

# Gene May Help Explain Stress Disorder

**(AP) -- Groundbreaking research suggests genes help explain why some people can recover from a traumatic event while others suffer post-traumatic stress disorder.**

Though preliminary, the study provides insight into a condition expected to strike increasing numbers of military veterans returning from combat in Iraq and Afghanistan, one health expert said.

Researchers found that specific variations in a stress-related gene appeared to be influenced by trauma at a young age - in this case child abuse. That interaction strongly increased the chances for adult survivors of abuse to develop signs of PTSD.

Among adult survivors of severe child abuse, those with the specific gene variations scored more than twice as high (31) on a scale of post-traumatic stress, compared with those without the variations (13).

The worse the abuse, the stronger the risk in people with those gene variations.

The study of 900 adults is among the first to show that genes can be influenced by outside, nongenetic factors to trigger signs of PTSD. It is the largest of just two reports to show molecular evidence of a genetic influence on PTSD.

"We have known for over a decade, from twin studies, that genetic factors play a role in vulnerability to developing PTSD, but have had little success in identifying specific genetic variants that increase risk of the disorder," said Karestan Koenen, a Harvard psychologist doing similar research. She was not involved in the new study.

The results suggest that there are critical periods in childhood when the brain is vulnerable "to outside influences that can shape the developing stress-response system," said Emory University researcher and study co-author Dr. Kerry Ressler.

The study appears in Wednesday's *Journal of the American Medical Association*. Several study authors, including Ressler, reported having financial ties to makers of psychiatric drugs.

Ressler noted that there are probably many other gene variants that contribute to risks for PTSD, and others may be more strongly linked to the disorder than the ones the researchers focused on.

Still, he and outside experts said the study is important and that similar advances could lead to tests that will help identify who's most at risk. Treatments including psychotherapy and psychiatric drugs could be targeted to those people, Ressler said.

About a quarter of a million Americans will develop PTSD at some point in their lives after being victimized or witnessing violence or other traumatic events. Rates are much higher in war veterans and people living in high-crime areas.

Symptoms can develop long after the event and usually include recurrent terrifying recollections of the trauma. Sufferers often have debilitating anxiety, irritability, insomnia and other signs of stress.

Dr. Thomas Insel, director of the National Institute of Mental Health, said the study is particularly valuable for the light it sheds on military veterans, who are known to be vulnerable to PTSD.

He said the results help explain differences in how two people see the same roadside bomb blast. One simply experiences it as "a bad day but goes back and is able to function." The other later develops paralyzing stress symptoms.

"This could be quite a wave that will hit us over the months and years ahead," Insel said. His agency paid for the study.

Study participants were mostly low-income black adults, aged 40 on average, who sought non-psychiatric health care at a public hospital in Atlanta. They were asked about experiences in childhood and as adults and gave saliva samples that underwent genetic testing.

Almost 30 percent of participants reported having been sexually or physically abused as children. Most also had experienced trauma as adults, including rape, attacks with weapons and other violence.

Researchers focused on symptoms of PTSD rather than an actual diagnosis, and found that about 25 percent had stress symptoms severe enough to meet criteria for the disorder, Ressler said.

Childhood abuse and adult trauma each increased risks for PTSD symptoms in adulthood. But the most severe symptoms occurred in the 30 percent of child abuse survivors who had variations in the stress gene.

Researchers were not able to determine if the symptoms were reactions to the child abuse or to the more recent trauma - or both, said co-author Rebekah Bradley, also of Emory University.

The study is an important contribution to a growing body of research showing how severe abuse early in life can have profound, lasting effects, said Duke University psychiatry expert John Fairbank, co-director of the National Center for Child Traumatic Stress. He was not involved in the research.

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On the Net:

JAMA: <http://jama.ama-assn.org>

PTSD: <http://www.nimh.nih.gov/health/topics/post-traumatic-stress-disorder-ptsd>

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