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Competition-induced punishment of winners and losers: Who is the target? ☆

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ABSTRACT

We elicit punishment after competition. Our experiment creates a setting in which winners and losers are assigned in a pairwise speed-based calculation task. As in Abbink and Sadrieh's (2009) joy-of-destruction game punishment is executed by burning parts of another participant's endowment. We manipulate the target of punishment to investigate whether it is driven by discrimination of the direct opponent, the outgroup or by joy of destruction. Furthermore, we analyze the role that the clarity of victory or defeat plays for punishment after competition. Our findings suggest that losers face punishment from particularly dominant winners and—to a lesser degree—from particularly frustrated losers. Winners face undifferentiated punishment from all sides. Our results have implications for the prevention of destructive behavior within organizations which use competitions in order to induce effort.

1. Introduction

People constantly face competition, in their career, in politics, science or arts. Whereas its effects of continuous performance enhancement are desired (Hayek, 1982a, 68), the relative results of the process may be experienced as painful by the outperformed. Hayek (1982b, 71), points out that "[...] the outcome [of competition] will be unpredictable and that there will be winners and losers. And while, as in a game, we are right in insisting that it be fair and that nobody cheat, it would be nonsensical to demand that the results for the different players be just." Hayek does not consider outcome fair-

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ness a meaningful category, once we have agreed on the procedural fairness of competition. The outcome, however, may still lead to destructive behavior in the aftermath.

Critics have long acknowledged the negative effects of competition (see, e.g., Deutsch, 1949; Mead, 1936). Most of them emphasized that competition can cause a paralyzing fear of losing, thus leading to lower productivity or that unfair means may be employed in order to win at any price. These means may even include aggression against others. In the Robbers Cave Experiment (Sherif, Harvey, White, Hood, & Sherif, 1961) strong competition was induced between groups of children, which lead to attacks after the games and at night (Kohn, 1992). Thus, competition may induce aggression towards the other "outside the arena". Since competition necessarily produces positional results, this leads to the important question of whether winners and losers are more likely to be subjected to this expressive aggression. It is also worthwhile knowing whether this kind of aggression is also directed towards third parties. So far, these question have been largely neglected in the literature.

The effect of the competitive outcome on aggression is difficult to analyze. Since aggression in a competitive framework can be a factor of success, it is hard to disentangle to which extent aggression is inherent in competition or caused by it. Sabotage behavior, for instance, is an example of aggression which mainly aims to influence the propensity to win itself. To avoid this mixture of strategic and expressive motives, we elicit aggression after competition, thus ruling out all instrumental motives.

The key idea of our experiment is to induce competition in order to generate different statuses between subjects via outcomes. In competition, a subject's status may not only be determined along Hayek's dichotomy of winners and losers, but also in a more continuous way by means of score differences. Subsequently, we elicit punishment by the joy-of-destruction game (Abbink & Sadrieh, 2009), where a subject can costlessly burn another participant's endowment without any monetary advantage for herself. We manipulate the targets of punishment to investigate whether destructive behavior persists, if winners and losers face each other across or within groups and whether levels vary between those groups. Ultimately, we want to find out if it is winners or losers, which are more severely endangered by destructive behavior caused by competition.

2. Related literature and research questions

There is ample experimental evidence that declaring winners and losers in tournaments fosters constructive effort as well as sabotage behavior (see, e.g., Charness, Masclet, & Villeval, 2014; Harbring & Irlenbusch, 2008, 2011). Sabotage is defined as destructive behavior against a competitor in order to lower his chances of winning. In this sense, it is strategic. Strategic destructive behavior between opponents is also explored in the contest literature, where the option to costly punish the opponent is inherent in the contest (for an overview see Dechenaux, Kovenock, & Sheremeta, 2014). Competition law and rules of the game, courts and referees try to guarantee procedural fairness during competition. In our experiment, we deliberately dismiss strategic aspects to study which punishment remains, when the outcome of the competition cannot be influenced any longer. This is in contrast to the experimental studies on sabotage behavior and the contest literature where punishment is used instrumentally.

Destructive behavior of competitors where strategic motives are explicitly ruled out is rarely analyzed in the experimental literature. There exists some evidence that competition has an influence on players' destructive behavior even after the competitive stage has ended in the context of video games (Adachi & Willoughby, 2011). The effects of the competition outcome on destructive behavior were, however, not investigated. Muller, Bushman, Subra, and Ceaux (2012) provide one of the few studies directly addressing the expressive destructive behavior of winners and losers. Notably, they find more pronounced aggression in winners than in losers. In their experiment, subjects performed inscrutable perception tasks. Each subject was attributed the same amount of points irrespective of actual performance. The winning or losing position was assigned to the subjects by matching them with an actually fictitious partner who had allegedly scored higher or lower. In a second round, subjects engaged in a reaction competition with the same presumed partner. If they won in this second round, they would get the chance to costlessly punish this presumed partner by administering her noise or hot sauce (see also Lieberman, Solomon, Greenberg, & McGregor, 1999). The results show that winners from the first round were significantly more aggressive than losers from the first round. Behavior after competition is also addressed in some psychological studies with children. Nelson, Gelfand, and Hartmann (1969) find that 5–6 years old children which participate in competitive games were subsequently more aggressive than children who engage in non-competitive games, whereby losers were even more aggressive than winners which is in contrast to the findings of Muller et al. (2012).

We find evidence for punishment during and after competition against the opponent. Whether competition induces punishment behavior directed towards impartial third parties is also important to grasp the detrimental effects of competition. This requires the effects of competition to persist for a certain period of time or to even permanently leave a trace in individuals. Evidence from the animal realm shows that the outcome of a competitive situation can have long lasting effects in future chances of winning, which are higher for winners and lower for losers. These phenomena have been studied mostly by biologists under the label of "winner and loser effects" (see, e.g., Lan & Hsu, 2011). Dugatkin and Druen (2004), for instance, showed that experiencing a loss or victory exerts influence on an individual's future position in a hierarchy. Studies with human subjects are rarer: The winner and loser effects within humans have been mostly studied by means of testosterone levels. Carré, Campbell, Lozoya, Goetz, and Welker (2013) show that testosterone (in men) is elevated in winners relative to losers, which carries over to subsequent contests, thus increasing chances to win. This mechanism can be explained as a cost