

# Video Game Reward Systems and Their Impact on Players' Behavior in the Iterated Prisoner's Dilemma

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Studies have suggested that increased digital cooperation can lead to increased real life collaboration. This Video Game Reward System study was created to test cooperation between participants in such a game and using common game reward systems. Three, 2 player games, were designed, animated, and coded using C# and the Unity game engine. The games attempted to replicate a Iterated Prisoner's Dilemma game theory scenario. Players were given the choice to defect or to cooperate. Cooperation yielded one point per player. If one player defected, they received 3 points and the cooperating player got 0 points. If both defected, 0 points are awarded. The player with the most points won. Players played 10 rounds. Each game differed in reward system. Game A was the base game. Game B showed each players' score. Game C displayed positive animated messages. Forty-two students were tested anonymously. Partners, grade, gender, enjoyment, and gameplay were recorded. Players who defected 9/10 times were invited to return for further testing. In further testing, participants played at least 1 of the 2 games they hadn't previously, with a new partner each time. Because of the high rates of participants who originally played Game C, only Game A and B were tested in further testing. Game C had the highest number of defects (7.43 per game) and the lowest enjoyment (6.43 out of 10). Half used a defect-oriented strategy. The defects for the other two versions were the same, 5.86 defects. Game B had enjoyment of 7.43 and Game A 6.93. In retested players, defect-oriented strategies dropped from 87.5% to 53.3%. This experiment pointed to a link between defect-oriented strategies and the animated feedback version of the game, as well as a pattern of strategies for the other two games.

## Awards Won:

American Psychological Association: Honorable Mention