Stressful situations show the head and the heart don't always agree

Posted on Thursday 27th March 2014

The head and the heart of people who suffer from high levels of anxiety react to stressful situations differently, researchers at the University of Birmingham have found.

The research, which was presented at the annual meeting of the American Psychosomatic Society, showed that the way people with high levels of anxiety feel that they are responding to a task and the way their body actually responds to the task are not related to each other.

Researchers from the School of Sport, Exercise and Rehabilitation Sciences, measured general everyday anxiety levels in 180 adolescents and then recorded their heart rate while they were resting and during a psychological stress task, such as a maths test under time pressure with social evaluation, in the laboratory. They used the difference between heart rate during the stress task compared to rest to determine their actual biological responses.

They found that people with higher anxiety in everyday life reported higher somatic symptoms (eg, feeling that their heart is racing) immediately before and during the stress task. However, there were no associations between people's actual biological responses to stress and somatic symptoms during stress. There were also no associations between people's biological responses and general anxiety.

Additionally, people with higher general anxiety felt less in control, thought that they had performed worse, and found the task more stressful. There were no associations between people's anxiety levels and actual performance on the task or self-report task engagement.

Dr Annie Ginty (http://www.birmingham.ac.uk/staff/profiles/sportex/ginty-annie.aspx), who led the research, said: "Understanding these disassociations is important in treating conditions such as general anxiety disorder and post-traumatic stress disorder."

Notes to editors

The paper The relationship between trait anxiety and subjective somatic and actual biological responses to acute psychological stress was presented at the Annual Meeting of the American Psychosomatic Society.

Dr Annie Ginty is available for interview. Contact **Kara Bradley (mailto:k.j.bradley@bham.ac.uk)** in the University press office on +44 (0)121 414 5134 to arrange.

© University of Birmingham 2015