



March 2015 Website Updates
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Bipolar Disorder and AD/HD

Swiss scientists compared groups of patients with bipolar disorder and comorbid AD/HD with those with bipolar disorder and no AD/HD. They found those with the comorbidity had a younger onset of bipolar symptoms, more anxiety and depressive episodes, more symptoms of borderline personality disorder and more cyclothymic treatments as well as more incidents of childhood abuse than those without comorbid AD/HD. Those with the AD/HD comorbidity were found to have worse life outcomes and more life stress.

Perroud, N. et al. (July 9, 2014). Comorbidity between attention deficit hyperactivity disorder (ADHD) and bipolar disorder in a specialized mood disorders outpatient clinic. Journal of Affective Disorders. DOI: <http://dx.doi.org/10.1016/j.jad.2014.06.053>.

Reward, Learning, & AD/HD

Danish scientists found that children with AD/HD do not differ from non-disabled children in how they learned from reward when they were medicated or not. The scientist speculated this would not be the case if the AD/HD children had comorbid oppositional defiant disorder. The AD/HD children were found to complete learning tasks quicker and more accurately with higher stimulant medication dosages, however.

Luman, M., et al. (September, 2014). Instrumental Learning in ADHD in a Context of Reward: Intact Learning Curves and Performance Improvement with Methylphenidate. Journal of Abnormal Child Psychology. DOI: 10.1007/s10802-014-9934-1.

Excessive Exercise in AD/HD Adults

German scientists found that adults who met criterion for AD/HD in childhood, but did not in adulthood who also were “excessive exercisers” may be treating this AD/HD with exercise.

Berger, N., et al. (September 12, 2014). Association of symptoms of attention-deficit/hyperactivity disorder with symptoms of excessive exercising in an adult general population sample. BMC Psychiatry. DOI: 10.1186/s12888-014-0250-7.

Gary Matter Differences in AD/HD, and ASD

Scientists discovered through brain imaging those with AD/HD have significant gray matter differences in the right cerebellum and left temporal gyrus. The smaller cerebellum was specific to ADHD. Whereas, those with ASD have significantly more gray matter in their left temporal gyrus than those with AD/HD. This difference appears to be specific to ASD. The scientists speculated these differences may be seen as diagnostic in the future.

Lim, L., et al. (April, 2015). Disorder-specific grey matter deficits in attention deficit hyperactivity disorder relative to autism spectrum disorder. Psychological Medicine, 45(5), 965-976.

Detecting Feigned AD/HD in College Students

Recently researchers found the Test of Memory Malinger (TOMM), Letter Memory Test (LMT), and Nonverbal Symptom Validity Test (NV-MSVT) successfully differentiated AD/HD college students from college students feigning AD/HD.

Williamson, K.D., et al. (September 16, 2014). Discriminating among ADHD alone, ADHD with a comorbid psychological disorder, and feigned ADHD in a college sample. Clinical Neuropsychology. DOI: 10.1080/13854046.2014.956674.

Predicting Impairment in AD/HD College Students by Measuring Executive Functioning

Researchers at Virginia Commonwealth University discovered that parent rated emotional dysfunction and student rated motivation predicted impairment in AD/HD student more than AD/HD symptoms. It was also found that the student's executive functioning was the best way to predict future impairment.

Dvosky, M.R., et al. (September 17, 2014). Predicting Impairment in College Students With ADHD The Role of Executive Functions. Journal of Attention Disorders. DOI: 10.1177/108705471454803.

Sleepiness, SCT, & ADHD

Recently researchers discovered that sluggish cognitive tempo (SCT) and sleepiness have significant overlap with AD/HD, but are distinct conditions unto themselves. They also found that students with AD/HD and Comorbid SCT and sleepiness were significantly more impaired than students with just AD/HD.

Langberg, J.M., et al. (June, 2014). Are sluggish cognitive tempo and daytime sleepiness distinct constructs? Psychological Assessment, 26(2), 586-597.

Neurodevelopmental Disorders and Air Pollution

Swedish scientists discovered that pre- and post natal exposure to air pollution from automobiles is not associated with neurodevelopmental disorders.

Gong, T., et al. (December 17, 2014). Exposure to air pollution from traffic and neurodevelopmental disorders in Swedish twins. [Twin Research and Human Genetics](https://doi.org/10.1017/thg.2014.58). DOI: 10.1017/thg.2014.58.

Adult AD/HD and Methylphindate

A literature review and meta-analysis of published randomized double blind studies in proctored journals of AD/HD adults treated with methylphindate done by the Cochrane Collaboration indicated the immediate release type of the medication is efficacious in treating AD/HD in adults. It also found the clinical side effect profile was not significant.

http://www.cochrane.org/CD005041/BEHAV_ritalin-for-adult-attention-deficit-hyperactivity-disorder-adhd

ASD and Sleep Disorders

Researchers recently discovered that children with autism spectrum disorder have significant problems with sleep. This was particularly found to be true with those who have comorbid anxiety disorders. It was found that the children who completed a family based cognitive behavioral treatment to treat anxiety were able to sleep significantly better after treatment.

Nadeau, J. M., et al. (September 20, 2014). Frequency and Clinical Correlates of Sleep-Related Problems Among Anxious Youth with Autism Spectrum Disorders. Child Psychiatry and Human Development. DOI: 10.1007%2Fs10578-014-0496-9.

Psychopathy, AD/HD and SCT

Researchers recently discovered that children with AD/HD are at significant risk of having comorbid impulsivity related psychopathy and narcissism whereas those with sluggish cognitive tempo were not.

Raiker, J.S., et al. (September, 2014). Mediating Effect of Psychopathy on the Risk of Social Problems Among Children with ADHD Versus Sluggish Cognitive Tempo Symptoms. Child Psychiatry and Human Development. PubMed ID: 25212965.

Diet, Fat and AD/HD

German researchers found that AD/HD children deficient in long-chain polyunsaturated fatty acids in their diets may have exacerbated AD/HD symptoms. They suggested that supplementation of these fats may reduce this exacerbation.

Lange, K.W., et al. (2014). Polyunsaturated fatty acids in the treatment of attention deficit hyperactivity disorder. Functional Foods in Health and Disease, 4(6), 245-254.

AD/HD and Brain Maturation

Researchers recently found significant maturational lag in brains of children with AD/HD in the frontoparietal network and ventral attention network.

Sripada, C.S., et al. (August 15, 2014). Lag in maturation of the brain's intrinsic functional architecture in attention-deficit/hyperactivity disorder. PNAS. DOI: 10.1073/pnas.1407787111.

Career and Technical Education for Those with SLD

Research indicates that young adults with career and technical training during high school are more likely to participate in jobs related to their training two years after high school than those that do not have the training.

Wagner, M.M., et al. (March 16, 2015). The Benefits of High School Career and Technical Education (CTE) for Youth With Learning Disabilities. [Journal of Learning Disabilities](https://doi.org/10.1177/0022219415574774). DOI: 10.1177/0022219415574774.

Genetics, Tourette's Syndrome, Comorbidity

Researchers found that children with Tourette's Syndrome are more likely to have comorbidities early in life. The most common comorbidities are obsessive compulsive disorder and AD/HD. It appears in such cases the OCD and AD/HD are genetically related.

Hirschtritt, M.E., et al. (2015). Lifetime Prevalence, Age of Risk, and Genetic Relationships of Comorbid Psychiatric Disorders in Tourette Syndrome. JAMA Psychiatry, 72(4), 325-333.

Telehealth and AD/HD

The Children's with AD/HD Telemental Health Treatment Study (CATTS) was found to demonstrate that telehealth was found to be effective in treating Children with AD/HD in communities with limited services.

Myers, K, et al. (April, 2015). Effectiveness of a Telehealth Service Delivery Model for Treating Attention-Deficit/Hyperactivity Disorder: A Community-Based Randomized Controlled Trial. Child and Adolescent Psychiatry, 54(4), 263-274.

Autism and Genetics

British researchers compared twins where one met criterion for autism spectrum disorder and the other did not. They found the non-impaired twin often showed autistic traits and there was a significant overlap of genes related to autism in sets of twins.

Colvert, E., et al. (March 4, 2015). Heritability of Autism Spectrum Disorder in a UK Population-Based Twin Sample. [JAMA Psychiatry](https://doi.org/10.1001/jamapsychiatry.2014.3028). DOI: 10.1001/jamapsychiatry.2014.3028.

Autism, Psychosis, and Bipolar Disorder

Researchers from the Netherlands, Great Britton, and Sweden found those with Autism Spectrum Disorder are at significantly higher risk of developing bipolar disorder and nonaffective psychotic disorders.

Selten, J-P., et al. (March 25, 2015). Risks for Nonaffective Psychotic Disorder and Bipolar Disorder in Young People With Autism Spectrum DisorderA Population-Based Study. JAMA Psychiatry. DOI: 10.1001/jamapsychiatry.2014.3059.

Maternal Report of ASD Infant Stomach Problems

American and Norwegian scientists found mothers with infants with ASD were significantly more likely to report their baby had gastrointestinal problems than mother with babies that had either other developmental disorders, and mothers that had typically developing children.

Bresnahan, M., et al. (March 25, 2015). Association of Maternal Report of Infant and Toddler Gastrointestinal Symptoms With Autism Evidence From a Prospective Birth Cohort. JAMA Psychiatry. DOI: 10.1001/jamapsychiatry.2014.3034.

AD/HD and Brain Volume

Researchers discovered that AD/HD siblings have significantly different global gray matter development than their unaffected siblings. This is particularly true in the putamen and caudate areas. However, the siblings have differences in the same areas when compared to the general population. This may point to a family risk of AD/HD.

Greven, C.U., et al. (March 18, 2012). Developmentally Stable Whole-Brain Volume Reductions and Developmentally Sensitive Caudate and Putamen Volume Alterations in Those With Attention-Deficit/Hyperactivity Disorder and Their Unaffected Siblings. JAMA Psychiatry. DOI: 10.1001/jamapsychiatry.2014.3162.

CogMed and Working Memory

Researchers reviewed the published research related to the CogMed program and found that it provided significant improvement in working memory and the results generalized to the natural environment.

Spencer-Smith, M., et al. (March 20, 2015). Benefits of a Working Memory Training Program for Inattention in Daily Life: A Systematic Review and Meta-Analysis. PLOS one. DOI: 10.1371/journal.pone.0119522.

AD/HD & Depression

Scientists from the University of North Carolina ant Greensboro found that college students with AD/HD are significantly more likely to have comorbid depression and depressive symptoms than nonimpaired college students.

Allison-Coville, B. (2014). Depression in college students with ADHD. ProQuest: Dissertation and Theses-Gradworks: Publication Number – 3637538.

Man Without A Cerebellum

Jonathan Keleher is a 33 year old man born without a cerebellum or approximately one-half of the cells in his brain. He cannot pass a driving sobriety test because of coordination problems. He had great problems learning to walk and talk, he is a great listener, but not introspective and as a result has few friends, or romantic relationships. Abilities that are automatic for others are skills for him. It is very hard for him to show emotion, and to know how to socialize. He is employed, however.

Hamilton, J. (March 16, 2015). A Man's Incomplete Brain Reveals Cerebellum's Role In Thought And Emotion. National Public Radio (NPR). From website:

[http://www.npr.org/blogs/health/2015/03/16/392789753/a-man-s-incomplete-brain-reveals-cerebellum-s-role-in-thought-and-emotion.](http://www.npr.org/blogs/health/2015/03/16/392789753/a-man-s-incomplete-brain-reveals-cerebellum-s-role-in-thought-and-emotion)

Genetic Testing for AD/HD Medications

Harmonyxx, a company based in Cordova, Tennessee, has developed a genetic test that cost \$100.00 that can tell a physician which AD/HD medication will help the patient. This ends the need of up to 18 months of medication titration to find the right medication and dosage for the patient. The test is simple. The test is ordered by a physician and a pharmacist can process the results. The patient swishes a large queue tip around their mouth. The entire process takes a few days. From

Website:

<http://www.harmonyxxdiagnostics.com/physician/which-prescriptions-are-covered-by-the-harmonyxx-test/adhd/>.

Exercise and AD/HD

Betsy Hoza and Alan Smith reviewed all the research on using physical exercise as part of treating AD/HD. They concluded that physical exercise could be used as part of the treatment of AD/HD. They did say that the amount of exercise needs to be determined, as well as does a person's age make a difference. Additionally, they said physical exercise should be compared to other treatment modalities (i.e., medication, behavioral techniques, etc.) to determine what line of treatment it should be.

Hoza, B., and Smith, A. (March, 2015). Is Aerobic Physical Activity a Viable Management for ADHD? ADHD Report, 23(2), 1-5.

Subtyping AD/HD

Joel Nigg, who was involved in the creation of the AD/HD diagnostic criterion for the DSM-5[®]. He said the field trial study group found there was a group of “purely inattentive type” children who had slower attentional blink, slower processing speed, and significantly fewer symptoms of hyperactive-impulsive symptoms of AD/HD than did AD/HD children and non-impaired children. It was implied that future editions of the DSM will be able to better address this group. Similar observations were made about a subgroup of AD/HD children with “callous-unemotional” symptoms without conduct disorder. These children were seen as having somewhat psychopathic personalities.

Nigg, J. (March, 2015). ADHD: New Approaches to Subtyping and Nosology. ADHD Report, 23(2), 6-9,12.