The Neurology of Lending

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Back in 1976, a young professor in Bangladesh starting making dubious low-interest loans to the rural poor of his country. Yunus Muhammad had the crazy idea that even impoverished farmers—men and women without credit history or collateral or even steady employment—could be disciplined and trustworthy in repaying small loans, and he founded the Grameen Bank to finance that vision.

Many banks eventually followed Grameen's lead, despite some serious misgivings, and "microfinance" is now a huge global enterprise. As of 2009, an estimated 74 million men and women held microloans totaling $38 billion, and Grameen claims a repayment rate between 95 and 98 percent. For its poverty fighting efforts, the bank and Yunus were awarded the Nobel Peace Prize in 2006.

Microfinance is not without its critics. It is also a psychological enigma. It is not in anyone's economic best interest to lend money to strangers without any getting anything in return. Without interest or guarantee, what is the motivation to take on such financial risk? It seems more akin to charity than to banking.

Is it? The fact is, we don't know the neuropsychological underpinnings of such selfless lending. What are lenders looking for when they take on such risk? Two Stanford University psychological scientists, Alexander Genevsky and Brian Knutson, set out to answer these questions. They wanted to see whether the brain's emotional mechanisms—the same ones implicated in charity—might also encourage micro-lending.

They built on what's already known about the charitable brain. For example, it's known that people are more likely to give money to orphans if they are aroused in a positive way—and not if they are aroused in a negative way. This is somewhat surprising, since people are typically saddened by the plight of orphans, but it's possible that positive emotions increase risk taking—including giving to a needy stranger.

Genevsky and Knutson wanted to see if the same psychological dynamic—and the same underlying brain structures—underlie micro-lending. They started by running a large internet study, to see if certain features of loan requests lead to success, and others to failure. And indeed they did. Examining more than 13,000 microloan requests—equally successful and unsuccessful—they found that borrowers' photographs, if they evoked positive emotions, were much more likely to result in loans.

While intriguing, this study did not show for certain that positive emotions increased lending. To focus in on this question, the scientists ran a neuroimaging study, scanning a sample of 28 subjects as they chose whether to lend money or not. The subjects took part in a micro-lending task, designed to recreate the experience of online micro-lending as closely as possible. They viewed photographs of potential borrowers and read the content of the loan requests, then made decisions about each appeal.

The results were clear. Self-reported positive responses to borrowers' facial expressions—and corresponding activity in the brain's nucleus accumbens—were associated with loan success. What's more, photographs with the highest positive arousal elicited the highest rate of lending, while those with the highest negative arousal were least successful. The nucleus accumbens is a region of the forebrain involved in motivation, pleasure and reward processing, and it's the same region implicated in charity. These findings, taken together and reported in a forthcoming issue of the journal *Psychological Science*, suggest that common emotional processes may influence both charitable giving and lending.

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