

Rigged card game sheds light on perceptions of inequality

By Melanie Lefkowitz | July 17, 2019

A few years ago, Cornell doctoral students Mario Molina and Mauricio Bucca, Ph.D. '18, were playing President, a card game, when they noticed winners attributing the game's outcome to skill and losers blaming their defeat on the rules.

“Which was very interesting because we're all friends,” Molina said. “We all have full information about how the game is played. But at the end, you think you won because you're better than the other people, and they think they lost because of the rules of the game.”

It occurred to Molina and Bucca – both then working with **Michael Macy** (<https://sociology.cornell.edu/michael-macy>), the Goldwin Smith Professor of Arts and Sciences and director of the Social Dynamics Laboratory – that this would make a good experiment. They adapted their idea into the Swap Game, a simple card game they rigged to favor either winners or losers, in a study designed to measure perceptions of inequality.

They found that winners were far more likely to believe the game's outcome was fair, even when it was heavily tilted in their favor by rules requiring losers to hand over their strongest cards.

“Even when people play this very simple game, where the economic inequality is just \$5, we still find there are huge differences in the way people perceive the fairness of the game,” said Molina, first author of **“It's Not Just How the Game Is Played, it's Whether You Win or Lose,”**

(<https://advances.sciencemag.org/content/5/7/eaau1156>) which published July 17 in Science Advances. “The way people perceive inequality depends on their relative outcome, and that's true even when you manipulate the playing field to their advantage.”

Macy is the paper's senior author; Bucca, now at the European University Institute in Florence, Italy, also contributed.

As inequality becomes increasingly rampant around the world, the study offers insights into how people perceive opportunity, failure and success. In real life, inequality can operate in opaque ways, making it difficult to determine whether people succeed through talent, skill, luck or advantage. Though the study's findings can't easily be generalized to society at large, they have potential implications for how public policy to combat inequality might be implemented, the researchers said.

“The findings from our study may shed light on perceptions of the fairness of silver spoons and regressive tax codes in an era of rapidly escalating economic and political division,” Macy said. “Beliefs about distributive justice and the relative importance of talent versus luck seem to confirm 50 years of research in social psychology on the universal human need to reduce cognitive dissonance.”

Before participating in the experiment, people were taught how to play the Swap Game, in which one player discards a card and the second player must discard a higher card, or pass. The first person to discard all their cards wins the round.

Though the first player had an advantage, the first round's winner was determined mostly by luck, with no skill involved. But at the end of each round, the winners either traded their best card for the losers' worst card – making the game more equal – or their worst card for the losers' best, giving the winners an increased advantage. In other games, the winners exchanged cards randomly, and in some versions, the players traded two cards.

After seven rounds, the players were asked if they thought the results of the game were fair, if they thought the results were due to talent, luck or the rules of the game, and whether they felt positively or negatively about the results.

Regardless of how many cards were exchanged and which version they played, winners were twice as likely as losers to describe the game as fair. When cards were exchanged to favor the winner, however, winners found the game less fair – an effect that became more pronounced when two cards per round were traded.

In fact, the winners' perceptions of the game's fairness declined more sharply than losers' as their advantage increased – “indicating that winners' perceptions are more sensitive than losers' to a system that is rigged in their favor,” according to the paper.

Researchers termed this the “Warren Buffett effect,” because Buffett and some other billionaires advocate to pay higher taxes. “A possible reading of our results is that winners want the playing field to be tilted enough to guarantee the outcome but not so much that the game appears hopelessly rigged in their favor,” Macy said.

When the playing field was level, winners were more likely to attribute their wins to talent, while losers blamed the outcomes on luck. This effect decreased as the advantage increased, but not as starkly as the players' perception of unfairness.

Even when they perceived the game as unfair, winners always expressed positive reactions about their results. Similarly, losers' reactions were consistently negative.

Molina said he hopes future studies can help researchers connect the results of the card game to perceptions of inequality in the real world.

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