will benefit one's "cultural outgroup" (e.g., Boyd & Richerson, 1982). However, there has not been much research specifically aimed at testing whether present-day humans behave in accordance with the predictions of the theory (inspiring exceptions include Bernhard, Fischbacher, & Fehr, 2006; Gil-White, 2003). Therefore, we want to investigate whether participation in collective action indeed increases when the benefits of cooperation are shared with cultural ingroup members.

Findings from experimental research reveal differential behavior towards ingroups and outgroups that fits a cultural group selection explanation. Numerous "minimal group experiments" have shown that even if groups are based on trivial traits, like preferences for different abstract painters or colors, people behave more cooperatively towards their ingroup than towards outgroups (Tajfel, 1982; Tajfel et al., 1971; Vaughan, Tajfel, & Williams, 1981). Although we also include "minimal" groups (based on a person's birth season) in this article, our main focus is on more meaningful cultural traits, namely, political party preference and religious affiliation. Importantly, from the point of the cultural group selection perspective, these are traits that are transmittable by way of social learning and thereby potentially subject to cultural evolution. Ingroups and outgroups constructed on the basis of cultural traits may be expected to have a stronger behavioral effect than minimal group traits, a difference that, to our knowledge, has never been investigated before.

To our best knowledge, the role of cultural traits has only been investigated in other experimental games, not in the public goods game (Bernhard et al., 2006; Gil-White, 2003). Differential behavior towards ingroups and outgroups has been found in many dyadic games like the two-person prisoner's dilemma (e.g., Yamagishi et al., 2005) or the design used in the minimal group paradigm, in which an individual allocates money to both an ingroup and outgroup member (e.g., Tajfel et al., 1971). However, this does not automatically imply that the same behavioral pattern will be found in larger groups. As explicated above, cooperation in the collective action dilemma and, thus, in the public goods game is an evolutionary problem that is structurally different from dyadic forms of cooperative behavior, and it can therefore not be subsumed under the theory of reciprocal altruism.

Wilson and Sober have been among the most prominent advocates of the cultural group selection solution to the collective action problem (Wilson, 2002; Wilson & Sober, 1994). They emphasize that group selection can explain why the normative systems of religious, political, and other cultural groups are characterized by a double morality, which prescribes prosocial conduct towards members of the own group but, at the same time, allows, or even prescribes, exploitative or even outright hostile behavior towards other groups, a behavioral pattern known as parochialism (Bowles & Choi, 2003; Bowles & Gintis, 2004a; Choi & Bowles, 2007). However, there are two reasons why ingroup favoritism and outgroup hostility do not necessarily need to be linked. First, mathematical models have shown that large-scale cooperation can evolve by cooperating with ingroup members, without being hostile to outgroup members (e.g., Boyd & Richerson, 1982). Second, there are reasons to assume they are two distinct psychological mechanisms (e.g., Brewer, 1999). Therefore, in our experiment, we include ingroup conditions, outgroup conditions, and a random condition. Comparing the random condition to the other conditions, we are able to distinguish between ingroup favoritism and outgroup hostility. Since all existing theories on ingroup–outgroup differentiations predict that there is ingroup favoritism, we add this as one of our hypotheses. However, since there is theoretical disagreement on whether or not there will be outgroup hostility, we will add both possibilities as alternative hypotheses.

Several experiments point into the direction that the ingroup–outgroup differentiation is caused by ingroup favoritism, not by outgroup hostility. For instance, Kiyonari and Yamagishi (2004) find that if the partner in a two-person prisoner's dilemma is unaware of the focal participant's