# Chapter 5 Central Role of the Brain in Stress and Adaptation

# Allostasis, Biological Embedding, and Cumulative Change

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# References

1.[McEwen BS. Protective and damaging effects of stress mediators.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink1rf0010) *[N Engl J Med](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink1rf0010)*[. 1998;338:171–179.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink1rf0010)

2.[McEwen BS, Wingfield JC. The concept of allostasis in biology and biomedicine.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink2rf0015) *[Horm Behav](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink2rf0015)*[. 2003;43:2–15.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink2rf0015)

3.[Dhabhar F, McEwen B. Enhancing versus suppressive effects of stress hormones on skin immune function.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink3rf0020) *[Proc Natl Acad Sci U S A](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink3rf0020)*[. 1999;96:1059–1064.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink3rf0020)

4.[Yudt MR, Cidlowski JA. The glucocorticoid receptor: coding a diversity of proteins and responses through a single gene.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink4rf0025) *[Mol Endocrinol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink4rf0025)*[. 2002;16:1719–1726.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink4rf0025)

5.[Mrosovsky N.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink5rf0030) *[Rheostasis: The Physiology of Change.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink5rf0030)* [New York, NY: Oxford University Press; 1990.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink5rf0030)

6.[Selye H. A syndrome produced by diverse nocuous agents.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink6rf0035) *[Nature](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink6rf0035)*[. 1936;138:32.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink6rf0035)

7.[Selye H, ed.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink7rf0040) *[The Stress of Life](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink7rf0040)*[. New York, NY: McGraw Hill; 1956.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink7rf0040)

8.[Mason J. Psychological influences on the pituitary-adrenal cortical system. In: Pincus G, ed.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink8rf0045) *[Recent Progress in Hormone Research](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink8rf0045)*[. New York, NY: Academic Press; 1959:345–389.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink8rf0045)

9.[Koolhaas JM, Bartolomucci A, Buwalda B, et al. Stress revisited: a critical evaluation of the stress concept.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink9rf0050) *[Neurosci Biobehav Rev](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink9rf0050)*[. 2011;35:1291–1301.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink9rf0050)

10.[Mehler MF. Epigenetic principles and mechanisms underlying nervous system functions in health and disease.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink10rf0055) *[Prog Neurobiol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink10rf0055)*[. 2008;86:305–341.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink10rf0055)

11.[Sterling P, Eyer J. Allostasis: a new paradigm to explain arousal pathology. In: Fisher S, Reason J, eds.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink11rf0060) *[Handbook of Life Stress, Cognition and Health](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink11rf0060)*[. New York, NY: John Wiley & Sons; 1988:629–649.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink11rf0060)

12.[McEwen BS. Protective and damaging effects of stress mediators: central role of the brain.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink12rf0065) *[Dialogues Clin Neurosci.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink12rf0065)* [2006;8:367–381.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink12rf0065)

13.[Koob GF, Le Moal M. Drug abuse: hedonic homeostatic dysregulation.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink13rf0070) *[Science](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink13rf0070)*[. 1997;278:52–58.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink13rf0070)

14.[McEwen BS. Physiology and neurobiology of stress and adaptation: central role of the brain.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink14rf0075) *[Physiol Rev](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink14rf0075)*[. 2007;87:873–904.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink14rf0075)

15.[Schulkin J, McEwen BS, Gold PW. Allostasis, amygdala, and anticipatory angst.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink15rf0080) *[Neurosci Biobehav Rev](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink15rf0080)*[. 1994;18:385–396.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink15rf0080)

16.[McEwen BS, Weiss J, Schwartz L. Selective retention of corticosterone by limbic structures in rat brain.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink16rf0085) *[Nature](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink16rf0085)*[. 1968;220:911–912.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink16rf0085)

17.[Reul JM, DeKloet ER. Two receptor systems for corticosterone in rat brain: microdistribution and differential occupation.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink17rf0090) *[Endocrinology](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink17rf0090)*[. 1985;117:2505–2511.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink17rf0090)

18.[Joels M. Corticosteroid effects in the brain: U-shape it.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink18rf0095) *[Trends Pharmacol Sci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink18rf0095)*[. 2006;27:244–250.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink18rf0095)

19.[Margineanu D-G, Gower AJ, Gobert J, Wulfert E. Long-term adrenalectomy reduces hippocampal granule cell excitability in vivo.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink19rf0100) *[Brain Res Bull](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink19rf0100)*[. 1994;33:93–98.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink19rf0100)

20.[Diamond DM, Bennett MC, Fleshner M, Rose GM. Inverted-U relationship between the level of peripheral corticosterone and the magnitude of hippocampal primed burst potentiation.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink20rf0105) *[Hippocampus](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink20rf0105)*[. 1992;2:421–430.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink20rf0105)

21.[Pavlides C, Kimura A, Magarinos AM, McEwen BS. Type I adrenal steroid receptors prolong hippocampal long- term potentiation.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink21rf0110) *[NeuroReport](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink21rf0110)*[. 1994;5:2673–2677.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink21rf0110)

22.[Pavlides C, Kimura A, Magarinos AM, McEwen BS. Hippocampal homosynaptic long-term depression/depotentiation induced by adrenal steroids.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink22rf0115) *[Neuroscience](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink22rf0115)*[. 1995;68:379–385.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink22rf0115)

23.[Pavlides C, Watanabe Y, Magarinos AM, McEwen BS. Opposing role of adrenal steroid Type I and Type II receptors in hippocampal long-term potentiation.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink23rf0120) *[Neuroscience](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink23rf0120)*[. 1995;68:387–394.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink23rf0120)

24.[Pugh CR, Tremblay D, Fleshner M, Rudy JW. A selective role for corticosterone in contextual-fear conditioning.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink24rf0125) *[Behav Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink24rf0125)*[. 1997;111:503–511.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink24rf0125)

25.[Okuda S, Roozendaal B, McGaugh JL. Glucocorticoid effects on object recognition memory require training-associated emotional arousal.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink25rf0130) *[Proc Natl Acad Sci U S A](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink25rf0130)*[. 2004;101:853–858.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink25rf0130)

26.[McEwen BS, Gianaros PJ. Stress- and allostasis-induced brain plasticity.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink26rf0135) *[Annu Rev Med](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink26rf0135)*[. 2011;62:431–445.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink26rf0135)

27.[McEwen BS. Stress and hippocampal plasticity.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink27rf0140) *[Annu Rev Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink27rf0140)*[. 1999;22:105–122.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink27rf0140)

28.[Sousa N, Lukoyanov NV, Madeira MD, Almeida OFX, Paula-Barbosa MM. Reorganization of the morphology of hippocampal neurites and synapses after stress-induced damage correlates with behavioral improvement.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink28rf0145) *[Neuroscience](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink28rf0145)*[. 2000;97:253–266.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink28rf0145)

29.[McKittrick CR, Magarinos AM, Blanchard DC, Blanchard RJ, McEwen BS, Sakai RR. Chronic social stress reduces dendritic arbors in CA3 of hippocampus and decreases binding to serotonin transporter sites.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink29rf0150) *[Synapse](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink29rf0150)*[. 2000;36:85–94.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink29rf0150)

30.[Magarinos AM, McEwen BS, Flugge G, Fuchs E. Chronic psychosocial stress causes apical dendritic atrophy of hippocampal CA3 pyramidal neurons in subordinate tree shrews.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink30rf0155) *[J Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink30rf0155)*[. 1996;16:3534–3540.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink30rf0155)

31.[Vollmann-Honsdorf GK, Flugge G, Fuchs E. Chronic psychosocial stress does not affect the number of pyramidal neurons in tree shrew hippocampus.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink31rf0160) *[Neurosci Lett](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink31rf0160)*[. 1997;233:121–124.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink31rf0160)

32.[Stewart MG, Davies HA, Sandi C, et al. Stress suppresses and learning induces plasticity in CA3 of rat hippocampus: a three-dimensional ultrastructural study of thorny excrescences and their postsynaptic densities.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink32rf0165) *[Neuroscience](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink32rf0165)*[. 2005;131:43–54.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink32rf0165)

33.[Magarinos AM, McEwen BS, Saboureau M, Pevet P. Rapid and reversible changes in intrahippocampal connectivity during the course of hibernation in European hamsters. *Proc Natl Acad Sci U S A*. 2006;103:18775–18780.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink33rf0170)

34.[Sunanda Rao MS, Raju TR. Effect of chronic restraint stress on dendritic spines and excrescences of hippocampal CA3 pyramidal neurons—a quantitative study.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink34rf0175) *[Brain Res](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink34rf0175)*[. 1995;694:312–317.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink34rf0175)

35.[Magarinos AM, Li CJ, Gal Toth J, et al. Effect of brain-derived neurotrophic factor haploinsufficiency on stress- induced remodeling of hippocampal neurons.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink35rf0180) *[Hippocampus](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink35rf0180)*[. 2011;21:253–264.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink35rf0180)

36.[Conrad CD, Magarinos AM, LeDoux JE, McEwen BS. Repeated restraint stress facilitates fear conditioning independently of causing hippocampal CA3 dendritic atrophy.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink36rf0185) *[Behav Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink36rf0185)*[. 1999;113:902–913.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink36rf0185)

37.[Popov VI, Bocharova LS. Hibernation-induced structural changes in synaptic contacts between mossy fibres and hippocampal pyramidal neurons.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink37rf0190) *[Neuroscience](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink37rf0190)*[. 1992;48:53–62.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink37rf0190)

38.[Popov VI, Bocharova LS, Bragin AG. Repeated changes of dendritic morphology in the hippocampus of ground squirrels in the course of hibernation.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink38rf0195) *[Neuroscience](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink38rf0195)*[. 1992;48:45–51.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink38rf0195)

39.[Arendt T, Stieler J, Strijkstra AM, et al. Reversible paired helical filament-like phosphorylation of tau is an adaptive process associated with neuronal plasticity in hibernating animals.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink39rf0200) *[J Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink39rf0200)*[. 2003;23:6972–6981.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink39rf0200)

40.[Magarinos AM, Deslandes A, McEwen BS. Effects of antidepressants and benzodiazepine treatments on the dendritic structure of CA3 pyramidal neurons after chronic stress.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink40rf0205) *[Eur J Pharm](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink40rf0205)*[. 1999;371:113–122.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink40rf0205)

41.[Sousa AR, Lane SJ, Cidlowski JA, Staynov DZ, Lee TH. Glucocorticoid resistance in asthma is associated with elevated in vivo expression of the glucocorticoid receptor b-isoform.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink41rf0210) *[J Allergy Clin Immunol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink41rf0210)*[. 2000;105:943–950.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink41rf0210)

42.[McEwen BS. Stress, sex, and neural adaptation to a changing environment: mechanisms of neuronal remodeling.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink42rf0215) *[Ann N Y Acad Sci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink42rf0215)*[. 2010;1204(suppl):E38–E59.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink42rf0215)

43.[Wood GE, Young LT, Reagan LP, Chen B, McEwen BS. Stress-induced structural remodeling in hippocampus: prevention by lithium treatment.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink43rf0220) *[Proc Natl Acad Sci U S A](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink43rf0220)*[. 2004;101:3973–3978.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink43rf0220)

44.[Magarinos AM, Verdugo Garcia JM, McEwen BS. Chronic restraint stress alters synaptic terminal structure in hippocampus.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink44rf0225) *[Proc Natl Acad Sci U S A](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink44rf0225)*[. 1997;94:14002–14008.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink44rf0225)

45.[Grillo CA, Piroli GG, Wood GE, Reznikov LR, McEwen BS, Reagan LP. Immunocytochemical analysis of synaptic proteins provides new insights into diabetes-mediated plasticity in the rat hippocampus.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink45rf0230) *[Neuroscience](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink45rf0230)*[. 2005;136:477–486.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink45rf0230)

46.[Vyas A, Mitra R, Rao BSS, Chattarji S. Chronic stress induces contrasting patterns of dendritic remodeling in hippocampal and amygdaloid neurons. *J Neurosci*. 2002;22:6810–6818.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink46rf0235)

47.[Bennur S, Shankaranarayana Rao BS, Pawlak R, Strickland S, McEwen BS, Chattarji S. Stress-induced spine loss in the medial amygdala is mediated by tissue-plasminogen activator.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink47rf0240) *[Neuroscience](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink47rf0240)*[. 2007;144:8–16.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink47rf0240)

48.[Matys T, Pawlak R, Matys E, Pavlides C, McEwen BS, Strickland S. Tissue plasminogen activator promotes the effects of corticotropin releasing factor on the amygdala and anxiety-like behavior. *Proc Natl Acad Sci U S A*. 2004;101:16345–16350.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink48rf0245)

49.[Pawlak R, Magarinos AM, Melchor J, McEwen B, Strickland S. Tissue plasminogen activator in the amygdala is critical for stress-induced anxiety-like behavior.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink49rf0250) *[Nat Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink49rf0250)*[. 2003;6:168–174.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink49rf0250)

50.[Lakshminarasimhan H, Chattarji S. Stress leads to contrasting effects on the levels of brain derived neurotrophic factor in the hippocampus and amygdala.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink50rf0255) *[PLoS ONE](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink50rf0255)*[. 2012;7:e30481.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink50rf0255)

51.[McEwen BS, Chattarji S.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink51rf0260) *[Neuroendocrinology of stress. Handbook of Neurochemistry and Molecular Neurobiology](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink51rf0260)*[. 3rd ed. New York, NY: Springer-Verlag; 2007 pp. 572–593.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink51rf0260)

52.[Mitra R, Sapolsky RM. Acute corticosterone treatment is sufficient to induce anxiety and amygdaloid dendritic hypertrophy.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink52rf0265) *[Proc Natl Acad Sci U S A](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink52rf0265)*[. 2008;105:5573–5578.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink52rf0265)

53.[Govindarajan A, Rao BSS, Nair D, et al. Transgenic brain-derived neurotrophic factor expression causes both anxiogenic and antidepressant effects. *Proc Natl Acad Sci U S A*. 2006;103: 13208–13213.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink53rf0270)

54.[Mitra R, Jadhav S, McEwen BS, Vyas A, Chattarji S. Stress duration modulates the spatiotemporal patterns of spine formation in the basolateral amygdala. *Proc Natl Acad Sci U S A*. 2005;102: 9371–9376.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink54rf0275)

55.[Gray JD, Milner TA, McEwen BS. Dynamic plasticity: the role of glucocorticoids, brain-derived neurotrophic factor and other trophic factors.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink55rf0280) *[Neuroscience](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink55rf0280)*[. 2013;239:214–227.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink55rf0280)

56.[Radley JJ, Sisti HM, Hao J, et al. Chronic behavioral stress induces apical dendritic reorganization in pyramidal neurons of the medial prefrontal cortex.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink56rf0285) *[Neuroscience](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink56rf0285)*[. 2004;125:1–6.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink56rf0285)

57.[Radley JJ, Rocher AB, Janssen WGM, Hof PR, McEwen BS, Morrison JH. Reversibility of apical dendritic retraction in the rat medial prefrontal cortex following repeated stress.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink57rf0290) *[Exp Neurol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink57rf0290)*[. 2005;196:199–203.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink57rf0290)

58.[Radley JJ, Rocher AB, Rodriguez A, et al. Repeated stress alters dendritic spine morphology in the rat medial prefrontal cortex.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink58rf0295) *[J Comp Neurol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink58rf0295)*[. 2008;507:1141–1150.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink58rf0295)

59.[Martin KP, Wellman CL. NMDA receptor blockade alters stress-induced dendritic remodeling in medial prefrontal cortex.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink59rf0300) *[Cereb Cortex](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink59rf0300)*[. 2011;21:2366–2373.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink59rf0300)

60.[Liston C, Miller MM, Goldwater DS, et al. Stress-induced alterations in prefrontal cortical dendritic morphology predict selective impairments in perceptual attentional set-shifting.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink60rf0305) *[J Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink60rf0305)*[. 2006;26:7870–7874.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink60rf0305)

61.[Dias-Ferreira E, Sousa JC, Melo I, et al. Chronic stress causes frontostriatal reorganization and affects decision- making.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink61rf0310) *[Science](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink61rf0310)*[. 2009;325:621–625.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink61rf0310)

62.[Karatsoreos IN, Bhagat S, Bloss EB, Morrison JH, McEwen BS. Disruption of circadian clocks has ramifications for metabolism, brain, and behavior.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink62rf0315) *[Proc Natl Acad Sci U S A](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink62rf0315)*[. 2011;108:1657–1662.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink62rf0315)

63.[Fink G. Stress controversies: post-traumatic stress disorder, hippocampal volume, gastroduodenal ulceration.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink63rf0320) *[J Neuroendocrinol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink63rf0320)*[. 2011;23:107–117.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink63rf0320)

64.[de Leon MJ, George AE, Golomb J, et al. Frequency of hippocampus atrophy in normal elderly and Alzheimer's disease patients.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink64rf0325) *[Neurobiol Aging](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink64rf0325)*[. 1997;18:1–11.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink64rf0325)

65.[Gold SM, Dziobek I, Sweat V, et al. Hippocampal damage and memory impairments as possible early brain complications of type 2 diabetes.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink65rf0330) *[Diabetologia](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink65rf0330)*[. 2007;50:711–719.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink65rf0330)

66.[Sheline YI. Neuroimaging studies of mood disorder effects on the brain.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink66rf0335) *[Biol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink66rf0335)*[. 2003;54:338–352.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink66rf0335)

67.[Starkman MN, Giordani B, Gebrski SS, Berent S, Schork MA, Schteingart DE. Decrease in cortisol reverses human hippocampal atrophy following treatment of Cushing's disease.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink67rf0340) *[Biol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink67rf0340)*[. 1999;46:1595–1602.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink67rf0340)

68.[Gurvits TV, Shenton ME, Hokama H, et al. Magnetic resonance imaging study of hippocampal volume in chronic, combat-related posttraumatic stress disorder.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink68rf0345) *[Biol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink68rf0345)*[. 1996;40:1091–1099.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink68rf0345)

69.[Gianaros PJ, Jennings JR, Sheu LK, Greer PJ, Kuller LH, Matthews KA. Prospective reports of chronic life stress predict decreased grey matter volume in the hippocampus.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink69rf0350) *[NeuroImage](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink69rf0350)*[. 2007;35:795–803.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink69rf0350)

70.[Marsland AL, Gianaros PJ, Abramowitch SM, Manuck SB, Hariri AR. Interleukin-6 covaries inversely with hippocampal grey matter volume in middle-aged adults.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink70rf0355) *[Biol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink70rf0355)*[. 2008;64:484–490.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink70rf0355)

71.[Erickson KI, Prakash RS, Voss MW, et al. Aerobic fitness is associated with hippocampal volume in elderly humans.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink71rf0360) *[Hippocampus](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink71rf0360)*[. 2009;19:1030–1039.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink71rf0360)

72.[Cho K. Chronic ‘jet lag’ produces temporal lobe atrophy and spatial cognitive deficits.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink72rf0365) *[Nat Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink72rf0365)*[. 2001;4:567–568.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink72rf0365)

73.[Drevets WC, Raichle ME. Neuroanatomical circuits in depression: implications for treatment mechanisms.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink73rf0370) *[Psychopharmacol Bull.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink73rf0370)* [1992;28:261–274.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink73rf0370)

74.[Stockmeier CA, Mahajan GJ, Konick LC, et al. Cellular changes in the postmortem hippocampus in major depression.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink74rf0375) *[Biol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink74rf0375)*[. 2004;56:640–650.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink74rf0375)

75.[Holzel BK, Carmody J, Evans KC, et al. Stress reduction correlates with structural changes in the amygdala.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink75rf0380) *[Soc Cogn Affect Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink75rf0380)*[. 2010;5:11–17.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink75rf0380)

76.[de Lange FP, Koers A, Kalkman JS, et al. Increase in prefrontal cortical volume following cognitive behavioural therapy in patients with chronic fatigue syndrome.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink76rf0385) *[Brain](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink76rf0385)*[. 2008;131:2172–2180.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink76rf0385)

77.[Yehuda R, McFarlane AC, Shalev AY. Predicting the development of posttraumatic stress disorder from the acute response to a traumatic event.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink77rf0390) *[Biol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink77rf0390)*[. 1998;44:1305–1313.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink77rf0390)

78.[Schelling G, Roozendaal B, De Quervain DJ-F. Can posttraumatic stress disorder be prevented with glucocorticoids?](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink78rf0395) *[Ann N Y Acad Sci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink78rf0395)*[. 2004;1032:158–166.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink78rf0395)

79.[Zohar J, Yahalom H, Kozlovsky N, et al. High dose hydrocortisone immediately after trauma may alter the trajectory of PTSD: interplay between clinical and animal studies.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink79rf0400) *[Eur Neuropsychopharmacol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink79rf0400)*[. 2011;21:796–809.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink79rf0400)

80.[Rao RP, Anilkumar S, McEwen BS, Chattarji S. Glucocorticoids protect against the delayed behavioral and cellular effects of acute stress on the amygdala.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink80rf0405) *[Biol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink80rf0405)*[. 2012;72:466–475.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink80rf0405)

81.[Galea LAM, McEwen BS, Tanapat P, Deak T, Spencer RL, Dhabhar FS. Sex differences in dendritic atrophy of CA3 pyramidal neurons in response to chronic restraint stress. *Neuroscience*. 1997;81:689–697.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink81rf0410)

82.[Luine V, Villegas M, Martinez C, McEwen BS. Repeated stress causes reversible impairments of spatial memory performance.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink82rf0415) *[Brain Res](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink82rf0415)*[. 1994;639:167–170.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink82rf0415)

83.[Luine VN, Beck KD, Bowman RE, Frankfurt M, MacLusky NJ. Chronic stress and neural function: accounting for sex and age.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink83rf0420) *[J Neuroendocrinol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink83rf0420)*[. 2007;19:743–751.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink83rf0420)

84.[Bowman RE, Zrull MC, Luine VN. Chronic restraint stress enhances radial arm maze performance in female rats.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink84rf0425) *[Brain Res](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink84rf0425)*[. 2001;904:279–289.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink84rf0425)

85.[Wood GE, Shors TJ. Stress facilitates classical conditioning in males, but impairs classical conditioning in females through activational effects of ovarian hormones.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink85rf0430) *[Proc Natl Acad Sci U S A](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink85rf0430)*[. 1998;95:4066–4071.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink85rf0430)

86.[Wood GE, Shors TJ, Beylin AV. The contribution of adrenal and reproductive hormones to the opposing effects of stress on trace conditioning in males versus females.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink86rf0435) *[Behav Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink86rf0435)*[. 2001;115:175–187.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink86rf0435)

87.[Shors TJ, Miesegaes G. Testosterone in utero and at birth dictates how stressful experience will affect learning in adulthood.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink87rf0440) *[Proc Natl Acad Sci U S A](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink87rf0440)*[. 2002;99:13955–13960.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink87rf0440)

88.[Leuner B, Mendolia-loffredo S, Shors TJ. Males and females respond differently to controllability and antidepressant treatment.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink88rf0445) *[Biol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink88rf0445)*[. 2004;56:964–970.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink88rf0445)

89.[Shansky RM, Hamo C, Hof PR, Lou W, McEwen BS, Morrison JH. Estrogen promotes stress sensitivity in a prefrontal cortex-amygdala pathway.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink89rf0450) *[Cereb Cortex](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink89rf0450)*[. 2010;20:2560–2567.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink89rf0450)

90.[Bangasser DA, Curtis A, Reyes BA, et al. Sex differences in corticotropin-releasing factor receptor signaling and trafficking: potential role in female vulnerability to stress-related psychopathology.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink90rf0455) *[Mol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink90rf0455)*[. 2010;15:877–904.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink90rf0455)

91.[Bangasser DA, Zhang X, Garachh V, Hanhauser E, Valentino RJ. Sexual dimorphism in locus coeruleus dendritic morphology: a structural basis for sex differences in emotional arousal. *Physiol Behav*. 2011;103:342–351.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink91rf0460)

92.[Cahill L. Why sex matters for neuroscience.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink92rf0465) *[Nat Rev Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink92rf0465)*[. 2006;7:477–484.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink92rf0465)

93.[McEwen BS, Lasley EN.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink93rf0470) *[The end of sex as we know it. Cerebrum: The Dana Forum on Brain Science](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink93rf0470)*[; vol. 7. Washington, DC: Dana Press; 2005.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink93rf0470)

94.[McEwen BS. Introduction: the end of sex as we once knew it.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink94rf0475) *[Physiol Behav](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink94rf0475)*[. 2009;97:143–145.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink94rf0475)

95.[Laje G, Paddock S, Manji H, et al. Genetic markers of suicidal ideation emerging during citalopram treatment of major depression. *Am J Psychiatry*. 2007;164:1530–1538.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink95rf0480)

96.[Meites J. Short history of neuroendocrinology and the International Society of Neuroendocrinology.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink96rf0485) *[Neuroendocrinology](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink96rf0485)*[. 1992;56:1–10.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink96rf0485)

97.[Carruth LL, Reisert I, Arnold AP. Sex chromosome genes directly affect brain sexual differentiation.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink97rf0490) *[Nat Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink97rf0490)*[. 2002;5:933–934.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink97rf0490)

98.[Derntl B, Finkelmeyer A, Eickhoff S, et al. Multidimensional assessment of empathic abilities: neural correlates and gender differences. *Psychoneuroendocrinology*. 2010;35:67–82.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink98rf0495)

99.[Goldwater DS, Pavlides C, Hunter RG, et al. Structural and functional alterations to rat medial prefrontal cortex following chronic restraint stress and recovery.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink99rf0500) *[Neuroscience](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink99rf0500)*[. 2009;164:798–808.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink99rf0500)

100.[Gray JD, Rubin TG, Hunter RG, McEwen BS. Hippocampal gene expression changes underlying stress sensitization and recovery.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink100rf0505) *[Mol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink100rf0505)*[. 2014;19:1171–1178.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink100rf0505)

101.[Datson NA, van den Oever JM, Korobko OB, Magarinos AM, de Kloet ER, McEwen BS. Previous history of chronic stress changes the transcriptional response to glucocorticoid challenge in the dentate gyrus region of the male rat hippocampus.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink101rf0510) *[Endocrinology](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink101rf0510)*[. 2013;154:3261–3272.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink101rf0510)

102.[Rao NA, McCalman MT, Moulos P, et al. Coactivation of GR and NFKB alters the repertoire of their binding sites and target genes.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink102rf0515) *[Genome Res](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink102rf0515)*[. 2011;21:1404–1416.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink102rf0515)

103.[Waddington CH. The epigenotype.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink103rf0520) *[Endeavour](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink103rf0520)*[. 1942;1:18–20.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink103rf0520)

104.[Maze I, Noh KM, Allis CD. Histone regulation in the CNS: basic principles of epigenetic plasticity.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink104rf0525) *[Neuropsychopharmacology](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink104rf0525)*[. 2013;38:3–22 PubMed PMID: 22828751.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink104rf0525)

105.[Baillie JK, Barnett MW, Upton KR, et al. Somatic retrotransposition alters the genetic landscape of the human brain.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink105rf0530) *[Nature](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink105rf0530)*[. 2011;479:534–537.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink105rf0530)

106.[Hunter RG, Murakami G, Dewell S, et al. Acute stress and hippocampal histone H3 lysine 9 trimethylation, a retrotransposon silencing response. *Proc Natl Acad Sci U S A*. 2012;109:17657–17662.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink106rf0535)

107.[Hunter RG, McEwen BS, Pfaff DW. Environmental stress and transposon transcription in the mammalian brain.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink107rf0540) *[Mob Genet Elements](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink107rf0540)*[. 2013;3:e24555.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink107rf0540)

108.[Bloss EB, Janssen WG, McEwen BS, Morrison JH. Interactive effects of stress and aging on structural plasticity in the prefrontal cortex.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink108rf0545) *[J Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink108rf0545)*[. 2010;30:6726–6731.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink108rf0545)

109.[Bloss EB, Hunter RG, Waters EM, Munoz C, Bernard K, McEwen BS. Behavioral and biological effects of chronic S18986, a positive AMPA receptor modulator, during aging.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink109rf0550) *[Exp Neurol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink109rf0550)*[. 2008;210:109–117.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink109rf0550)

110.[Reul JMHM, Chandramohan Y. Epigenetic mechanisms in stress-related memory formation.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink110rf0555) *[Psychoneuroendocrinology](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink110rf0555)*[. 2007;32:S21–S25.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink110rf0555)

111.[Nasca C, Xenos D, Barone Y, et al.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink111rf0560) [L-Acetylcarnitine causes rapid antidepressant effects through the epigenetic induction of mGlu2 receptors. *Proc Natl Acad Sci U S A*. 2013;110:4804–4809.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink111rf0560)

112.[Dantzer R, O'Connor JC, Freund GG, Johnson RW, Kelley KW. From inflammation to sickness and depression: when the immune system subjugates the brain.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink112rf0565) *[Nat Rev Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink112rf0565)*[. 2008;9:46–56.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink112rf0565)

113.[Nasca C, Bigio B, Zelli D, Nicoletti F, McEwen BS. Mind the gap: glucocorticoids modulate hippocampal glutamate tone underlying individual differences in stress susceptibility. *Mol Psychiatry*. 2015;20:755–763.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink113rf0570)

114.[Brydges NM, Jin R, Seckl J, Holmes MC, Drake AJ, Hall J. Juvenile stress enhances anxiety and alters corticosteroid receptor expression in adulthood. *Brain Behav*. 2014;4:4–13.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink114rf0575)

115.[Halfon N, Larson K, Lu M, Tullis E, Russ S. Lifecourse healthdevelopment: past, present and future. *Matern Child Health J*. 2014;18:344–365.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink115rf0580)

116.[Miller MM, Morrison JH, McEwen BS. Basal anxiety-like behavior predicts differences in dendritic morphology in the medial prefrontal cortex in two strains of rats.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink116rf0585) *[Behav Brain Res](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink116rf0585)*[. 2012; 229:280–288.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink116rf0585)

117.[Freund J, Brandmaier AM, Lewejohann L, et al. Emergence of individuality in genetically identical mice.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink117rf0590) *[Science](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink117rf0590)*[. 2013;340:756–759.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink117rf0590)

118.[Fraga MF, Ballestar E, Paz MF, et al. Epigenetic differences arise during the lifetime of monozygotic twins.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink118rf0595) *[Proc Natl Acad Sci U S A](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink118rf0595)*[. 2005;102:10604–10609.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink118rf0595)

119.[Felitti VJ, Anda RF, Nordenberg D, et al. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The adverse childhood experiences (ACE) study.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink119rf0600) *[Am J Prev Med](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink119rf0600)*[. 1998;14:245–258.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink119rf0600)

120.[Levine S, Haltmeyer G, Kara G, Denenberg V. Physiological and behavioral effects of infantile stimulation. *Physiol Behav*. 1967;2:55–59.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink120rf0605)

121.[Meaney MJ, Szyf M. Environmental programming of stress responses through DNA methylation: life at the interface between a dynamic environment and a fixed genome.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink121rf0610) *[Dialogues Clin Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink121rf0610)*[. 2005;7:103–123.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink121rf0610)

122.[Akers KG, Yang Z, DelVecchio DP, et al. Social competitiveness and plasticity of neuroendocrine function in old age: influence of neonatal novelty exposure and maternal care reliability.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink122rf0615) *[PLoS ONE](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink122rf0615)*[. 2008;3:e2840.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink122rf0615)

123.[Tang AC, Akers KG, Reeb BC, Romeo RD, McEwen BS. Programming social, cognitive, and neuroendocrine development by early exposure to novelty.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink123rf0620) *[Proc Natl Acad Sci U S A](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink123rf0620)*[. 2006;103:15716–15721.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink123rf0620)

124.[Parker KJ, Buckmaster CL, Sundlass K, Schatzberg AF, Lyons DM. Maternal mediation, stress inoculation, and the development of neuroendocrine stress resistance in primates. *Proc Natl Acad Sci U S A*. 2006;103:3000–3005.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink124rf0625)

125.[Isgor C, Kabbaj M, Akil H, Watson SJ. Delayed effects of chronic variable stress during peripubertal-juvenile period on hippocampal morphology and on cognitive and stress axis functions in rats.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink125rf0630) *[Hippocampus](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink125rf0630)*[. 2004;14:636–648.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink125rf0630)

126.[Rice CJ, Sandman CA, Lenjavi MR, Baram TZ. A novel mouse model for acute and long-lasting consequences of early life stress.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink126rf0635) *[Endocrinology](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink126rf0635)*[. 2008;149:4892–4900.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink126rf0635)

127.[Moriceau S, Sullivan R. Maternal presence serves as a switch between learning fear and attraction in infancy.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink127rf0640) *[Nat Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink127rf0640)*[. 2006;8:1004–1006.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink127rf0640)

128.[Kaufman D, Smith ELP, Gohil BC, et al. Early appearance of the metabolic syndrome in socially reared bonnet macaques.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink128rf0645) *[J Clin Endocrinol Metab](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink128rf0645)*[. 2005;90:404–408.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink128rf0645)

129.[Coplan JD, Smith ELP, Altemus M, et al. Variable foraging demand rearing: sustained elevations in cisternal cerebrospinal fluid corticotropin-releasing factor concentrations in adult primates.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink129rf0650) *[Biol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink129rf0650)*[. 2001;50:200–204.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink129rf0650)

130.[Juster RP, McEwen BS, Lupien SJ. Allostatic load biomarkers of chronic stress and impact on health and cognition.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink130rf0655) *[Neurosci Biobehav Rev](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink130rf0655)*[. 2010;35:2–16.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink130rf0655)

131.[Gard T, Taquet M, Dixit R, et al. Fluid intelligence and brain functional organization in aging yoga and meditation practitioners. *Front Aging Neurosci*. 2014;6:76.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink131rf0660)

132.[Ryff CD, Singer B. The contours of positive human health.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink132rf0665) *[Psychol Inq](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink132rf0665)*[. 1998;9:1–28.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink132rf0665)

133.[Singer B, Friedman E, Seeman T, Fava GA, Ryff CD. Protective environments and health status: cross-talk between human and animal studies.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink133rf0670) *[Neurobiol Aging](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink133rf0670)*[. 2005;26S:S113–S118.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink133rf0670)

134.[Fredrickson BL, Grewen KM, Coffey KA, et al. A functional genomic perspective on human well-being.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink134rf0675) *[Proc Natl Acad Sci U S A](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink134rf0675)*[. 2013;110:13684–13689.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink134rf0675)

135.[Colcombe SJ, Kramer AF, Erickson KI, et al. Cardiovascular fitness, cortical plasticity, and aging. *Proc Natl Acad Sci U S A*. 2004;101:3316–3321.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink135rf0680)

136.[Erickson KI, Voss MW, Prakash RS, et al. Exercise training increases size of hippocampus and improves memory.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink136rf0685) *[Proc Natl Acad Sci U S A](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink136rf0685)*[. 2011;108:3017–3022 PubMed PMID: 21282661, Pubmed Central PMCID: 3041121.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink136rf0685)

137.[Babyak M, Blumenthal JA, Herman S, et al. Exercise treatment for major depression: maintenance of therapeutic benefit at 10 months. *Psychosom Med*. 2000;62:633–638.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink137rf0690)

138.[Kahle EB, Zipf WB, Lamb DR, Horswill CA, Ward KM. Association between mild, routine exercise and improved insulin dynamics and glucose control in obese adolescents.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink138rf0695) *[Int J Sports Med](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink138rf0695)*[. 1996;17:1–6.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink138rf0695)

139.[Bonen A. Benefits of exercise for Type II diabetics: convergence of epidemiologic, physiologic, and molecular evidence.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink139rf0700) *[Can J Appl Physiol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink139rf0700)*[. 1997;20(3):261–279.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink139rf0700)

140.[Rovio S, Kareholt I, Helkala EL, et al. Leisure-time physical activity at midlife and the risk of dementia and Alzheimer's disease. *Lancet Neurol*. 2005;4:705–711.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink140rf0705)

141.[Larson EB, Wang L, Bowen JD, et al. Exercise is associated with reduced risk for incident dementia among persons 65 years of age or older. *Ann Intern Med*. 2006;144:73–81.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink141rf0710)

142.[Draganski B, Gaser C, Kempermann G, et al. Temporal and spatial dynamics of brain structure changes during extensive learning.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink142rf0715) *[J Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink142rf0715)*[. 2006;26:6314–6317.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink142rf0715)

143.[Seeman TE, Singer BH, Ryff CD, Dienberg G, Levy-Storms L. Social relationships, gender, and allostatic load across two age cohorts.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink143rf0720) *[Psychosom Med](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink143rf0720)*[. 2002;64:395–406.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink143rf0720)

144.[Boyle PA, Buchman AS, Barnes LL, Bennett DA. Effect of a purpose in life on risk of incident Alzheimer disease and mild cognitive impairment in community-dwelling older persons.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink144rf0725) *[Arch Gen Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink144rf0725)*[. 2010;67:304–310.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink144rf0725)

145.[Fried LP, Carlson MC, Freedman M, et al. A social model for health promotion for an aging population: Initial evidence on the experience corps model.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink145rf0730) *[J Urban Health Bull NY Acad Med](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink145rf0730)*[. 2004;81:64–78.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink145rf0730)

146.[Carlson MC, Erickson KI, Kramer AF, et al. Evidence for neurocognitive plasticity in at-risk older adults: the experience corps program.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink146rf0735) *[J Gerontol A: Biol Med Sci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink146rf0735)*[. 2009;64:1275–1282.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink146rf0735)

147.[Sheline YI. Hippocampal atrophy in major depression: a result of depression-induced neurotoxicity?](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink147rf0740) *[Mol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink147rf0740)*[. 1996;1: 298–299.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink147rf0740)

148.[Drevets WC, Price JL, Simpson Jr. JR, et al. Subgenual prefrontal cortex abnormalities in mood disorders. *Nature*. 1997;386:824–827.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink148rf0745)

149.[Rajkowska G. Postmortem studies in mood disorders indicate altered numbers of neurons and glial cells.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink149rf0750) *[Biol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink149rf0750)*[. 2000;48:766–777.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink149rf0750)

150.[Vythilingam M, Vermetten E, Anderson GM, et al. Hippocampal volume, memory, and cortisol status in major depressive disorder: effects of treatment.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink150rf0755) *[Biol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink150rf0755)*[. 2004;56:101–112.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink150rf0755)

151.[Moore GJ, Bebehuk JM, Wilds IB, Chen G, Manji HK. Lithium-induced increase in human brain grey matter.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink151rf0760) *[Lancet](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink151rf0760)*[. 2000;356:1241–1242.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink151rf0760)

152.[Vetencourt JFM, Sale A, Viegi A, et al. The antidepressant fluoxetine restores plasticity in the adult visual cortex.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink152rf0765) *[Science](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink152rf0765)*[. 2008;320:385–388.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink152rf0765)

153.[Spolidoro M, Baroncelli L, Putignano E, Maya-Vetencourt JF, Viegi A, Maffei L. Food restriction enhances visual cortex plasticity in adulthood. *Nat Commun*. 2011;2:320.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink153rf0770)

154.[Castren E, Rantamaki T. The role of BDNF and its receptors in depression and antidepressant drug action: reactivation of developmental plasticity.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink154rf0775) *[Dev Neurobiol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink154rf0775)*[. 2010;70:289–297.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink154rf0775)

155.[Heinrich C, Lahteinen S, Suzuki F, et al. Increase in BDNF-mediated TrkB signaling promotes epileptogenesis in a mouse model of mesial temporal lobe epilepsy.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink155rf0780) *[Neurobiol Dis](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink155rf0780)*[. 2011;42:35–47.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink155rf0780)

156.[Kokaia M, Ernfors P, Kokaia Z, Elmer E, Jaenisch R, Lindvall O. Suppressed epileptogenesis in BDNF mutant mice. *Exp Neurol*. 1995;133:215–224.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589178.html#rfLink156rf0785)

157.[Scharfman HE. Hyperexcitability in combined entorhinal/hippocampal slices of adult rat after exposure to brain- derived neurotrophic factor.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink157rf0790) *[J Neurophysiol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink157rf0790)*[. 1997;78:1082–1095.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink157rf0790)

158.[Acheson SD.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink158rf0795) *[Independent Inquiry into Inequalities in Health Report.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink158rf0795)* [London: The Stationary Office; 1998.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink158rf0795)

159.[Drewnowski A, Specter SE. Poverty and obesity: the role of energy density and energy costs.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink159rf0800) *[Am J Clin Nutr](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink159rf0800)*[. 2004;79:6–16.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink159rf0800)

160.[Kawachi I, Kennedy BP, Lochner K, Prothrow-Stith D. Social capital, income inequality, and mortality.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink160rf0805) *[Am J Public Health](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink160rf0805)*[. 1997;87:1491–1498.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink160rf0805)

161.[Sampson RJ, Raudenbush SW, Earls F. Neighborhoods and violent crime: a multilevel study of collective effects.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink161rf0810) *[Science](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink161rf0810)*[. 1997;277:918–924.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink161rf0810)

162.[Whitmer RW, Pelletier KR, Anderson DR, Baase CM, Frost GJ. A wake-up call for corporate America.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink162rf0815) *[JOEM](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink162rf0815)*[. 2003;45:916–925.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink162rf0815)

163.[Pelletier KR. A review and analysis of the clinical- and cost-effectiveness studies of comprehensive health promotion and disease management programs at the worksite: 1998-2000 update.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink163rf0820) *[Am J Health Promot](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink163rf0820)*[. 2001;16:107–115.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink163rf0820)

164.[Aldana SG. Financial impact of health promotion programs: a comprehensive review of the literature.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink164rf0825) *[Am J Health Promot](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink164rf0825)*[. 2001;15:296–320.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589178.html%22%20%5Cl%20%22rfLink164rf0825)