Stanford researchers predict long-term personal finances in the lab

September 20 2011, by Max McClure

Why are some people wealthier than others? It's a question that has spawned a slew of maddeningly optimistic self-help books – and a pile of research that takes a much more depressing stance. Personal financial success, many authors say, is best predicted by factors beyond our control, including family socioeconomic status and inheritance.

But environmental conditions aren't the whole story. The Horatio Alger narrative of financial success in the face of adversity can and does play out in real life. Are these exceptions just a matter of chance?

In a paper published in the journal *PLoS ONE*, a team of neuro-economists led by Stanford psychology and neuroscience Associate Professor Brian Knutson advances an alternate explanation. They say that a significant determinant of your financial success may be your emotional response to gaining or losing money.

During an experiment about attitudes toward gaining money, subjects were presented with a choice between two pictures on a computer screen. One picture would reward the subject with a dollar two-thirds of the time, while the other picture only paid out one-third of the time.

The "loss" experiments were similar, except that the two pictures would cost the subject a dollar with differing probabilities for each picture.

"Our criterion was to find something that wasn't only useful in the lab, but that was related to the real world," said Knutson.

Without knowing in advance which pictures paid out in jackpots and which were costly mistakes, the subjects were asked to try to win as much money as possible.

This style of experiment is not uncommon, but the group's innovation was to split gains and losses into separate trials.

"New data suggests that different neurological systems are responsible for learning about gain and loss," Knutson said.

Psychology has traditionally held that learning is learning, but neuro-economics takes a different position. Positive emotions like excitement and negative emotions like anxiety, supported by separate brain circuits, seem to motivate gain and loss learning, respectively. Being good at winning money doesn't necessarily mean you're good at not losing it.

But could these tests actually say anything about real-world finances? To evaluate their relevance, the researchers asked the subjects about the size of their assets and their debt – even examining some subjects' credit reports.

Remarkably, individuals' test results corresponded tightly with their financial histories. Better performance during the gain-learning trials was closely related to more assets. Better performance during the loss-learning trials, however, was related to less debt.

This was in stark contrast to a number of other proposed determinants of financial condition. Measures of working memory, education and risk aversion seemed to bear little relation to participants' finances. Even subjects' incomes were related only to their assets – and not to debt, or asset-to-debt ratio.

The results suggest that relatively simple kinds of emotionally charged

learning can have a powerful cumulative effect over a lifetime of financial decisions.

The researchers are cautious to conclude too much from the experiment – the sampled population was small and Bay Area-based. To expand the population size, the group has now begun a national, web-based version of the experiment. Nevertheless, the results are promising.

"It gives me hope," said Knutson. "It suggests that people could learn to improve at these sorts of decisions."

More information: Paper online: www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0024390

Provided by Stanford University

Citation: Stanford researchers predict long-term personal finances in the lab (2011, September 20) retrieved 24 April 2024 from https://phys.org/news/2011-09-stanford-long-term-personal-lab.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.