Effect of Risk Orientation, Game Riskiness and Expectation on Cooperation in One-Shot Prisoner's Dilemma

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Abstract

We used Au et. al.'s (2012) model of game riskiness to construct a set of games that have the same index of cooperation but different kinds of game riskiness. This paper investigated the effect of risk orientation, game riskiness and expectation on the rate of cooperation in one-shot prisoner's dilemma game (PDG). Consistent with previous finding, we found an interaction effect of risk orientation and game riskiness on cooperation rate, with risk-seeking people cooperating more in more risky games, and risk-adverse people cooperating more in less risky games. Moreover, we found an interaction effect of game riskiness and expectation on cooperation rate, with the effect of expectation being larger in more risky games. The three-way interaction on cooperation rate is not significant.

Keywords: prisoner's dilemma, risk orientation, game riskiness, expectation, expected value