**Introduction & Theoretical Background**

The tragedy of the commons is a dilemma described in an influential article titled “the tragedy of the commons” written by ecologist Garret Hardin and published in 1968 (Hardin 1968). The Dilemma is caused by actors, who share a common good but act rationally according to each self interest. Thus, they behave contrary to the best interests of the whole community which leads to depletion of the good. Nevertheless, in everyday life persistent cooperation amongst humans seems to be a common phenomenon.

Social Dilemmas predominantly have been studied via public good games (Sylwester & Roberts 2013). In public good games, each individual is assumed to be tempted to exploit other group members and profit from the cooperation of the other players. However, indeed the group would be better off, if all members would cooperate. Typically, cooperation declines after a few rounds of playing public good games. Nevertheless, it showed that some game features can foster cooperation and even maintain it.

Amongst other factors, research on reputation in social dilemmas has shown, that it can improve the likelihood of cooperation and thus preventing recources from depletion (Milinski et al. 2002). In their experiment the authors used two game sequences, where the first sequence consisted of 16 rounds of a public good game alternated with an indirect reciprocity game. In the second sequence, participants played eight consecutive rounds of public goods games, followed by eight rounds of indirect reciprocity. In the first sequence the levels of cooperation remained high throughout the 16 alternating rounds, while during the second sequence, cooperation declined over the course of the eight repeated public goods game rounds and was restored over the course of the indirect reciprocity games. Subsequent studies pointed in the same direction, by supporting Milinski et al.’s (2002) findings in showing, that participants will cooperate more often, when an incentive to gain reputation exists.

We therefore, build upon Milinski et al’s (2002) work, however we focus on the reputational effect and try to isolate it. Therefore, contrary to Milinski et al. (2002) we do not change the sequence of the experiment as a treatment. We focus on the effect of the reputation by introducing a control group where the players do not know the history of other player's decision. We expect that this group will be more likely to run into a tragedy than the other group, where the individuals are interested in maintaining their individual reputation.

**Abstract**

Maintaining cooperation when group interests are at odds with individual ones constitutes a major challenge. However, previous research has shown that reputation effects may constitute an important means to combat cooperation problems. According to the framework of indirect reciprocity, actors are more likely to cooperate with partners who have shown cooperative behavior in the past. Thus, cooperative individuals, are more likely to receive cooperative acts than uncooperative ones, keeping overall cooperation constant and high. Our experiment builds upon Milinksi et al’s (2002) work, which amongst others, showed the benefits of implementing reputation to solve public dilemmas. However, we focused on comparing against a control group, where building a reputation was not possible at all. In our experiment both groups played alternately one round of a public good game followed by an indirect reciprocity game.