

Neural consequences of combat exposure

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The experience of stressful life events increases the risk for psychiatric disorders in vulnerable individuals. However, little is known about the underlying neural mechanisms. Animal studies indicate that prolonged stress exposure has lasting influences on neural functioning. To investigate the neural consequence of severe stress exposure in humans, we assessed affective and cognitive processing using functional MRI in soldiers before, 1.5 months after, and 1.5 years after deployment to Afghanistan. The results show reversible as well as persistent effects of combat exposure on brain functioning. In addition, particular stress-induced changes were related to individual differences in combat exposure and perceived threat during deployment. Because the soldiers did not develop stress symptoms, these results indicate that some stress-induced changes may be adaptive for survival in dangerous environments. The implications for stress-related mental disorders will be discussed.