

Neuroeconomics to study decision-making in anxious individuals

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Anxiety disorders affect approximately 40 million American adults each year, and although they are treatable, they often cause significant distress.

The excessive fear and dread that accompanies [anxiety disorders](#) clearly influences the everyday decision-making processes of anxious individuals. Despite its importance, "there is surprisingly little research on how anxiety disorders influence decisions," commented neuroscientist Dr. Elizabeth Phelps, who co-authored this new review with Dr. Catherine Hartley, both of New York University.

Their review highlights that science is "starting to gain some traction by combining emerging decision science with the study of anxiety. The overlap in the neural systems underlying anxiety and decision-making provides some insight into how fear and anxiety alters choices," explained Dr. Phelps.

Dr. Hartley added, "Historically, research has focused on the influence of anxiety on how we attend to and interpret events. These same processes should shape how anxious individuals make decisions."

Their review explores the role of anxiety in decision-making using a neuroeconomic approach. Neuroeconomics is an interdisciplinary field that combines tools from the fields of economics, neuroscience, and psychology to study the brain's decision-making processes.

The authors discuss the overlap between the neural systems mediating fear and anxiety and those implicated in studies of [economic decision](#)-making. Neuroeconomics research has revealed that circuits involving the amygdala, insular cortex, and prefrontal cortex are involved in tasks with uncertainty or loss. The amygdala is a key brain region that helps regulate fear and anxiety, while the [prefrontal cortex](#) is critically involved in the control of fear.

The authors also review a set of decision-making biases exhibited by anxious individuals and propose that the [neural circuitry](#) supporting fear learning and regulation may mediate anxiety's influence upon their choices.

"Hartley and Phelps provide an elegant example of how reward-related decision making may be affected by other neural circuitries, in this case the emotional processing system," commented neuroeconomics experts Drs. Carla Sharp and P. Read Montague. "This is without a doubt part of the future of the application of [neuroeconomics](#) to psychiatric disorder, as no example of psychiatric disorder can be reduced simply to reward-related decision making."

More information: The article is "Anxiety and Decision-Making" by Catherine A. Hartley and Elizabeth A. Phelps ([doi: 10.1016/j.biopsych.2011.12.027](https://doi.org/10.1016/j.biopsych.2011.12.027)). The article appears in *Biological Psychiatry*, Volume 72, Issue 2 (July 15, 2012)

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