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## War Trauma May Cause Cognitive Problems

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Reviewed by John M. Grohol, Psy.D. on September 10, 2009

A new report suggests brain changes can linger for up to a year after an individual returns from deployment in a war zone.

In the current investigation, investigators discovered soldiers returning from Iraq with a diagnosis of [post-traumatic stress](#) disorder also had attention disorders. Furthermore, intense combat experiences were associated with faster reaction times regardless of how recently a soldier was deployed.

The findings support previous research that suggested as soldiers face prolonged stressful and life-threatening situations, changes in their brains direct their cognitive (thinking, learning and memory) resources toward survival.

For instance, they may respond to dangerous events more quickly while losing the ability to pay attention, learn and remember events not related to combat.

"However, it remains unknown whether deployment-related neuropsychological changes persist over time, are associated with stress-related factors (e.g., combat intensity, post-traumatic stress disorder [PTSD] symptoms and [depressive](#) reactions) or are better accounted for by demographic and contextual variables," the authors write.

In the report, found in the September issue of *Archives of General Psychiatry*, Brian P. Marx, Ph.D., of Veterans Affairs Boston Healthcare System and Boston University School of Medicine, and colleagues studied 268 male and female regular active-duty soldiers who served between 2003 and 2006.

All the soldiers were given neuropsychological tests measuring response time, attention and memory before and after deployment. A group of 164 was assessed both immediately and one year following their return, whereas a second group of 104 returned more recently and were assessed before deployment and then a median (midpoint) of 122 days after returning.

The assessments also documented demographic and military information, risk factors for neuropsychological disorders and combat intensity and emotional distress.

"Greater [PTSD](#) symptoms were associated with poorer attention in soldiers tested at one-year follow-up but not in recently returned soldiers," the authors write. "Greater combat intensity was associated with enhanced reaction time, irrespective of time since return."

Neither [depression](#) nor risk-related variables such as alcohol use and head injury were associated with changes in neuropsychological functioning.

"Recent findings reveal notably high rates of poor mental health outcomes among U.S. service members upon return from Iraq deployment," the authors write.

"Our findings additionally highlight the neuropsychological consequences of chronic PTSD symptoms. Although neuropsychological changes were not profound and, for reaction time, can be construed as desirable in the short term, their significance lies in the demonstration that psychiatric symptoms often reflect more extensive biological changes, including those affecting brain functioning."

"A growing literature demonstrates the significant impact of prolonged and repetitive stress on health factors (e.g., immune functioning, cardiovascular disease and other systemic medical illnesses) that can be traced to the biological stress response. Thus, subtle cognitive changes (positive or negative) associated with combat exposure or PTSD may represent a warning sign relevant to long-term health."

Source: [JAMA and Archives Journals](#)

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