# Chapter 14 Remodeling of Neural Networks by Stress

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# References

1.[Selye H. A syndrome produced by diverse noxious agents.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink1rf0010) *[Nature (London)](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink1rf0010)*[. 1936;138:32.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink1rf0010)

2.[Reul JM, Sutanto W, van Eekelen JA, Rothuizen J, de Kloet ER. Central action of adrenal steroids during stress and adaptation.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink2rf0015) *[Adv Exp Med Biol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink2rf0015)*[. 1990;274:243–256.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink2rf0015)

3.[McEwen BS. Brain on stress: how the social environment gets under the skin.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink3rf0020) *[Proc Natl Acad Sci U S A](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink3rf0020)*[. 2012;109(suppl 2): 17180–17185.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink3rf0020)

4.[Herman JP, Cullinan WE. Neurocircuitry of stress: central control of the hypothalamo-pituitary-adrenocortical axis.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink4rf0025) *[Trends Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink4rf0025)*[. 1997;20(2):78–84.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink4rf0025)

5.[Joels M, Baram TZ. The neuro-symphony of stress.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink5rf0030) *[Nat Rev Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink5rf0030)*[. 2009;10(6):459–466.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink5rf0030)

6.[Stanford S. Monoamines in response and adaptation to stress. In: Stanford S, Salmon P, eds.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink6rf0035) *[Stress: From Synapse to Syndrome](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink6rf0035)*[. London: Academic Press; 1993:281–331.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink6rf0035)

7.[Flugge G, Van Kampen M, Mijnster MJ. Perturbations in brain monoamine systems during stress.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink7rf0040) *[Cell Tissue Res](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink7rf0040)*[. 2004;315(1):1–14.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink7rf0040)

8.[Krishnan V, Nestler EJ. Linking molecules to mood: new insight into the biology of depression.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink8rf0045) *[Am J Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink8rf0045)*[. 2010;167 (11):1305–1320.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink8rf0045)

9.[Binder EB, Nemeroff CB. The CRF system, stress, depression and anxiety-insights from human genetic studies.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink9rf0050) *[Mol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink9rf0050)*[. 2010;15(6):574–588.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink9rf0050)

10.[Volterra A, Meldolesi J. Astrocytes, from brain glue to communication elements: the revolution continues.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink10rf0055) *[Nat Rev Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink10rf0055)*[. 2005;6(8):626–640.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink10rf0055)

11.[Lopez de Maturana R, Sanchez-Pernaute R. Regulation of corticostriatal synaptic plasticity by G protein-coupled receptors.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink11rf0060) *[CNS Neurol Disord Drug Targets](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink11rf0060)*[. 2010;9(5):601–615.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink11rf0060)

12.[Hazell GG, Hindmarch CC, Pope GR, et al. G protein-coupled receptors in the hypothalamic paraventricular and supraoptic nuclei—serpentine gateways to neuroendocrine homeostasis. *Front Neuroendocrinol*. 2012;33(1):45–66.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589181.html#rfLink12rf0065)

13.[De Kloet ER, Vreugdenhil E, Oitzl MS, Joels M. Brain corticosteroid receptor balance in health and disease.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink13rf0070) *[Endocr Rev](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink13rf0070)*[. 1998;19(3):269–301.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink13rf0070)

14.[Sapolsky RM. Glucocorticoids, stress, and their adverse neurological effects: relevance to aging.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink14rf0075) *[Exp Gerontol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink14rf0075)*[. 1999;34(6):721–732.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink14rf0075)

15.[Joels M, Sarabdjitsingh RA, Karst H. Unraveling the time domains of corticosteroid hormone influences on brain activity: rapid, slow, and chronic modes.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink15rf0080) *[Pharmacol Rev](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink15rf0080)*[. 2012;64(4):901–938.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink15rf0080)

16.[Cajal S.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink16rf0085) *[Degeneration and Regeneration of the Nervous System.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink16rf0085)* [London: Oxford University Press; 1928.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink16rf0085)

17.[Goldman SA, Nottebohm F. Neuronal production, migration, and differentiation in a vocal control nucleus of the adult female canary brain.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink17rf0090) *[Proc Natl Acad Sci U S A](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink17rf0090)*[. 1983;80(8):2390–2394.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink17rf0090)

18.[Nottebohm F, Arnold AP. Sexual dimorphism in vocal control areas of the songbird brain.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink18rf0095) *[Science](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink18rf0095)*[. 1976;194 (4261):211–213.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink18rf0095)

19.[Nottebohm F. From bird song to neurogenesis.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink19rf0100) *[Sci Am](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink19rf0100)*[. 1989;260(2):74–79.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink19rf0100)

20.[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%5C0002589181.html%22%20%5Cl%20%22rfLink20rf0105) *[Neuroscience](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink20rf0105)*[. 1992;48(1):53–62.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink20rf0105)

21.[Sale A, Berardi N, Maffei L. Environment and brain plasticity: towards an endogenous pharmacotherapy.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink21rf0110) *[Physiol Rev](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink21rf0110)*[. 2014; 94(1):189–234.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink21rf0110)

22.[Sjostrom PJ, Rancz EA, Roth A, Hausser M. Dendritic excitability and synaptic plasticity.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink22rf0115) *[Physiol Rev](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink22rf0115)*[. 2008;88 (2):769–840.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink22rf0115)

23.[Watanabe Y, Gould E, McEwen BS. Stress induces atrophy of apical dendrites of hippocampal CA3 pyramidal neurons.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink23rf0120) *[Brain Res](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink23rf0120)*[. 1992;588(2):341–345.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink23rf0120)

24.[McEwen BS. Stress and hippocampal plasticity.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink24rf0125) *[Annu Rev Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink24rf0125)*[. 1999;22:105–122.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink24rf0125)

25.[Conrad CD. What is the functional significance of chronic stress-induced CA3 dendritic retraction within the hippocampus?](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink25rf0130) *[Behav Cogn Neurosci Rev](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink25rf0130)*[. 2006;5(1):41–60.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink25rf0130)

26.[Hoffman AN, Krigbaum A, Ortiz JB, et al. Recovery after chronic stress within spatial reference and working memory domains: correspondence with hippocampal morphology.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink26rf0135) *[Eur J Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink26rf0135)*[. 2011;34(6):1023–1030.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink26rf0135)

27.[Kole MH, Costoli T, Koolhaas JM, Fuchs E. Bidirectional shift in the cornu ammonis 3 pyramidal dendritic organization following brief stress.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink27rf0140) *[Neuroscience](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink27rf0140)*[. 2004;125(2):337–347.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink27rf0140)

28.[Wellman CL. Dendritic reorganization in pyramidal neurons in medial prefrontal cortex after chronic corticosterone administration.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink28rf0145) *[J Neurobiol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink28rf0145)*[. 2001;49(3):245–253.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink28rf0145)

29.[Holmes A, Wellman CL. Stress-induced prefrontal reorganization and executive dysfunction in rodents.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink29rf0150) *[Neurosci Biobehav Rev](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink29rf0150)*[. 2009;33(6):773–783.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink29rf0150)

30.[Shansky RM, Morrison JH. Stress-induced dendritic remodeling in the medial prefrontal cortex: effects of circuit, hormones and rest.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink30rf0155) *[Brain Res](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink30rf0155)*[. 2009;1293:108–113.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink30rf0155)

31.[Kasai H, Fukuda M, Watanabe S, Hayashi-Takagi A, Noguchi J. Structural dynamics of dendritic spines in memory and cognition. *Trends Neurosci*. 2010;33(3):121–129.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589181.html#rfLink31rf0160)

32.[Kang HJ, Voleti B, Hajszan T, et al. Decreased expression of synapse-related genes and loss of synapses in major depressive disorder. *Nat Med*. 2012;18(9):1413–1417.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589181.html#rfLink32rf0165)

33.[Drevets WC. Functional anatomical abnormalities in limbic and prefrontal cortical structures in major depression.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink33rf0170) *[Prog Brain Res](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink33rf0170)*[. 2000;126:413–431.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink33rf0170)

34.[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(26): 9371–9376.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589181.html#rfLink34rf0175)

35.[Wilson M, Grillo C, Fadel J, Reagan L. Stress as a one-armed bandit: differential effects of stress paradigms on the morphology, neurochemistry and behavior in the rodent amygdala.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink35rf0180) *[Neurobiol Stress](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink35rf0180)*[. 2015;1:195–208.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink35rf0180)

36.[Lucassen PJ, Heine VM, Muller MB, et al. Stress, depression and hippocampal apoptosis. *CNS Neurol Disord Drug Targets*. 2006;5(5):531–546.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589181.html#rfLink36rf0185)

37.[Czeh B, Varga ZK, Henningsen K, Kovacs GL, Miseta A, Wiborg O. Chronic stress reduces the number of GABAergic interneurons in the adult rat hippocampus, dorsal-ventral and region-specific differences. *Hippocampus*. 2015;25 (3):393–405.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589181.html#rfLink37rf0190)

38.[Gross CG. Neurogenesis in the adult brain: death of a dogma.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink38rf0195) *[Nat Rev Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink38rf0195)*[. 2000;1(1):67–73.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink38rf0195)

39.[Eisch AJ, Cameron HA, Encinas JM, Meltzer LA, Ming GL, Overstreet-Wadiche LS. Adult neurogenesis, mental health, and mental illness: hope or hype?](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink39rf0200) *[J Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink39rf0200)*[. 2008;28(46):11785–11791.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink39rf0200)

40.[Aimone JB, Li Y, Lee SW, Clemenson GD, Deng W, Gage FH. Regulation and function of adult neurogenesis: from genes to cognition. *Physiol Rev*. 2014;94(4):991–1026.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589181.html#rfLink40rf0205)

41.[Schmidt-Hieber C, Jonas P, Bischofberger J. Enhanced synaptic plasticity in newly generated granule cells of the adult hippocampus.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink41rf0210) *[Nature](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink41rf0210)*[. 2004;429(6988):184–187.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink41rf0210)

42.[Ho NF, Hooker JM, Sahay A, Holt DJ, Roffman JL. In vivo imaging of adult human hippocampal neurogenesis: progress, pitfalls and promise.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink42rf0215) *[Mol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink42rf0215)*[. 2013;18(4):404–416.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink42rf0215)

43.[van Praag H, Schinder AF, Christie BR, Toni N, Palmer TD, Gage FH. Functional neurogenesis in the adult hippocampus.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink43rf0220) *[Nature](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink43rf0220)*[. 2002;415(6875):1030–1034.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink43rf0220)

44.[Spalding KL, Bergmann O, Alkass K, et al. Dynamics of hippocampal neurogenesis in adult humans.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink44rf0225) *[Cell](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink44rf0225)*[. 2013;153 (6):1219–1227.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink44rf0225)

45.[Kempermann G. New neurons for ‘survival of the fittest’.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink45rf0230) *[Nat Rev Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink45rf0230)*[. 2012;13(10):727–736.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink45rf0230)

46.[Lucassen PJ, Meerlo P, Naylor AS, et al. Regulation of adult neurogenesis by stress, sleep disruption, exercise and inflammation: implications for depression and antidepressant action.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink46rf0235) *[Eur Neuropsychopharmacol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink46rf0235)*[. 2010;20(1):1–17.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink46rf0235)

47.[Simon M, Czeh B, Fuchs E. Age-dependent susceptibility of adult hippocampal cell proliferation to chronic psychosocial stress.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink47rf0240) *[Brain Res](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink47rf0240)*[. 2005;1049(2):244–248.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink47rf0240)

48.[Fuchs E, Flugge G. Adult neuroplasticity: more than 40 years of research.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink48rf0245) *[Neural Plast](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink48rf0245)*[. 2014;2014:541870.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink48rf0245)

49.[Balu DT, Lucki I. Adult hippocampal neurogenesis: regulation, functional implications, and contribution to disease pathology.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink49rf0250) *[Neurosci Biobehav Rev](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink49rf0250)*[. 2009;33(3):232–252.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink49rf0250)

50.[Czeh B, Welt T, Fischer AK, et al. Chronic psychosocial stress and concomitant repetitive transcranial magnetic stimulation: effects on stress hormone levels and adult hippocampal neurogenesis.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink50rf0255) *[Biol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink50rf0255)*[. 2002;52 (11):1057–1065.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink50rf0255)

51.[Coe CL, Kramer M, Czeh B, et al. Prenatal stress diminishes neurogenesis in the dentate gyrus of juvenile rhesus monkeys.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink51rf0260) *[Biol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink51rf0260)*[. 2003;54(10):1025–1034.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink51rf0260)

52.[Heine VM, Zareno J, Maslam S, Joels M, Lucassen PJ. Chronic stress in the adult dentate gyrus reduces cell proliferation near the vasculature and VEGF and Flk-1 protein expression.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink52rf0265) *[Eur J Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink52rf0265)*[. 2005;21(5):1304–1314.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink52rf0265)

53.[Kandel ER. Glial cells are support cells. In: Kandel ERSJ, Jessell T, eds.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink53rf0270) *[Principles of Neural Science](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink53rf0270)*[. 5th ed. New York, NY: McGraw-Hill; 2012:20–21.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink53rf0270)

54.[Sofroniew MV, Vinters HV. Astrocytes: biology and pathology.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink54rf0275) *[Acta Neuropathol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink54rf0275)*[. 2010;119(1):7–35.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink54rf0275)

55.[Kimelberg HK. Functions of mature mammalian astrocytes: a current view.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink55rf0280) *[Neuroscientist](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink55rf0280)*[. 2010;16(1):79–106.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink55rf0280)

56.[Kimelberg HK, Nedergaard M. Functions of astrocytes and their potential as therapeutic targets.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink56rf0285) *[Neurotherapeutics](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink56rf0285)*[. 2010;7(4):338–353.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink56rf0285)

57.[Czeh B, Simon M, Schmelting B, Hiemke C, Fuchs E. Astroglial plasticity in the hippocampus is affected by chronic psychosocial stress and concomitant fluoxetine treatment.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink57rf0290) *[Neuropsychopharmacology](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink57rf0290)*[. 2006;31(8):1616–1626.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink57rf0290)

58.[Tynan RJ, Beynon SB, Hinwood M, et al. Chronic stress-induced disruption of the astrocyte network is driven by structural atrophy and not loss of astrocytes.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink58rf0295) *[Acta Neuropathol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink58rf0295)*[. 2013;126(1):75–91.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink58rf0295)

59.[Czeh B, Muller-Keuker JI, Rygula R, et al. Chronic social stress inhibits cell proliferation in the adult medial prefrontal cortex: hemispheric asymmetry and reversal by fluoxetine treatment. *Neuropsychopharmacology*. 2007;32 (7):1490–1503.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589181.html#rfLink59rf0300)

60.[Banasr M, Valentine GW, Li XY, Gourley SL, Taylor JR, Duman RS. Chronic unpredictable stress decreases cell proliferation in the cerebral cortex of the adult rat.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink60rf0305) *[Biol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink60rf0305)*[. 2007;62(5):496–504.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink60rf0305)

61.[Wennstrom M, Hellsten J, Ekstrand J, Lindgren H, Tingstrom A. Corticosterone-induced inhibition of gliogenesis in rat hippocampus is counteracted by electroconvulsive seizures.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink61rf0310) *[Biol Psychiatry](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink61rf0310)*[. 2006;59(2):178–186.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink61rf0310)

62.[Walker FR, Beynon SB, Jones KA, et al. Dynamic structural remodelling of microglia in health and disease: a review of the models, the signals and the mechanisms. *Brain Behav Immun*. 2014;37:1–14.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589181.html#rfLink62rf0315)

63.[Reagan LP, Rosell DR, Wood GE, et al. Chronic restraint stress up-regulates GLT-1 mRNA and protein expression in the rat hippocampus: reversal by tianeptine.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink63rf0320) *[Proc Natl Acad Sci U S A](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink63rf0320)*[. 2004;101(7):2179–2184.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink63rf0320)

64.[Horner PJ, Palmer TD. New roles for astrocytes: the nightlife of an ‘astrocyte’. La vida loca!](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink64rf0325) *[Trends Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink64rf0325)*[. 2003;26 (11):597–603.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink64rf0325)

65.[Karssen AM, Her S, Li JZ, et al. Stress-induced changes in primate prefrontal profiles of gene expression. *Mol Psychiatry*. 2007;12(12):1089–1102.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589181.html#rfLink65rf0330)

66.[Alfonso J, Frasch AC, Flugge G. Chronic stress, depression and antidepressants: effects on gene transcription in the hippocampus.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink66rf0335) *[Rev Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink66rf0335)*[. 2005;16(1):43–56.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink66rf0335)

67.[Bisaz R, Conboy L, Sandi C. Learning under stress: a role for the neural cell adhesion molecule NCAM.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink67rf0340) *[Neurobiol Learn Mem](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink67rf0340)*[. 2009;91(4):333–342.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink67rf0340)

68.[Bianchi M, Heidbreder C, Crespi F. Cytoskeletal changes in the hippocampus following restraint stress: role of serotonin and microtubules.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink68rf0345) *[Synapse](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink68rf0345)*[. 2003;49(3):188–194.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink68rf0345)

69.[Abumaria N, Rygula R, Havemann-Reinecke U, et al. Identification of genes regulated by chronic social stress in the rat dorsal raphe nucleus. *Cell Mol Neurobiol*. 2006;26(2):145–162.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589181.html#rfLink69rf0350)

70.[Mifsud KR, Gutierrez-Mecinas M, Trollope AF, Collins A, Saunderson EA, Reul JM. Epigenetic mechanisms in stress and adaptation.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink70rf0355) *[Brain Behav Immun](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink70rf0355)*[. 2011;25(7):1305–1315.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink70rf0355)

71.[Schouten M, Aschrafi A, Bielefeld P, Doxakis E, Fitzsimons CP. microRNAs and the regulation of neuronal plasticity under stress conditions.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink71rf0360) *[Neuroscience](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink71rf0360)*[. 2013;241:188–205.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink71rf0360)

72.[Conrad CD, LeDoux JE, Magarinos AM, 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%5C0002589181.html%22%20%5Cl%20%22rfLink72rf0365) *[Behav Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink72rf0365)*[. 1999;113(5):902–913.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink72rf0365)

73.[Alfarez DN, De Simoni A, Velzing EH, et al. Corticosterone reduces dendritic complexity in developing hippocampal CA1 neurons.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink73rf0370) *[Hippocampus](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink73rf0370)*[. 2009;19(9):828–836.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink73rf0370)

74.[Bourdeau I, Bard C, Noel B, et al. Loss of brain volume in endogenous Cushing's syndrome and its reversibility after correction of hypercortisolism. *J Clin Endocrinol Metab*. 2002;87(5):1949–1954.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589181.html#rfLink74rf0375)

75.[Czeh B, Lucassen PJ. What causes the hippocampal volume decrease in depression? Are neurogenesis, glial changes and apoptosis implicated?](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink75rf0380) *[Eur Arch Psychiatry Clin Neurosci](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink75rf0380)*[. 2007;257(5):250–260.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink75rf0380)

76.[Lucassen PJ, Pruessner J, Sousa N, et al. Neuropathology of stress.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink76rf0385) *[Acta Neuropathol](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink76rf0385)*[. 2014;127(1):109–135.](file:///D%3A%5C%5Cwomat-filecopy%5C%5CEd-Reference%5C%5C0002589181.html%22%20%5Cl%20%22rfLink76rf0385)

77.[Flügge G, Kramer M, Rensing S, Fuchs E. 5HT1A-receptors and behaviour under chronic stress: selective counteraction by testosterone. *Eur J Neurosci*. 1998;10(8):2685–2693.](file:///D%3A%5Cwomat-filecopy%5CEd-Reference%5C0002589181.html#rfLink77rf0390)