



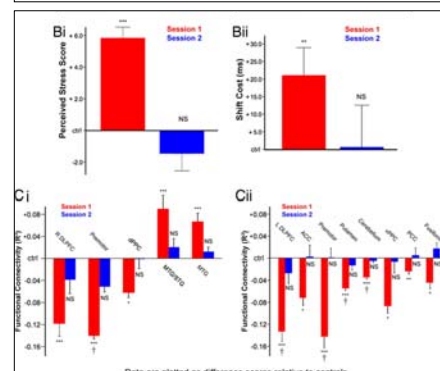
Psychosocial stress reversibly disrupts prefrontal processing and attentional control

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Abstract

Twenty healthy adults, exposed to 1 month of psychosocial stress, confirmed by a validated rating scale, were scanned while performing a PFC-dependent attention-shifting task. One month later, they returned for a second scanning session after a period of reduced stress, and their performance was compared with a twice-scanned, matched group of low-stress controls. Psychosocial stress selectively impaired attentional control and disrupted functional connectivity within a frontoparietal network that mediates attention shifts. These effects were reversible: after one month of reduced stress, the same subjects showed no significant differences from controls. These results highlight the plasticity of PFC networks in healthy human subjects and suggest one mechanism by which disrupted plasticity may contribute to cognitive impairments characteristic of stress-related neuropsychiatric conditions in susceptible individuals.

In healthy subjects, [chronic stress] disrupts creativity, flexible problem solving, working memory, and other PFC-dependent processes



Chronic stress is a well-known risk factor for several major neuropsychiatric conditions that affect the prefrontal cortex (PFC), including depression, bipolar disorder, schizophrenia, and anxiety disorders (1–7). In healthy subjects, it disrupts creativity, flexible problem solving, working memory, and other PFC-dependent processes (8–10).

For the full article, click-on <http://www.pnas.org/content/106/3/912.full>