Kin-targeted Altruism With Noise*

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Abstract

Can pure altruism generate strategic altruism when kin recognition is noisy? This paper studies a prisoners' dilemma played between two individuals who exhibit altruistic preferences towards kin. The probability that a player's opponent is kin is common knowledge, but, instead of directly observing whether or not the other player is related, each player observes a noisy private signal. When the game is played once, players cooperate only with those identified as kin. However, when the prisoners' dilemma is played for two periods instead of one, uncertainty about relatedness brings strategic considerations into the game even if the odds of being related are small. There are Perfect Bayesian Equilibria in which players cooperate in the first round even after getting a negative kin signal. Since a player can make inferences about her opponent's signal based on first period actions, a non-relative mimics kin to induce cooperation in the second period.

Keywords: Altruism; noisy signaling; prisoners' dilemma

JEL Classification Numbers: C72, C73, D64

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