# Chapter 14 Remodeling of Neural Networks by Stress

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# Abstract

Challenging events in an individual's environment initiate a cascade of adaptive physiological and psychological processes that constitute the stress response. Reactions to stress are mediated through a concerted activity of many brain areas and peripheral endocrine organs. There is experimental evidence that various forms of stress, especially when severe or repeated, can induce diverse structural and neurochemical/neurophysiological changes in neuronal and glial networks. These findings demonstrate that even the adult and differentiated brain is a plastic organ. Many of these stress-induced structural and functional changes in the brain are thought to contribute to the development of various types of neuropsychiatric disorders, but animal experiments provide evidence that in fact many of these alterations are reversible given sufficient recovery periods.