

Autism Spectrum Disorder, Sexual Deviance, and Victims

Arizona Association for the Treatment of Sexual Abusers
Quarterly Meeting and Training

Quarterly Training
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Phoenix, Arizona

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2015 10 21

Disclaimer

“Materials that are included in this course may include interventions and modalities that are beyond the authorized practice of mental health professionals. As a licensed professional, you are responsible for reviewing the scope of practice, including activities that are defined in law as beyond the boundaries of practice in accordance with and in compliance with your professions standards. “

Disclaimer

- None of the techniques described in this seminar will work for all adults with AD/HD. Every adult with AD/HD is different.
- There are no absolutes.
- All treatments have negative side effects. Some more than others. The presenter will do his best to cover the most common ones.
- The theories described in this seminar do not have the same amount of empirical evidence supporting each one of them. The presenter will do his best to describe the pros and cons of each.
- If you are concerned about a treatment technique described in this seminar ask the presenter about it.

Disclaimer

- **Speaker Disclosure:**
- **Financial:** Kevin Blake maintains a private practice. He is a stockholder in Johnson & Johnson, Inc. and Amgen, Inc. Dr. Blake receives a speaking honorarium from PESI, Inc.
- **Non-financial:** Kevin Blake is a member of the Children and Adults with Attention Deficit Disorders (CHADD), International Dyslexia Association, Learning Disabilities Association, and American Psychological Association.

Autism Spectrum Disorder

People who were diagnosed with Asperger's disorder, autism, pervasive developmental disorder, and pervasive developmental disorder-not otherwise specified using DSM-IV[®]/DSM-IV, TR[®] criterion have autism spectrum disorder by DSM-5[®] criterion. Those with social communication problems only have social (pragmatic) communication disorder.

Author (May 18, 2013). Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM - 5). Washington, DC: American Psychiatric Association, 70.

Autism Spectrum Disorder is NOT New!

“People have probably lived with what we know today as autism spectrum disorders throughout history. Some of the earliest published descriptions of behavior that sounds like autism date back to the 18th century. But the disorder did not have a name until the middle of the 20th century.”

Centers for Disease Control and Prevention. Autism Information Center.

<http://www.cdc.gov/ncbddd/autism/overview.htm#is>

ASD's Central Difficulty

“Regardless of the diagnosed person’s global intelligence, savant-like talents, verbal ability, or mechanical giftedness, social difficulties are the primary source of impairment for most people with ASD and central to the diagnostic criteria of ASD” (p. 124).

White, S.W., Scahill, S., and Ollendick, T.H. (2013). Multimodal Treatment for Anxiety and Social Skills Difficulties in Adolescents on the Autism Spectrum. . In A Scarpa, S.W. White, and T. Attwood (Eds.), CBT for Children and Adolescents with High-Functioning Autism Spectrum Disorders. New York, NY: Guilford.

General Symptoms of Autism

➤ Social Challenges:

- Both children and adults with autism also tend to have difficulty interpreting what others are thinking and feeling...Without the ability to interpret gestures and facial expressions, the social world can seem bewildering...
- It is common – but not universal – for those with autism to have difficulty regulating emotions. This can take the form of seemingly “immature” behavior such as crying or having outbursts in inappropriate situations. It can also lead to disruptive and physically aggressive behavior. The tendency to “lose control” may be particularly pronounced in unfamiliar, overwhelming or frustrating situations. Frustration can also result in self-injurious behaviors such as head banging, hair pulling or self-biting.

General Symptoms of Autism

➤ Language Problems:

- “Some children and adults with autism tend to carry on monologues on a favorite subject, giving others little chance to comment. In other words, the ordinary “give and take” of conversation proves difficult. Some children with ASD with superior language skills tend to speak like little professors, failing to pick up on the “kid-speak” that’s common among their peers.
- Another common difficulty is the inability to understand body language, tone of voice and expressions that aren’t meant to be taken literally”.
- They do not make eye contact, often have no facial expressions, or body language. They have odd speech sounds and patterns.

General Symptoms of Autism

➤ Repetitive Behaviors:

- “Unusual repetitive behaviors and/or a tendency to engage in a restricted range of activities are another core symptom of autism...”
- Older children and adults with autism may develop tremendous interest in numbers, symbols, dates or science topics”.

Author (2016). What are the Symptoms of Autism? From the AutismSpeaks Website:
<https://www.autismspeaks.org/what-autism/symptoms>.

10 Ways My ASD Shows UP



Autism and Genetics

“Autism (Spectrum Disorder, sic) is known to be a genetic disorder, at least in part.” (p. 2 of 3)

Author (No Date). Fact Sheet: Study to Explore Early Development (SEED). Center for Disease Control and Prevention. From website:
<http://www.cdc.gov/ncbddd/autism/states/new/CADDRE%20Fact%20Sheet%20July%202007.pdf>.

“It is now abundantly clear that ASD has a genetic component, with the best evidence suggesting moderate genetic heritability” (p. 41).

Durand, M. (2014). Autism Spectrum Disorder: A Guide for General Practitioners. Washington, DC: American Psychological Association.

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.

Neuroanatomy of ASD

- Increased grey matter anterior temporal & dorsolateral prefrontal lobe
- Decreased grey matter occipital and medial parietal areas
- Significant reduction in size of cerebellum (fewer Purkinje cells)
- Large grey matter differences in the following:
 - cingulate, motor area, basal ganglia, amygdala, inferior parietal lobe, prefrontal lobe
- Reductions in white matter volume
- These differences are linked to autistic symptoms and persist throughout life.

Ecker, C. et al. (February 8, 2012). Brain anatomy and its relationship to behavior in adults with autism spectrum disorder: a multicenter magnetic resonance imaging study. Achieves of General Psychiatry, 69(2), 195-209.

Durand, M. (2014). Autism Spectrum Disorder: A Guide for General Practitioners. Washington, DC: American Psychological Association.

What does NEUROBIOLOGICAL mean?

- “The latest thinking in this area is that ASD is a developmental neurobiological disorder, meaning that a variety of developmental changes occur in the brains of people with this disorder” (p. 5).
- At present few workers in the field of ASD believe that psychological or social influences play a major role in the development of this disorder” (p. 40).

Durand, M. (2014). Autism Spectrum Disorder: A Guide for General Practitioners. Washington, DC: American Psychological Association.

- “The field has come a long way since parents were considered to be the cause of autism spectrum disorders.” (p. 64)*

Ozonoff, S. et al. (2002). A Parent's Guide to Asperger Syndrome & High Functioning Autism. New York, NY, Guilford.

Rajarshi (Tito) Mukhopadhyay

High Functioning Nonverbal Adult With ASD



Rajarshi (Tito) Mukhopadhyay

“When he arrived at Elliot House, Tito’s observable behavior was exactly that of a mute child with classic autism, ignoring people but exploring objects that took his attention. Soma (his mother, sic.) settled him down and wrote the alphabet on a piece of paper. We asked questions and Tito pointed to the letters to spell his replies...

Rajarshi (Tito) Mukhopadhyay

...he did this independently without any physical guidance from his mother. He replied to questions in full sentences, including long words used appropriately.”



Rajarshi (Tito) Mukhopadhyay

“...Tito’s overt, typically autistic behavior – at one point he grabbed and the sophistication of the language expressed through his alphabet board was truly amazing.” (Lorna Wing)

Wing, L. (1999). Forward. In Mukhopadhyay , T. R. (2011). The Mind Tree: A Miraculous Child Breaks the Silence of Autism. New York, NY: Arcade.



Poem 2



“Many things can happen in a minute, This or that, Some of this and some of that, All of this and none of that, or all of that and none of this. It depends on which you consider important, this or that.”(Rajarshi Mukhopadhyay)

Mukhopadhyay , T. R. (2011). The Mind Tree: A Miraculous Child Breaks the Silence of Autism. New York, NY: Arcade.

Tito Mukhopahyay



“Kanner’s Vs. Asperger’s ASD”

- **Kanner’s: “Condition characterized by significant impairment in social interactions and communication and restricted patterns of behavior, interest, and activity” (p. 124).**
- **Asperger’s: “Condition Characterized by impairments in social relationships and restricted or unusual behaviors but without the language delays” (p. 124).**

Durand, M. (2014). Autism Spectrum Disorder: A Guide for General Practitioners. Washington, DC: American Psychological Association.

“Kanner’s Vs. Asperger’s ASD”

“Asperger syndrome (AS) is a serious and chronic neurodevelopmental disorder characterized by significant and severe social deficits along with restricted interests, as in autism, but, in contrast to autism, relatively and selectively preserved language and cognitive abilities” (p. 1).

Volkmar, F.R (2014). Asperger Syndrome: An Overview. In J.C. McPartland, A. Klin, and F.R. Volkmar (Eds.), Asperger Syndrome: Assessing and Treating High Functioning Autism Spectrum Disorders, Second Edition. New York, NY: Guilford.

Intellectual Disability and Autism Spectrum Disorder

About 2/3 of those with Kanner's Autism meet criteria for Intellectual Disability. This means they function below an IQ of 70 and have a social adaptability score below 70.

Durand, M. (2014). Autism Spectrum Disorder: A Guide for General Practitioners. Washington, DC: American Psychological Association.

Temple Grandin, Ph.D.



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Temple Grandin, Ph.D

Temple Grandin, Ph.D. is arguably the world's leading authority in livestock behavior. She has personally designed ½ of the livestock handling facilities in the North America. She has designed everything from machines that gently squeeze a cow so it will not be frightened when it receives a vaccination to humane slaughter houses. She has a doctorate in livestock behavior and is a professor at the World's premiere vet med school, Colorado State University, and she is profoundly autistic; she didn't speak until well after the age of 4. She does not think in words; she thinks in pictures like livestock.

Grandin, T. (1995). Thinking In Pictures: And Other Reports From My Life With Autism. New York, NY: Vintage.

Temple Grandin



Temple Grandin



Simon Baron-Cohen and Emotional Intelligence



- Autism may be an extreme form of the biological male personality.
- Males are into *Systematizing (S)*, or understanding things.
- Females are into *Empathizing (E)*, or understanding people.
- Those with Autism (mostly males) have no *Empathizing*, but are strong in *Systematizing*.
- The *E-S Spectrum*

Baron-Cohen, S. (2003). The Essential Difference. New York, NY: Perseus.

Asperger's and Gender



- **Girls and women with Asperger's Disorder suffer more socially than boys and men with Asperger's Disorder.**

Attwood, T. (2007). The Complete Guide for Asperger's Disorder. Philadelphia, PA: Jessica Kingsley.

Hully, C. and Larmar, S.A. (2006). Asperger Syndrome in Adolescent Females. International Journal of Learning. 13 (3), p. 1-6. From Website:

<http://www98.griffith.edu.au/dspace/bitstream/10072/14167/1/40458.pdf>.

Compassion

- **Three things make humans behaviorally different from all other species:**
 - **Our capacity to delay our response to our environment (Bronowski, 1977).**
 - **Our capacity for compassion (Leakey, 1995).**
 - **Our capacity for long-term compassion (Grandin, 1995).**

Bronowski, J. (1977). Human and Animal Languages: In a Sense of Future. Cambridge, MA: MIT Press. pp. 104-131.

Leakey, R. (1995). Speech given to the National Press Club, Washington, DC, Played on National Public Radio.

Grandin, T. (1995). Thinking In Pictures: And Other Reports From My Life With Autism. New York, NY: Vintage.

Compassion

“In the summer of 1982 Kat was newly pregnant and Washoe doted over her belly, asking about her BABY. Unfortunately, Kat suffered a miscarriage. Knowing that Washoe had lost two of her own children, Kat decided to tell her the truth. MY BABY DIED, Kat signed to her. Washoe looked down to the ground. Then she looked into Kat’s eyes and signed CRY, touching her cheek just below the eye. When Kat had to leave that day, Washoe would not let her go. PLEASE, PERSON HUG, she signed.”

Fouts, R. (1997). Next of Kin: My Conversations with Chimpanzees. New York, NY: William Morrow.

Compassion

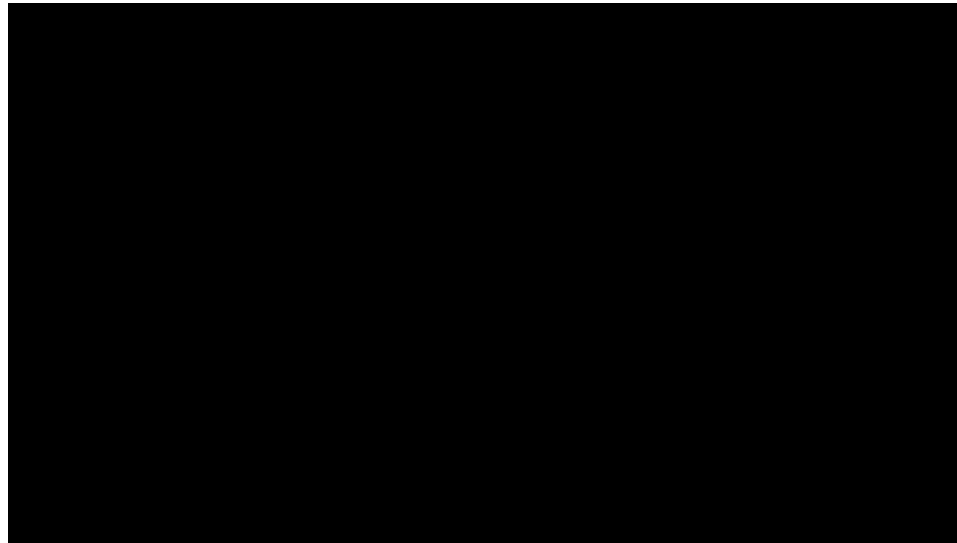
Bonobo: Pan Paniscus Vs.

Chimpanzee: Pan Troglodytes

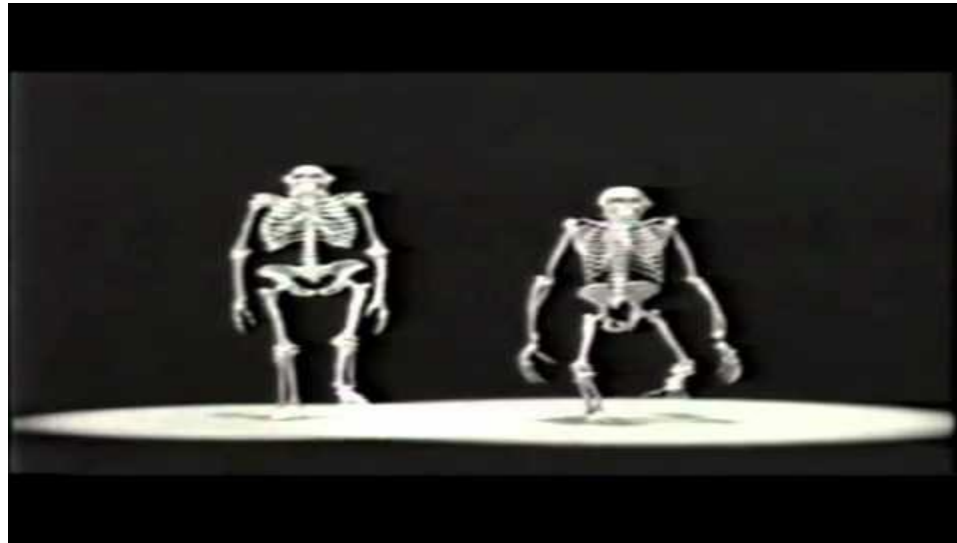
- Shares 98% of its genetic profile with humans.
- They have been compared to australopithecines
- “In physique, a bonobo is as different from a chimpanzee as a Concorde is from a Boeing 747.” (p. 3 of 14)

DeWaal, F.B.M. (March 1995). Bonobo Sex and Society. Scientific American. pp. 82-88. From Website:
<http://primates.combonobos/bonobosexsoc.html>.

Pan Paniscus



Pan Paniscus



Chimpanzee, Bonobos, Humans & Vasopressin

“Similar genetic variation in the human *AVPR1A* may contribute to variations in human social behavior including extremes outside the normal range of behavior and those found in autism spectrum disorders.” (p. 2187)

Hammock, E.A.D. and Young, L.J. (December, 2006). Oxytocin, Vasopressin and Pair Bonding: Implications for Autism. Philosophical Transactions of the Royal Society of Biological Sciences, 361(1476), pp. 2187-2198. From Website: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1764849>.

Chimpanzee, Bonobos, Humans & Vasopressin

“Our two closest primate cousins – chimpanzees and bonobos –also have different lengths of this gene, which match their social behaviors. Chimpanzees, who have the shorter gene, live in territorially based societies controlled by males who make frequent, fatal war raids on neighboring troops. Bonobos are run by female hierarchies and seal every interaction with a bit of sexual rubbing...”

“...they are exceptionally social and have a long version of the gene. The human version of the gene is more like the bonobo gene. It would seem that those with the longer version of the gene are more socially responsive. For example, this gene is shorter in humans with autism...” (p. 74)

Brizendine, L. (2006). The Female Brain. New York, NY: Morgan Road

Teco The Autistic Bonobo Child



Teco, The Autistic Bonobo Toddler

- Bonobo social brain closer to humans than chimps.
- 18 month old bonobo, Teco, male is autistic.
- Has repetitive movements
- Strict adherence to routines, or gets agitated
- Repetitive behaviors
- Likes objects, not bonobos

- Likes parts of objects
- No joint attention
- Avoids eye contact
- At two months nursing difficulties

Deweert, S. (April 15, 2011). An Ape With Autism. New York, NY: Simons Foundation, Autism Research Initiative (SFARI). From website: <https://sfari.org/about-sfari/contact-us>.

Autism & Empathy

Autism & Empathy

“Functional imaging studies implicate medial and prefrontal cortex and posterior superior sulcus (STS)... The STS is concerned with representing the actions of others through the detection of biological motion; medial prefrontal regions are concerned with explicit representation of the states of the self. These observations suggest that the ability to mentalize has evolved from a system for representing actions.”

Frith, C.D. and Frith, U. (1999). Intersecting Minds-A Biological Basis. Science, 286, 1692-1695.

Autism & Empathy

Lane wrote, “Several neuroimaging studies reveal that an area of the medial prefrontal cortex very close to that identified in our attention to emotional experience study has been implicated during the performance of theory of mind tasks...these findings suggest that the neural substrates of the mental representation of one’s own and other’s mental states are closely related.” (p. 18) Lane continued that several studies of brain injured individuals when coupled with the above appeared to indicate, “...*that successful social adaptation requires the ‘dual task’ ability to stay in touch with the needs of others while paying due attention to one’s own needs.*” (p. 20)

Lane, R. (2000). Neural Correlates of Conscious Emotional Experience. In L.R. Lane, et. al. (Eds.), Cognitive Neuroscience of Emotion. New York, NY: Oxford University Press, pp. 345-370.

Macaque Monkey



Macaques “Mirror Neurons”

Researchers discovered “mirror neurons” at the University of Parma in Italy in 1992.

Rizzolatti, G., Fogassi, L. and Gallese, V. (November, 2006). Mirrors in The Mind.

Scientific American, 296 (5), pp. 54-61.

Mirror Neurons



- Italian study of macaque monkeys in 1992
 - Known for years cells of premotor cortex fire just before movement.
 - Discovered that same cells fired in the same pattern when another primate was seen making the same movement!
 - Humans have these MIRROR NEURONS too.
 - They allow us to intuit others intentions and to feel their pain.

Lametti, D. (June 9, 2009). Mirroring Behavior. Scientific American, from website:
www.scientificamerican.com/article.cfm?id=mirroring-behavior.

Mirror Neurons



“Much as circuits of neurons are believed to store specific memories within the brain, sets of mirror neurons appear to encode specific sets of actions. This property may allow an individual not only to perform basic motor procedures without thinking about them but also to comprehend those acts when they are observed, without any need for explicit reasoning about them.” (p. 56)

Rizzolatti, G., Fogassi, L. and Gallese, V. (November, 2006). Mirrors in The Mind. Scientific American, 296 (5), pp. 54-61.

Mirror Neurons



“With knowledge of these neurons, you have the basis for understanding a host of enigmatic aspects of the human mind: ‘mind reading’ empathy, imitation learning and even the evolution of language. Anytime you watch someone else doing something (or even starting to do something), the corresponding mirror neuron might fire in your brain, thereby allowing you to ‘read’ and understand another’s intentions and thus develop a sophisticated *theory of other minds*.” (p.2)

Ramachandran, V.S. (3/8/05). Mirror Neurons and Imitation Learning as the Driving Force Behind “The Great Leap Forward” in Human Evolution.

www.edge.org/3rd_culture/ramachandran/ramachandran_p2.html

Mirror Neurons May Help Us Generate Appropriate Social Responses

“These results suggest that a set of mirror neurons encodes the observed motor acts not only for action understanding, but to analyze such acts in terms of features that are relevant to generating appropriate behaviors.”

Caggiano, V., Fogassi, L., Rizzolatti, G., Their, P., Casile, A. (April 2009). Mirror Neurons Differently Encode the Peripersonal and Extrapersonal Space of Monkeys. Science. 324 (5925), pp. 403-406; From website: www.sciencemag.org/cgi/content/abstract/324/5925/403.



Mirror Neurons & Executive Functions



“Studies show that the capacity to imitate the actions of others is now virtually an instinct at the level of neuronal functioning. The PFC (Prefrontal Cortex, sic) responds to viewing others’ actions by activating the same sensory-motor regions of the brain as the acting person is using to create the behavior. The mirror-neuronal system has been linked to theory of mind and to empathy, among other human attributes related to EF (Executive Functions, sic.)” (p. 117).

Barkley, R.A. (2012). Executive Functions: What They Are, How they Work, and Why They Evolved. New York, NY: Guilford.

Mirror Neurons and Autism

“Broken mirror neurons” MAY explain isolation and lack of empathy.

Those with autism spectrum disorder lack activity in many areas associated with mirror neurons.

**Ramachandran, V.S. and Oberman, L.M. (November, 2006).
Broken Mirrors. Scientific American, 296(5), pp. 62-69.**



Mirror Neurons



I spoke to Uta Frith about using the combination of her group's research on emotional working memory and the mirror neuron research as an explanation of the behaviors of autism spectrum disorder. She said the combination of theories could not differentiate autistic behavior and antisocial behavior.

Frith, U. (November 1, 2007). Personal Communication. International Dyslexia Association 58th Annual Conference, Dallas, TX.

Mirror Neurons



However, Blair wrote after reviewing the literature, “It is suggested from this literature that empathy is not a unitary system but rather a loose collection of partially dissociable systems. In particular, three divisions can be made: cognitive empathy (or Theory of Mind), motor empathy and emotional empathy. The two main psychiatric disorders associated...



Mirror Neurons

“...with empathic dysfunction are considered: autism and psychopathy. It is argued that individuals with autism show difficulties with cognitive and motor empathy but less clear difficulties with respect to emotional empathy. In contrast, individuals with psychopathy show clear difficulties with a specific form of emotional empathy but no indications of impairment with cognitive and motor empathy.” (p. 1 of 2)

Blair, R.J.R. (December, 2005). Responding to the Emotions of Others: Dissociating Forms of Empathy Through the Study of Typical and Psychiatric Populations. Consciousness and Cognition, 14 (4), pp. 698-718. From Website: www.sciencedirect.com/science?_ob=ArticleURL&_url=B6WD0-4H39727-2&_user=

Mirror Neurons



“Our results show that this ‘mirror system’ integrates observed actions of others with an individual’s personal motor repertoire and suggests the human brain understands actions by motor stimulation.” (p. 1243)

Glaser, D. (January 2005). Mirror Neurons: Research Update. NOVAscienceNOW. Public Broadcasting System (PBS). www.pbs.org/wgbh/nova/sciencenow/3204/01-resup.html, p. 1

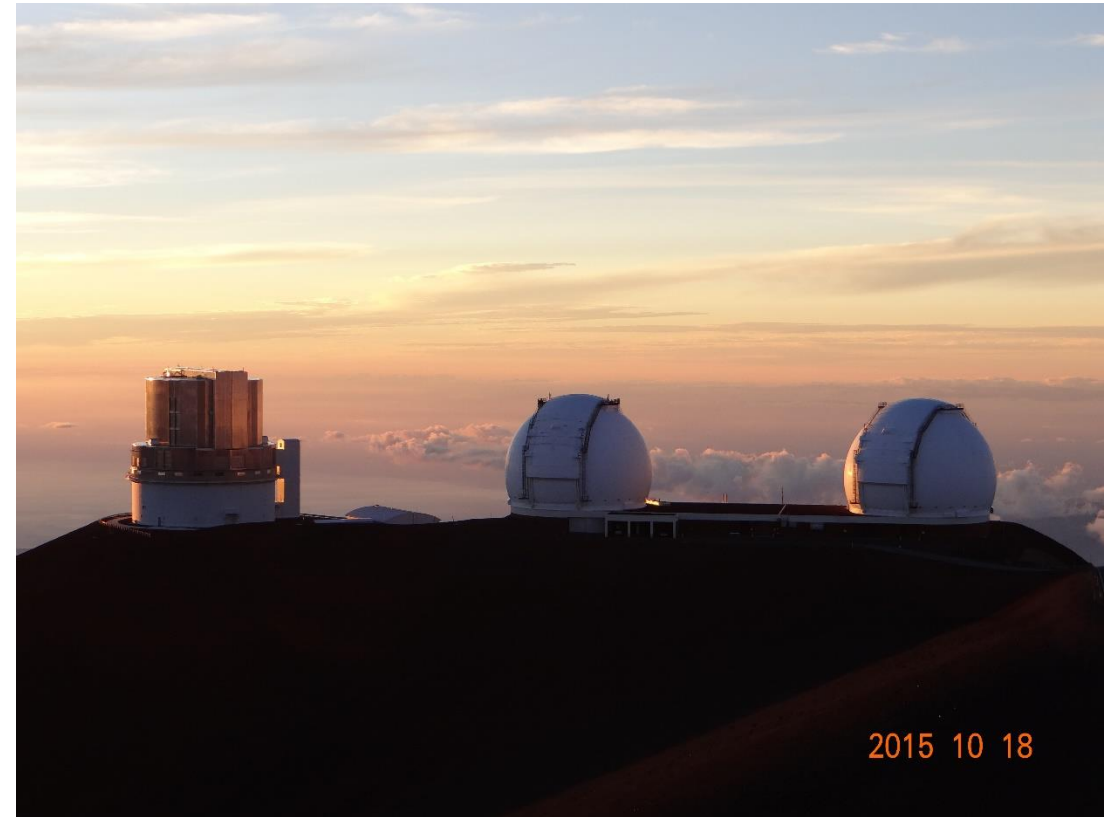
Calvi-Merino, B., Glaser, D.E., Greeze, J., Passingham, R.E., and Haggard, P. (2005). Action Observation and Acquired Motor Skills: An fMRI Study with Expert Dancers. Cerebral Cortex, 15 (8), p. 1243-1249.

“...some individuals with ASD may experience characteristics of *alexithymia*, a diminished vocabulary to describe the different levels of emotional experience, especially the more subtle emotions” (p. 35).*

***Attwood, T, and Scarpa, A. (2013). Modifications of Cognitive-Behavioral Therapy for Children and Adolescents with High-Functioning ASD and their Common Difficulties. In A Scarpa, S.W. White, and T. Attwood (Eds.), CBT for Children and Adolescents with High-Functioning Autism Spectrum Disorders. New York, NY: Guilford.**

Attwood, T. (2007). The Complete Guide to Asperger's Syndrome. Philadelphia, PA: Jessica Kingsley, p. 130.

Alexithymia & ASD



“Symptoms” of Alexithymia

- **Difficulty identifying different types of feelings**
- **Difficulty distinguishing between emotional feelings and bodily feelings**
- **Limited understanding of what caused the feelings**
- **Difficulty verbalizing feelings**
- **Limited emotional content in the imagination**
- **Functional style of thinking**
- **Lack of enjoyment and pleasure-seeking**
- **Stiff, wooden posture**

Author (January 23, 2003). The Alexithymia FAQ. From web site:

www.anglefire.com/al4/alexithymia/

Treating ASD



Comprehensive Treatment

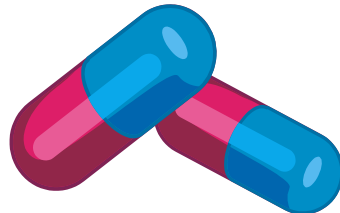
- To start out a person on the spectrum gets from 25 to 40 hours per week. This goes on for at least a year.
- Treatment can include: speech and language therapy, occupational therapy, psychiatry, physical therapy, gastrointestinal treatment, neurology, counseling, social skills training, etc.
- The following are inclusive programs:
 - Applied Behavioral Analysis (ABA), DIR Floortime, Autism Partners, TEACCH, Social Thinking, etc.

Durand, M. (2014). Autism Spectrum Disorder: A Guide for General Practitioners. Washington, DC: American Psychological Association.

Possible Treatment for Emotional Working Memory Problems

- **Stimulant Medication?**
 - Lessens Hyperactivity and Impulsivity in AD/HD, Combined Type Individuals
 - Hundreds of Double Blind Studies to Support

Barkley, R.A. (2006). Attention Deficit Hyperactivity Disorder, 3rd Edition. New York, NY: Guilford.



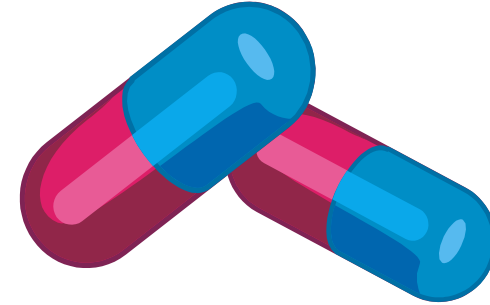
Some Treatments For Mirror Neuron Difficulties

➤ Risperidone and MDMA (ecstasy):

➤ Biofeedback:

To help control anxiety

➤ Oxytocin Nasal Spray



Author (1997). Use of “Atypical” Neuroleptics in the Treatment of PDDs. MedScape Psychiatry & Mental Health Journal, 2 (4): www.medscape.com/viewarticle/430897_5

Ramachandran, V.S. and Oberman, L.M. (November, 2006). Broken Mirrors. Scientific American, 296(5), pp. 62-69.

Guastella, A.J., Einfeld, S.L., Gray, K.M., Rinehart, N.J., Tonge, B.J., Lambert, T.J., and Hickie, I.B. (April 1, 2010). Intranasal Oxytocin Improved Emotion Recognition for Youth with Autism Spectrum Disorders. Biological Psychology, 67 (7), 692-694; www.ncbi.nlm.nih.gov/pubmed/19897177.

MDMA & Oxytocin Nasal Spray ARE EXPERIMENTAL TREATMENTS!!!!

Emotional Salience Landscape Difficulties-Mirror Neurons



- Temple Grandin's "squeeze machine"
- Hirstein's "squeeze vest"
- Elmhurst College
- Under Armor-- Compression underwear: www.underarmour.com

Grandin, T (1992). Calming Effects of Deep Touch Pressure in Patients with Autism, College Students, and Animals. Journal of Child and Adolescent Psychopharmacology, 1 (2). From website: www.grandin.com/inc/squeeze.html

Ramachandran, V.S. and Oberman, L.M. (November, 2006). Broken Mirrors. Scientific American, 296(5), pp. 62-69.

Author (1997). Use of "Atypical" Neuroleptics in the Treatment of PDDs. MedScape Psychiatry & Mental Health e Journal, 2 (4): www.medscape.com/viewarticle/430897_5

THE ABOVE ARE EXPERIMENTAL TREATMENTS!!!!

Theory of Mind & Mirror Neuron “Software”

- “Able individuals with autism spectrum disorders can with time and practice achieve awareness of mental states by compensatory learning.” (p. 977)

Frith, U. (2001). Mind Blindness and the Brain in Autism. Neuron, 32, 969-979.

- **Possible Treatment Technique -**

Carol Gray – Social Stories &

Laurel Falvo- Social Response

Pyramid:

www.thegraycenter.org/



ASD Alexithymia Treatment

“Affective education within CBT aims to improve the vocabulary of the child or adolescent with ASD to describe emotions, thereby diminishing the effects of alexithymia. One approach is to quantify the degree of expression, such that if the precise word is elusive, the child or adolescent can calibrate and express his or her degree of emotion using a thermometer or numerical rating, thus indicating intensity of emotional experience” (p. 35).

Attwood, T, and Scarpa, A. (2013). Modifications of Cognitive-Behavioral Therapy for Children and Adolescents with High-Functioning ASD and their Common Difficulties. In A Scarpa, S.W. White, and T. Attwood (Eds.), CBT for Children and Adolescents with High-Functioning Autism Spectrum Disorders. New York, NY: Guilford.

CBT & ASD

“Thus, CBT, when adapted for the special needs of youth with ASD, is potentially effective at decreasing anxiety in this population, but more replication is necessary to establish the efficacy of these programs” (p. 91).

Green, S.A., and Wood, J.J. (2013). Cognitive-Behavioral Therapy for Anxiety Disorders in Youth with ASD. In A Scarpa, S.W. White, and T. Attwood (Eds.), CBT for Children and Adolescents with High-Functioning Autism Spectrum Disorders. New York, NY: Guilford.

CBT & ASD with Comorbid AD/HD in Children

If AD/HD is comorbid with ASD one must alter their cognitive behavioral therapy program for the child, especially in a group. The group may have a token economy, members may be encouraged to use medication for AD/HD as well as significantly more structure to control hyperactivity and impulsivity may be used.

Attwood, T, and Scarpa, A. (2013). Modifications of Cognitive-Behavioral Therapy for Children and Adolescents with High-Functioning ASD and their Common Difficulties. In A Scarpa, S.W. White, and T. Attwood (Eds.), CBT for Children and Adolescents with High-Functioning Autism Spectrum Disorders. New York, NY: Guilford.

Other Things to Consider When Working with ASD Children and Adolescents

- ❖ **One-Track Mind: Set shifting**
- ❖ **Fear of Making a Mistake**
- ❖ **Consistency and Certainty**
- ❖ **Special Interests & Talents**
- ❖ **Converting Thoughts to Speech: Texting instead of face to face**
- ❖ **Problems with Pragmatics, Syntax and Prosody**

Other Things to Consider When Working with ASD Children and Adolescents

- ❖ Teaching Theory of Mind (ToM)
- ❖ Dealing with Sensory Sensitivity
- ❖ Between-Session Projects
 - ❖ Workbooks
- ❖ Selection of Group Participants
- ❖ Time with Parents After Every Session

Attwood, T, and Scarpa, A. (2013). Modifications of Cognitive-Behavioral Therapy for Children and Adolescents with High-Functioning ASD and their Common Difficulties. In A Scarpa, S.W. White, and T. Attwood (Eds.), CBT for Children and Adolescents with High-Functioning Autism Spectrum Disorders. New York, NY: Guilford.

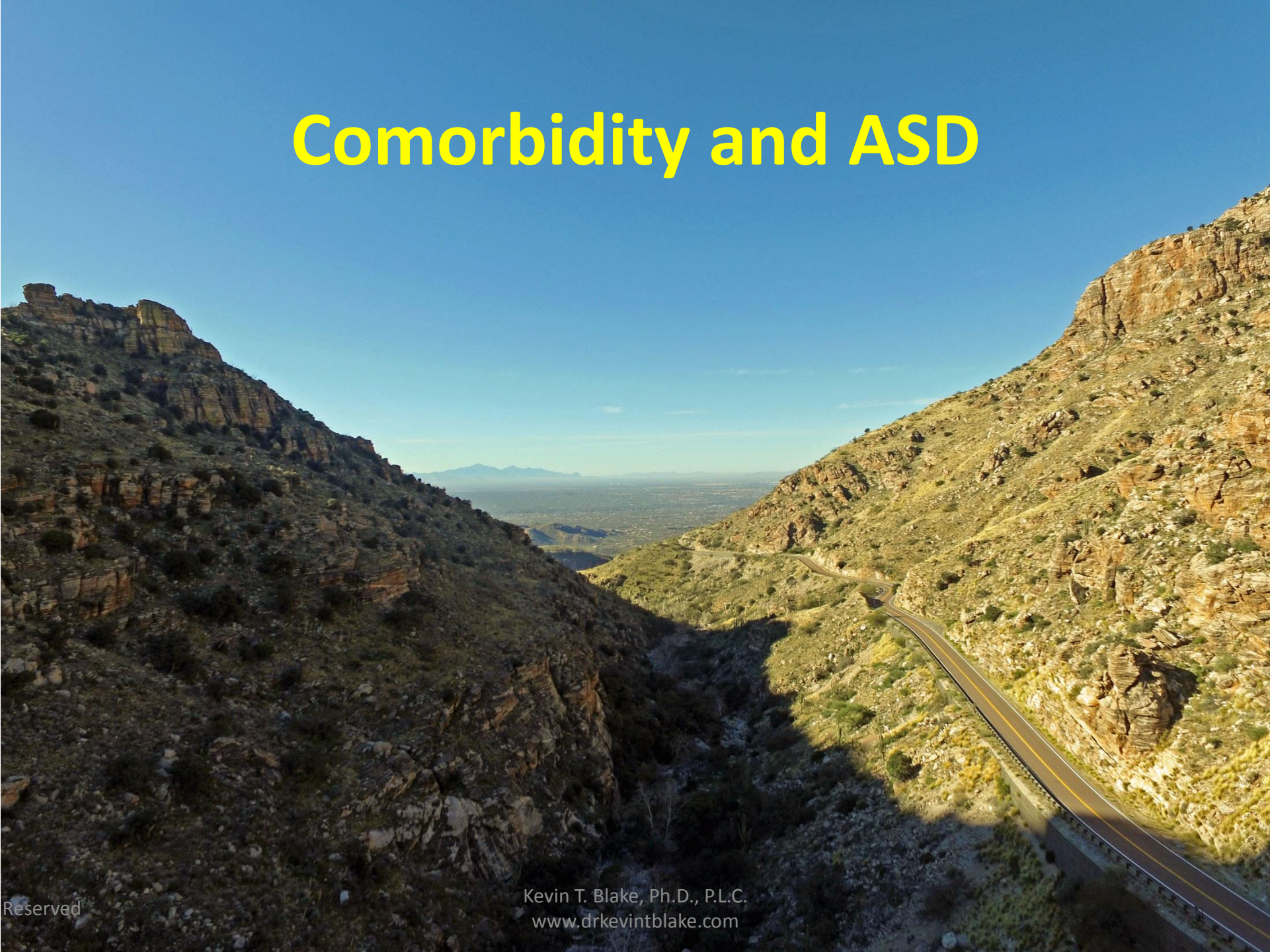
Professionals Who Can Help Treat ASD

- **Psychologists-American Psychological Association:** www.apa.org
- **Psychiatrists-American Psychiatric Association:** www.apa@psych.org
- **Social Workers-National Association of Social Workers:** www.naswdc.org
- **American Association of Marriage and Family Therapists:** www.aamft.org
- **Counselors-National Board of Certified Counselors:** www.nbcc@nbcc.org
- **American Occupational Therapy Association:** www.aota.org

Professionals Who Can Help Treat ASD

- **Behavioral Neurology/Neuropsychiatry-**
American Neuropsychiatric Association:
www.anpaonline.org
- **Speech Language Pathologist-American Speech-**
Language Hearing Association:
www.professional.asha.org

Comorbidity and ASD



Asperger's Disorder, Depression & Anxiety

Research conducted in Sweden recently indicates that 70% of those with Asperger's Disorder have experienced at least one Major Depressive Episode, and 50% have experienced recurring episodes. Fifty percent had Anxiety Disorders. None of the subjects had psychosis, but almost 50% meeting criterion for personality disorders.

Lugnegård, T., Unenge Hallerbäck, M., Gillberg, C. (2011). Psychiatric comorbidity in young adults with a clinical diagnosis of Asperger syndrome. Research in Developmental Disabilities, 32, 1910-1917.

Generalized Anxiety Disorder and ASD

“We know that young children with Asperger’s syndrome are prone to develop mood disorders...and some children seem to be almost always anxious which might indicate Generalized Anxiety Disorder (GAD)...they may be in a constant state of alertness, leading to a risk of mental and physical exhaustion.” (p. 17)

Attwood, T. (2007). The Complete Guide to Asperger’s Syndrome. Philadelphia, PA: Jessica Kingsley.

Autism, Sameness, and Uncertainty

British and U.S. researchers found that sensory under and over responsiveness in children with autism is associated with insistence on sameness behavior, and their level of anxiety is related to intolerance of uncertainty.

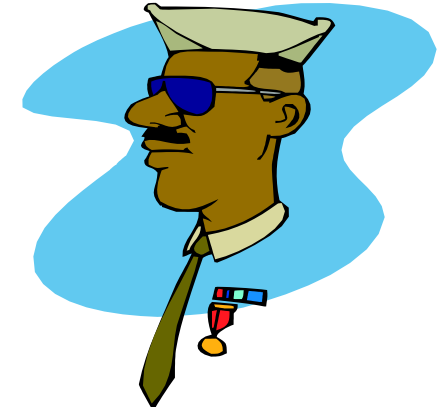
Wigham, S., et al. (April, 2015). The Interplay Between Sensory Processing Abnormalities, Intolerance of Uncertainty, Anxiety and Restricted and Repetitive Behaviours in Autism Spectrum Disorder. Journal of Autism and Developmental Disorders, 45(4), 943-952.

Social Anxiety Disorder and ASD

- **People with ASD are at great risk of having Social Anxiety Disorder (SAD).**
- **Those with SAD and ASD need cognitive behavioral therapy (CBT) and often medication. They will also need social skills training and self-esteem restructuring.**

Attwood, T. (2007). The Complete Guide to Asperger's Syndrome. Philadelphia, PA: Jessica Kingsley.

Social Anxiety and Shyness



- **Attwood (2002) gave an example of an Australian soldier who fought behind enemy lines as a lone sniper in Vietnam who said his social anxiety is much more pronounced than his PTSD from the war ever was.**

Atwood, T. (July, 2002). Social Skills for Children with Asperger's and High Functioning Autism. Workshop presented on July 19, 2002 in Scottsdale, AZ: Future Horizons, Inc. 721 West Abram Street, Arlington, TX 76013.

Treatment of Anxiety in Those with ASD

- **Cognitive behavioral therapy, social skills training, and antidepressant medication.**
 - **Making sure therapies for autism continue (i.e., speech language therapy, etc.)**

Durand, M. (2014). Autism Spectrum Disorder: A Guide for General Practitioners. Washington, DC: American Psychological Association.

ASD and Obsessive Compulsive Disorder

- People with ASD can have repetitive behaviors that appear OCD-like. If they are interrupted the person often melts down.
- Modest improvement has been seen using response prevention and modifications of exposure.
- Cognitive behavioral therapy
- Applied behavioral analysis
- Teach “**THE RULES**”

Woodbury-Smith, M. (2014). Asperger Syndrome and Forensic Issues. In J.C. McParland, A. Klin, and F.R. Volkmar (Eds.), Asperger Syndrome: Assessing and Treating High-Functioning Autism Spectrum Disorders. New York, NY: Guilford, 394-314.

Depression and ASD

- **Reportedly, 25 to 34% of those with ASD meet criteria for depression**
- **Treatment anti-depressants and social skills training**

Durand, M. (2014). Autism Spectrum Disorder: A Guide for General Practitioners. Washington, DC: American Psychological Association.

Prosopagnosia

ASD & Face Processing

“A range of face-processing deficits can present in ASD. Sometimes, individuals have problems recognizing facial identity, gaze direction, gender, expression and lip reading...Most importantly, nearly all individuals with ASD have problems interpreting emotional expression. For some individuals with ASD, the impairment in recognizing emotional expressions seems only to affect certain expressions, most notably fear” (p. 144).

Bate, S. (2013). Face Recognition & Its Disorders. New York, NY: Palgrave Macmillan.

Computer Programs to Treat Prosopagnosia

- **“Let’s Face It!” – Face Recognition Program and workbook for children and adolescents with Autism Spectrum Disorders (University of Victoria Brain and Cognition Lab & the Yale Child Study Center)**
- **Teaches facial recognition and emotion recognition in 20 hours!**
- **It is *FREE!***

From: <http://web.unic.ca/~letsface/letsfaceit/index.php>

Computer Programs to Treat Prosopagnosia

- Baron-Cohen, S. (2003). Mind Reading: An Interactive Guide To Emotions. Philadelphia, PA: Jessica Kingsley.
“Harry Potter” teaches facial expressions.
- Baron-Cohen, S., Drori, J., Harcup, C. (2009). The Transporters (USA Version). London, England: Changing Media Development:
www.thetransporter.com
“Thomas the Tank-Engine” teaches faces.

Epilepsy and Autism Spectrum Disorder

- **By the age of 10 approximately 22% of those with Autism Spectrum Disorder will have some form of Epilepsy.**
- **This is 10 to 30 times more than the general population**
- **It is most often seen in females with Intellectual Disability and low verbal skills.**

Durand, M. (2014). Autism Spectrum Disorder: A Guide for General Practitioners. Washington, DC: American Psychological Association.

AD/HD and ASD

- **41 to 78% of those with ASD meet criteria for AD/HD.**
- **Suggested treatment with stimulant medication, but response rates are lower.**
- **If you do not treat the AD/HD with medication, cognitive behavioral therapy, and help with organizing they will often not learn social skills.**

Connor, D.F. (2014). Stimulant and Nonstimulant Medications for Childhood ADHD. In R.A. Barkley (Ed.). *Attention-Deficit Hyperactivity Disorder, Fourth Edition*. New York, NY: Guilford, 666-685.

Attwood, T, and Scarpa, A. (2013). Modifications of Cognitive-Behavioral Therapy for Children and Adolescents with High-Functioning ASD and their Common Difficulties. In A Scarpa, S.W. White, and T. Attwood (Eds.), CBT for Children and Adolescents with High-Functioning Autism Spectrum Disorders. New York, NY: Guilford.

ASD And AD/HD

DSM-5 says that Autism Spectrum Disorders can be comorbid with AD/HD however most will have the Inattentive/Sluggish Cognitive Tempo type.

**Author (May 3, 2012). DSM-5 Development, Attention Deficit/Hyperactivity Disorder, Rationale. Washington, DC: American Psychiatric Association; From website:
<http://www.dsm5.org/ProposedRevision/Pages/proposedrevision.aspx?rid=383#>**

Author (May 18, 2013). Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5). Washington, DC: American Psychiatric Association, 50-66.

Goldstein, S., and Naglieri, J.A. (August, 2011). Neurocognitive and Behavioral Characteristics of Children with ADHD and Autism: New Data and Strategies. The ADHD Report, 19(4), 10-12,16.

Sleep & ASD

- **50% to 80% of Children with ASD have sleep problems**
- **Main problems:**
 - **Prolonged Sleep Latency, Disruption at Bedtime, Decreased Sleep Efficiency and Duration**
 - **Those with ASD may have a problem with the inhibitory neurotransmitter GABA and melatonin which may cause problems with circadian sleep-wake cycles**

Durand, M. (2014). Autism Spectrum Disorder: A Guide for General Practitioners. Washington, DC: American Psychological Association.

Gastrointestinal Problems

- **Many with ASD (42%) have chronic problems with diarrhea, constipation, and stomach pain.**
- **This can cause very picky eating patterns.**

Durand, M. (2014). Autism Spectrum Disorder: A Guide for General Practitioners. Washington, DC: American Psychological Association.

Executive Functioning and ASD

***“Behaviors observed in individuals with ASD are suggestive of executive dysfunction; these include response perseveration, disinhibition, narrow range of interests, concrete thinking, difficulty with flexibly shifting perspectives, as well as challenges with self-monitoring and planning” (86).**

Tsatsanis, K.D. (2014). Neuropsychological Characteristics of Asperger Syndrome. In J.C. McPartland, A. Klin, and F.R. Volkmar (Eds.), Asperger Syndrome: Assessing and Treating High-Functioning Autism Spectrum Disorders, Second Edition. New York, NY: Guilford, 71-102.

Sensory Issues



Multisensory Processing in ASD

- Found that ASD children did not integrate multisensory (auditory-somatosensory) stimuli as well as non-disabled children.
- Will next investigate Sensory Integration Training for efficacy given these results.
- Molholm stated ASD children have difficulty simultaneously processing faces and voices.

Russo, N., Foxe, J.J., Brandwein, A.B., Gomes, T., Altschuler, H., Molholm, S. (October, 2010). Multisensory Processing with Autism: High-Density Electrical Mapping Auditory-Somatosensory Integration. Autism Research, 3 (5), 253-267.

Hamilton, J. (June 2, 2011). Looking for Early Signs Of Autism In Brain Waves. Washington, DC: National Public Radio: <http://www.npr.org/2011/06/02/136882002/looking-for-early-signs-of-autism-in-brain-waves>

Temple Grandin



Temple Grandin



Sensory Defensiveness



“Asperger reported primarily on hypersensitive behaviors. Those who are hypersensitive feel actual physical discomfort when coming into contact with someone or something the rest of us are barely aware of” (p. 23).

Myles, B.M., Tapscott-Cook, K., Miller, N.E., Rinner, L., and Robbins, L. (2000). Asperger Syndrome and Sensory Issues: Practical Solutions for Making Sense of the World. Shawnee Mission, KS: Autism Asperger Publishing

Rajarshi (Tito) Mukhopadhyay

“How can you remember things about such early days”, someone asked me. “Blame it on my sensory activities. It is the factor that led me to remember certain aspects of my early days, although I sometimes cannot remember who I met at the store yesterday.”

Mukhopadhyay, T.R. (2011). How Can I Talk If My Lips Don't Move? Inside My Autistic Mind. New York, NY: Arcade.

Rajarshi (Tito) Mukhopadhyay

“When I enter a new room, which I am entering for the first time and look at a door, I recognize it as a door, only after a few stages. The first thing I see is its color... I move to the shape of the door. And if at all I lay my eyes on the door hinge, I might get distracted by the functions of the levers...Why is that yellow, large rectangular objects with levers there?...And what else can it be, other than a door.”

Mukhopadhyay, T.R. (2011). How Can I Talk If My Lips Don't Move? Inside My Autistic Mind. New York, NY: Arcade.

Rajarshi (Tito) Mukhopadhyay

“To learn the sensation of physical pain, I had to mentally experience it. My mind needed to judge the location of the pain, the structure of the pain and the nature of the pain.”

Tito’s mother had to directly teach this to him.

Mukhopadhyay, T.R. (2011). How Can I Talk If My Lips Don’t Move? Inside My Autistic Mind. New York, NY: Arcade.

Rajarshi (Tito) Mukhopadhyay



“I can do only one thing at a time. I can use my eyes or use my ears. Hearing my voice screaming would stop my eyes from looking...After hearing the words of her song (his mother’s, sic.), I would wonder why I could no longer hear my voice screaming. And, to my relief, I would realize that my voice had stopped screaming.”

Mukhopadhyay, T.R. (2011). How Can I Talk If My Lips Don’t Move? Inside My Autistic Mind. New York, NY: Arcade.

New Research on Touch

- **There are three types of nerve fibers related to touch:**
 - **A - beta = they discriminate what is felt, are all over the body (especially the palm), are highly myelinated and send messages very fast.**
 - **Two different types of C fibers that detect pain and itches – The information these transmit moves slower, but is richer**
 - **C - tactile, or CT fibers - found on the hairy skin of the back and forearm, tuned to gentle touch, temperature, light touch, slow transmitting**

New Research on Touch

- **The CT Fibers appear to be geared more to feeling than sensing, and touch that is rewarding**
- **CT Fibers are the first sense to develop in utero and is the most developed at birth**
- **People with autism appear to have difficulty with the CT - fiber system and forming social bonds; they often do not find gentle stroking as rewarding**

Denworth, L. (July/August, 2015). The Social Power of Touch. Scientific American, Mind, 26(4), 30 - 39.

Tactile Defensiveness



“Particular parts of the body appear to be more sensitive, namely the scalp, upper arm and palms...The child may hate handling certain textures, such as finger paints or playdough. There can also be reluctance to wear a variety of clothing...” (p. 134).

Attwood, T. (1998). Asperger Syndrome: A Guide for Parents and Professionals. Philadelphia, P.A.: Jessica Kingsley.

Tactile Defensiveness



Roffman wrote, “ Individuals with problems in this area may use either too light or too tight a grip when they shake hands with others. They may also be hypersensitive to touch (p. 16). Roffman continued that such problems in a child can lead to problems in parental bonding, problems in getting a haircut and workplace problems in adulthood.

**Roffman, A.J. (2000). Meeting The Challenge of Learning Disabilities In Adulthood.
Baltimore, MD: Brookes.**

Hyperacusis

“Hyperacusis is defined as a collapsed tolerance to normal environmental sounds. Ears also lose most of their dynamic range. What is dynamic range? Dynamic range is the ability of the ear to deal with quick shifts in sound loudness. Suddenly everyday noises sound unbearably or painfully loud. The disorder is often chronic and usually accompanied by tinnitus (ringing in the ears), but can occur in patients who have little or no measurable hearing loss”.

The Hyperacusis Network (2016). What is Hyperacusis? From website: <http://www.hyperacusis.net/what-is-it/>.

Melting Down



Melting Down



“New research demonstrates that acute, uncontrollable stress sets off a series of chemical events that weaken the influence of the prefrontal cortex while strengthening the dominance of older parts of the brain. In essence, it transfers high-level control over thought and emotion from the prefrontal cortex to the hypothalamus and earlier evolved structures...”

Melting Down



“...As the older parts take over, we find ourselves either consumed by paralyzing anxiety or else subject to impulses that we usually manage to keep in check: indulgence in excess food, drink, drugs or a spending spree at a local specialty store. Quite simply, we loose it.” (p. 50)

Arnsten, A., Mazure, C.M., Sinha, R. (April, 2012). This is Your Brain in Meltdown. Scientific American, 306 (4), 48-53.

Melting Down



- **Some people are more at risk of melting down due to genetic factors or previous stress exposure.**
- **“ Chronic stress appears to expand the intricate web of connections among neurons in our lower emotional centers, whereas the areas engaged during flexible, sustained reasoning... -- start to shrivel.” (p. 53)**

Arnsten, A., Mazure, C.M., Sinha, R. (April, 2012). This is Your Brain in Meltdown. Scientific American, 306 (4), 48-53.

Melting Down



- **With stress there is a shrinkage of the prefrontal gray matter while the amygdala enlarges.**

Arnsten, A., Mazure, C.M., Sinha, R. (April, 2012). This is Your Brain in Meltdown. Scientific American, 306 (4), 48-53.

- **Temple Grandin, Ph.D.'s amygdala is larger than normal.**
- **Her colitis left after she took an antidepressant for anxiety.**

Grandin, T. (May 4, 2012). Autism and My Sensory Based World. Paper presented at the Conference On Autism & Asperger's Syndrome, Grandin, T., Cutler, E. and Moyes, R. Presenters, Tucson, AZ. Future Horizons; Arlington, TX.

Rajarshi (Tito) Mukhopadhyay



“I could focus all my concentration on only one sense and that is hearing. I am not sure whether or not I had to put any kind of effort into hearing because I was too young and uninformed in science to analyze the sensory battle that was taking place in my nervous system.”

Mukhopadhyay, T.R. (2011). How Can I Talk If My Lips Don't Move? Inside My Autistic Mind. New York, NY: Arcade.

Rajarshi (Tito) Mukhopadhyay



“The shattered senses can stop all thought processes making it impossible to continue doing an activity that involves reasoning or using the voluntary muscles of the body.”

“I usually flap my hands to distract my senses to a kinesthetic feel, so that my senses may be recharged.”

Mukhopadhyay, T.R. (2011). How Can I Talk If My Lips Don't Move? Inside My Autistic Mind. New York, NY: Arcade.

Treating Anxiety in Those With ASD

- **Cognitive behavioral therapy, social skills training, and antidepressant medication.**
- **Making sure therapies for autism continue (i.e., speech language therapy, occupational therapy, etc.)**

Durand, M.V. (2014). Autism Spectrum Disorder: A Clinical Guide for General Practitioners. Washington, DC: American Psychological Press.

Education/Employment

Social Anxiety Disorder (SAD) & Unemployment

- **Patients with Major Depressive Disorder, or Anxiety Disorders have higher unemployment and work impairment than the norm.**
- **Patients with SAD are 2 ½ times more likely than those with Major Depressive Disorder, or other forms of Anxiety Disorders to be unemployed.**

Moitra, E., Beard, C., Weisberg, R.B., and Keller, M.B. (September, 2010). Occupational and Social Anxiety Disorder in a Sample of Primary Care Patients. Journal of Affective Disorders. doi: 10.1016/j.ad2010.09.024.

Social Anxiety Disorder (SAD) & Unemployment

- **“These findings highlight the particular need to assess the presence of under education and underperformance at work and/or unemployment in individuals with SAD, as they are at most risk for these impairments. Additionally, early detection and intervention with individuals with, or at risk for SAD may curb the impact of social anxiety or occupational attainment.”**

Moitra, E., Beard, C., Weisberg, R.B., and Keller, M.B. (September, 2010). Occupational and Social Anxiety Disorder in a Sample of Primary Care Patients. Journal of Affective Disorders. doi: 10.1016/jad2010.09.024.

National Accounting Office: 2009 ASD Report

❖ National Accounting Office of Great Britton reported in 2009:

- ½ of those with ASD in England met criteria for Intellectual Developmental Disorder
- Only 15 percent of those who have ASD were full-time employed

Burr, T. (May 28, 2009). Supporting People with Autism Through Adulthood. Comptroller and Auditor General (British) National Audit Office, Ordered by the House of Commons. London. Great Briton: The Stationary Office. www.nao.org.uk/autismdvd.

ASD After High School

“For youth with an ASD, 34.7% had attended college and 55.1% had held paid employment during the first 6 years after high school. More than 50% of youth who had left high school in the past 2 years had no participation in employment or education. Youth with an ASD had the lowest rates of participation in employment and the highest rates of no participation compared with youth in other disability categories. Higher income and higher functional ability were associated with higher adjusted odds of participation in postsecondary employment and education.” (p. 1042)

Shattuck, P.T., Carter Narendorf, S. Cooper, B., Sterzing, P.R., Warner, M., and Lounds Taylor, J. (May 14, 2012). Postsecondary Education and Employment Among Youth With an Autism Spectrum Disorder. *Pediatrics*, *129*, 1042-1049. From website: <http://www.clarionledger.com/assets/pdf/D0189267514.PDF>.

Charli Devenet: Adult on the Spectrum

“Although I have several advanced degrees, I have spent most of my life either unemployed or underemployed. By my mid-40s, I had learned to eke out a subsistence living by putting together a patchwork of part-time, low-paying jobs, all of which I was overqualified for. (p. 19)

- ❖ Charli has an Master of Arts Degree, Law degree and has passed the Bar**
- ❖ Charli works as a museum tour guide and legal researcher**

Grandin, T. (2012). Different...Not Less: Inspiring Stories of Achievement and Successful Employment From Adults with Autism, Asperger's and ADHD. Arlington, TX: Future Horizons.

Sexual Development & Autism



Average Age Non-Disabled Americans Loose Their Virginity

- **Mean age at first intercourse for women aged 15 to 44: 17.2 years**
- **Mean age at first intercourse for men aged 15 to 44: 16.8 Years**

Centers for Disease Control and Prevention, National Center for Health Statistics (November 6, 2015).
National Survey of Family Growth: Vaginal Sexual Intercourse. From website:
http://www.cdc.gov/nchs/nsfg/key_statistics/s.htm#vaginalsexual.

Henault & Attwood ASD Sexuality Study

- **Derogatis Sexual Function Inventory**
- **19 males, 9 females; Mean age 32, range 18 to 64; 21 Asperger's Disorder; 5 HFA; 2 PDD: Average IQ**
- **“Although all developed an interest in sexuality around age 14, 11 of the 28 participants were still virgins.”**
- **For those who had intercourse the mean age for their first experience was 22.**

Henault, I. (2005). Asperger's Syndrome and Sexuality: From Adolescence through Adulthood. Philadelphia, PA: Jessica Kingsley.

Sexuality & ASD

“By then he had learnt a way to escape his uneasiness of lack of communication. It was masturbating on the edge of the bed or sofa.”

(Rajarshi (Tito) Mukhopadhyay)

Mukhopadhyay , T. R. (2011). The Mind Tree: A Miraculous Child Breaks the Silence of Autism. New York, NY: Arcade.

ASD, Sexuality and Suicide

“The desire for a girlfriend, which goes along with sex drive was so important to this young man that his failure made him consider whether life was worth living.” (p. 13)

Newport, J., and Newport, M. (2002). Autism-Asperger's & Sexuality: Puberty and Beyond. Arlington, TX: Future Horizons.

Abuse of Children with ASD

- **18.5% of children with ASD have been physically abused**
- **16.6% of children with ASD have been sexually abused**

Brown-Lavoie, S.M. et al. (September, 2014). Sexual Knowledge and Victimization in Adults with Autism Spectrum Disorders. Journal of Autism and Developmental Disorders, 44(9), 2185-2196.

Victimization of Adults with ASD

Canadian researchers wrote,”...We found that individuals with ASD obtain less of their sexual knowledge from social sources and more from non-social sources, have less perceived and actual knowledge, experience more sexual victimization than individuals without ASD. We also found that the increase victimization by individuals with ASD is particularly mediated by their level of actual knowledge”.

➤ Those with ASD are 2 to 3 times more likely to be victimized than the general population.

Brown-Lavoie, S.M. et al. (March 25, 2017). Sexual Knowledge and Victimization in Adults with Autism Spectrum Disorder. Journal of Autism and Developmental Disorders. 44(9), 2185-2196.

ASD: Need for Sexual Behavior Risk Assessment

Swedish researchers found:

- **People with ASD are more sexually abused more often than they abuse.**
- **ASD people are less likely to perpetrate a sexual offense than the general public.**
- **There is an urgent need for and ASD risk assessment guide for child pornography and sexual offenses.**

Allely, C. (February 27, 2018). Sexual Offending Behaviors: Urgent Need for 'Autism Sensitive Risk Assessment Guide'. Gilberg, Neuropsychiatry Centre, Gothenberg, Sweden. From website:

<https://gillbergcentre.gu.se/english/gillberg-s-blog/sexual-offending-behaviours--urgent-need-for-an--autism-sensitive-risk-assessment-guide->.

ASD: Need for Sexual Behavior Risk Assessment

The same Swedish researchers wrote, “...Repetitive or obsessive behavior may contribute to pornography-related offenses. Individual(s) with ASD are likely to accumulate large amounts of pornography (due to their ritualistic behavior) and do so without focusing on wider issues such as where they got the images/files, who else might be able to access them and what the implications may be for minors in the images...However, this does not imply they are more at risk of sexually abusing children compared to adults without an ASD diagnosis.”

Allely, C. (February 27, 2018). Sexual Offending Behaviors: Urgent Need for ‘Autism Sensitive Risk Assessment Guide’. Gilberg, Neuropsychiatry Centre, Gothenberg, Sweden. From website:
<https://gillbergcentre.gu.se/english/gillberg-s-blog/sexual-offending-behaviours--urgent-need-for-an--autism-sensitive-risk-assessment-guide->

Celibacy/Asexuality



Tony Attwood, Ph.D.

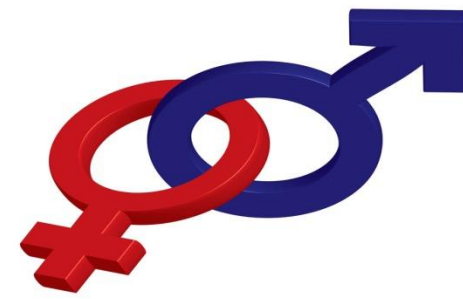


ASD & Asexuality

- “A feature of ASDs is a characteristic under- or over-sensitivity in the sense domains. For someone on the spectrum, intimate relationships can present a potential minefield of sensory input from strong perfume to overwhelming touch” (p. 25).
- “Our findings suggest that, on average, people on the spectrum are actually *less* likely than the neurotypical population to be homosexual, although they do appear to identify significantly *more* with an asexual orientation” (p. 25).

Stork-Brett, K. et al. (February. 2012). ASD SEX & GENDER STUDY PRELIMINARY REPORT. Department of Psychology, University of Queensland, St. Lucia, Australia. Kat Stork-Brett (k.stork-brett@uqconnect.edu.au).

Celibacy



“I have remained celibate because doing so helps me to avoid the many complicated social situations that are too difficult to handle. For most people with autism, physical closeness is as much a problem as not understanding social behavior.” (Dr. Temple Grandin, p. 133)

Grandin, T. (1995). Thinking In Pictures: And Other Reports From My Life With Autism. New York, NY: Vintage.

Anita Lesko: Adult on the Spectrum

- **Registered nurse anesthetist & aviation photojournalist**

“I haven’t been on a date for 14 years. I realize this is shocking to most people, but it just happened this way because of all the things I’ve been doing with my time. I didn’t make a conscious decision not to date – it just happened.” (p. 201)

Grandin, T. (2012). Different...Not Less: Inspiring Stories of Achievement and Successful Employment From Adults with Autism, Asperger’s and ADHD. Arlington, TX: Future Horizons.

ASD and Inappropriate Sexual Behavior



Inappropriate Sexual Behavior and ASD

Researchers recently reviewed 5,241 articles regarding sexuality and ASD. They found the most prominent problems mentioned in the population was hyper-masturbation, public masturbation, and inappropriate romantic gestures as well as inappropriate sexual arousal and exhibitionism. They indicate people with ASD need extensive individualized sex ed training from a young age.

Beddows, N. et al. (August, 2016). Inappropriate Sexual Behavior in Adolescents with Autism Spectrum Disorder: What Education is Recommended and Why? Early Intervention in Psychiatry. DOI: 10.1111/eip.12265.

New York State Office for People with Disabilities: Sexual Behaviors and ASD

Tuzikow (No Date) wrote that those with ASD often have difficulty with:

- **Touching their private parts in public**
- **Masturbation; Public**
- **Touching others inappropriately**
- **Disrobing in public**

Tuzikow (No Date) recommended:

- **Extensive Sex Ed**
 - **Disrobing-change type of clothing. Could be sensory problem**
 - **Give hands something to do in public-push a cart**
 - **Teach explicitly where it is OK to masturbate and where it is not**
 - **Check for generalization.**

Tuzikow, J. (No Date). Responding to Inappropriate Sexual Behaviors Displayed by Adolescents with Autism Spectrum Disorders. New York State Office for People with Developmental Disabilities. From website: <http://opwdd.ny.gov>.

Hypersexuality and Paraphelic Behavior and ASD

A recent German study found that those with ASD can have the entire range of sexual behavior. Their sensory sensitivities, social deficits and obsessive behaviors can cause them to be more hypersexual and paraphilic than the norm. This is particularly true of males with ASD; females with ASD typically are better socially. The researchers found there are higher rates of homosexuality and bisexuality among those with ASD, but they are mostly heterosexual. People with ASD masturbate more. About 35% of all those with ASD have voyeuristic fantasies, 30% have fetishes, and 22% have sadistic fantasies. The researchers recommended all the above should be addressed in sex ed with this population.

Schottle, D. et al. (December, 2017). Sexuality in Autism: Hypersexual and Paraphilic behavior in Women and Men with High Functioning Autism Spectrum Disorder. Dialogues in Clinical Neuroscience, 19(4), 381-393.

ASD & Masturbation

➤ **Henault (2014) stated:**

- **Masturbation must be addressed with those with ASD because it could lead to inappropriate materials (i.e., child pornography, etc.) and or inappropriate behavior (masturbating in public, etc.).**
- **She reported masturbation is the most common sexual behavior of teens with ASD.**

➤ **She continued those on the spectrum may masturbate compulsively, to distract themselves, or for stimming behavior.**

Henault, I (2014). Factors Influencing Sexual Development, In T. Attwood, I Henault, and N. Dubnin (2014). The Autism Spectrum, Sexuality and The Law: What Every Parent and Professional Needs to Know. Philadelphia, PA: Jessica Kingsley.

ASD & Masturbation

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ASD & Masturbation

- **Public Masturbation**
- **Masturbation injury**
- **Believes masturbation is disgusting, etc.**
- **Fear of masturbation**
- **Cannot ejaculate or climax**
- **Masturbates constantly**

Hingburger, D. (1995) Hand Made Love: A Guide for Teaching About Male Masturbation Through Understanding and Video. Barrie, Ontario, Canada: Diverse City.

- **Teach:**
 - **Masturbation is healthy. Counter myths**
 - **Done in private**
 - **Appropriate sexual fantasy**
 - **Learn what is pleasurable**
 - **Us K-Y Jelly (water lubricant)**
 - **Masturbation DVDs:**
www.diversecity.com

--Henault, I (2005)

Medical Treatment for Compulsive Masturbation and ASD

Doyle and McDougle (2012) wrote of using mirtazapine (Remeron), a tetracyclic antidepressant, in successfully managing compulsive masturbation and inappropriate sexual behavior.

Doyle, C.A., and McDougle, C.J. (September, 2012). Pharmacologic treatments for the behavioral symptoms associated with autism spectrum disorders across the lifespan. *Dialogues in Clinical Neuroscience*. 14(3), 263-279.

Scientist from Switzerland reviewed the case studies where medication was used to control masturbation in those with ASD. They concluded that mirtazapine and propranolol (Inderal) may be helpful, but there is very little research into this.

Chen, F. et al. (2016). Pharmacological management of inappropriate sexual behaviors in youth with autism spectrum disorder: A case study and review of the literature. Neuropsychiatrie de l'enfance et de l'Adolescence, 64, 163-167.

Common ASD Sexual Offenses

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ASD Vulnerabilities to Offend

British researchers reviewed the cases of seven ASD adults convicted of sexual offenses. In each case they found the innate neurobiological differences in those with ASD put them at risk of being charged with a sexual offense. First was their impaired “Theory of Mind” (the ability to put yourself in another’s shoes). This was followed by their persistent preoccupations, and repetitive and stereotyped behavior. The researchers continued that “talk therapy” may not work with such individuals, and suggested modeling appropriate behavior, providing practice and feedback might work better. Teach in pictures, not words.

Alley, C.S. et al. (2016). Sexual Offending and Autism Spectrum Disorders. University of Salford, Manchester, UK. DOI: 10.1108/JIDOB-09-215-0029.

ASD and Sexual Harassment

“We do recognize that problems with sexual expression and experiences can lead to a person with Asperger’s syndrome being charged with a sexual offence. The charge tends to be for sexually inappropriate behaviour rather than sexually abusive or sexually violent behaviour...The person may have difficulty distinguishing between kindness and attraction, and assume a friendly act was an indication of romantic or sexual attraction.” (p. 339)

Attwood, T. (2007). The Complete Guide to Asperger’s Syndrome. Philadelphia, PA: Jessica Kingsley, p. 130.

Stalking and Autism Spectrum Disorder

- **The young man with ASD who is a bagger in a grocery store and the cute young woman.**
- **What to do?**
 - **Assess the function of the stalking**
 - **Teach replacement and appropriate behaviors, the vocabulary of relationships, the difference between an acquaintance, friend and romantic interest, and social norms and rules.**

Durand, M. (2014). Autism Spectrum Disorder: A Guide for General Practitioners. Washington, DC: American Psychological Association.

ASD and Stalking

Australian scientist found that, “...the diagnosis of ASD is pertinent when individuals are prosecuted under stalking legislation...”

People with ASD often can think a stranger is a friend, or even a girlfriend/boyfriend. They also do not stop perusing their “love interest” when they show no interest.

Stokes, M. et al (2007). Stalking and Social Romantic Functioning Among Adolescents and Adults with Autism Spectrum Disorder. Journal of Autism and Developmental Disorders. DOI: 10.1007/s10803-006-0344-2.

Charli: An Adult on the Spectrum

“...I often engaged in activity that today would be called ‘stalking.’ While I truly intended no harm, I experienced unbearable loneliness and if some handsome young man appeared on the periphery of my solitary life, my better judgment deserted me.” (p. 38)

Grandin, T. (2012). Different...Not Less: Inspiring Stories of Achievement and Successful Employment From Adults with Autism, Asperger’s and ADHD. Arlington, TX: Future Horizons.

ASD & Child Pornography

Gaming, Depression, Addiction, & Social Phobia

“In conclusion, in the study population, online gamers who played excessively had higher incidence of comorbidities including internet addiction, depression, and social phobia. Depressive symptoms increased in severity with longer weekly online gaming hours, female gender, and severity of social phobia symptoms”.

Wei, H-T et al. (July 28, 2012). The association between online gaming, social phobia, and depression: an internet survey. BMC Psychiatry. DOI: 10.1186/1471-244X-12-92.

Compulsive Gaming, Internet Use and Autism

- Those with autism are particularly vulnerable for “web/game” addiction because game developers create games with compulsion –rich conditions, and those with autism are easily grabbed by it.
- They can create their own reality they feel safe in, too. They feel safer in it than in the real world.

Grandin, T. et al. (2015). The Loving Push: How Parents and professionals Can Help Spectrum Kids Become Successful Adults. Arlington, TX: Future Horizons.

Gaming and Pornography

“Interviews with 58 adults with ASD indicated several themes were identified, including perceived benefits of video game use (e.g., social connection, stress reduction) as well as perceived negative effects (e.g., time use, addictive potential). Participants also noted both positive and negative aspects of game design that affect their overall enjoyment. The most frequent all-time favorite video game genres were Role-Playing (31%) and Action-Adventure (19%).”

Mazurek, M.O. et al. (October, 2015). Video games from the perspective of adults with autism spectrum disorder. Computers in Human Behavior, 51, 122-130.

A case study suggests that internet gaming and viewing pornography may be related. It also appears to be related to social isolation as well as avoidance of social situations.

Voss, A. et al. (September, 2015). Case Report: Internet Gaming Disorder Associated With Pornography Use. Yale Journal of Biology and Medicine, 88(3), 319-324.,

Sex, Stereotyped Interests, & ASD

“The results confirm that the presence in individuals with ASD of repetitive behavior, stereotyped interests, and sensory fascinations may influence the sexual development. Specific features in our sample in line with this suggestion were the presence of compulsive masturbation, “autistic” fetishism with the ritual use of objects, fascinations with a sexual connotation and strange fears associated with sex. It should be noted that the number of “unknown” answers in this section of the study was high. It is therefore not possible to make statements about the true prevalence of these behaviors” (P. 267).

Hellemans, H, et al. (June, 2010). Sexual Behavior in Male Adolescents and Young Adults with Autism Spectrum Disorder and Borderline/Mild Mental Retardation. Sexuality and Disability. DOI: 10.1007/s11195-009-9145-9.

ASD & Sexual Offense

“Sexual curiosity and drive (along with a lack of appropriate channels for sexual expression and interaction) can lead individuals with AS (ASD, sic.) to explore websites for child pornography without understanding the criminal and predatory context. They can be drawn to online sexualized communication with underage children and adolescents without perceiving how old the person really is. Furthermore, social challenges leave individuals with AS vulnerable to charges of inappropriate touching others or stalking when they are attracted to or develop a crush on a person, but do not know how to initiate social contact” (p. 339).

Powers, M.D. et al. (2014). Asperger Syndrome in Adolescence and Adulthood. In J.C. McPartland, A. Klin, and F.R. Volkmar (Eds.). Asperger Syndrome: Assessing and Treating High Functioning Autism Spectrum Disorders. New York, NY: Guilford, 311-366.

ASD and Pornography

“The interest becomes unacceptable when the adolescent or adult with Asperger’s syndrome considers that (pornographic, sic.) photographs are a realistic representation of typical people and sexual activities on a first date. Fortunately we now have programs specifically to inform adolescents and adults with Asperger’s syndrome about appropriate levels of intimacy and sexuality.” (p. 193)

Attwood, T. (2007). The Complete Guide to Asperger’s Syndrome. Philadelphia, PA: Jessica Kingsley.

ASD & Child Pornography

“Accessing child pornography is not currently known to be a frequent behavior of young persons with AS, but enough cases have arisen to demonstrate the need for prosecutors to inform themselves of the condition and adopt a policy of restraint in the investigation and prosecution of such cases.” (p. 1)

Klin, A., Volkmar, F., et al. (No Date). Principals for Prosecutors Considering Child Pornography Charges Against Person’s with Asperger’s Syndrome. From website:

<http://www.harringtonmahoney.com/documents/Principles%20for%20Prosecutors%20-%209-14-08.pdf>.

Case Study: ASD Adult Pedophile with a Doctorate

- Although the person had a doctorate in psychology his adaptive functioning was measured at the pre-adolescent level in social, emotional and sexual development.
- “Once again, he escaped into an imaginary world, but this was the world of child pornography, access to which is illegal. One of the characteristics of Asperger’s syndrome is confusion regarding social and sexual boundaries, and Nick did not recognize the clear moral and legal boundaries” (p. 115).

Attwood, T. et al. (2014). The Autism Spectrum, Sexuality, and The Law: What Every Parent and Professional Needs to Know. Philadelphia, PA: Jessica Kingsley.

Treatment Suggestions



ASD, Child Pornography, & Offender Treatment

Keep them away from sociopaths

- **The Sex Offender Treatment Programme (STOP) and Enhanced Thinking Skills (ETS) program can be appropriate for offenders with ASD, however, the following needs to be done:**
 - **The person's self awareness may be limited, or non-existing**
 - **The person may be too anxious to do group role play**
- **Such an individual should do individual work with a therapist with training and experience working with those who have ASD and sexual offense.**

Powers, M.D. et al. (2014). Asperger Syndrome in Adolescence and Adulthood. In J.C. McPartland, A. Klin, and F.R. Volkmar (Eds.). Asperger Syndrome: Assessing and Treating High Functioning Autism Spectrum Disorders. New York, NY: Guilford, 311-366.

Henault's Programme for the Development of Sociosexual Skills

1. **Assessment & Introduction**
2. **Intro to Sexuality & Communication**
3. **Sexual Relations & Behaviors**
4. **Physiology of Sex**
5. **Sexual Relations & Behaviors**
6. **Emotions**
7. **Birth Control & STDs**
8. **Sexual Orientation**
9. **Drugs**
10. **Abuse & Inappropriate Sexual Behavior**
11. **Sexism & Violence**
12. **Theory of Mind, Emotions & Intimacy**

Henault, I. (2005). Asperger's Syndrome and Sexuality: From Adolescence through Adulthood. Philadelphia, PA: Jessica Kingsley.

Environmental Concerns

- Keep lighting low
- Subdued colors
- Limit distractions
- Limit noise
- Only absolutely essential people present
- No perfumes, aftershave, scented soaps
- Give frequent breaks-
Attention/Anxiety

- This will help assure Meltdown will not happen

Brooking, J. (Summer, 2015). Asperger Syndrome in the Criminal Justice System. Altogether Autism Journal, p. 8-9.
From website:

https://issuu.com/parenttoparentnz/docs/aa_journal_feb_2015_nocrop.

- Have a dog present in the room.
One trained as a therapy dog.

Johnson, R.A. (2011). Animal-Assisted Interventions In Health Care Contexts. In P. McCardle, McCune, S., J.A. Griffin and Maholmes, (Eds.), How Animal Affect Us: Examining The Influence of Human-Animal Interaction on Child Development and Human Health. Washington, DC: American Psychological Association.

Principals for Prosecutors Considering Child Pornography Charges Against People with Asperger Profiles

- 1. People with ASD have emotional and social abilities significantly lower than the norm. Their neurobiological problems can make them less able to appreciate social/moral/legal norms and to intuit what is acceptable behavior.**
- 2. People with ASD can appear to be deceptive due to their lack of ability to make eye contact, their tendency to be over-compliant, and their prosopagnosia (inability to make and/or read facial expressions). Hence, they will often not be able to make expressions of remorse as expected.**
- 3. ASD is not related to sexual deviance. Behavior can be changed by giving repeated explicit instruction**

Principals for Prosecutors Considering Child Pornography Charges Against People with Asperger Profiles

- 4. When thinking of filing charges prosecutors should take ASD into account.**
- 5. People with ASD are not often able to live independently. More often than not they live with their family for their entire life. The ASD family member being on the sexual offender register can negatively effect the quality of life of the entire family.**
- 6. Prosecutors may want to consider deferring criminal prosecution of a first offense.**
- 7. They may recommend referral to therapeutic intervention and probation.**

Principals for Prosecutors Considering Child Pornography Charges Against People with Asperger Profiles

- 8. Department of Justice, state and local prosecutors should keep data on ASD offenses to aid In future prosecutions and research.**
- 9. Experts on ASD should be sought to assist law enforcement and prosecutors in understanding offenders with ASD and evaluating them appropriately for prosecution.**

Klin, A. et al. (No Date) Principals for Prosecutors Considering Child Pornography Charges Against People with Asperger Profiles (Position paper from a number of autism research and support organizations). Asperger/Autism Network. From Website: www.aane.org/principals-for-prosecutors/.

Important Article for Those in the Criminal Justice System

Moganero, M.C. (September, 2016). Autism, Sexual Offending and the Criminal Justice System. Journal of Intellectual Disabilities and Offending Behavior, 7(3), 116-126.

This article gives some guidelines for how to formal interviewing, measures of competency, capacity and sentencing of adults with ASD.

Good Resources

An aerial photograph of a vast, arid landscape. The terrain is covered in low-lying, dry vegetation, appearing in shades of brown and tan. A network of dirt roads or trails winds through the hills. In the background, a range of rugged mountains rises against a clear blue sky with a few wispy clouds. The overall scene conveys a sense of a remote, natural environment.

Excellent Books on ASD

Durand, M. (2014). Autism Spectrum Disorder: A Guide for General Practitioners. Washington, DC: American Psychological Association.

Grandin, T. (2013). The Way I See It: A Personal Look at Autism and Asperger's, Fourth Edition. Arlington, TX: Future Horizons.



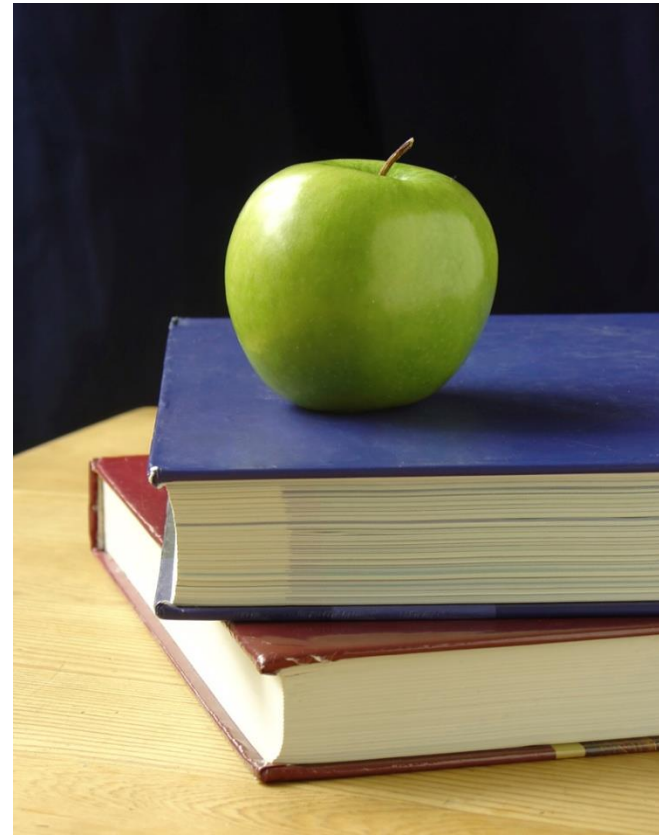
Excellent Book On Sexuality and ASD

Henault, I. (2005). Asperger's Syndrome and Sexuality: From Adolescence through Adulthood. Philadelphia, PA: Jessica Kingsley.



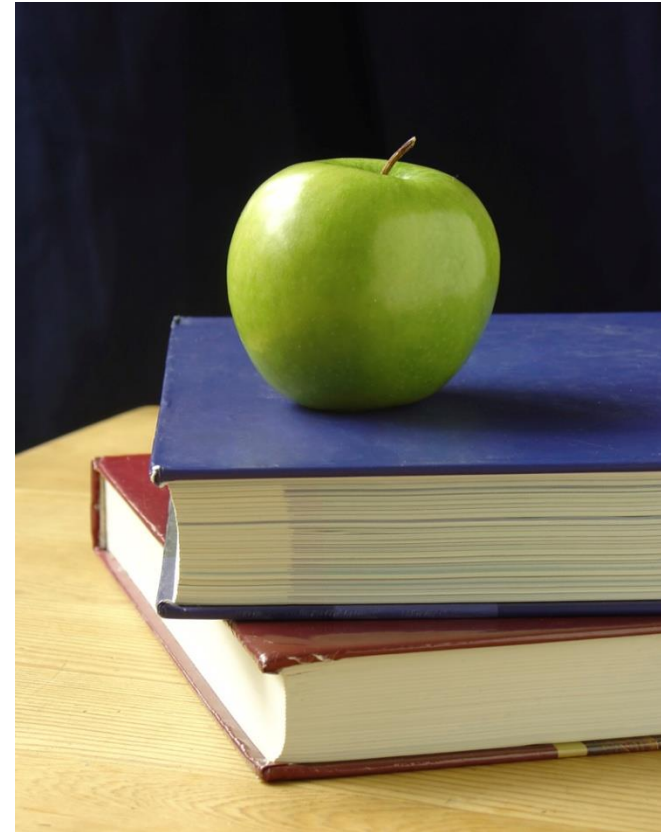
Excellent Book on Sexuality & ASD

**Newport, J., and Newport,
M. (2002). Autism-
Asperger's & Sexuality:
Puberty and Beyond.
Arlington, TX: Future
Horizons.**



Great Book on ASD and The Law

Attwood, T. et al. (2014). The Autism Spectrum, Sexuality, and The Law: What Every Parent and Professional Needs To Know. Philadelphia, PA: Jessica Kingsley.



Sex Ed Organizations

- **Sexuality Information and Education Counsel of the United States:**
<https://siecus.org/>
- **American Association of Sexuality Educators, Counselors and Therapists:** <https://www.aasect.org/>

Helpful Website and Movie

- www.autismspeaks.org
- www.autism.yale.edu/
- www.tonyattwood.com.au
- http://www.autismresearchcentre.com/people_baron-cohen
- www.carolgraysocialstories.com
- www.templegrandin.com
- www.hbo.com/movies/temple-grandin

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