

Sometimes 100 Cents Feels Like It's Worth More Than A Dollar

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(PhysOrg.com) -- We all know that \$1 is equal to 100 cents. But a new study suggests that, in some situations, people may behave as if 100 cents actually has more value.

That's because people may pay more attention to the size of the numbers involved than the actual economic value, according to the research.

"In some cases, money may just serve as a score - the higher number wins, regardless of the actual value," said John Opfer, co-author of the study and assistant professor of psychology at Ohio State University.

One important implication of this is that economic rewards don't necessarily affect behavior because of their economic value, Opfer said. Sometimes, it's the numeric value of economic rewards that makes the difference. So people are more impressed by 100 cents than they are with \$1, because 100 is larger than 1.

Opfer conducted the study with Ellen Furlong, a graduate student in psychology at Ohio State. Their study appears in the January 2009 issue of the journal Psychological Science.

The study involved testing subjects using a version of an often-used game in psychology, called the prisoner's dilemma. In this version, two players had to decide separately and privately whether they were going to cooperate with each other or defect against their partner in exchange for a monetary reward.



If they both privately said they would cooperate, they both earned \$3. If just one decided to defect, he earned \$5 while the other person earned nothing. If they both chose to defect, they both earned only \$1.

The game is designed to see under which conditions people will decide to cooperate with each other. Previous studies have shown that people are more likely to cooperate when the stakes are higher. In other words, players would be more likely to cooperate when they could both earn \$300 for cooperating versus when they could only earn \$3 for cooperating.

But Opfer said he wanted to find out whether it was really the economic value that predicted people's decisions -- or simply the number value.

So in one study, the researchers had 48 college students play the prisoner's dilemma game. Half of them played for dollars, and half played for the equivalent amount in cents. For example, some pairs could earn \$3 for mutual cooperation, while others would earn 300 cents. They played the game 80 times in a row.

The study showed that the students who played for 300 cents cooperated more often than those who played for 3 dollars - even though both groups were playing for the same economic reward.

That means that those students playing for 300 cents acted as if they had more at stake than did those who were playing for 3 dollars.

"People were keeping track of the numbers, and not necessarily the values that were at stake," Opfer said.

In a second study, the researchers tested to make sure that the findings from the first study didn't result from a preference for dollars or cents, rather than a preference for higher numeric rewards.



Results of this study showed that players cooperated a similar number of times whether they were playing for \$300 or 300 cents, even though the economic values are obviously extremely different.

They also cooperated a similar amount of times for \$3 as they would for 3 cents - but there were fewer instances of cooperation here than there were for \$300 or 300 cents.

"It shows that the effects of dollars or cents is minimal when people are deciding whether to cooperate- all that matters is whether you're playing for a "3" or a "300," Opfer said.

"The incentive to cooperate isn't really an economic incentive. It is a confusability about numbers."

The fact that people are easily impressed by large numbers has many realworld implications. For instance, while the economic difference between \$3 and \$5 is identical to the economic difference between \$103 and \$105 (\$2 in both cases), the difference between 3 and 5 feels more important to us than the difference between 103 and 105.

"The differences between big numbers don't seem as important to us as the differences between small numbers," he said. "We think about the numbers differently."

These findings challenge some basic assumptions about how people make decisions. For one thing, political parties or large corporations may be willing to cooperate when dealing with large amounts of money, such as in the recent \$700 billion bailout of the financial industry, simply because they are awed by the large numbers, Opfer said.

For smaller amounts, like the proposed \$15 billion bailout of the auto industry, people would be expected to be less cooperative.



"We're not alone in our tendency to treat differences between small numbers as more important than differences among large numbers -pigeons, rats, monkeys and human infants all do the same thing," Opfer said.

Political parties and large corporations aside, when an individual decides whether to save for the future, or evaluates the risk of an investment, their decisions may also be influenced by the size of the numbers involved, according to Opfer.

"For better or worse, reframing our choices in terms of smaller numbers allow us to better see the relative risks and benefits of our decisions," he said.

Provided by Ohio State University

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