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Study Finds That Our Decision-Making Skills In Stressful Situations Influenced By Cortisol

December 10, 2012

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A group of scientists from the University of Granada's Group of Neuropsychology and Clinical Psychoneuroimmunology has discovered a connection between levels of the hormone cortisol in a person's saliva and their ability to make good decisions in high-stress situations, highlighting yet another link between mind and body.

The researchers' study, titled "Can decision-making skills affect responses to psychological stress in healthy women?" was recently published in the academic journal *Psychoneuroendocrinology*.

Cortisol – known to medical professionals as hydrocortisone or simply 'the stress hormone' – is a steroid hormone that is produced in our adrenal glands in response to stress. Cortisol is released in the last step of a cascade of hormones that begins when the brain's hypothalamus triggers a chain-reaction in response to psychological or social stress. The hormone directly affects a number of body systems and functions, including the regulation of blood sugar levels, the build-up of muscle and bone, the suppression and activation of the immune system, and the metabolism of fats, carbohydrates and proteins.

To determine whether 'psychosocial stress' affects a person's decision-making abilities, the researchers exposed a group of 40 female participants to stressful situations using a hi-tech virtual reality system. The participants were asked to perform the so-called Iowa Gambling Task, a psychological card game that is commonly used to study human decision making.

After the Iowa Gambling Task, the subjects were then asked to participate in a stressful situation that involved giving a speech in front of a virtual audience. The scientists were able to evaluate the women's response to stress by examining the activation of the hypothalamic-pituitary-adrenal axis, and measuring the cortisol levels in their saliva at different points during the virtual task.

The results of their study indicated that the participants who had poor decision-making skills also tended to have lower baseline levels of cortisol in their saliva compared to the women who were able to successfully navigate the stressful situations.

The authors of the study, Professors Isabel Peralta and Ana Santos, say that this study offers preliminary evidence that there is a link between a person's decision-making abilities in a stressful situation and low levels of cortisol. This also means that the effects of psychological stress on the health of people with lower cortisol levels might actually be milder.



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This study comes amidst a flurry of studies in recent years showing how stress can influence our ability to make decisions.

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