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Updates
Kevin T. Blake, PH.D., P.L.C.
AD/HD
A group of American scientists found that the Adult Concentration Index (ACI) could reliably and validly discriminate between adults with AD/HD and Sluggish Cognitive Tempo (SCT).

Norwegian researchers found using the Conners’ Rating Scales and the Child Behavior Checklist to have parents rate their 3 to 5 year old child’s behavior accurately indicated which children are AD/HD and which are not. They said this also indicated that clinicians should put more weight on parents’ reports of the young children’s behavior.

Scientists conducted a Medline search of epigenetic causes of AD/HD. In some they found environmental gene interactions between stress, nutrition and environmental toxins. These factors were found to cause changes in DNA and in histone levels. Some of these were seen in the DRD4 gene connected to AD/HD in children.

Hyperactive/Impulsive Vs. Inattentive AD/HD Symptoms in Children Over Time

Researchers found that children with AD/HD at age 5 who were more hyperactive/impulsive symptoms were more likely to have more cognitive hyperactivity at age 13. However, children who had more inattentive symptoms at age 5 tended to have more emotional dysregulation.

Recently it was found a combination of cognitive behavioral therapy (CBT) and dialectical behavioral therapy (DBT) was able to lower depression, anxiety and stress in Adults with AD/HD over a 6 month period.

Lately it was found that adults with AD/HD are at significant risk of pathological gambling. Researchers determined that those with pathological gambling should be evaluated for AD/HD and vice versa.

Screening for AD/HD in Juvenile Detention Centers

Researchers investigated having personal of juvenile correction facilities complete the Vanderbilt Diagnostic Teacher Rating Scale on their juvenile charges. They found they were able to accurately find which juveniles were AD/HD in these populations.

Sleep & AD/HD

Research reported on-line in February indicated that adolescents with inattentive presentation AD/HD and those with Sluggish Cognitive Tempo had significant difficulty with daytime sleepiness with as many as 37% of them having this symptom.

AD/HD & In-Born Errors of Metabolism

There may be some evidence that some people with AD/HD may have in-born errors of metabolism, which could cause a need for metabolic nutrients due to gastrointestinal inflammation and mitochondrial dysfunction. This may explain why through the years a small group of people with AD/HD appear to improve with special diets. Some with AD/HD may need to be treated with broad spectrum micronutrients.

Rucklidge J.J. et al. (December 2016). The Role of Diet and Nutrient Supplimentation in the Treatment of ADHD. The ADHD Report, 24(8), 1-8.
Long-Term Medication Treatment and Adult AD/HD

Researchers found that adults with AD/HD between the ages of 18 and 54 have structural changes in their cool executive functioning network. It is thought to demonstrate an improvement in this type of executive functioning. This appears to be due to long-term treatment with stimulant medication. Hence, this is another study that demonstrates that stimulant treatment for AD/HD in neuroprotective.

Scientists recently found that children with AD/HD hyperactive Impulsive presentation when they respond to methylphenidate tend to experience a significant reduction in teasing behavior, interrupting, and verbal abuse as well as better compliance to requests. Those children with AD/HD inattentive presentation who respond to methylphenidate have less of a reduction of their difficult behaviors: attention to activities, class work accuracy and completion, and peer interaction. They concluded that medication trails for AD/HD inattentive presentation should be done.

Scientists recently learned about differences in self-regulated learning strategies used in college students with AD/HD-Inattentive presentation and those with Sluggish Cognitive Tempo (SCT). The AD/HD students had significant difficulty with use of value, expectancy, and self-regulation strategies. The SCT Students had difficulty only with self-regulation.


Self-Regulated Learning, AD/HD, & SCT
An American researcher reviewed 10 recent research article on sluggish cognitive tempo that included 4 continents and individuals from age 4 to 64. This he said indicated it was a worldwide, lifespan issue. He said sluggish cognitive tempo is not AD/HD and can be distinguished from it. Sluggish cognitive tempo symptoms include internalizing, learning difficulties, and functional impairment. It may be related in some was to being caused in part by tobacco exposure and thyroid problems.

French researchers investigated the association between hyperactive/impulsive symptoms of AD/HD and inattentive symptoms of AD/HD with perceived stress. They found the perceived stress was driven primarily by inattentive symptoms.

Scientists recently investigated the levels of serum thyroid stimulating hormone in c570 children with sluggish cognitive tempo aged 6 to 12. A connection was found between the children with SCT and TSH, but not AD/HD children. The differences were small in magnitude. It was suggested nonetheless that more research should be done in this area.

Learning From Older People with Autism

Thirteen adults over the age of 50 with the diagnosis of Autism Spectrum disorder were given semi-structured interviews. It was found that as a whole they before they were diagnosed thought there was something wrong with themselves and tried to hide, once they were diagnosed they attributed their differences to their autism and not them selves, and they were able to get past their negative life experiences. Loneliness was a constant theme and they really enjoyed support groups for those with Autism.

Recent research indicates that a significant number of the sleep related difficulties in children with autism spectrum disorders significant gastral intestinal problems. The researchers encouraged clinicians to vigorously treat such problems with the hope of help in sleep in these children.

Recently Italian scientists speculated there is a 2.86% more chance of a child to have autism if they were exposed to the congenital cytomegalovirus Infection.

Autism in Older Adults

Little is known about older adults with Autism Spectrum Disorder. American researchers reviewed the medical histories of 74 older adults with autism age 30 and older. They found that current age had little to do with behavioral and neuropsychiatric symptoms. Gastral intestinal problems (68.9%), seizures (23%), and being over weight (25.7%) was frequently found. Females tended to be a bit more oppositional and screamed more.

Scientists found that children with autism who experience frequent constipation tend to have markedly more ritualistic behaviors. Curiously, they found the children who were most apt to have difficulty with frequent constipation were those who were placed on medications for constipation and behavioral concerns.

Autism and Sleep

Recently it was found that adolescents with autism had longer sleep latencies, more difficulty at bed time, and more trouble fall asleep than their non-impaired peers. There were no differences in either groups’ cortisol, or melatonin levels. Both groups had poor sleep hygiene.

Scientists recently investigated the biological sound processing in children with Autism. They found that children with autism have similar orientating to novel and biological sound, but they do not attend to biological sound like typically developers. This the researchers believe lends credence to the belief that those with autism have a cognitive difficulty in processing social stimuli.

Using Weighted Vests with Autism

A recent literature review of using weighted vests with individuals with autism in English language journals over the last 25 years found there it is not an evidence-based practice.

American scientists discovered that The level of phonological awareness a child age 3 to 5 with autism can accurately predict reading abilities.

Autism and Self-Defining Memories

British researchers found that adolescents with autism have an unstable self-representation and feel weak connections to past memories when compared to this non-impaired age peers. Those with autism could differentiate between everyday and self-defining memories, but they did not connect their self-definition to these memories as much. They had significantly more negative self-defining memories and lower self-esteem. They connected their definition of self to recreational activities and not achievements like the typically developing teen.

Researchers in the US used EEG to monitor medial frontal theta oscillations in young adults with autism. They found, “…the processes underlying decision-making and reinforcement learning may be atypical and less efficient in ASD.”

Autism, Neurology and Threat

American professors discovered that adolescents with autism have a reduced arousal when faced which social threat. This sympathetic nervous system difference appears to be associated with their behavioral difficulties.

Autism and Judgement of Sexual Situations

Research from the Netherlands indicated that adolescents with autism without intellectual impairment could judge the appropriateness of pictures of sexual situations (from a social perspective) as well as their non-impaired peers.

American scientist found that smaller brainstem volume was associated with higher chances of aggressive behavior in children with autism.

Autism and Facial Expressions

Researchers at the University of Bath in Great Britton found that young adults with autism had significant difficulties recognizing faces and negative emotions compared to their typically developing peers. They particularly had difficulty recognizing neutral and low intensity facial expressions.

Activity Level and Autism

Iranian scientists found that children with autism with lower cognitive function, more social impairment, and who are female are at higher risk of being physically inactive and sedentary.

Conduct Disorder, Executive Function & Reading

Recent research found that children with Conduct Disorder and “poor reading” have more impairment of executive function than do those with Conduct Disorder only. They were also found to have more difficulty with verbal working memory. None of there differences were found to be related to their “reading problems”.

An article in the *Annals of Dyslexia* indicated a group of researchers and clinicians concluded much is known regarding how dyslexia negatively affects the reading process, but relatively little is known about dyslexics verbal and nonverbal skills affect career choice and their personal lives. This they suggested should be investigated.

A scientist found that increasing reading rate in second and fourth graders with dyslexia did not increase reading comprehension.

Dyslexia and Prosody

Scientist from Cambridge University in Great Britton found dyslexic adolescents less accurately encode the prosody of words than do their unimpaired peers and as a result they remember far fewer words from sentences read aloud than their peers. They speculated that dyslexics have a difficulty in prosodic encoding in long-term memory that impairs the short-term memory for the recall of multi-syllable words.

Dyslexia and Comprehension

Danish and Canadian scientists investigated Danish College students with dyslexia and compared them to their non-dyslexic peers on reading rate aloud, reading error while reading aloud, and comprehension of what they read aloud. The dyslexics performed significantly worse on many measures. They found that dyslexic college student tend to focus their attention on one part of the reading process; comprehension, or decoding. It appears they cannot do both at the same time.

Folkmann, H. et al. (October 11, 2016). Reading Processes of University Students with Dyslexia – An Examination of the Relationship between Oral Reading and Reading Comprehension. Dyslexia. DOI: 10.1002/dys.1542/full.
Dyslexia and Visual Attention

British and American researchers found that poor visual attention span of dyslexics more negatively affects more complicated reading comprehension. They believe that poor visual attention span is part of the symptomatology of dyslexia.

Dyslexia and Math

French researchers evaluated third, fourth and fifth graders with dyslexia and math difficulties. They found their problems with math was not related to phonological awareness, but to a problem in their math module, like would be found in a child without dyslexia, but who had mathematics disorder.

Recently it was found that 3rd and 4th grade children’s mathematics skills were related to their numerosity processing speed and visual-spatial memory. Some children with low conversational skills were weak in math, too.

Miscellaneous
Adolescents, Sleep & Car Crashes

After reviewing the records of 16 to 18 year old high school students from school districts in two counties in Virginia found that those student in high schools that started 85 minutes later in the day had significantly less car crashes than those who started earlier. They concluded starting high schools later would decrease sleepiness, and mood difficulties, increase attention, and reduce car crashes.

Alcohol Abuse, Adolescence and Brain Development

Finnish researchers discovered heave alcohol use by adolescents leads to significantly smaller abnormal grey matter development in the brain’s cingulate, right orbital frontal and polar cortex and the right temporal gyrus and insula. The smaller right insult may make them significantly less aware of the subjective negative use of excessive alcohol.

Mothers, Pregnancy and Brain Changes

Researcher from Spain and the Netherlands found that the hormonal changes women experience when they become pregnant causes they to experience reductions in their brain volumes in areas that do not deal with social cognition. These reductions could predict how much attachment the mother had with her baby. The grey matter reductions remained two years after the birth of the child.

Emotional & Physical Warmth

Researchers have discovered that people experience the emotion and feeling of warmth and cold in the same area of the brain; the insula. Evolutionarily we experience warmth (physical and emotional) as a survival advantage and thus it instills trust. Oxytocin is released when we touch or hug another warm person and gives us a feeling of wellbeing and causes us to get more serotonin in our brains which lowers our social anxiety. Oxytocin also helps us to raise our body temperature.

Consciousness in the Brain

Recent research has demonstrated the brainstem switches on and off activity related to conscious seeing, hearing and feeling. Such areas of the brainstem cerebellum and fusiform gyrus, the posterior of the brain are responsible for consciousness.

Brain Imagery & Models of Emotion

Researcher from Due University found they could use brain imagery and brain-based models of emotion to evaluate emotional status of individuals. They predicted in the future such technology would be able to help those who were unable to verbalize their emotional experience to know what it is.

A multinational group of scientists have found that chimpanzees, bonobos and orangutans are capable of theory of mind (TOM) and can watch videos of human actors and anticipate the actor will return to an object where he/she last saw it.

Emotional Intelligence and Depression

Australian scientists learned those with high emotional intelligence tend to have higher levels of depression, hopelessness, and suicidal thoughts. This was particularly true of those who could not separate themselves from the emotions of others.

Emotional Intelligence and Manipulation

Japanese scientists from Kyoto University found that high emotional intelligence is not always related to prosocial behavior and can be used to manipulate others for one’s own personal gain.

Nozaki, Y. et al. (October 23, 2013). The Relationship between Trait Emotional Intelligence and Interaction with Ostracized Others' Retaliation. PLOS One. DOI: 10.1371/journal.pone.0077579.
Lying and the Amygdala

Professors from University College of London and University of North Carolina found the slippery slope of lying is tied to a reduction of the activation of the amygdala the more a person lies.

American researchers found traumatic stress effects boys and girls differently. They found that, “Boys and girls who display trauma symptoms showed significantly different bilateral volume and surface area within the insula's anterior's circular sulcus. Healthy controls, however, did not demonstrate differences within this subregion. Our findings suggest that sex moderates the relationship between brain structure differences within a region of the brain that is involved in emotion processing and empathy when comparing youth with PTSD symptoms to typically developing youth.”