

September, 2014 Website Updates

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Psychotherapy & The Treatment of Children with AD/HD

Researchers from the RAND Corporation and the University of Pittsburgh found that less than one child in ten with AD/HD receive psychotherapy along with pharmacotherapy. Sometimes this trend was found more in areas of the country where there were fewer licensed psychologists, but this was not always the case. These practices have been carried out despite research that indicates co-therapy (medication with talk therapy) works best long term with children who have AD/HD. This may keep comorbidities from being treated and cause problems in social development.

Gallard, W.F., et al. (September 22, 2014). Geographic Variation in Receipt of Psychotherapy in Children Receiving Attention-Deficit/Hyperactivity Disorder Medications. JAMA Pediatrics. DOI: 10.1001/jamapediatrics.2014.1647.

Psychosocial Treatment of Sluggish Cognitive Tempo (Inattentive AD/HD)

Researchers found a psychosocial treatment program for SCT children called the Child Life Attention Skills Program (CLAS) which integrates psychosocial treatment and training at home and at school results in significant improvements in teacher and parent reported attention, organizational skills, social skills and global cognitive functioning.

Pfiffner, L.J., et al. (May 26, 2014). A Two-Site Randomized Clinical Trial of Integrated Psychosocial Treatment for ADHD-Inattentive Type. Journal of Consulting and Clinical Psychology. DOI: 10.1037/a0036887.

Biomarkers That Predict Future Dyslexia

Researchers did diffusion MRI's of kindergarten children and found that the development of the left arcuate fasciculus and superior corona radiata as key fibers predicted 56% of the variance of whether a child would develop dyslexia. This shows the importance of the development of left dorsal white matter in development of phonological processing and reading.

Myers, C.A., et al. (September 11, 2014). White Matter Morphometric Changes Uniquely Predict Children's Reading Acquisition. [Psychological Science](https://doi.org/10.1177/0956797614544511). DOI: 10.1177/0956797614544511.

Developmental Lag & AD/HD

Scientists discovered the development of the connections between the task positive networks and the fault mode networks in children with AD/HD are significantly delayed in their development when compared to non-disabled children. Thus, it appears that AD/HD children mature significantly slower than non-impaired children and the difference is in the large network connections in the brain.

Sripada, C.S., et al. (September 30, 2014). Lag in maturation of the brain's intrinsic functional architecture in attention-deficit/hyperactivity disorder. PNAS, 111(39), 14,259-14,264.

Reading Connectivity in Dyslexic Vs. Non-Dyslexic Brains

Dyslexics have significantly more divergent connectivity within the visual association areas and visual pathway as well as prefrontal cortex areas when compared to non-dyslexics. They also have reduced connectivity in the left temporal lobe's left fusiform gyrus. Non-dyslexics can integrate visual information and modulate their attention to visual stimuli significantly better than dyslexics. This allows them to recognize words on their visual properties whereas dyslexics must use phonological processing.

Finn, E.S., et al. (August 28, 2014). Disruption of functional networks in dyslexia: a whole-brain, data-driven analysis of connectivity. [Journal of Biological Psychiatry](https://doi.org/10.1016/j.biopsych.2013.08.031). DOI: 10.1016/j.biopsych.2013.08.031.

Augmentation Therapy for AD/HD and Comorbid Oppositional Defiant Disorder

Scientists found The combination of stimulant medication, parent training and Risperidone worked significantly better with children who had AD/HD, comorbid ODD and peer aggression than children who had stimulant medication and parent training only.

Gadow, K. D., et al. (September, 2014). Risperidone Added to Parent Training and Stimulant Medication: Effects on Attention-Deficit/Hyperactivity Disorder, Oppositional Defiant Disorder, Conduct Disorder, and Peer Aggression. Journal of the American Academy of Child & Adolescent Psychiatry, 53(9), 948-959.e1. DOI: S0890-8567(14)00369-4/abstract.

AD/HD and Obesity

Researchers found after a 33 year controlled prospective study that AD/HD boys had significantly higher Body Mass Indexes as adults than boys who did not have AD/HD. This study also controlled for socioeconomic status and other mental disorders.

Cortese, S., et al. (May 20, 2013). Obesity in Men With Childhood ADHD: A 33-Year Controlled, Prospective, Follow-up Study. Pediatrics, 131(6), e1731-e1739. DOI: 10.1542/peds.2012-0540.

Exercise and AD/HD

Researchers discovered that 26 minutes of rigorous exercise every school day can significantly improve AD/HD symptomatology in small children in school.

Smith, A.L., et al. (January, 2013). Pilot Physical Activity Intervention Reduces Severity of ADHD Symptoms in Young Children. Journal of Attention Disorders, 17(1), 70-82.

Stimulant Medication and Adult Height

A recent study of AD/HD children who were treated with stimulant medication indicated the stimulants did not stunt the children's eventual adult height.

Harstad, E.B., et al. (September 1, 2014). ADHD, Stimulant Treatment, and Growth: A Longitudinal Study. Pediatrics. DIO: 10.1542/peds.2014-0428.

AD/HD and Predicting Errors

Scientists have found those with AD/HD have impaired decision making and learning from experience abilities due to dysfunctional reward prediction errors caused by anomalies in the medial prefrontal cortex.

Hauser, T.U., et al. (October, 2014). Role of the Medial Prefrontal Cortex in Impaired Decision Making in Juvenile Attention-Deficit/Hyperactivity Disorder. JAMA Psychiatry, 71(10), 1165-1173. DOI: 10.1001/jamapsychiatry.2014.1093.

AD/HD, Stimulants, & Guanfacine

Researchers found that the use of Guanfacine Extended-Release with a stimulant worked significantly better in adolescents with AD/HD than using Guanfacine Extended-Release, or stimulants alone.

Cutler, A.J., et al. (October 2014). Response/Remission With Guanfacine Extended-Release and Psychostimulants in Children and Adolescents With Attention-Deficit/Hyperactivity Disorder. Journal of the American Academy of Child and Adolescent Psychiatry. 53(10), 1092-1101. DOI: 10.1016/j.jaac.2014.08.001.

Prenatal Anti-Depressants, AD/HD, & ASD

Scientists found pregnant mother who take anti-depressants for depression during their pregnancy are risk of having offspring with AD/HD, but not Autism Spectrum Disorder.

Clements, C.C., et al. (August 26, 2014). Prenatal antidepressant exposure is associated with risk for attention-deficit hyperactivity disorder but not autism spectrum disorder in a large health system. Molecular Psychiatry. DOI: 10.1038/mp.2014.90.

Reading and Mirror Image Processing

When we learn to read mirror image letters like “b and d”, and “p and q” or brains must learn to inhibit the automatic mental processing of their mirror image. This process never goes away even with excellent adult readers.

Borst, G., et al. (May 23, 2014). The cost of blocking the mirror generalization process in reading: evidence for the role of inhibitory control in discriminating letters with lateral mirror-image counterparts. DOI: [10.3758/s13423-014-0663-9](https://doi.org/10.3758/s13423-014-0663-9).

Homework Research

Rice University researchers found that homework was more useful if students were given refresher problems for the next two homework assignments, that spacing all sets of new problems over a three week period instead of one night and giving immediate feedback on homework did best.

Andrew C. Butler, Elizabeth J. Marsh, J. P. Slavinsky, Richard G. Baraniuk.(March 18, 2014). Integrating Cognitive Science and Technology Improves Learning in a STEM Classroom. Educational Psychology Review. DOI: 10.1007/s10648-014-9256-4.

Fatty Acids and AD/HD

Scientist found that omega 3/6 fatty acids had similar effects in children with AD/HD as methylphenidate. Additionally, they found Omega 3/6 fatty acids when used with methylphenidate was more tolerable than when either was used alone.

Barragan, E., et al. (June 1, 2014). Efficacy and Safety of Omega-3/6 Fatty Acids, Methylphenidate, and a Combined Treatment in Children With ADHD. Journal of Attention Disorders. DOI: 1087054713518239.

ASD, Emotional Face Perception, and Medication

An international group of scientists believe they have found a medication (diuretic bumetanide) that may help those with ASD improve their emotional face perception.

Hadjikhani, N., et al. (December 16, 2013). Improving emotional face perception in autism with diuretic bumetanide: A proof-of-concept behavioral and functional brain imaging pilot study. Autism. DOI: 10.1177/1362361313514141.

Autism and Quality of Life

Researchers from the Netherlands evaluated older adults with Autism Spectrum Disorder ages 53 to 83 regarding the quality of their lives. When compared to age match controls without ASD their quality of life was significantly worse. The researchers determined that age was not the variable that accounted for this. It was having ASD.

van Heijst, B.F.C., et al. (January 17, 2014). Quality of life in autism across the lifespan: A meta-analysis. Autism. DOI: 10.1177/1362361313517053.

Autism & Sensory Integration Therapy

A recent research literature review of Sensory Integration Therapy with autistic individuals indicated they may not be effective. The reviewers recommended future research of Sensory Integration Therapy use more rigorous research designs and larger subject groups.

Case-Smith, J., et al. (January 29, 2014). A systematic review of sensory processing interventions for children with autism spectrum disorders Autism. DOI: 10.1177/1362361313517762.

ASD, Pain, and Sleep

Scientists discovered children with autism spectrum disorder have abnormally high levels of pain and sleep difficulties. More specifically those with ASD were found to have significant parasomnias, sleep duration and apnea difficulties. It was recommended those being evaluated for ASD be screened for sleep and pain problems.

Tudor, M.E., et al. (February 4, 2014). Pain as a predictor of sleep problems in youth with autism spectrum disorders. Autism. DOI: 10.1177/1362361313518994.

Autism and Facial Expressions

Recently, those with autism spectrum disorder were found to significantly rate neutral emotional faces as displaying negative emotions. Adults with ASD were particularly biased toward rating happy facial expressions as neutral. The researchers determined those with ASD must have a negative bias toward reading emotional facial expressions.

Eack, S.M., et al. (February 17, 2014). Misinterpretation of facial expressions of emotion in verbal adults with autism spectrum disorder. Autism. DOI: 10.1177/1362361314520755.

Autism, Facial Expression and Situational Cues

Researchers found children with autism spectrum disorder relied more on reading facial expressions than the situation the person emoting the expression when determining the emotional “temperature” of a setting. This was with the exception of the emotional expression of fear. The scientists believed children were reasonably as good as their non-impaired peers at reading facial expressions. The children with ASD, however, did not pay attention to the context of the situation the facial expression was expressed.

Tell, D., et al. (May 22, 2014). Emotion recognition from congruent and incongruent emotional expressions and situational cues in children with autism spectrum disorder. Autism. DOI: 10.1177/1362361314535676.

Autism and Social Anticipation

Investigators found that children with autism spectrum disorder are impaired in knowing what to say in response to others. This may indicate they have significantly more difficulty in the cognition of social anticipation.

Agnus, D.J., et al. (June 12, 2014). Limitations in social anticipation are independent of imaginative and Theory of Mind abilities in children with autism but not in typically developing children. Autism. DOI: 10.1177/1362361314537911.

Adults with ASD and Stress

Swedish researchers learned adults with autism spectrum disorder experience significantly higher stress and less ability to cope with it than non-impaired adults. It was suggested programs be created to help ASD adults learn to control and cope with their stress.

Hirvikoski, T., et al. (July 29, 2014). High self-perceived stress and poor coping in intellectually able adults with autism spectrum disorder. Autism. DOI: 10.1177/1362361314543530.