

Social influences on neuroplasticity: stress and interventions to promote well-being.

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Experiential factors shape the neural circuits underlying social and emotional behavior from the prenatal period to the end of life. These factors include both incidental influences, such as early adversity, and intentional influences that can be produced in humans through specific interventions designed to promote prosocial behavior and well-being. Here we review important extant evidence in animal models and humans. Although the precise mechanisms of plasticity are still not fully understood, moderate to severe stress appears to increase the growth of several sectors of the amygdala, whereas the effects in the hippocampus and prefrontal cortex tend to be opposite. Structural and functional changes in the brain have been observed with cognitive therapy and certain forms of meditation and lead to the suggestion that well-being and other prosocial characteristics might be enhanced through training.

Nat Neurosci. 2012 Apr 15;15(5):689-95. doi: 10.1038/nn.3093. Davidson RJ, McEwen BS. Waisman Laboratory for Brain Imaging and Behavior and Center for Investigating Healthy Minds, University of Wisconsin-Madison, Madison, Wisconsin, USA. rjdavids@wisc.edu

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