PRESS RELEASE

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Contact: Donna Santaromita
Elsevier
212-633-3962
d.santaromita@elsevier.com

The Body Knows What the Mind Does Not:
Panic Attacks Can Be Predicted By Silent Physiologic Instability

After many centuries, science has developed the ability to predict high-risk areas for earthquakes due to the seismographic evidence of instability in the earth's crust. One might consider a panic attack - a sudden, unexpected episode of intense fear - to be the emotional equivalent of an earthquake. A new study in *Biological Psychiatry* now reports that careful measurements of physiologic activity may predict these emotional "eruptions".

Researchers repeatedly monitored individuals with panic disorder around-the-clock while they wore portable recorders during their normal daily routine. The recorders automatically captured changes in respiration, heart rate and other bodily functions during unexpected or "out of the blue" panic attacks. Patients were instructed to press a "panic button" if they experienced an attack and to write down their symptoms.

First author Dr. Alicia Meuret detailed their expectations: "Since unexpected panic attacks seem to come on without warning, but are accompanied with intense physical sensations, we expected to see physiological changes take place during and following the onset of the attacks."

Interestingly, however, the scientists detected repeated bouts of cardio-respiratory instability as early as 47 minutes before panic onset. The final minutes preceding the attack were dominated by respiratory changes, and patients also experienced fluctuations in cardiac activity and breathing. Nevertheless, patients reported most of the attacks as unexpected, seemingly lacking awareness of either the coming attack or their changing physiology.

"This study elegantly demonstrates that spontaneous panic attacks do not emerge out of the blue. Instead, they emerge from unstable states of autonomic arousal that occur outside of the consciousness of people and that reflect and contribute to the expression of these panic attacks," commented Dr. John Krystal, Editor of *Biological Psychiatry*. "One wonders whether panic attacks can be prevented if this type of instability is targeted with treatment."

The authors agree that targeting such attacks is an important goal. If further research can decipher the contributing factors and the pattern of occurrence, scientists may be able to eventually develop predictors, which could lead to the elimination of such panic attacks.

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Notes to Editors:
The article is “Do Unexpected Panic Attacks Occur Spontaneously?” by Alicia E. Meuret, David Rosenfield, Frank H. Wilhelm, Enlu Zhou, Ansgar Conrad, Thomas Ritz, Walton T. Roth. Meuret, Rosenfield, and Ritz are affiliated with Southern Methodist University, Dallas, Texas. Wilhelm is from the University of Salzburg, Salzburg, Austria. Zhou is with the University of Illinois at Urbana-Champaign, Champaign, Illinois. Conrad, Ritz, and Roth are with Stanford University, Stanford, California. The article appears in *Biological Psychiatry*, Volume 70, Number 10 (November 15, 2011), published by Elsevier.

The authors’ disclosures of financial and conflicts of interests are available in the article.

John H. Krystal, M.D., is Chairman of the Department of Psychiatry at the Yale University School of Medicine and a research psychiatrist at the VA Connecticut Healthcare System. His disclosures of financial and conflicts of interests are available here.

Full text of the article mentioned above is available upon request. Contact Donna Santaromita at d.santaromita@elsevier.com to obtain a copy or to schedule an interview.

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The journal publishes novel results of original research which represent an important new lead or significant impact on the field, particularly those addressing genetic and environmental risk factors, neural circuitry and neurochemistry, and important new therapeutic approaches. Reviews and commentaries that focus on topics of current research and interest are also encouraged.

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