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# Group formation and cooperation in social dilemma games: A survey and meta-analytic evidence

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## Abstract

The extant experimental literature looking at cooperation in social dilemma games reports two empirical regularities. First, whenever the game is repeated a finite number of rounds, cooperation starts out at relatively high levels but then declines over time even though the strong free-riding hypothesis of zero cooperation is seldom borne out. Second, most subjects' cooperative decisions are positively correlated with the expected cooperativeness of the others with whom they interact. This finding that a majority of subjects are conditional cooperators helps us better understand the environmental and institutional factors that can sustain cooperation over time. The bottom line is that if conditional cooperators can choose the people they wish to interact with then sustaining cooperation over time can be less of a challenge. Over the last two decades, there has been an increasing amount of experimental research devoted to the study of group formation in the context of social dilemmas. In this paper, our aim is twofold. First, we thoroughly review the experimental literature manipulating group formation in three types of social dilemma games: prisoner's dilemma, public goods games, and common pool resources. Following Ledyard (1995), we highlight the environmental (endogenous or exogenous sorting, the opportunity to decide on whether to participate in a social dilemma by forming a group or instead to opt-out of the interaction, the available information about the composition of the group, group size, the MPCR) and design variables (the possibility to communicate before forming groups, the possibility to cast a vote on approving or refusing changes in the group composition) that affect group composition and impact cooperation rates. Our second aim is to investigate the role the environmental and design variables play on cooperation by meta-analyzing a number of studies in which group composition is manipulated in standard public goods games.

**Keywords:** Group formation, Cooperation, Public good games, Prisoner dilemmas, endogenous group formation, exogenous group formation

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