Why Do We Panic?

A better understanding of the path from stress to anxiety to full-blown panic disorder offers soothing news for sufferers

BY HAL ARKOWITZ AND SCOTT O. LILIENFELD

"I WAS DRIVING home after work," David reported. "Things had been very stressful there lately. I was tense but looking forward to getting home and relaxing. And then, all of a sudden—boom! My heart started racing, and I felt like I couldn't breathe. I was sweating and shaking. My thoughts were racing, and I was afraid that I was going crazy or having a heart attack. I pulled over and called my wife to take me to the emergency room."

David's fears turned out to be unjustified. An emergency room doctor told David, a composite of several therapy patients seen by one of us (Arkowitz), that he was suffering from a panic attack.

The current edition of the *Diagnostic and Statistical Manual* (*DSM*) defines a panic attack as an abrupt and discrete experience of intense fear or acute discomfort, accompanied by symptoms such as heart palpitations, shortness of breath, sweating, trembling, and worries about going crazy, losing control or dying. Most attacks occur without obvious provocation, making them even more terrifying. Some 8 to 10 percent of the population experiences an occasional attack, but only 5 percent develops panic disorder. Contrary to common misconception, these episodes aren't merely rushes of anxiety that most of us experience from time to time. Instead patients who have had a panic attack typically describe it as the most frightening event they have ever undergone.

Research has provided important leads to explain what causes a person's first panic attack—clues that can help ward off an attack in the first place. When stress builds up to a critical level, a very small additional amount of stress can trigger panic. As a result, the person may experience the event as coming out of the blue.

Some people may have a genetic predisposition toward panic, as psychologist Regina A. Shih, then at Johns Hopkins University, and her colleagues described in a review article. The disorder runs in families, and if one identical twin has panic disorder, the chance that the other one also has it is two to three times higher than for fraternal twins, who are genetically less similar. Although these findings do not rule out environmental

COURTESY OF HAL ARKOWITZ (*top*); COURTESY OF SCOTT O. LILIENFELD (*bottom*); MARCOS WELSH *age fotostock* (*man on phone*)

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factors, they do strongly suggest a genetic component.

Panic disorder imposes serious restrictions on patients' quality of life. They may be plagued by a persistent concern about the possibility of more attacks and may avoid situations associated with them. To receive a diagnosis of panic disorder, patients must also worry that they might have another attack where it would be embarrassing (say, in a public setting such as a classroom), difficult to escape (such as when one is stuck in traffic), or difficult to find help (for example, in an area with no medical facilities nearby). Panic disorder accompanied by extensive avoidance of these situations results in a diagnosis of panic disorder with agoraphobia; in extreme cases, sufferers may even become housebound.

From Normal Anxiety to Crippling Fear

What are the roots of such incapacitating attacks? Psychologist David H. Barlow of Boston University, who has conducted pioneering research on understanding and treating panic disorder and related disorders, and others believe that panic attacks result when our normal "fight or flight" response to imminent threats—including increased heart rate and rapid breathing—is triggered by "false alarms," situations in which real danger is absent. (In contrast, the same response in the face of a real danger is a "true alarm.")

When we experience true or false alarms, we tend to associate the biological and psychological reactions they elicit with cues that were present at the time. These associations become "learned alarms" that can evoke further panic attacks.

Both external situations and internal bodily cues of arousal (such as increased breathing rate) can elicit a learned alarm. For example, some people experience panic attacks when they exercise because the physiological arousal leads to bodily sensations similar to those of a panic attack.

Why do some people experience only isolated attacks, whereas others develop full-blown panic disorder? Barlow has synthesized his research and that of others to develop an integrated theory of anxiety disorders, which states that certain predispositions are necessary to develop panic disorder:

- *A generalized biological vulnerability* toward anxiety, leading us to overreact to the events of daily life.
- *A generalized psychological vulnerability* to develop anxiety caused by early childhood learning (such as overprotection from our parents) that the world is a dangerous place and that stress is overwhelming and cannot be controlled.
- *A specific psychological vulnerability* in which we learn in childhood that some situations or objects are dangerous even if they are not.

Panic disorder develops when a person with these vulnerabilities experiences prolonged stress and a panic attack. The first attack activates the psychological vulnerabilities, creating a hypersensitivity to external and internal cues associated with the attack. As a result, even medication containing a mild stimulant can provoke an attack.

Still, there is good news. Two findings in particular can provide reassurance for those with panic disorder. The first is that all panic attacks are triggered by known events, even though the sufferer may be unaware of them. This knowledge can reduce the anxiety associated with the sense of unpredictability. Second, it can be reassuring to learn that a panic attack is a misfiring of the fight-or-flight response in the absence of danger.

Basic research not only has helped us understand panic disorder but also has led to effective treatments. In particular, Barlow and his associates developed panic-control treatment, described in their 2006 book *Mastery of Your Anxiety and Panic*. It involves education about panic disorder and somewhat gradual exposure to the internal and external cues that trigger panic attacks, along with changing the catastrophic interpretations of bodily cues so that they no longer trigger the attacks. This treatment has in most instances surpassed drug therapies for the disorder over the long term. M

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Send suggestions for column topics to editors@SciAmMind.com

(Further Reading)

- **Anxiety and Its Disorders.** Second edition. David H. Barlow. Guilford Press, 2002.
- **A Review of the Evidence from Family, Twin and Adoption Studies for a Genetic Contribution to Adult Psychiatric Disorders.** R. A. Shih, P. L. Belmonte and P. P. Zandi in *International Review of Psychiatry,* Vol. 16, No. 4, pages 260–283; 2004.
- **Mastery of Your Anxiety and Panic: Workbook (Treatments That Work).** Fourth edition. David H. Barlow and Michelle G. Craske. Oxford University Press, 2006.
- **Panic Disorder and Agoraphobia.** Michelle G. Craske and David H. Barlow in *Clinical Handbook of Psychological Disorders: A Step-by-Step Treatment Manual.* Fourth edition. Edited by D. H. Barlow. Guilford Press, 2008.
- For a referral to a therapist in your area who uses panic-control treatment or similar treatments, contact the Center for Anxiety and Related Disorders at **www.bu.edu/card** or the Association for Behavioral and Cognitive Therapies at **www.aabt.org**