

An aerial photograph of Tucson, Arizona, taken during sunset. The sun is low on the horizon, casting a golden glow over the city and the surrounding desert landscape. The sky is filled with scattered clouds, some of which are illuminated by the setting sun. The city's buildings and roads are visible in the foreground and middle ground, with some lights beginning to glow. The text is overlaid in the center of the image.

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Website Update

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Tucson, Arizona

The AD/HD Brain

German scientists found, “...significantly smaller GM volume in subjects with ADHD compared to their matched controls within the anterior cingulate cortex (ACC), the occipital cortex, bilateral hippocampus/amygdala and in widespread cerebellar regions. Further, reductions of the ACC gray matter volume were found to correlate with scores of selective inattention.”

Bonath, B. et al. (January, 8 2016). Regional Gray Matter Volume Differences Between Adolescents With ADHD and Typically Developing Controls: Further Evidence for Anterior Cingulate Involvement. Journal of Attention Disorders. DOI: 10.1177/1087054715619682.

AD/HD Kindergarteners and Self-Regulation

Italian researchers found that kindergarteners with AD/HD had significantly less self-regulation than their non-disabled peers and this lead to more psychiatric comorbidities in the future as well as worse social functioning.

Grazia Melegari, M. et al. (January 7, 2016). Deficient Emotional Self-Regulation in Preschoolers With ADHD: Identification, Comorbidity, and Interpersonal Functioning. Journal of Attention Disorders. DOI: 10.1177/1087054715622015.

Executive Function in Fetal Alcohol Spectrum Disorder (FASD) & AD/HD

Canadian scientists found that children with AD/HD and FASD have significant deficiencies of executive function when compared to typically developing children. However, those with FASD have significantly more executive function deficiencies than those with AD/HD.

Khoury, J. et al. (January 3, 2016). Comparing Executive Functioning in Children and Adolescents With Fetal Alcohol Spectrum Disorders and ADHD: A Meta-Analysis. Journal of Attention Disorders. DOI: 10.1177/1087054715622016.

Screening for AD/HD and Bipolar Disorder in Children

Brazilian and American researchers found that using the Child Behavior Checklist (CBCL)-AAA (Attention Problems, Aggressive Behavior, and Anxious/Depressed) and the Parent–Young Mania Rating Scale (P-YMRS) are good instruments to use in making differential diagnoses of AD/HD and pediatric Bipolar Disorder.

Cordeiro, M.L. et al. (December 29, 2015). Receiver Operating Characteristic Curve Analysis of Screening Tools for Bipolar Disorder Comorbid With ADHD in Schoolchildren. Journal of Attention Disorders. DOI: 10.1177/1087054715620897.

Low Birth Weight and Sluggish Cognitive Tempo

American researchers found that a subgroup of low birth weight children who were evaluated at ages 6, 9, and 16 met criteria for persistent sluggish cognitive tempo and had more difficulty with psychiatric comorbidity, motor coordination problems and social interaction difficulties than those with combined presentation AD/HD.

Krasner, A.J. et al. (December 23, 2015). ADHD Symptoms in a Non-Referred Low Birthweight/Preterm Cohort: Longitudinal Profiles, Outcomes, and Associated Features. [Journal of Attention Disorders](#). DOI: 10.1177/1087054715617532.

Transcranial Direct Current Stimulation & AD/HD

Iranian scientists used transcranial direct current stimulation of the left dorsolateral prefrontal cortex of high school students with AD/HD. There was a placebo control group and all subjects and researchers were blinded. The transcranial stimulation produced significant improvement in response inhibition of the treatment group.

Soltaninejad, Z. et al. (December 20, 2015). Effect of Anodal and Cathodal Transcranial Direct Current Stimulation on DLPFC on Modulation of Inhibitory Control in ADHD. [Journal of Attention Disorders](#). DOI: 10.1177/1087054715618792.

AD/HD & Math & Reading Problems

Australian researchers found that elementary children with AD/HD were significantly more at risk of having reading, math and spelling problems than their non-disabled peers. This was even more so if the child with AD/HD was premature.

Silva, D. et al. (December 20, 2015). Literacy and Numeracy Underachievement in Boys and Girls With ADHD. Journal of Attention Disorders. DOI: 10.1177/1087054715613438.

Neuropsychological Testing and AD/HD

Swedish researchers found that neuropsychological testing to determine if an adult is AD/HD or not cannot tell if they have the disorder or not. However, if a continuous performance test is used in conjunction with The Diagnostic Interview for AD/HD in Adults the accuracy of the diagnostic process is improved by 10%.

Pettersson, R. et al. (December 17, 2015). Diagnosing ADHD in Adults: An Examination of the Discriminative Validity of Neuropsychological Tests and Diagnostic Assessment Instruments. Journal of Attention Disorders. DOI: [10.1177/1087054715618788](https://doi.org/10.1177/1087054715618788).

Positive Driving Bias in AD/HD Teens

American researchers found that AD/HD teen have a positive driving bias that makes them believe they are far more skilled in driving than they actually are and thus they engage in very risky driving activities.

Fabiano, G.A. et al. (December 4, 2015). Positive Bias in Teenage Drivers With ADHD Within a Simulated Driving Task. Journal of Attention Disorders. DOI: 10.1177/1087054715616186.

AD/HD & Social Anxiety Disorder

Turkish scientist found that children with Sluggish Cognitive Tempo (SCT) have significantly more difficulty with social anxiety disorder than those with AD/HD, Combined Presentation. They concluded that social anxiety disorder may be more a part of SCT.

Koyuncu, A. et al (December 4, 2015). Clinical Effects of ADHD Subtypes in Patients With Social Anxiety Disorder. Journal of Attention Disorders. DOI: 10.1177/1087054715617533.

Sleep, AD/HD, & ASD

Australian scientist investigate the relationship between sleep disorders in children with AD/HD and ASD. They found that those with both disorders had no significant difference from those found in children with AD/HD. Hence, they stated that the children with ASD and AD/HD's sleep difficulties were due to their AD/HD, not ASD. This was also true of their internalizing and externalizing problems.

Thomas, S. et al. (December 4, 2015). Children With ADHD and Comorbid Autism Spectrum Disorder. Journal of Attention Disorders. DOI: 10.1177/1087054715613439.

AD/HD Children with Comorbid Depression/Anxiety

American scientists found that children with AD/HD are almost 5 times more likely to have problems with anxiety, or depression than typically developing children. If they have this comorbidity they are 10 times more likely to have academic problems.

Cuffe, S.P. et al. (November 25, 2015). ADHD and Psychiatric Comorbidity: Functional Outcomes in a School-Based Sample of Children. ADHD and Psychiatric Comorbidity: Functional Outcomes in a School-Based Sample of Children. Journal of Attention Disorders. DOI: 10.1177/1087054715613437.

Facial Expressions and AD/HD, Combined Presentation

Researchers from Israel found that adolescents with AD/HD were significantly worse at determining if a facial expression was positive, or negative and they were much slower at making these determinations than their non-disabled peers.

Dan, O et al. (September 23, 2015). Response Patterns to Emotional Faces Among Adolescents Diagnosed With ADHD. Journal of Attention Disorders. DOI: 10.1177/1087054715606215.

Sleep, AD/HD, & Anxiety

Canadian researchers found that children with AD/HD and anxiety have a sleep disorder related to sleep onset and less sleep than their non-disabled peers that cause their anxiety. The scientists then found that they could use CBT with the children to correct their sleep difficulties and significantly reduce their anxiety.

Be'riault, M. et al (September 22, 2015). Comorbidity of ADHD and Anxiety Disorders in School-Age Children: Impact on Sleep and Response to a Cognitive-Behavioral Treatment. Journal of Attention Disorders. DOI: 10.1177/1087054715605914.

Dyslexia & Semantic Representation

Chinese researchers found that dyslexic Chinese children's verbal short-term memory deficit may not come from a phonological awareness deficit, but from a deficit in being able to inhibit semantic representation in short-term memory.

Zhao, J. et al. (November 2015). Verbal Short-Term Memory Deficits in Chinese Children with Dyslexia may not be a Problem with the Activation of Phonological Representations. Dyslexia, 21(4), 301-322.

Dyslexia and Driving

Researchers recently found that dyslexic individuals are more apt to experience visual stress in timed situations and this may effect their ability to drive. This they said would be due to their deficit in their Magnocellular system.

Fisher, C. et al. (November, 2015). Impaired Driving Performance as Evidence of a Magnocellular Deficit in Dyslexia and Visual Stress. Dyslexia, 21(4), 350-360.

Second Language Learning and Reading

Scientists found that rate of growth in executive functions in native Spanish speaking elementary students learning to read English was related to how well they learned to read in English. Students who had reading disorder in Spanish has slower developing executive functions and were worse at learning to read in English.

Swanson, L.H. et al. (December 28, 2015). Does Growth in the Executive System of Working Memory Underlie Growth in Literacy for Bilingual Children With and Without Reading Disabilities? Journal of Learning Disabilities. DOI: 10.1177/0022219415618499.

Executive Function and Reading Comprehension

French researchers found linguistic skills do not differentiate between good and bad reading., but executive function ability does. They suggested investigating how to remediate executive function in such students.

Potocki, A. et al. (October 28, 2015). Linguistic and Cognitive Profiles of 8- to 15-Year-Old Children With Specific Reading Comprehension Difficulties The Role of Executive Functions. Journal of Learning Disabilities. DOI: 10.1177/0022219415613080.

Rapid Automated Naming and Phonological Processing in Children with AD/HD, and Dyslexia

Dutch researchers found that students with AD/HD had lower phonological awareness and rapid automatized naming scores than their non-disabled peers, but students with dyslexia and AD/HD with dyslexia had far lower scores.

De Groot, B.J.A. et al. (October 16, 2015). Rapid Naming and Phonemic Awareness in Children With or Without Reading Disabilities and/or ADHD. Journal of Learning Disabilities. DOI: 10.1177/0022219415609186.

Autism and Anxiety

British researchers investigated the feasibility of using mobile technology to provide real time cognitive behavioral therapy to those with high function autism spectrum disorder and anxiety. They found this was a possible good use of this technology.

Hare, D.J. et al. (October 29, 2015). Anxiety in high-functioning autism: A pilot study of experience sampling using a mobile platform. Autism. DOI: 10.1177/1362361315604817.

Autism & Anxiety

British researchers discovered that adults with ASD are far more likely to suffer from anxiety and obsessive-compulsive disorder than their non-disabled peers.

Russell, A.J. et al. (October 15, 2015). The mental health of individuals referred for assessment of autism spectrum disorder in adulthood: A clinic report. Autism. DOI: 10.1177/136236131560427.

Emergency Services and ASD

American scientists found that adults with ASD are 2.3 times more apt to contact emergency services than the non-disabled. They recommended this be investigated as to why and to make sure those with ASD w how to use such services properly.

Vohra, R et al. (January 13, 2016). Emergency Department Use Among Adults With Autism Spectrum Disorder. Journal of Autism and Developmental Disorders. DOI: 10.1007/s10803-15-2692-2.

Genetics and ASD

Scientists have found there are about 200 genes related to autism. About 70 are related to the autistic brain and the rest can be related to,... “psychiatric disorders and peripheral comorbidities that include cancer, cardiovascular disease, renal disorders, respiratory disorders and metabolic disorders, demonstrating a broader impact of brain-associated genes in other developing organ systems”*. Some of these may be related to random errors of metabolism and/or mutations in mitochondrial DNA as well as unusual gut microbiomes that can negatively effect the brain.

***Stevenson, J.A. et al. (October 20, 2015). The genetic intersection of neurodevelopmental disorders and shared medical comorbidities-relationships that translate from bench to bedside. Paper presented at the Society for Neuroscience Annual Meeting, October 12-17, 2015, Chicago, IL, Program number:490.11/E12.**

Makin, S. (November/December, 2015). What Really Causes Autism. Scientific American Mind, 26(6), 56-63.