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## Why Do We Trust?

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**A recent experiment shows that we value relationships for more than just financial gain.**

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Whether it's with our livelihoods or our secrets, we need to trust others to survive. On the most literal and basic level, we trust other people because they can help us get what we want more easily. Collaboration helped hunter-gatherers assemble more resources to ensure their mutual survival; today trusting others can get you better work, housing, or even social standing.

But there are also risks: If you trust the wrong person on a group project or in a financial investment, you could fail as a result. But a recent experiment, [the results of which](http://cosanlab.com/static/papers/Farerietal2015JNeuro.pdf) (<http://cosanlab.com/static/papers/Farerietal2015JNeuro.pdf>) were published in *The Journal of Neuroscience*, shows that our brains reward us for taking the risk to trust—and we do it for reasons that are more abstract than our immediate financial benefit.

"Throughout our lives, sooner or later our trust is going to be violated in major ways," says [David Dunning](#) (<http://www.psych.cornell.edu/people/Faculty/dad6.html>), a psychology professor at the University of Michigan who wasn't

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involved with the new research. "But there's a social dynamic that pushes us to trust other people beyond the economics of the situation."

The experiment starts off with a basic trust game—similar to those used in [myriad psychology experiments](http://www.freakonomics.com/2012/04/25/uk-game-show-golden-balls-a-new-solution-to-the-prisoner%E2%80%99s-dilemma/) (<http://www.freakonomics.com/2012/04/25/uk-game-show-golden-balls-a-new-solution-to-the-prisoner%E2%80%99s-dilemma/>), and briefly even a [British game show](http://www.goldenballstvshow.com/) (<http://www.goldenballstvshow.com/>). Both the participant and a partner start out with one dollar. The participant is told that, if both she and the partner invest their dollars, they will split three dollars in return. But, if the participant chooses to invest and the partner does not, the partner can keep the money, leaving the participant with nothing. "The trust game has been widely used in behavior economics to measure how people interact—the amount of money someone can send to the other person indicates how much he or she trusts them," says [Mauricio Delgado](http://nwpsych.rutgers.edu/~delgado/) (<http://nwpsych.rutgers.edu/~delgado/>), a psychology professor at Rutgers University and one of the authors of the study.

The participant played several rounds of the game with three different partners: a friend, a classmate who is not a friend (a confederate), and a computer. But the researchers fixed the outcomes: no matter whom the participant thought he was playing with, the partner defected 50 percent of the time. That way, the only variable between the trials was the social context. The researchers also monitored the participant's brain activity during the experiment using an fMRI.

At the end of the experiment, the researchers found that the participants trusted their friends and confederates more than the computer, even though their friends betrayed them on 50 percent of the trials. "Friends would come out of the experiment and yell each other," Delgado says, asking each other why they defected so many times. But Delgado and his team would always debrief the participants after the experiment, admitting that the researchers had hijacked the responses. "We didn't want to ruin any friendships."

But the researchers were most interested in what they saw on the fMRI. When a friend reciprocated during the game, the participant's brain would show increased activity in the ventral striatum and medial prefrontal cortex—parts of the brain associated with reward. And they would activate more strongly during interactions with the friend than with the confederate. "In different trials, the money doesn't change—what changes is the context. And that tended to modulate the activity in these brain areas," Delgado says.

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To the researchers, this suggests that the reward in these interactions is more than just financial—it's social. "Once a friend reciprocates, you get the enjoyment of receiving the reward, which is a stronger signal that reinforces the relationship," Delgado says.

The results of this experiment fit well with similar work in the past, Dunning says. "In sociology it's well known that people treat relationships as a source of pleasure and something they value," he says.

The fMRI data adds another level of understanding to trust research, he adds. Relationships help people achieve more than just financial success; the brain is coded to find reward in having social relationships in themselves—they can help us cope with loss or difficult situations. And that benefit can be worth a temporary financial cost. In [one of Dunning's own experiments](https://www.apa.org/pubs/journals/releases/psp-a0036673.pdf) (<https://www.apa.org/pubs/journals/releases/psp-a0036673.pdf>), for example, participants played a game similar to the trust experiment. More than half the participants chose to invest with strangers, even though they only thought they would benefit only about 45 percent of the time. They were taking what they assumed to be a financial loss, it seemed, to build a social network. Luckily for them, Dunning notes, their trust was reciprocated in 80 to 90 percent of trials.

"There's a moral norm here—you don't want to insult the other person. If you don't trust them, you insult their character," Dunning says. "This prompts people to actually trust a stranger even when they never expect to see the money come back to them. That's how highly people value relationships. And [in the big picture] we all profit from that emotionally, financially, and socially."

This experiment, like all others, does have its limitations. The results might have been different if participants had to risk more money ("When you have large amounts, of money, people tend to be more risk averse," Delgado says) or if the trials had gone on longer because the participants would have adapted to the results and learned to trust their friends less.

Both Delgado and Dunning are interested in expanding the types of tests used to evaluate trust in future research. "I would like to see other trust work extend to telling of secrets, or drawing up of a contract who is going to do what job," Dunning says.

Delgado is most interested in how participants processed betrayal—mostly because the betrayal didn't seem to faze the participants in this study. "Sometimes negative feedback teaches us pretty well, and losing against someone you don't know drives changes in behavior in the next trial. But that's not what we observed here," he says. If the researchers made the task more competitive by

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increasing the amount of money at stake, Delgado hypothesizes that the task may start to engage parts of the brain associated with negative responses or coping, such as the amygdala.

On its own, this research has a straightforward application to the real world: We trust even when logic tells us we shouldn't because we're investing in our friendships. But this answer isn't the only one; despite decades of research into trust, researchers are still parsing out the complex reasons why we take risks with our time and resources, even when past experience tells us not to. In that regard, the trust game is a "wonderful inkblot test," Dunning says, for even individual participants to understand what drives them to trust. "Participants [in these sorts of experiments] often don't know why they're doing what they're doing, and they want to talk about it after the experiment," he adds. "We have to map out what's really going on, and how to generalize these findings to other situations involving trust."

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