February 2015 Website Update

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Dogs Can Discriminate Facial Expressions

German veterinary scientists have discovered convincing evidence that dogs can tell the difference between angry and happy human facial expressions without the aid of body language, and/or voice.

Muller, C.A. et al. (February 12, 2015). Dogs Can Discriminate Emotional Expressions of Human Faces. Current Biology. DOI: http://dx.doi.org/10.1016/j.cub.2014.12.055.

Lon-Term Outcomes of AD/HD

British and American scientists conducted a Monti Carlo of 176 published research articles of long-term academic outcomes of AD/HD children and found AD/HD negatively affects academic performance. There was consistent significant improvement with multi-modal treatment (medication with behavioral methods) in standardized tests scores and academics.

Arnold, L.E. et al. (January 12, 2015). Long-Term Outcomes of ADHD Academic Achievement and Performance. Journal of Attention Disorders. DOI: 10.1177/1087054714566076.

AD/HD, Preschoolers, and Naps

American researchers discovered restricting nap time in preschoolers with AD/HD can significantly increase nighttime sleep consolidation and possibly improve daytime attention.

Lam, J.C. eta al. (February 2, 2015). Does Increased Consolidated Nighttime Sleep Facilitate Attentional Control? A Pilot Study of Nap Restriction in Preschoolers. Journal of Attention Disorders. DOI: 10.1177/1087054715569281

Multisensory Processing and ASD

A Canadian doctoral student found in this dissertation research that those with autism spectrum disorder have significant difficulty simultaneously processing visual and tactile stimuli. Additionally it was found that those with ASD have significant difficulty with tasks that required simultaneous allocation of attention to multiple stimuli.

Eva-Maria Hahler (April, 2013). A Psychological Assessment of Multisensory Processing and Multiple Object Tracking in Autism Spectrum Disorders. Doctoral Disseration, University of Montreal, Canada.

ASD and Stereotyped Interests

A British researcher found that repetitive stereotyped interests in people with autism spectrum disorder is connected to how attention is processed and not as much to difficulties with theory of mind.

Lawson, W. (March 1, 2013). Autism Spectrum Conditions: The Psychophysiological Basis for Inattention and the New Diagnostic and Statistical Manual of Mental Disorders. OA Autism, 1 (1), 1.

ASD & Somatosensory Response

Scientists found through magnetoencephalography that children with autism spectrum disorder are born with differences in sensory processing that influences future brain development and the ability to integrate motor responses.

Marco, E.J. et al. (October 2012). Children with Autism Show Reduced Somatosensory Response: An MEG Study. Autism Research, 5(5). 340-351.

What Causes The Human Brain to Be So Large?

Researchers from North Carolina discovered that differences in the *FZD8* enhancer HARE5 genetic material is what causes the uniquely

huge development of the human brain.

Boyd, J.L. et al (February 19, 2015). Human-Chimpanzee Differences in a *FZD8* Enhancer Alter Cell-Cycle Dynamics in the Developing Neocortex. Current Biology. DOI: 10.1016/j.cub.2015.01.041.

Pesticides and AD/HD

American scientists discovered that mice exposed in utero to common pesticides experience deficits in DAT and D1 dopamine receptors similar to children with AD/HD. This may indicate a possible link of pesticides to AD/HD.

Richardson, J.R. et al. (January 28, 2015). Developmental Pesticide Exposure Reproduces Features of Attention Deficit Hyperactivity Disorder. FASEB Journal. DOI: 10.1096/fj.14-260901.

BDNF, COMT, & AD/HD

Korean scientists attempted to find a link between Brain Derived Neurotropic Factor (BDNF) and catechol-*O*-methyltransferase (*COMT*) related to AD/HD. Neither was found to be related to AD/HD.

Lee, Y.H. et al. (February 17, 2015). BDNF 196 G/A and COMT Val158Met Polymorphisms and Susceptibility to ADHD A Meta-Analysis. Journal of Attention Disorders. DOI: 108705471557038 9.

Dialectical Behavioral Therapy and AD/HD

A controlled, randomized pilot study of treating college students with AD/HD Dialectical Behavior Therapy group training indicated those receiving the treatment showed improvement in their AD/HD symptoms and their executive functions. The results held at three month follow-up. These results were found promising enough to conduct the study with appropriate power and effect size.

Fleming, A.P. et al. (May 29, 2014). Pilot Randomized Controlled Trial of Dialectical Behavior Therapy Group Skills Training for ADHD Among College Students. Journal of Attention Disorders. DOI: 10.1177/1087054714535951.

Short-Term Memory and Dyslexia

Recently researchers discovered that dyslexia is caused in part by a deficit in short-term memory of serial order, but not of information.

Hachmann, W.M. et al. (July, 2014). Short-term memory for order but not for item information is impaired in developmental dyslexia. Annals of Dyslexia, 64(2), 121-136.

Dyslexia and Simultaneous Processing

Dyslexics have been found to have difficulty simultaneously processing visual and auditory stimuli. This is separate for phonological awareness.

Lallier, M. et al (July, 2013). Developmental dyslexia: exploring how much phonological and visual attention span disorders are linked to simultaneous auditory processing deficits. Annals of Dyslexia, 63(2), 97-116.