Spend 'Til It Hurts

Reseaching the Pain of Paying

According to researchers at Carnegie Mellon, Stanford and MIT, people spend money 'til it hurts.

The study appears in the journal "Neuron" and is the most recent from the emerging field of neuroeconomics, which looks at the mental processes that drive economic decision-making. The researchers suspect their study may help to explain why people spend more with credit cards than with cash.

"Credit cards effectively anesthetize the pain of paying," said George Loewenstein, Carnegie Mellon professor of social and decision sciences (SDS) and co-author of the paper. "You swipe the card and it doesn't feel like you're giving anything up to make the purchase, unlike paying cash where you have to hand over bills."

In the study, 26 adults were each given $20 to spend on a series of products that would be shipped to them. If they made no purchases, they would be able to keep the money.

The participants viewed the products while lying in a functional magnetic resonance imaging (fMRI) scanner while the researchers studied which regions of the brain activated during each participant's decision-making process.

The study's primary question was whether pain centers of the brain would activate when experimental subjects saw the prices.

"We were so excited when we got the results from the first scans, and saw that the insula, a section of the brain associated with pain processing, activated when subjects saw prices that were too high," said Loewenstein. "It was an electric moment."

Scott Rick, the SDS graduate student who worked with Lowenstein on the project, was especially excited when they found that insula activation discouraged spending.

"It suggests that prices do not deter spending purely through thoughts of foregone pleasures, as assumed by standard economic theory, but also through immediate pain," added Rick.

Their findings could profoundly affect economic theory because the decision of whether to buy or not to buy is the most basic and pervasive of economic behavior.

Loewenstein and Rick, along with Cynthia Cryder, also a graduate student in SDS, are continuing their research on the "pain of paying" — the pain one experiences when paying for purchases.