

Decisions under pressure: it's all in the heartbeat

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A person's heart rate can reveal a lot about how they make decisions when feeling stressed, a Queensland University of Technology academic says.

Economics Associate Professor Uwe Dulleck, from the QUT Business Faculty, said stress in the workplace wasn't necessarily a bad thing, because it was, in fact, a natural reaction that had been given a negative connotation.

Professor Dulleck is leading the Australian arm of a study that was awarded an Australian Research Council grant to study the effects of both positive and negative stress on employees' decision-making.

"The study will use heart rate monitors to measure the stress of people 'on the job' and in the controlled environment of an experimental economics computer laboratory as they interact and communicate," Professor Dulleck said.

"We will measure how much they are stressed in certain situations and whether that is positive or negative stress, this will be measured against how they behaved and what decisions they made - whether they made rational or emotional decisions."

Professor Dulleck said negative stress could be detected by measuring a person's heart beat and its variations over short intervals of time.

"If the heart rate varies, it shows that the body is relaxed with an activity and is feeling positive stress," he said. "In this case the body is more flexible to react to the demands of the situation".

"But if the variations are very limited it shows that the body is not at ease with this activity. This kind of stress hardens the body and makes it operate in a more regular way. In such situations, the body works more like a motor engine – highly efficient in some respects but also more likely to break if unexpected challenges arise.

"We are trying to find what effect this has on decision-making."

Professor Dulleck said study participants would be monitored as they played two games: a game of chance to see what kind of decisions they made when uncertain; and a negotiation game, both before and after socialising with their "opponent", to see what affect communication had on cooperation.

"We will also look at whether they took high or low risks in the game of chance, to learn about attitudes towards risk and whether an individual's worry is over losing money, or the risk of chance itself," he said.

Professor Dulleck said knowing what caused positive and negative stress in individuals and what effect this had on decision making would help businesses improve work for their staff and managers.

"Knowing how stress affects people's behaviour will help in designing training programs for employees as well as achieving a better work-life balance and avoiding burn-out syndromes," he said.

Source: Queensland University of Technology

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