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[Childhood maltreatment disrupts white matter in the brain](#)

DOI: 10.1038/NPP.2012.133

Abuse and other forms of maltreatment during childhood have a long-lasting negative impact on
brain white matter structure and subsequent mental health, according to a study published this
week in *Neuropsychopharmacology*.

Adolescence is an important developmental stage for the maturation of brain regions
involved in psychological and social aspects of behavior. These processes could be disrupted in
adolescents who were subjected to childhood maltreatment, which would put them at higher risk
for developing later emotional or behavioral disorders.

Uma Rao, Hao Huang and co-workers used an imaging technique to assess the integrity of white matter tracts – the pathways that connect different portions of the brain – in 19 maltreated adolescents and 13 matched controls during a five-year assessment period. Maltreatment included physical neglect, emotional, physical or sexual abuse, or exposure to domestic violence which occurred before 10 years of age. The authors found that adolescents with a history of maltreatment had deficits in white matter tracts that correlated with an increased vulnerability to depression and substance abuse during follow-up.

The authors caution that these findings need to be replicated in a larger study, but that this research could help identify at-risk adolescents for preventative interventions.

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