

August, 2016 Updates

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AD/HD



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AD/HD, Medication, & Bone Density

American scientists found that AD/HD children and adolescents had significantly less bond density when they took AD/HD medications than their peers that did not take such medication. The researchers suggested this be mentioned as a possible side effect.

Howard, J. et al. (September 2015). Preliminary Evidence of an Association Between ADHD Medications and Diminished Bone Health in Children and Adolescents. [Journal of Pediatric Orthopaedics](#). DOI: 10.1097/BPO.0000000000000651.

AD/HD, Medication, & Bone Density

Australian scientists found that AD/HD children do not have significantly less bone density than their non-medicated peers, but their overall growth is delayed. Hence, during the first three years of being medicated they will have less bone density than their age peers due to their delayed maturity, but then they catch up. This may lessen the eventual height in some children.

Poulton, A.S. et al. (February 1, 2016). Stimulant medication effects on growth and bone age in children with attention-deficit/hyperactivity disorder: a prospective cohort study. [International Clinical Psychopharmacology](#). DOI: [10.1097/YIC.0000000000000109](https://doi.org/10.1097/YIC.0000000000000109).

AD/HD and Cannabis Use

American scientists found that the use of cannabis had no positive effect on the symptoms of AD/HD.

Rasmussen, J. et al. (October 21, 2015). ADHD and cannabis use in young adults examined using fMRI of a Go/NoGo task. [Brain Imaging and Behavior](#). DOI: 10.1007/s11682-015-9438-9.

Death, Accidents, & AD/HD

Danish scientists found significantly higher rates of mortality in those with AD/HD, especially in those diagnosed with the disorder in adulthood. Those with comorbid oppositional defiant disorder, conduct disorder and/or substance abuse disorders had even higher morbidity rates. Females had higher rates of morbidity than males and most deaths were caused by accidents.

Dalsgaard, S. et al (February 25, 2015). Mortality in children, adolescents, and adults with attention deficit hyperactivity disorder: a nationwide cohort study. Lancet. DOI: [10.1016/S0140-6736\(14\)61684-6](https://doi.org/10.1016/S0140-6736(14)61684-6).

Financial Dependence and AD/HD

Researchers in Pittsburg found that AD/HD adults had significantly more financial dependence on their parents than their non-impaired peers. Their diagnostic status, delinquency and education level all were factors. It was found that AD/HD adults make \$543,000.00 and \$616,000.00 in their lifetimes than those who do not have AD/HD. The researchers believe special help is need to help those with AD/HD in the workplace and with their finances.

Altszler, A.R. et al. (August 1, 2015). Financial Dependence of Young Adults with Childhood ADHD. [Journal of Abnormal Child Psychology](#). DOI: [10.1007/s10802-015-0093-9](https://doi.org/10.1007/s10802-015-0093-9).

AD/HD and Suicide

Scientists found that adults with AD/HD have significantly more suicidal behavior than non-AD/HD adults even when the data is controlled for comorbid disorders. They concluded that health care professionals need to be made aware of this increased risk.

Stickley, A. et al (January 1, 2016). Attention-deficit/hyperactivity disorder symptoms and suicide ideation and attempts: Findings from the Adult Psychiatric Morbidity Survey 2007. [Journal of Affective Disorders](#). DOI: [10.1016/j.jad.2015.09.061](https://doi.org/10.1016/j.jad.2015.09.061).

AD/HD, Persistence and fMRI

A literature review demonstrated that persistent functional anomalies of the caudate nucleus (reward center of the brain) may determine if childhood AD/HD persists into adulthood.

Lei, D et al. (May 4, 2015). Functional MRI reveals different response inhibition between adults and children with ADHD. [Neuropsychology](#). DOI: 10.1037/neu0000200.

Brain Injury and AD/HD

Eme, a professor from the United States reviewed the literature related to AD/HD, pediatric traumatic brain damage (PTBD), and AD/HD secondary to brain damage (SADHD) found that 1/3rd of the cases of SADHD will resolve 18 months after injury, and the remainder will have the condition chronically if it persists more than 2 years. SADHD rates are probably higher than the 25% estimates. SADHD patients share the symptoms with AD/HD, but also have significant speed of information problems connected to their brain damage. All cases of PTBI should be evaluated for pre-injury evidence of AD/HD. Little is known about how to treat SADHD.

Eme, R. (August, 2015). Pediatric Traumatic Brain Damage and Attention Deficit Hyperactivity Disorder. [ADHD Report, 23\(5\)](#), 1-8.

AD/HD and PTSD

Scientists did a literature review and meta analysis of research investigating the relationship of AD/HD to post traumatic stress disorder and vice versa. They found a bidirectional relationship between the two disorders that may be related to a similar neurobiological predisposition.

Spencer, A.E. et al. (January, 2016). Examining the association between posttraumatic stress disorder and attention-deficit/hyperactivity disorder: a systematic review and meta-analysis. [Journal of Clinical Psychiatry, 77\(1\), 2-83.](#)

Telomere Length and AD/HD

Brazilian researchers found that AD/HD patients tend to have shorter telomere length than their non-AD/HD peers putting them at higher risk for age related disorders. They also found telomere length is highly related to hyperactivity/impulsivity, but not inattention. They concluded telomere length may be a good biomarker for AD/HD.

De Souza Costa, D. et al. (July, 2015). Telomere length is highly inherited and associated with hyperactivity-impulsivity in children with attention deficit/hyperactivity disorder. Frontiers in Molecular Science. DOI: [10.3389/fnmol.2015.00028](https://doi.org/10.3389/fnmol.2015.00028).

AD/HD, Facial Processing, & Emotional Processing

Researchers from Turkey found that children with AD/HD have significant difficulty recognizing faces and facial expressions when compared to their non-impaired peers. More specifically, they found those with hyperactive/impulsive AD/HD were the most impaired in facial processing and had lower scores than those with inattentive presentation. However, the inattentives were significantly lower than the non-impaired. There was no difference between boys and girls. It was found when AD/HD children were placed on OROS-MPH, or atomoxetine they experienced significant improvement in their face processing.

Demirci, E. et al. (July 29, 2016). Is emotion recognition the only problem in ADHD? effects of pharmacotherapy on face and emotion recognition in children with ADHD. Attention Deficit Hyperactivity Disorder. DOI: 10.1007/s12402-016-0201-x.

AD/HD in Prison Populations

Spanish researchers assessed 143 (133 men; 10 women) prisoners between the ages of 18 to 69 in a penitentiary in Villabona, Spain and found that 25% of them met criteria for AD/HD.

Perez, C.R. et al. (October/December, 2015). Attention Deficit Disorder and Hyperactivity Disorder (ADHD): Prevalence and sociodemographic characteristics in Inmate Population. [Psychology: Reflexano and Criticism](#). DOI: 10.1590/1678-7153.201528407 (From Google Translate).

Female Prisoners and AD/HD

A British study found that 41 % of female prisoners had AD/HD in childhood and adulthood. They tended to have high levels of impairment related to their AD/HD.

Farooq, R. et al. (June, 2016). Prevalence of adult ADHD in an all-female prison unit. Attention Deficit Hyperactivity Disorder, 8(2), 113-119.

Neurobiofeedback, Physical Exercise, Methylphenidate & AD/HD

Researchers from the Netherlands investigated the efficacy of neurobiofeedback, physical exercise, and methylphenidate in treating ADHD in children ages 7 to 13. They found that only methylphenidate changed theta and alpha power in the brain and the effects generalized to the natural environment.

Janssen, T.P.W. et al (January 8, 2016). A randomized controlled trial into the effects of neurofeedback, methylphenidate, and physical activity on EEG power spectra in children with ADHD. [Journal of Child Psychology and Psychiatry](#). DOI: [10.1111/jcpp.12517](https://doi.org/10.1111/jcpp.12517).

AD/HD, SLD, & Concussion

Teens with AD/HD and/or specific learning disorder have a significantly higher rate of concussions in sports than do no-impaired teens.

Iverson, G.L. et al. (July 18, 2016). High School Athletes With ADHD and Learning Difficulties Have a Greater Lifetime Concussion History. [Journal of Attention Disorders](#). DOI: 10.1177/1087054716657410.

Driving & AD/HD

Research from New Zealand indicates adults with AD/HD are at risk for having accidents particularly in low demand and rural driving situations.

Randell, N.J.S. et al. (July 9, 2016). Driving With ADHD: Performance Effects and Environment Demand in Traffic. [Journal of Attention Disorders](#). DOI: 10.1177/1087054716658126.

Other Research



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Repeated Transcranial Brain Stimulation and Autism Spectrum Disorder

Researchers from Boston reviewed the research related to the use of repeated transcranial brain stimulation for the diagnosis and treatment of autism and concluded, “In conclusion, though results of published studies are promising suggesting that specific rTMS protocols targeting specific regions of cortex may lead to improvement in specific behavioral deficits in some individuals with ASD, both the investigative and therapeutic results have been mixed. Additionally, the large-scale, controlled trials necessary to establish the safety and efficacy these brain stimulation protocols have yet to be conducted”.

Oberman, L.M. et al. (February, 2015). Use of Transcranial Magnetic Stimulation in Autism Spectrum Disorders. [Journal of Autism and Developmental Disorders](#). DOI: [10.1007/s10803-013-1960-2](https://doi.org/10.1007/s10803-013-1960-2).

Hypnosis and Brain Activity

Scientists recently discovered the areas of the brain effected by clinical hypnosis. Subjects were placed in an fMRI scanner and placed in a hypnotic trance. While in trance they had reduced activity in the dorsal anterior cingulate cortex, and increased activity between the dorsolateral prefrontal cortex and the insula. Additionally there was lowered connectivity between the frontal executive network and the default mode network. They concluded, “These changes in neural activity underlie the focused attention, enhanced somatic and emotional control, and lack of self-consciousness that characterizes hypnosis.”

Jianq, H. et al. (July 28, 2016). Brain Activity and Functional Connectivity Associated with Hypnosis. *Cerebral Cortex*. DOI: [10.1093/cercor/bhw220](https://doi.org/10.1093/cercor/bhw220).