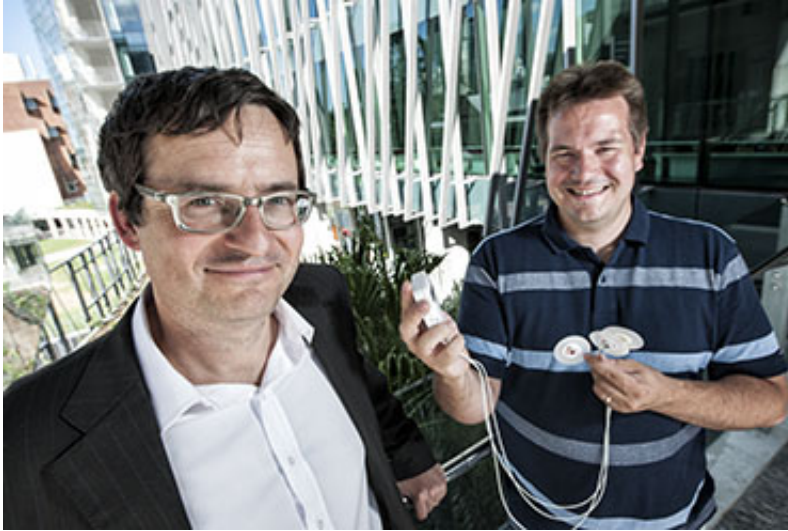


# Don't bet on stinginess to keep stress low

October 28 2014, by Rob Kidd

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Professor Uwe Dulleck and Dr Markus Schaffner with the heart monitors worn by participants during the experiment.

Is generosity less stressful than being stingy? QUT research, published in scientific journal *PLOS ONE*, examined the physiological reactions of participants in a financial bargaining game and found that not only those receiving relatively low offers experienced stress but also those that make low offers, when compared to people who made more generous offers.

Participants were asked to play the Ultimatum Bargaining Game, in which players decide how to divide a sum of money given to them. Player one (the proposer) proposes how to divide the money and player

two (the responder) must accept or reject the offer. If player two rejects it, neither player receives any money.

Author Professor Uwe Dulleck, from QUT's Queensland Behavioural Economics Group (QuBE), said the study analysed the emotional reactions of participants in ultimatum situations.

"We wanted to understand the [physiological reactions](#) people have in these situations so responders and proposers wore [heart rate monitors](#) to track Heart Rate Variability (HRV) - the variation in the time interval between heart beats," Professor Dulleck said.

"We found low offers, typically below 40 per cent of the total, increased HRV activity and stress levels in both the proposer and responder."

Co-author Dr Markus Schaffner, Manager of the QuBE Laboratory for Economic Experiments at QUT, said "guilt" felt by the proposer about to make a low offer was one possible explanation for the increase in stress.

"This can be seen as evidence that we empathise with people and put ourselves in their shoes in these sorts of situations," he said.

"The results indicate we have negative feelings when we treat someone unfairly, for example by offering below 40 per cent of the total in the game. There is an emotional and physiological cost and we feel uncomfortable.

"The responder also feels stressed with low offers - first, because they have suffered from unfairness, and second, because they have an opportunity to punish the proposer by rejecting the offer and leaving them both without any money.

"Our preference is to be fair and it is likely proposers experience

pleasure when making fair offers."

The QuBE group was one of the first to use HRV in [economic experiments](#) to measure mental stress in economic decision making, Professor Dulleck said.

"The question which remains without a clear answer is: do emotions dictate behaviour or does behaviour induce emotional response?" he said.

"Our results can give no definite answer to this question, but do clearly indicate a link between emotional state and the decision."

**More information:** Dulleck U, Schaffner M, Torgler B (2014)" Heartbeat and Economic Decisions: Observing Mental Stress among Proposers and Responders in the Ultimatum Bargaining Game." *PLoS ONE* 9(9): e108218. [DOI: 10.1371/journal.pone.0108218](https://doi.org/10.1371/journal.pone.0108218)

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