

Neurofinance study confirms that financial decisions are made on an emotional basis

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Credit: Rice University

(Medical Xpress)—The willingness of decision makers to take risks increases when they play games of chance with money won earlier.

Risk taking also rises when they have the opportunity to compensate for earlier losses by breaking even. This outcome was demonstrated by Dr. Kaisa Hytönen, a Finnish Aalto University researcher in neurofinance, together with her international colleagues.

There are frequently various linkages between financial decisions: the circumstances accompanying the decision are rarely completely independent of each other. Both profits and losses, for example, on the securities market, in horse races and in various games, typically increase the amount of risk people are willing to take.

'A [brain](#) scan shows that increased risk taking is connected with the emotional reaction caused by winning and losing, and in addition to that, reflection decreases. The stronger the emotion areas of the brain react to experiences of profit and loss, the more people subsequently accept risk,' Dr. Hytönen explains.

The reasons behind financial decision making are determined in neurofinance science by means of operational magnetic resonance imaging. In the test, the brain activity of the subjects was entered as they made consecutive choices subject to risk.

The research data concerning behaviour confirms that the choices people make are influenced by previous experiences and are therefore pathway-bound. The operational magnetic images indicate that the desire to engage in greater risk taking, after profit and loss, is connected with the increasing activity in the processes affecting brain mood, together with the reduction in activity related to processes influencing deliberation and reflection in the brain.

The article in the *Journal of Economic Behavior & Organization*:

More information: Kaisa Hytönen, Guido Baltussen, Martijn J. van den Assem, Vasily Klucharev, Alan G. Sanfey, Ale Smidts, "Path dependence in risky choice: Affective and deliberative processes in brain and behavior," *Journal of Economic Behavior & Organization*, Available online 4 February 2014, ISSN 0167-2681, [dx.doi.org/10.1016/j.jebo.2014.01.016](https://doi.org/10.1016/j.jebo.2014.01.016).

Provided by Aalto University

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