

# January/February 2017 Updates



2016 10 14

AD/HD

2016 10 17

# AD/HD Women and Interpersonal Behavior

**Recently, American researchers reviewed what little literature regarding the relationship difficulties women have who have AD/HD and they found the following:**

- AD/HD is found in 2 to 9 time more boys than girls, but the numbers are even in women and men.**
- Women with AD/HD have earlier occurrences of depression and more severe and recurrent bouts of it than non-AD/HD women.**
- Women with AD/HD experience more domestic abuse, self-injury and suicide attempts than men with AD/HD.,**

# AD/HD Women and Interpersonal Behavior

- **Women with AD/HD experience 6 times more domestic violence than their non-impaired peers.**
- **Women with AD/HD suffer more relationship difficulties than their non-impaired counterparts.**
- **Women with AD/HD engage in much more risky sexual behavior:**
  - **They have significantly more lifetime partners**
  - **Earlier sexual relations and intercourse**
  - **More unprotected sex**
  - **More STDs, more casual sex, and more unwanted pregnancies**
  - **AD/HD women have more difficulties with parenting than non-AD/HD women**

# Reference

**Babinshi, D.E. et al. (November 2016). The interpersonal Difficulties of Women with ADHD. The ADHD Report, 24(7), 1-8.**

# Children with AD/HD Rights as Students

The following are links to documents published by the Department of Education's Office of Civil Rights regarding the rights of children with AD/HD to receive special education services through schools:

- [www2.ed.gov/about/offices/list/ocr/letters/colleague-201607-504-adhd.pdf](http://www2.ed.gov/about/offices/list/ocr/letters/colleague-201607-504-adhd.pdf)
- <http://www2.ed.gov/about/offices/list/ocr/letters/colleague-201607-504-adhd.pdf>

# AD/HD and Autoimmune Disease

**Researchers from Denmark recently found that families with histories of type 1 diabetes, thyrotoxicosis, autoimmune hepatitis, psoriasis, and ankylosing spondylitis. Are more often to have children with AD/HD.**

**Nielsen, P.R., et al. (2016). Associations Between Autoimmune Diseases and Attention-Deficit/Hyperactivity Disorder: A Nationwide Study. Journal of the American Academy of Child and Adolescent Psychiatry. DOI: <http://dx.doi.org/10.1016/j.jaac.2016.12.010>.**

# AD/HD Persistence in Follow-Up Study of Subjects from the MTA Study

**Researchers recently conducted a follow-up study of the children, now adults (average age 25) who were in the MTA AD/HD study in the 1990's. They found those who persisted in their impairing AD/HD symptomatology in adulthood were the ones who had more symptom severity in childhood, more childhood comorbidities, and more parents with mental health issues than did non-persisters.**

**Hecthman, R.A., et al. (November, 2016). Childhood Factors Affecting Persistence and Desistence of Attention-Deficit/Hyperactivity Disorder Symptoms in Adulthood: Results From the MTA. Journal of the American Academy of Child and Adolescent Psychiatry, 55(11), 937-944.**

# Homelessness and AD/HD

**A 33 year follow-up study of boys diagnosed with AD/HD, now adults found they were 6 times more likely to be homeless than their non-impaired peers. Approximately, 24% of these AD/HD men were homeless.**

**Murrillo, L.G., et al. (November, 2016). Childhood Attention-Deficit/Hyperactivity Disorder and Homelessness: A 33-Year Follow-Up Study. Journal of the American Academy of Child & Adolescent Psychiatry, 55 (11), 931-936.**

# Another MTA Study Follow-up

**Scientists conducted a follow-up study of children diagnosed with AD/HD, now young adults, compared to a control group of children without AD/HD, now adults. They found the AD/HD adults broke down into two groups: (1) persisters, and: (2) Non-persisters. Regarding education, employment and sexual behavior the non-AD/HD children did best, followed by the non-persister, then the persisters. Regarding psychiatric difficulties the non-AD/HD children and non-persisters did not differ, but the persisters were significantly worse. The researchers concluded adult outcomes were worse when the AD/HD persisted into adulthood.**

**Hetchmen, L., et al. (November, 2016). Functional Adult Outcomes 16 Years After Childhood Diagnosis of Attention-Deficit/Hyperactivity Disorder: MTA Results. Journal of the American Academy of Child & Adolescent Psychiatry 55(11), 945-952.**

# AD/HD the DRD4 Genotype and Medication

**Scientists discovered that young children with the DRD4 7R allele experienced a bilateral increase volume in their frontal lobes and their left hippocampus when treated with stimulants. This was not found in those children with AD?HD who carried the DAT1 genotype. Older children with the DRD4 7R allele did not experience as big a change as the younger children did. This cortical remodeling in younger children with the DRD4 7R allele may lead to better treatments in the future.**

**Oosterlaan, A.F.B., et al. (October, 2016). Age and DRD4 Genotype Moderate Associations Between Stimulant Treatment History and Cortex Structure in Attention-Deficit/Hyperactivity Disorder. Journal of the American Academy of Child & Adolescent Psychiatry 55 10), 877-885.**

# AD/HD and Cocaine Abuse

**American scientists found that using robust amounts of extended release Adderall and cognitive behavioral therapy (CBT) was effective in treating the symptoms of AD/HD and comorbid cocaine use disorder. They suggested those with AD/HD be screened for substance abuse and those with substance abuse be screened for AD/HD.**

**Levin, F.R., et al. (June, 2015). Extended-Release Mixed Amphetamine Salts vs Placebo for Comorbid Adult Attention-Deficit/Hyperactivity Disorder and Cocaine Use Disorder: A Randomized Clinical Trial. JAMA Psychiatry, 72(6), 593-602.**

# Bilingualism and AD/HD

**Israeli scientist conducted a study with 80 college students who were unilingual (Hebrew), and bilingual (Hebrew/Russian) with and without AD/HD. They found those with AD/HD and were bilingual had significantly reduced executive function abilities. They cautioned this may be in part to cultural differences.**

**Mor, B., et al. (Mach 29, 2014). The Joint Effect of Bilingualism and ADHD on Executive Functions. Journal of Attention Disorders. DOI: [10.1177/1087054714527790](https://doi.org/10.1177/1087054714527790).**

# Adults with AD/HD and Emotional Intelligence

**Scientists found that newly diagnosed adults with AD/HD and comorbidities had significantly lower emotional intelligence than those who were diagnosed in childhood. Severity of symptoms across the lifespan was not found to be a factor. The scientists suggested emotional intelligence training for newly diagnosed adults.**

Quintero, J., et al. (January 17, 2017). Emotional Intelligence as an Evolutive Factor on Adult With ADHD. Journal of Attention Disorders. DOI: [10.1177/1087054716688251](https://doi.org/10.1177/1087054716688251).

# AD/HD and Sleep Disorders

**A recent study indicated children with AD/HD and comorbid sleep disorders have a significantly lower quality of life and more impairment than those that do not have such disorders. Sleep disorders were seen as common comorbidity that tended to manifest by insomnia, excessive daytime sleepiness, and variable sleep schedule.**

**Craig, S.G., et al. (January 16, 2017). The Functional Impact of Sleep Disorders in Children With ADHD. Journal of Attention Disorders. DOI: [10.1177/1087054716685840](https://doi.org/10.1177/1087054716685840).**

# AD/HD and Phonological Working Memory

**Children with AD/HD were found to have significantly visual registration and encoding as well as lower phonological working memory than typically developing children.**

Raiker, J.S., et al. (January 11, 2017). Phonological Working Memory Deficits in ADHD Revisited. Journal of Attention Disorders. DOI: [10.1177/1087054716686182](https://doi.org/10.1177/1087054716686182).

# Sluggish Cognitive Tempo and Impairment

**Recently it was found that children with Sluggish Cognitive Tempo suffer significant impairment at school and at home, and there are not proper services in place to help them adequately.**

Caproitti, M.R., et al. (January 8, 2017). Patterns and Predictors of Service Utilization Among Youth With ADHD-Predominantly Inattentive Presentation. Journal of Attention Disorders. DOI: [10.1177/108705471667781](https://doi.org/10.1177/108705471667781).

# Hyperlexia and AD/HD

**Girls with AD/HD were found to have hyperlexic-like tendencies when reading with significantly better word decoding and significantly worse comprehension than typical developers. The higher the hyperlexic tendencies the more social communication difficulties they were found to have. The hyperlexic tendencies may demonstrate is some with AD/HD subsyndromal autism.**

**Johnels, J.A., et al. (January 7, 2017). A Hyperlexic-Like Reading Style Is Associated With Increased Autistic Features in Girls With ADHD. Journal of Attention Disorders. DOI: [10.1177/1087054716685838](https://doi.org/10.1177/1087054716685838).**

# AD/HD, Pregnancy and Life Impairment

**Pregnant Women with AD/HD were found to have significantly impaired occupational functioning as well as interpersonal functioning when compared to non-AD/HD pregnant women. This impairment was found to be caused by inattention and impulsivity symptoms of this AD/HD, but not their hyperactivity.**

Eddy, L.D., et al (January 2, 2017). Associations Between ADHD Symptoms and Occupational, Interpersonal, and Daily Life Impairments Among Pregnant Women. Journal of Attention Disorders. DOI: [10.1177/1087054716685839](https://doi.org/10.1177/1087054716685839).

# Mindfulness Plus Cognitive Behavioral Therapy as Treatment for ADHD

**Chinese scientists compared a group of college students with AD/HD that received a treatment of mindfulness and cognitive behavioral therapy to a wait list control group of students with AD/HD. The treatment group showed more of a normalization in response time and made fewer impulsive errors. They also had better sustained attention.**

**Gu, Y., et al. (December 30, 2016). A Randomized Controlled Trial of Mindfulness-Based Cognitive Therapy for College Students With ADHD. Journal of Attention Disorders. DOI: [10.1177/1087054716686183](https://doi.org/10.1177/1087054716686183).**

# Adults with Sluggish Cognitive Tempo

**A study of adults with Sluggish Cognitive Tempo (SCT) indicated SCT is related to inattentive symptoms, and they appear to have more internalizing symptoms than AD/HD adults. Adults with SCT have additional executive functions difficulties over and above those of AD/HD when found comorbidly, particularly in organization and problem solving. Finally, their inattentive symptoms are far more pronounced than in those with solely AD/HD.**

Leikauf, J.E., et al (December 22, 2016). Sluggish Cognitive Tempo, Internalizing Symptoms, and Executive Function in Adults With ADHD. Journal of Attention Disorders. DOI: [10.1177/1087054716682337](https://doi.org/10.1177/1087054716682337).

# Driving and Neurodevelopmental Brain Development

**Scientists conducted longitudinal MRIs of children between age 12 and 20 with “Attention Problems”. They also measured their driving behaviors, symptom impairment, and “risky behaviors”. They found those most at risk of poor driving were those with the highest symptom impairment, and the least developed right orbital-frontal cortex.**

**Vijayakumar, N. (December 19, 2016). Neurodevelopmental Trajectories Related to Attention Problems Predict Driving-Related Risk Behaviors. Journal of Attention Disorders. DOI: 10.1177/1087054716682336.**

# Sluggish Cognitive Tempo in Korean Children

**Researchers were able to successfully differential between Korean children with AD/HD, Inattentive Presentation, and those with Sluggish Cognitive Tempo (SCT). The SCT symptoms match those that would be seen in affected children in the U.S.**

**Lee, S-Y., et al. (November 25, 2016). Can Sluggish Cognitive Tempo Be Distinguished From ADHD Inattention in Very Young Children? Evidence From a Sample of Korean Preschool Children. Journal of Attention Disorders. DOI: 10.1177/1087054716680077.**

# AD/HD, PTSD, & OCD

**Researchers discovered that the comorbidity rate for those with Post Traumatic Stress Disorder and AD/HD is no higher than the general population. It was also found the comorbidity rate for Obsessive Compulsive Disorder and AD/HD was not higher than the general population.**

**Uver, H., et al. (November 19, 2016). The Assessment of the Relationship Between ADHD and Posttraumatic Stress Disorder in Child and Adolescent Patients. Journal of Attention Disorders. DOI: 10.1177/1087054716677818.**

# AD/HD and Substance Abuse

**A recent study indicated that those there was no difference between individuals with substance abuse disorders without AD/HD and those with substance abuse disorders and AD/HD in novelty seeking, low self- direction, and cooperation. However, those with AD/HD had a significantly lower score on harm avoidance/uncertainty, persistence, particularly in abuse risk environments, and recognition of having a substance abuse disorder than those without AD/HD.**

**Flores-Garcia, L., et al. (November 19, 2016). Exploring Personality and Readiness to Change in Patients With Substance Use Disorders With and Without ADHD. Journal of Attention Disorders. DOI: 10.1177/1087054716677819.**

# AD/HD, Medication and Facial Recognition

**A recent study of children 8 to 15 with and without AD/HD indicated those with AD/HD were significantly worse than those without AD/HD in facial recognition and emotion recognition. There was no difference in the level of impairment of males and female with AD/HD. When the AD/HD children were treated with atomoxetine they showed significant improvement in their facial and emotional recognition.**

**Demirci, E., et al. (December 16, 2016). Is emotion recognition the only problem in ADHD? effects of pharmacotherapy on face and emotion recognition in children with ADHD. ADHD Attention Deficit Hyperactivity Disorders. 8(4), 197-204.**

# Bilingualism and AD/HD

**A 2014 study indicated those with AD/HD who are bilingual have more impairment with Executive Functions than those than those who are monolingual. The researchers speculated who were bilingual taxed their already impaired Executive Function more than those who were monolingual, hence they have more impairment.**

**Mor, B., et al. (March, 2014). The Joint Effect of Bilingualism and ADHD on Executive Functions. Journal of Attention Disorders. DOI: 10.1177/1087054714527790.**

# Caffeine, AD/HD and Rats

**A recent study indicated that “AD/HD” rats experienced better memory, less attention problems and normalized dopaminergic function when administered caffeine.**

**Pandolfo, P., et al. (April, 2013). Caffeine regulates frontocorticostriatal dopamine transporter density and improves attention and cognitive deficits in an animal model of attention deficit hyperactivity disorder. European Neuropsychopharmacology, 23(4), 317-328.**

# Children, AD/HD, and Anti-Psychotics

**A recent Canadian study indicated many AD/HD children have emotional comorbidities that are often treated by additional prescriptions than stimulants for AD/HD about 10% of these children are also prescribed anti-psychotics which have been found to have very negative side effects in children, especially metabolic issues. They encouraged more research into this issue and extreme caution when using such medications with children.**

Hauck, T., et al. (January 18, 2017). ADHD Treatment in Primary Care: Demographic Factors, Medication Trends, and Treatment Predictors. Canadian Journal of Psychiatry. Link from website: [http://www.camh.ca/en/hospital/about\\_camh/newsroom/news\\_releases\\_media\\_advisories\\_and\\_backgrounders/current\\_year/Pages/ontario-youth-adhd.aspx](http://www.camh.ca/en/hospital/about_camh/newsroom/news_releases_media_advisories_and_backgrounders/current_year/Pages/ontario-youth-adhd.aspx).

# Bipolar Disorder & AD/HD in Children

**University of Chicago scientists neuropsychologically compared children with ADHD to those with bipolar disorder and to those with bipolar disorder and AD/HD. They found the two bipolar groups were more impaired in general emotional and cognitive executive functions, and the AD/HD group had more problems with planning, organization, working memory, metacognition, and inhibition.**

Passarotti, A.M. et al. (Fall, 2016). Differences in Real World Executive Function between Children with Pediatric Bipolar Disorder and Children with ADHD. Journal of the Canadian Academy of Child and Adolescent Psychiatry, 25(3), 185-195.

# AD/HD and Test Accommodations

**American scientists found that using the 5 most commonly provided testing accommodations given to AD/HD 3<sup>rd</sup> through 8<sup>th</sup> graders (i.e., extended time, etc.) did not improve test score in experimental subjects when compared to controls. This was also seen on tests of reading and math.**

Prichard, A.E., et al. (December, 2016). Academic Testing Accommodations for ADHD: Do They Help? Learning Disabilities. DOI: [10.18666/LDMJ-2016-V21-I2-7414](https://doi.org/10.18666/LDMJ-2016-V21-I2-7414).

# Specific Learning Disorder



2016 10 17

# Reading Ability and Empathy

**Researchers from Israel found when they compared dyslexic readers to those who were typical readers the former was significantly more impaired in reading skills and empathic abilities when compared to the latter. This the scientists attributed to the differences in the dyslexics' temporoparietal junctions.**

**Gabay, Y, et al. (June 29, 2016). Cognitive and emotional empathy in typical and impaired readers and its relationship to reading competence. Journal of Clinical and Experimental Psychology, 38(10), 1131-1143.**

# Dyslexia Vs. Language Impairment

**American scientist found that students with dyslexia can be differentiated from those with language impairment by test instruments. This was interpreted as indicating they were two distinct disorders that have distinct symptoms. Hence, it serves to determine if a person has one or both of them to choose the correct treatment(s).**

**Laterbach, A.A., et al. (November 15, 2016). The roles of cognitive and language abilities in predicting decoding and reading comprehension: comparisons of dyslexia and specific language impairment. Annals of Dyslexia. DOI: 10.1007/s11881-016-0139-x.**

# Statistical Analysis of Dyslexia Literature's Symptoms

**Italian researchers reviewed the dyslexia literature and the results of the symptoms that were found to be related to it. Their statistically analysis of these findings indicated they validly and reliably differentiated dyslexics from controls and who would have trouble learning to read..**

**Schmaltz, X., et al. (October 20, 2016). Statistical learning and dyslexia: a systematic review. Annals of Dyslexia. DOI: 10.1007/s11881-016-0136-0.**

# Adults with Dyslexia, Phonological Processing, and Morphology

**European scientists found that adults with dyslexia continue to have significant deficits in phonological processing which they compensate for by using well developed morphemic processing (decoding the meaning of the word).**

**Duncan, L.G., et al. (October 13, 2016). Phonemic—Morphemic dissociation in university students with dyslexia: an index of reading compensation? [Annals of Dyslexia](https://doi.org/10.1007/s11881-016-0138-y). DOI: 10.1007/s11881-016-0138-y.**

# Development of Math Difficulties in Children with Dyslexia

**French scientists evaluated 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> graders with dyslexia and found that 40% of them had arithmetic deficits. This was especially true in mental calculation and number transcoding. The researchers interpreted this result as demonstrating that dyslexia is not necessarily different from mathematics disorder.**

**DeCercq-Quaegebaeur, M., et al. (January 30, 2017). Arithmetic Abilities in Children With Developmental Dyslexia. Journal of Learning Disabilities. DOI: 10.1177/0022219417690355.**

# Text-To-Speech and Reading Comprehension

**Researchers recently discovered through conducting a meta-analysis of the literature that text-to-speech technology can significantly improve reading comprehension in children with reading disorders of comprehension.**

**Wood, S.G., et al. (January 23, 2017). Does Use of Text-to-Speech and Related Read-Aloud Tools Improve Reading Comprehension for Students With Reading Disabilities? A Meta-Analysis. Journal of Learning Disabilities. DOI: 10.1177/0022219416688170.**

# Math Achievement, Visual Spatial Skills, Number Processing Skills and Piagetian Conservation

**Researchers found that children in second through fourth grades math achievement could be predicted by their visual-spatial skills and number processing speed. After fourth grade their visual-spatial processing and Piagetian conservation skills better predicted their math achievement. As expected those with Mathematics Disorder were the weakest in these areas.**

**Lambert, K., et al. (January 24, 2017). Conservation Abilities, Visuospatial Skills, and Numerosity Processing Speed: Association With Math Achievement and Math Difficulties in Elementary School Children. Journal of Learning Disabilities. DOI: 10.1177/0022219417690354.**

# Magnocellular Differences in Dyslexics and Rapid Automated Naming

**Recently it was found that differences in the magnocellular area of the brains of dyslexics do not cause differences in the rapid automated naming abilities of such children.**

**Kruk, R.S., et a. (December 8, 2016). Visual Processes Predict Alphanumeric and Nonalphanumeric Rapid Naming in Poor Early Readers. Journal of learning Disabilities. DOI: 10.1177/0022219416678406.**

# Treatment of Children with AD/HD + Dyslexia

**Scientists recently conducted a proof-of-concept study to determine the best method to treat children with AD/HD and Dyslexia. They tried methylphenidate (MPH) only, and MPH with one of two remedial reading curriculums. The findings were the MPH helped with the AD/HD symptoms, did not normalize them and had little effect on reading skills. The reading curriculum that emphasized phonemic awareness and word decoding significantly improved reading skill but did not normalize them. Preliminary results indicated MPH with reading curriculum emphasizing phonemic awareness and word decoding work best with AD/HD, Dyslexic children.**

Tannock, R., et al. (December 8, 2016). Combined Modality Intervention for ADHD With Comorbid Reading Disorders. [Journal of Learning Disabilities](https://doi.org/10.1177/0022219416678409). DOI: 10.1177/0022219416678409.

# Fractions, Spatial Representations and Understanding of Magnitude

**Recently, some indications have been found that the ability to understand symbolic fractions (i.e.  $4/5$ ), is related to a non-symbolic spatial representation of size ability.**

**Matthews, P.G., et al. (December 8, 2016). Making Space for Spatial Proportions. Journal of Learning Disabilities. DOI: 10.1177/0022219416679133.**

# Italian WISC-IV Profiles in SLD Children.

**Researchers investigated WISC-IV profiles of Italian SLD children. They found children with low Verbal cluster scores were low in verbal and text comprehension. Those with low Coding cluster scores had problems with non-word reading. Those with Low Reasoning and Executive Function (LREF) cluster score had difficulty with math and reading comprehension and speed. Finally, low executive functioning (LEF) could effect any off the above academic areas.**

**Poletti, M., et al. (November 17, 2016). Cognitive Clusters in Specific Learning Disorder. Journal of Learning Disabilities. DOI: 10.1177/0022219416678407.**

# 4th Graders at Risk in Math- Fraction Training

**Researchers found that 4<sup>th</sup> graders with difficulty in fractions can improve their skills in such areas when doing speeded practice (assuming they have adequate working memory), implicatively teaching multiplication theory as applied to word problems and teaching self-talk to monitor processing.**

**Fuchs, L.S., et al. (November 16, 2016). Fraction Intervention for Students With Mathematics Difficulties: Lessons Learned From Five Randomized Controlled Trials. Journal of Learning Disabilities. DOI: 10.1177/0022219416677249.**

# Autism



# Autism and Social Narrative

**Researchers recently found those with autism have significant difficulty narrating social interactions. They need someone to provide scaffolding to help them maintain story structure and use limited syntax to describe the situations. The children also showed anxious reluctance to engage in such activities.**

Lee, M., et al. (January 17, 2017). What's the story? A computational analysis of narrative competence in autism. Autism. DOI: 10.1177/1362361316677957.

# Short Play Communication Evaluation (SPACE)

**Researchers found the Short Play Communication Evaluation (Space) was helpful with autistic children approximately 4 years old in assessing their social communication and joint attention skills. It takes 15 minutes to administer and can give teachers an idea of students' areas of weakness.**

**Shire, S.Y., et al (December 21, 2016). Short Play and Communication Evaluation: Teachers' assessment of core social communication and play skills with young children with autism. Autism. DOI: 10.1177/1362361316674092.**

# Successful Women with Autism

**Researchers found that successful women with autism tend to have some important life experience that demonstrates to them they are competent and can positively effect their lives, they experienced the receiving of the autism diagnosis as a positive and a way to explain their differences, they learned others thought they were competent, and they had mentors and were mentors to others. They also experienced great fatigue due to always having to re-prove they were competent.**

**Webster, A.A., et al. (December 21, 2016). The importance of critical life moments: An explorative study of successful women with autism spectrum disorder. Autism. DOI: 10.1177/1362361316677719.**

# Sign-Language, Deafness and Autism

**Researchers compared the sign-language spills of deaf children with and without autism. They found those with autism sign-language movements were significantly slower, were less accurate, and poorly sequenced when compared to non-autistic deaf students. Their sign-language moment continued into other body parts inappropriately, and they had significantly reduced receptive language comprehension. Their level of language impairment tended to match the severity of their autistic symptoms.**

**Bhat, A.N., et al. (December 20, 2016). Differences in praxis performance and receptive language during fingerspelling between deaf children with and without autism spectrum disorder. Autism. DOI: 10.1177/1362361316672179.**

# Auditory Startle Response in Autistic Children

**Researchers found that children with autism who have auditory over-responsiveness to low decibel stimuli that is observed by their caregivers can benefit from an audiological evaluation to search for these over-reactions. This can help their caregivers make the child's environment less "painful" for them and start the rehabilitation process for the auditory over-responsiveness.**

**Takahshi, H., et al. (December 19, 2016). Relationship between physiological and parent-observed auditory over-responsiveness in children with typical development and those with autism spectrum disorders. Autism. DOI: 10.1177/1362361316680497.**

# Metacognition, Hypercorrection and Autism

**Hypercorrection occurs when a person is highly confident of an answer, but later finds it is in error. The person is able to bare this in mind the next time the situation arises. This function requires good metacognition. Researchers compared those with autism to neurotypicals in hypercorrection and metacognition and found that those with autism have deficits in metacognition and hypercorrection.**

**Williams, D.M., et al. (December 15, 2016). Metacognitive monitoring and the hypercorrection effect in autism and the general population: Relation to autism(-like) traits and mindreading. Autism. DOI: 10.1177/1362361316680178.**

# Autism and Gender

**Scientist recently found the symptoms of autism are somewhat related to the gender of the person with the disorder. Males have more difficulties with executive function, focusing on tasks, and cognitive flexibility. They had worse autobiographical memories and more hyperactivity than females with the disorder. Females had more difficulty with visual-spatial processing and impulsivity. Females have more gender related play behaviors as children than boys, but this pattern seems to reverse in adolescence. Boys tend to be externalizers in childhood than girls, but move toward internalizers in adolescence, matching the girls. The above differences may account somewhat to the differing diagnostic rates by gender for autism.**

**William, L.H., et al. (December 14, 2016). Behavioural and cognitive sex/gender differences in autism spectrum condition and typically developing males and females. Autism. DOI: 10.1177/1362361316669087.**

# Autism Diagnosis and Gender

**Recently researchers discovered that repetitive restrictive behavior in girls lower the autism diagnosis in them when compared to boys. They also found that sensory sensitivity difficulties equally defined autism and girls and boys. Girls were also more apt to be diagnosed if they had emotional and/or behavioral problems.**

**Duvekot, J., eta al. (December 9, 2016). Factors influencing the probability of a diagnosis of autism spectrum disorder in girls versus boys. Autism. 10.1177/1362361316672178.**

# Autism, AD/HD and Written Expression

**Scientists found that children with autism have difficulty with written expression, but those with autism and AD/HD have significantly more difficulty with written expression than the former group.**

Zajick. M.C., et al. (December 9, 2016). Attention and written expression in school-age, high-functioning children with autism spectrum disorders. Autism. 10.1177/1362361316675121.

# Figurative Speech and Autism

**It was found recently that children with autism have significant difficulty comprehending figurative language when compared to neurotypical controls. This deficit appears to be related to core language difficulties experienced by those with autism.**

**Klandadze, T., et al. (November 30, 2016). Figurative language comprehension in individuals with autism spectrum disorder: A meta-analytic review. Autism. DOI: 10.1177/1362361316668652.**

# Reciprocal Behavior Gender and Autism

**Girls with autism were found to have significantly more reciprocal behaviors than boys with autism. There is also a difference in the quality of reciprocal behavior with girls having a better quality of theirs. However, there was no difference in turn-taking behaviors in the two groups. Girls with autism appear to be motivated toward common goals in social relations than boys with autism.**

Ommerem, T.B., et al (November 30, 2016). Sex differences in the reciprocal behaviour of children with autism. Autism. DOI: 10.1177/1362361316669622

# Real Time Theory of Mind and Autism

**Adults with autism were found to have difficulty integrating multi-modal social stimuli with prior intuition regarding theory of mind in real time situations when compared to neurotypicals. This is particularly true when more than basic emotional recognition is required.**

**Gedek, H.M., et al. (November 30, 2016). The influence of presentation modality on the social comprehension of naturalistic scenes in adults with autism spectrum disorder. Autism. DOI: 10.1177/1362361316671011.**

# Social and Emotional Differences in Adolescents with Autism

**Adolescents with autism rated themselves as having more behavioral and emotional difficulties than their neurotypical peers. Their parents also indicated this. It was found this was in fact true. Autistic girls had more difficulty with anxiety/depression, social problems and being withdrawn. Boys with autism had similar differences , but much more difficulty with social problems than girls.**

**Pisula, E, et al. (November 30, 2016). Behavioral and emotional problems in high-functioning girls and boys with autism spectrum disorders: Parents' reports and adolescents' self-reports. Autism. DOI: 10.1177/1362361316675119**

# Autism and Visual Skills

**People with autism have faster visual reaction times and significantly stronger simultaneous discrimination of multiple visual stimuli.**

**Shirama, A. et al. (November 30, 2016). When do individuals with autism spectrum disorder show superiority in visual search? Autism. DOI: 10.1177/1362361316656943.**

# Camouflaging and Autism

**On a whole women with autism camouflage their symptoms more than men with autism. This is associated with better social skills in women and depression in men. Camouflaging is exhausting, however, due to cultural socialization for social interaction in females they may be better at doing it. Women with autism were found to have larger neurological volumes of their brains' cerebellum, medial temporal lobe, para/hippocampus, and amygdala which give them an advantage in camouflaging.**

**Lai, M-C, et al. (November 29, 2016). Quantifying and exploring camouflaging in men and women with autism. Autism. 10.1177/1362361316671012.**

# Camouflaging in Children with Autism

**Girls with autism were found to be able to better camouflage their autistic symptoms by staying on the periphery of play groups of other girls. Boys on the other hand, tend to play organized games and the boy with autism will tend to withdraw from the game. The isolation behaviors tends to set them apart and bring them to the attention of the teacher.**

**Dean, M. et al. (November 29, 2016). The art of camouflage: Gender differences in the social behaviors of girls and boys with autism spectrum disorder. Autism. DOI: 10.1177/1362361316671845.**

# Reading & Autism

**Children with autism were found 4 different reading difficulty profiles. They appeared to heterogeneously effect children across the autism spectrum.**

**McIntyre N.S., et al. (February 3, 2017). A Comprehensive Examination of Reading Heterogeneity in Students with High Functioning Autism: Distinct Reading Profiles and Their Relation to Autism Symptom Severity. Journal of Autism and developmental Disorders. DOI: 10.1007/s10803-017-3029-0.**

# Sensory Sensitivities and Autism

**German researchers found that adults with autism and sensory sensitivities have these sensitivities due to an unknown central brain process and not a periphery one.**

**Frundt, O., et al. (February 3, 2017). Quantitative Sensory Testing in adults with Autism Spectrum Disorders. Journal of Autism and Developmental Disorders. DOI: 10.1007/s10803-017-3041-4.**

# Autism & Sleep

**In Australia it was found that adults with autism have sleep patterns related to circadian rhythm sleep disorder, but it may be related to problems in employment and anxiety.**

**Baker, E.K., et al. (February 3, 2017). Examining the Behavioural Sleep-Wake Rhythm in Adults with Autism Spectrum Disorder and No Comorbid Intellectual Disability. Journal of Autism and Developmental Disorders. DOI: 10.1007/s10803-017-3042-3.**

# Autism and Perspective Memory

**British researchers conducted a meta-analysis of the literature related to autism and difficulty with prospective memory. This type of memory is the type that allows one to plan a behavior and carry it out in the future. The researchers found that those with autism have significant difficulty with event-type prospective memory, but not time-based prospective memory.**

Landsiedel, J. et al. (January 23, 2017). A Meta-Analysis and Critical Review of Prospective Memory in Autism Spectrum Disorder. Journal of Autism and Developmental Disorders. DOI: 10.1007/s10803-016-2987-y.

# Autism and Facial Emotional Categorization

**German scientists found that individuals with autism have significant difficulties with facial emotional categorization and social cognition, but not classically believed false beliefs when they were compared to neurotypicals. They thought the problem with face categorization could explain the problem people with autism have with facial emotion.**

**Schaller, U.M., et al. (January 12, 2017). What Difference Does It Make? Implicit, Explicit and Complex Social Cognition in Autism Spectrum Disorders. Journal of Autism and Developmental Disorders. DOI: 10.1007/s10803-016-3008-x.**

# Handwriting and Autism

**Researchers from Australia found that children with autism has significantly less motor proficiency, legible handwriting and writing attention than neurotypical children. The scientists determined autistic children have significant difficulties with handwriting that is caused by motor control and attention problems.**

**Enticott, P.G., et al. (January 12, 2017). Do Handwriting Difficulties Correlate with Core Symptomology, Motor Proficiency and Attentional Behaviours? Journal of Autism and Developmental Disorders. DOI: 10.1007/s10803-016-3019-7.**

# Autism and Driving

**Professors from the University of Alabama put students with autism and neurotypicals in driving simulators and measured their response times to social hazard stimuli (pedestrians) and non-social hazard stimuli (cars). The neurotypicals responded significantly faster to social hazard stimuli.**

**Biasini, F.J., et al. (January 10, 2017). Social and Non-social Hazard Response in Drivers with Autism Spectrum Disorder. [Journal of Autism and Developmental Disorders](https://doi.org/10.1007/s10803-016-2992-1). DOI: 10.1007/s10803-016-2992-1.**

# Stress and Autism

**American scientists compared students with autism to neurotypical in state and trait anxiety. The biometric data they collected indicated autistic students had significantly higher trait anxiety, but not state anxiety. They speculated their higher trait anxiety may dampen their response in situations where they may experience state anxiety.**

**Mertens, J., et al. (January 10, 2017). How Anxious Do You Think I Am? Relationship Between State and Trait Anxiety in Children With and Without ASD During Social Tasks. Journal of Autism and Developmental Disorders. DOI: 10.1007/s10803-016-2979-y.**

# Behavioral Rigidity and Autism

**European investigators found that people with autism when forced to make their own behavioral decision exercise significantly more behavioral rigidity than neurotypicals. They suggested understanding internal behavioral control mechanism of those with autism may shed light on behavior rigidity.**

**Hoofs, V., et al. (January 9, 2017). Understanding Behavioural Rigidity in Autism Spectrum Conditions: The Role of Intentional Control. Journal of Autism and Developmental Disorders. DOI: 10.1007/s10803016-3010-3.**

# Autism and Faces

**Scientists from Belgium found that adolescents with autism had significantly more difficulty facial expressions than neurotypicals This was not found when they categorized faces by gender.**

Vanmarche, S., et al. (January 9, 2016). Priming Facial Gender and Emotional Valence: The Influence of Spatial Frequency on Face Perception in ASD. [Journal of Autism and Developmental Disorders](#). DOI: 10.1007/s10803-016-3017-9.

# Epilepsy and Autism

**American researchers conducted a national survey of children and adults with autism and found that approximately 8.6% of those with autism have epilepsy comorbidly. Those with autism are more at risk for autism as they get older, if they are female, if they have intellectual disability, speech difficulties and/or come from a economically depressed background.**

**Thomas, S., et al. (October 16, 2016). Brief Report: Prevalence of Co-occurring Epilepsy and Autism Spectrum Disorder: The U.S. National Survey of Children's Health 2011–2012. Journal of Autism and Developmental Disorders. DOI: 10.1007/s10803-016-2938-7.**

# Autistic Adults and Stress

**Scientists from the United States found that adults with autism have significantly higher blood pressure, perceived stressful lives, and more stressful life events than neurotypicals. This was significantly associated with their social disabilities.**

**Bishop-Fitzpatrick, S., et al. (September 30, 2016). Perception of Life as Stressful, Not Biological Response to Stress, is Associated with Greater Social Disability in Adults with Autism Spectrum Disorder. Journal of Autism and Developmental Disorder. DOI: 10.1007/s10803-016-2910-6.**

# Substance Abuse and Autism

**Swedish scientists found those with autism and no comorbidity had twice the chance of having a substance abuse disorder than neurotypicals. The highest rate was for those with autism and comorbid AD/HD.**

**Butwicka, A., et al. (October 12, 2016). Increased Risk for Substance Use-Related Problems in Autism Spectrum Disorders: A Population-Based Cohort Study. Journal of Autism and Developmental Disorders. DOI: 10.1007/s10803-016-2914-2.**

# Oxytocin Spray and Autism

**Researchers from Australia and Norway reviewed the literature regarding the use of oxytocin spray to treat autism. They concluded the following, “...The evidence to date, including reviews of preregistered trials, suggests a number of critical considerations for the design and interpretation of research in this area. These include considering the choice of ASD outcome measures, dosing and nasal spray device issues, and participant selection. Despite these limitations in the field to date, there remains significant potential for oxytocin to ameliorate aspects of the persistent and debilitating social impairments in individuals with ASD.”**

**Alvares, G.A., et al. (September 21, 2016). Beyond the hype and hope: Critical considerations for intranasal oxytocin research in autism spectrum disorder. Autism Research. DOI: 10.1002/aur.1692.**

# Voice Recognition and Autism

**German scientists found those with high functioning autism have a significant deficit in the recognition of voices. This was particularly true in vocal pitch perception. Also, they had significant problems recognizing novel and unfamiliar voices. They speculated this was related to anatomical differences in the posterior superior temporal sulcus/gyrus brain area of those with autism.**

Schelinski, S., et al (July 12, 2016). Voice identity processing in autism spectrum disorder. [Autism Research](#).  
DOI: 10.1002/aur.1639/full.

# Miscellaneous

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# Bonobos View Eyes More than Chimpanzees

**Japanese and British researchers evaluated Bonobos and Chimps for eye gaze behavior. Chimps tend to be more behaviorally biased toward foraging for objects (i.e., food, etc.), and Bonobos tend to be more biased toward showing affection and social activities. When eye tracking was done with members of both species the Bonobos looked into the eyes of members of their species much more than Chimps did to their own. The scientists said this represented species specific behaviors and happened in a relatively short time evolutionarily.**

**Kano, F. et al. (June 15, 2015). Social Attention in the Two Species of Pan: Bonobos Make More Eye Contact than Chimpanzees. PLOS One. DOI: <http://dx.doi.org/10.1371/journal.pone.0129684>.**

# Empathy, Bonobos, and Chimps

**Franz De Waal was recently interviewed by Adrian Bye recently and De Waal said regarding empathy, ...” In my discussions about empathy in animals we get the same process going because when I say chimpanzees have theory of mind people would object to it. But if I say they have empathy they say, oh, that is a more basic feature that you are sensitive to the emotions of others, that you adopt the emotions of others. People can understand that chimpanzees and many other mammals may have that capacity. Your average dog has that capacity to be sensitive to your emotions. So we are now looking at these much more basic features of where do things go wrong in autism, so to speak. Is it sort of a cognitive process, like theory of mind? Or is it more an emotional process, like empathy? And I think we are coming down on the emotional side at this point.”**

**Bye, A. (No Date). <http://meetinnovators.com/2013/05/12/frans-de-waal-emory-university/>.**

# Empathy in Dogs

**Italian scientists investigated play, play motivation, rapid mimicry, and social modulations in dogs and determined dogs possess the building blocks of empathy of rapid mimicry and emotional contagion.**

Palagi, E., et al. (December 23, 2015). Rapid mimicry and emotional contagion in domestic dogs. Royal Society Open Science. DOI: [10.1098/rsos.150505](https://doi.org/10.1098/rsos.150505).

# Dogs Empathy, Love and Humans

**Japanese researchers recently found when humans bond emotionally they gaze into each other's eyes. This raises the level of the hormone oxytocin in both individuals. The scientist discovered when humans gaze into a dog's eyes it raises the level of oxytocin in the humans and when dogs sniff oxytocin spray it raises their. However, when wolves sniff oxytocin it does not raise their oxytocin levels. Wolves rarely look into other members of their species eyes. The human dog eye gazing causes a loop of affection. The researchers speculated this loop may have contributed to the survival of both species.**

**Nagasawa, M. et al. (April 17, 2015). Oxytocin-gaze positive loop and the coevolution of human-dog bonds. Science. DOI: 10.1126/science.1261022.**

# Dogs Understand Human Emotions

**Brazilian and British researchers recently discovered, “...The findings are, we believe, the first evidence of the integration of heterospecific emotional expressions in a species other than humans, and extend beyond primates the demonstration of cross-modal integration of conspecific emotional expressions. These results show that domestic dogs can obtain dog and human emotional information from both auditory and visual inputs, and integrate them into a coherent perception of emotion. Therefore, it is likely that dogs possess at least the mental prototypes for emotional categorization (positive versus negative affect) and can recognize the emotional content of these expressions. Moreover, dogs performed in this way without any training or familiarization with the models, suggesting that these emotional signals are intrinsically important. This is consistent with this ability conferring important adaptive advantages.”**

**Albuquerque, N. et al. (January 16, 2016). Dogs recognize dog and human emotions. Biology Letters. DOI: 10.1098/rsbl.2015.0883.**

# Suggestions Regarding Learning a New Language

- **Pay attention to nonverbal behavior of native speakers.**
- **Get a good nights sleep soon after studying to automatize learning.**
- **Improve your accent by recording your pronunciation and listening to it.**
- **Listen to recordings on a native speaker of the language in the background while you do other things.**
- **Constantly hear and repeat words and phrases.**
- **Immersion works fastest.**

Stern, V. (January/February, 2017). Tips for Picking Up a New Lingo. Scientific American Mind, 28(1), 9.

# Foreign Language Learning

**Those with specific learning disability-reading/dyslexia and autism spectrum disorder have been found to have significant weaknesses in phonological working memory. American and Chinese researchers found children with these disorders have the same anomalies in their left temporal-parietal and their right temporo-occipital areas that cause these difficulties. They speculated the differences in the right hemisphere may have developed somewhat to compensate for those in the lefty hemisphere.**

**Lu, C. (November, 2015). Shared Neuroanatomical Substrates of Impaired Phonological Working Memory Across Reading Disability and Autism. Biological Psychiatry: CNI. DOI: 10.1016/j.bpsc.2015.11.001.**

# Foreign Language Disabilities in Adults

**American researchers found that adults with higher N400 event related potentials when processing English had better syntax and vocabulary learning in a second language. Higher P600 signals indicated better syntax learning.**

**Qi, Z. et al. (October, 2016). Native-language N400 and P600 predict dissociable language-learning abilities in adults. Neuropsychologia. DOI: 10.1016/j.neuropsychologia.2016.10.005.**

# Nightmares and Suicide

**A group on recent studies have demonstrated that having nightmares is significantly more associated with suicide attempts and suicide than is having depression, anxiety and/or PTSD. Additionally, treating sleep disturbances has been shown to significantly improve depressive symptoms. There is some evidence that “Image Rehearsal Therapy” (IRT) where the patient with repeated nightmares writes out the story of the troublesome dream with a new ending may be helpful.**

**Madorff, M.R., et al. (2016). Explaining the Relation between Nightmares and Suicide. Journal of Clinical Sleep Medicine, 12(3), 289-290.**

**Carr, M. (January/February, 2017). Can Treating Nightmares Prevent Suicide? Scientific American Mind, 28(1), 13.**

# Depression and Exercise

**A recent meta-analysis of research conducted with exercise as a treatment for depression and major depressive disorder found large and strong antidepressant effects with the use of aerobic exercise. They concluded that exercise is an evidenced based treatment for depression and major depressive disorder.**

Schuch, F.B., et al (June, 2016). Exercise as a treatment for depression: A meta-analysis adjusting for publication bias. Journal of Psychiatric Research. DOI: [10.1016/j.jpsychires.2016.02.023](https://doi.org/10.1016/j.jpsychires.2016.02.023).

# Genes Related To Specific Cognitive Functions Found

**A team of 60 international scientists found, “...a few specific genes related to cognitive ability, the team also showed a significant genetic overlap between risk for several psychiatric disorders and reduction in cognitive ability. Impairments in general cognitive ability, such as reasoning, problems solving, learning, and memory, are critical components for a number of serious mental illnesses, including schizophrenia.” They found, “...we found robust polygenic correlations between cognitive performance and educational attainment, several psychiatric disorders, birth length/weight and smoking behavior, as well as a novel genetic association to the personality trait of openness.”**

**Northwell Health. Genetic discovery provides new insight into cognitive disorders: Findings could ultimately lead to new treatments for disorders such as schizophrenia, ADHD. ScienceDaily. [www.sciencedaily.com/releases/2017/01/170117084032.htm](http://www.sciencedaily.com/releases/2017/01/170117084032.htm).**

**Trampush, J.W., et al. (January 17, 2017). GWAS meta-analysis reveals novel loci and genetic correlates for general cognitive function: a report from the COGENT consortium. Molecular Psychiatry. DOI: [10.1038/mp.2016.244](https://doi.org/10.1038/mp.2016.244).**

# Transcranial Direct Current Stimulation (tDCS) & Mathematics Achievement

**Researchers from the University of Alabama used low current tDCS stimulation of the left intra-parietal sulcus and training to significantly improve math and statistics abilities in test subject when compared to controls.**

Houser, R. et al. (December, 2015). Enhancing statistical calculation with transcranial direct current stimulation (tDCS) to the left intra-parietal sulcus (IPS). Trends in Neuroscience and Education, 4(4), 98-101.

# Female Brains and Stress

- **Females tend to suffer from stress disorders twice as much as males.**
- **“It turns out the most basic cellular processes involved in the stress response differ between the sexes.” (p. 60)**
- **When an animal is stressed it releases corticotropin-releasing factor (CRF) into their blood streams. Females brains respond faster to this chemical.**
- **Those with PTSD have high levels of CRF. This may explain why females suffer significantly more from PTSD and depression than males. We need to do more research on depressed females and those with PTSD.**

**Bangasser, D.A. ((November/December, 2016). STRESS: The Male and Female Responses to Stress are Biologically Different. What does That Mean for Treating PTSD, Depression and Other Disorders. Scientific American Mind, 27(6), 57-63.**