

The background of the slide is a photograph of a desert landscape. In the foreground, there are various wildflowers, including purple and orange ones, growing on a rocky hillside. In the background, a large, rugged mountain peak is visible under a clear blue sky.

# High Functioning Adults with Autism Spectrum Disorder Update for the Practicing Clinician

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# What is a Disorder?



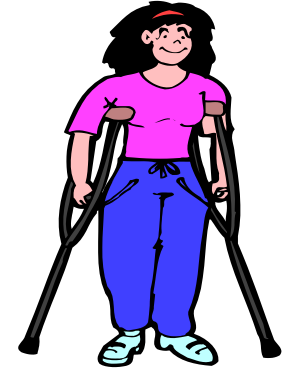
- A disorder is a ***harmful dysfunction*** of a naturally selected mechanism.

Wakefield, J.C. (1999). Evolutionary Versus Prototype Analysis of the Concept of Disorder. Journal of Abnormal Psychology, 108 (3), pp. 374-399.

- It must cause a dysfunction in a trait every human develops and create impairment in a major life activity.

Barkley, R.A. (2006). Attention-Deficit Hyperactivity Disorder, Third Edition. New York, NY: Guilford, p. 86, 92-93.

# What is a **Developmental Disorder**?



- It is disorder characterized by a significant delay in the rate a normal human trait develops in an individual.
- It takes the individual longer to develop this trait than their age peers.

Barkley, R.A. (2006). Attention-Deficit Hyperactivity Disorder, Third Edition. New York, NY: Guilford., P. 92-93.

# 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<sup>®</sup>/DSM-IV, TR<sup>®</sup> criterion have autism spectrum disorder by DSM-5<sup>®</sup> criterion. Those with social communication problems only have social (pragmatic) communication disorder.**

**--Author (May 18, 2013).**



# 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, Scahill, and Ollendick (2013); Klin (2001)**

# 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 (2014)**

# 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).

--Durand (2014); Schultz, R.T., Romanski, L.M. and Tsatsanis, K.D. (2000)

- 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 (2014)

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

\*Ozonoff, S., Dawson, G. and McPartland, J. (2002); Kaiser, M.D., et al. (November 15, 2010)



# Brain Differences in ASD



# 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)**

--Ecker, et al. (February 8, 2012);  
Durand (2014)

- **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.**

# 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 (2014); Scarpa (2013)**

# “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.V. (2014)

**“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, Klin, and McPartland (2014)

# ***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 (1977); Leakey (1995); Grandin (1995)



# ***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, 1997; Edwards, 2000)**

**--Fouts (1997); Edwards, (Spring, 2000)**

# *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)**

# *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 and Young (December, 2006)**

# *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 (2006)**



# 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 (April 15, 2011)

# Alexithymia



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# What is Alexithymia?

- 1. Tends not to have fantasies, no feelings and have sharply limited emotional vocabularies.**
- 2. They have colorless dreams.**
- 3. They cannot tell bodily sensations from emotions and are baffled by them.**
- 4. They have great difficulty making decisions because they lack “gut feelings.”**

**--Goleman (1995)**

# Alexithymia

- Medial prefrontal areas explicit representations of the self
- Posterior superior sulcus detection of biological motion and representation of others
- Suggests the, "...ability to mentalize from a system for representing actions" (p. 1692).

--Frith, C.D. and Frith, U. (1999)

- The medial prefrontal cortex allows for theory of mind

➤ *"...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 (2000)



# **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.

--Rizzolatti, Fogassi, and Gallese (November, 2006); Lametti (June 9, 2009)

# 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, Fogassi, and Gallese, (November, 2006)

**“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 (March 8, 2005)

# Mirror Neurons

- **Mirror Neuron System:**
  - **Superior Temporal Sulcus**
  - **Inferior Frontal Cortex**
  - **Rostral Inferior Frontal Lobe**

--Goldstein, Naglieri, & Ozonoff, (2009).

## **Mirror Neurons:**

**Help us begin to generate appropriate social responses.**

--Caggiano, Fogassi, Rizzolatti, Their, & Casile (April 2009)

# 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)**

# Mirror Neurons & AD/HD

**“If the mirror neuron system serves as a bridge in this process, then in addition to providing an understanding of other peoples intentions, it may have evolved to become an important component in the human capacity for observation-based learning and sophisticated cognitive skills.” (p. 61)**

- Rizzolatti, Fogassi, and Gallese, (November, 2006)

**Barkley (2008) said that those with AD/HD and comorbid Alexithymia typically have intact mirror neurons, they just do not use their mirror neurons due to their frontal lobe difficulties.**

**--Barkley (2008)**



# Mirror Neurons & Autism Spectrum Disorder

- **“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, and Oberman (November, 2006)

**Uta Frith: Question Can you combine emotional working memory finding with mirror neuron research to explain ASD?**  
**Answer: How do you explain a sociopath?**

--Frith (November 1, 2007)

# The Three Types of Empathy

- **Motor Empathy**
- **Cognitive Empathy**
- **Emotional Empathy**

- **Sociopaths:**
  - **Excellent motor empathy**
  - **Excellent Cognitive Empathy**
  - **Poor Emotional Empathy**
- **ASD**
  - **Poor Motor and Cognitive Empathy**
  - **Better Emotional Empathy**
    - Blair (December, 2005)
    - Baron-Cohen (2011)

# **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).\***

**--\*Calvi-Merino, Glaser, Greeze, Passingham, and Haggard (2005). Glaser (January 2005).**

# Alexithymia and AD/HD, ASD

➤ **22% of adults with AD/HD meet criteria for alexithymia**

--Edel, et al. (September 24, 2010)

**“...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).

-- Attwood, T. (2007).

## ***“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)**



# Diagnostic Tools for Alexithymia

- **Toronto Alexithymia Scale (TAS-20)**

--Taylor (1992)

- **Observer Alexithymia Scale (OAS)**

--Haviland, Warren, and Riggs (October, 2000)

- **Bermond–Vorst Alexithymia Questionnaire (BVAQ)**

--Vorst, and Bermond (February, 2001).

# Mirror Neuron Treatment

# Treatment for Emotional Working Memory Difficulties

## ➤ Stimulant Medication?

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

--Barkley (2006)

## ➤ Possible Alternative Method:

**COGMED**

--Klingberg (February, 2006); Barkley(February, 2006); Ingersoll (October 26, 2006); Klingberg, and Anderson (October 28, 2006).

# *Oxytocin & Vasopressin In Autism*

**“Oxytocin and vasopressin contribute to a wide variety of social behaviors, including social recognition, communication, parental care, territorial aggression and social bonding.” (p. 2187)**

**--Hammock and Young (December, 2006)**

# Emotional Salience Landscape Difficulties- Mirror Neurons

**“In a typical child, sensory information is relayed to the amygdala, the gateway to the emotion-regulation limbic system. Using input from stored knowledge, the amygdala determines how the child should respond emotionally to each stimulus, creating a salience landscape of the child’s environment. In children with autism, the connections between the sensory areas and the amygdala may be altered, resulting in extreme emotional responses to trivial events and objects.” (p. 68)**

**--Ramachandran, and Oberman (November, 2006)**



# Some Treatments For Mirror Neuron Difficulties

- **Risperidone and MDMA (ecstasy):**  
**To raise oxytocin levels**
- **Biofeedback:**  
**To help control anxiety**
- **Oxytocin Nasal Spray**

--Author (1997); Ramachandran, and Oberman (November, 2006); Guastella, , Einfeld, Gray, Rinehart, Tonge, Lambert, and Hickie (April 1, 2010); Bate (2013)

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



# Emotional Salience Landscape Difficulties-Mirror Neurons

- Temple Grandin's "squeeze machine"
- Hirstein's "squeeze vest"  
Elmhurst College
- Risperidone or MDMA (ecstasy)
- Biofeedback
- Under Armor-- Compression underwear: [www.underarmour.com](http://www.underarmour.com)

--Grandin (1992); Ramachandran, and Oberman (November, 2006); Author (1997)

***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 (2001)**

## **□ Possible Treatment Techniques**

- **Carol Gray – Social Stories**
- **Laurel Falvo- Social Response Pyramid:**
- **[www.thegraycenter.org](http://www.thegraycenter.org)**

# Professionals Who Can Help With Alexithymia

- Psychologists-American Psychological Association: [www.apa.org](http://www.apa.org)
- Psychiatrists-American Psychiatric Association: [www.apa@psych.org](http://www.apa@psych.org)
- Social Workers-National Association of Social Workers: [www.naswdc.org](http://www.naswdc.org)
- American Association of Marriage and Family Therapists: [www.aamft.org](http://www.aamft.org)
- Counselors-National Board of Certified Counselors: [www.nbcc@nbcc.org](http://www.nbcc@nbcc.org)
- Behavioral Neurology/Neuropsychiatry-American Neuropsychiatric Association: [www.anpaonline.org](http://www.anpaonline.org)
- Speech Language Pathologist – American Speech-Language Hearing Association: [www.professional.asha.org](http://www.professional.asha.org)

# ASD And AD/HD

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

**--Author (May 18, 2013); Author (May 3, 2012); Goldstein, and Naglieri (August, 2011)**

# AD/HD Vs. ASD

**A study comparing adults with AD/HD and adults with ASD found ASD adults had a slow but accurate response style, but AD/HD adults had an inaccurate and rapid response style.**

**--Johnston, Madden, Bramham, and Russell, (2011).**

**“Children with ASD and children with an ASD and comorbid anxiety disorder improved in their parent reported social skills. Children with ASD and comorbid attention deficit/hyperactivity disorder failed to improve” (p. 439).**

**--Antshel, Polacek, McMahon, Dygert, Spencely, Dygert, Miller, and Faisal (July-August, 2011)**



# ASD Treatment

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# ASD Treatment

**“The foundation of most interventions for ASD is educational. Behavioral and other rehabilitative strategies are used to teach necessary skills and to help reduce the frequency and intensity of problem behaviors. Most current medical interventions are palliative (i.e., are meant to reduce symptoms such as anxiety or irritability) or are designed to manage problems such as sleep disorders or seizures. To date, there are no medical interventions that have been demonstrated to correct the central problems of social communication deficits and restrictive repetitive behaviors” (p. 85-85).**

**--Durand (2014)**

# ASD, Lindamood-Bell, & Comprehension

**Research in press conducted at the University of Alabama Birmingham's Department of Psychology, Brain, Cognition, and Autism Lab has shown that the Lindamood-Bell Visualizing and Verbalizing for Language Comprehension and Thinking program significantly increases verbal and reading comprehension in Children with ASD. Pre and Post fMRI studies also show significantly increased connectivity across long distances in the brain.**

**--Benson (November 13, 2014)**

# 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 (2014)



# Therapy Dogs



# ASD & Dogs

**“When the therapy dog was present, the children (with ASD, sic.) were significantly more focused, more playful, and more aware of interactions than either of the other conditions (stuffed dog, or ball present)” (p. 185).**

**--Johnson, R.A. (2011)**

**“Our results indicate that concentrations of beta-endorphin, oxytocin, prolactin, beta-phenylethylamine, and dopamine increased in both species after positive interspecies interaction, while that of cortisol decreased in the humans only.” (p. 296)**

**--Odendaal, and Meintjes (2003)**

# ASD & Dogs

**Children with autism and pervasive developmental disorders are significantly more present, playful and aware of social interactions when a dog is present.**

**--Martin, and Farnum (2002)**

- **4Paws For Ability**
- **253 Dayton Avenue**
- **Xenia, OH 45385**
- **Training Center:**
  - **937-374-0385**

**Website:**

**[www.4pawsforability.org](http://www.4pawsforability.org)**



# 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, and Scarpa (2013).**

# CBT & ASD

- ☐ **Psychoeducation & include visual aids**
- ☐ **Rewards System**
- ☐ **Developing a hierarchy/exposure modules**
- ☐ **Parent coaching**
- ☐ **Playdates**
- ☐ **Social coaching**
- ☐ **Mentoring**
- ☐ **School involvement**
- ☐ **Adaptive skills & Stereotyped interest modules**

--Green, S.A., and Wood, J.J. (2013)

# Social Interaction



# How to Motivate ASD Clients to Learn Social Skills

- **After years of social rejection many ASD clients want to be accepted for who they are and do not want to change to meet others expectations.**
- **One way of hooking them into learning social skills is to “invite” them to teach social skills to others.**
- **A good philosophy to adopt with ASD clients about teaching them social skills is to say you are teaching them optional behaviors that may add to their ability to meet their goals. Acquiring these new skills will not threaten their uniqueness.**

--Baker (2005)

# Denial: The Longest River in Egypt

**Baker Recommends the following to get past “the Nile”:**

- **Link needed training/service to their goals**
- **Make the process fun**
- **Use a reward system**
- **Work on strengths before weaknesses**
- **Get examples of successful ASD adults (Dr. Grandin)**
- **Encourage them to teach younger ASD students**

**--Baker (2005)**

# What is Social Competence?

**“Social competence is an ability to take another’s perspective concerning a situation and to learn from past experience and apply that learning to the ever-changing social landscape. The ability to respond flexibly and appropriately defines a person’s ability to handle the social changes that are presented to us all.” (p. 1-2)**

**“There is sufficient empirical evidence that links social competence to mental and physical health...It has been linked to such varied disorders as anxiety, cardiovascular disease, juvenile delinquency, and substance abuse, to name a few.” (p. 1)**

**--Semrud-Clikeman (2007)**

# Skills of Social Emotional Competence



- **Awareness of one's own emotional state**
- **Awareness of other's emotional state**
- **Emotional use of words**
- **Ability to cope with emotional distress**
- **Ability to attend to the reaction of others**

**--Semrud-Clikeman (Spring, 2003), (2007)**



# Isolation and The Immune System

- ✓ From 1985 to 2005 the typical American said the average number of people they could rely upon to help them with a significant concern dropped from 3 to 2.
- ✓ In 2005 twenty-five percent reported they had no trusted friend they could rely upon which is double the rate of 1985.

McPherson, M., Smith-Lovin, L. and Brashears, M.E. (2006); Azar (May, 2011); Miller, Chen, and Cole, (January, 2009); Cole, Hawkley, Arevalo, Sung, Rose, and Cacioppo (2007); Cole, Hawkley, Arevalo, and Cacioppo (February 15, 2011)

- ✓ Lonely people have more active genes that promote inflammation and less active genes that inhibit inflammation.
  - ✓ This puts them at risk for some cancers, degenerative neurological disorders and cardiovascular problems.
- ✓ Lonely people's immune systems are geared toward fighting bacteria not viruses.
- ✓ Sociable people have immune systems geared toward viruses.

# Ostracism and the Brain

- **“No matter how and why people are left out their response is swift and powerful, inducing a social agony that the brain registers as physical pain.” (p. 32)**
- **“All social animals use this form of group rejection to get rid of burdensome group members. In nonhuman animals, an unaccepted member usually ends up dead.**

**--Williams, K.D. (January/February, 2011)**

# Ostracism and the Brain



- **What to do if you are ostracized:**
  1. **Remove yourself from the situation and distract yourself.**
  2. **Remind yourself of your strengths.**
  3. **Exercise more control in your life; assert yourself.**
  4. **Reconnect with family and friends.**

**--Williams (January/February, 2011)**

# *Autism Spectrum and Gender*



- **Girls and women with Autism Spectrum Disorder suffer more socially than boys and men with Autism Spectrum Disorder.**

--Attwood (2007); Hully, and Larmar (2006)

# Social Anxiety/ Shyness



- **Fight or Flight Response**

--Benson (1983), (1994)

# ***Fight or Flight Response Vs. Tend and Befriend Response***



- ***Shelley Taylor,  
Ph.D.***

**--Taylor (2002)**



# *“Savanna Anxiety”*



**“In general, when dominance hierarchies are unstable, glucocorticoid levels rise. This makes sense, because such instabilities make for stressful times. Looking at individual baboons, however, shows a more subtle pattern: given the same degree of instability, males whose ranks are dropping have elevated glucocorticoid levels, while male whose ranks are rising amid the tumult don’t show this endocrine trait.” (p. 263)**

**“Thus after factoring out rank, lower basal glucocorticoid levels are found in males who are best at telling the difference between threatening and natural interactions; who take the initiative if the situation is clearly threatening; who are best at telling who won or lost; and, in the latter case who are most likely to make someone pay for the defeat.” (p. 314)**

**--Saploski (2004)**

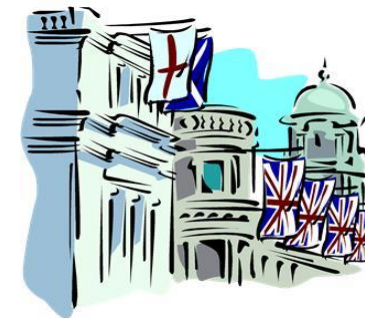


# The “Whitehall” Study

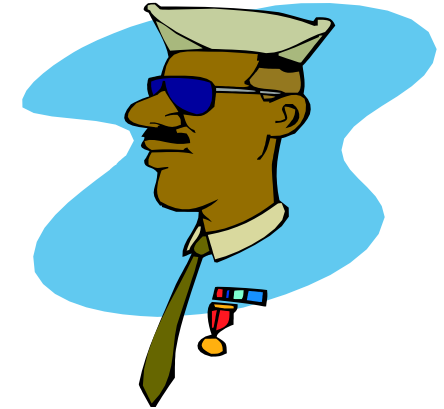
**“The Whitehall study of British civil servants begun in 1967, showed a steep inverse association between social class, as assigned by grade of employment, and mortality from a wide variety of diseases.” (p. 1387) A second “Whitehall Study” was conducted from 1985 to 1988. “...and found an inverse relationship between employment grade and prevalence of angina, electrocardiogram evidence of ischemia and symptoms of chronic bronchitis. Self-perceived health status and symptoms were worse in subjects with lower status jobs. There were clear employment grade differences in health risk behaviors including...”**

**“...smoking, diet, and exercise, in economic circumstances, in possible effects of early-life environment as reflected by height, in social circumstances at work..., and social supports.” (p. 1387).**

**--Marmot, Smith, Stanfeld, Patel, Head, White, Brunner, and Fenney (1991)**



# 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.**

# Social Anxiety



**“Social anxiety can prevent you from accessing the social information you know to be true and the social skills you have intact...Unfortunately, social anxiety appears to be strongly correlated with having weaker social thinking and related social skills.” (p. 206)**

**Garcia Winner, M., and Crooke, P. (2011). Social Thinking At Work: Why Should I Care. San Jose, CA: Social Thinking.**

# Social Anxiety & Shyness



- 10 to 15% of newborns have an inherited enhanced startle response.
- A 20 year follow-up study of such children with fMRI imaging indicated they are still shy neurologically, especially to strangers.

Zimbardo, P.G. (2000). The Personal and Social Dynamics of Shyness: Adults and Children. Paper presented at the 50<sup>th</sup> Annual Arizona Psychological Association Conference, October 21, 2000, Tucson, AZ.

Schwartz, C.E., Wright, C.I., Shin, L.M., Kagan, J., Rauch, S.L. (June, 2003). Inhibited and Uninhibited Infants “Grown Up”: Adult Amygdalar Response to Novelty. Science, 300 (5627), pp. 1952-1953.

# Social Anxiety and Shyness



**The amygdala is activated in the genetically shy when they are shown pictures of unfamiliar people. This would tend to indicate they feel fear and are overly vigilant when they see strangers. This does not occur in the non-shy.**

**Schwartz, C.E., Wright, C.I., Shin, L.M., Kagan, J., Rauch, S.L. (June, 2003). Inhibited and Uninhibited Infants “Grown Up”: Adult Amygdalar Response to Novelty. Science, 300 (5627), pp. 1952-1953.**

# Shyness Defined

- “Shyness may be defined experimentally as discomfort or inhibition in interpersonal situations that interferes with pursuing one’s interpersonal or professional goals.” (p. 497)

Henderson, L. and Zimbardo, P. (1998). Shyness. Encyclopedia of Mental Health, 3, p. 497.



# Social Phobia



- **Two Subtypes:**
  1. **Specific Type-** public speaking, eating in public, etc.
  2. **Generalized Type-**very broad
    - **These people shy away from treatment: 36% of those who meet DSM criteria actually get treatment**

Dittmann, M. (July/August, 2005). Stemming Social Phobia. Monitor On Psychology, 36 (7), pp. 92-94.

Heimberg, R.G., Liebowitz, M.R., Hope, D.A., Scheier, F.R., Holt, C.S., Welkowitz, L.A., Juster, H.R., Campeas, R. Bruch, M.A., Cloitre, M, Fallon, B., Klein, D.F. (1998). Cognitive Behavior Group vs Phenelzine Therapy for Social Phobia. Archives of General Psychiatry, 55, p. 1133-1141.



# ***Shyness in a Nutshell***

- **“S”ELF-BLAME AND SHAME**
- **“A”VOIDANCE**
- **“D”ISTRESS**
- **“F”EAR OF NEGATIVE EVALUATION**
- **“I” MUST BUT I CAN’T**
- **“X”-POSURE: FEAR OF BOTH FAILURE AND SUCCESS**
- **“S”ELF SABOTAGE**



Zimbardo, P.G. (2000). The Personal and Social Dynamics of Shyness: Adults and Children. Paper presented at the 50<sup>th</sup> Annual Arizona Psychological Association Conference, October 21, 2000, Tucson, AZ.

# Shyness Treatment



- I asked Zimbardo what he thought those who had neurobiological disorders who were genetically shy needed most and he said, “Training in the skills to make legitimate excuses.”

Zimbardo, P.G. (2000). The Personal and Social Dynamics of Shyness: Adults and Children. Paper presented at the 50<sup>th</sup> Annual Arizona Psychological Association Conference, October 21, 2000, Tucson, AZ.

# Shyness Treatment



- **Cognitive Behavioral Therapy and Antidepressant Medication works 80% of the time with 5 year follow-up. Thought to be best method of treatment (Richard Heimberg, Ph.D.).**

Dittmann, M. (July/August, 2005). Stemming Social Phobia. Monitor On Psychology, 36 (7), pp. 92-94.

Heimberg, R.G., Liebowitz, M.R., Hope, D.A., Scheier, F.R., Holt, C.S., Welkowitz, L.A., Juster, H.R., Campeas, R. Bruch, M.A., Cloitre, M, Fallon, B., Klein, D.F. (1998). Cognitive Behavior Group vs Phenelzine Therapy for Social Phobia. Archives of General Psychiatry, 55, p. 1133-1141.

# ***Treatment of Social Anxiety/Shyness***



- **Zimbardo (2000) described a 26 week treatment program at his shyness clinic that includes the following: Cognitive Behavior Modification/Cognitive Restructuring, Self-Esteem Restructuring, Support Groups, Practice, Medications, Video Social Skills Training, Encouragement, etc.**
- **[www.shyness.com](http://www.shyness.com) and [www.shynessinstitute.com](http://www.shynessinstitute.com)**

**Zimbardo, P.G. (2000). The Personal and Social Dynamics of Shyness: Adults and Children. Paper presented at the 50<sup>th</sup> Annual Arizona Psychological Association Conference, October 21, 2000, Tucson, AZ.**

# *Treatment of Social Anxiety/Shyness*



- **Henderson, L. (2011). Improving Social Confidence and Reducing Shyness Using Compassion Focused Therapy. Oakland, CA: New Harbinger.**
- **Henderson, L. (2009). Social Fitness Training Manual: A Cognitive-Behavioral Approach to Treating Shyness and Social Anxiety Disorder. Berkley, CA: The Shyness Institute.**

# *Treatment of Social Anxiety/Shyness*



- **Aerobic Exercise:**
  - “As for the trait, the majority of studies show that aerobic exercise significantly alleviates symptoms of any anxiety disorder.” (p. 92)

Ratey, J. (2008). Spark: The Revolutionary New Science of Exercise and The Brain. New York, NY: Little, Brown.

# Good Resources on Exercise and Counseling



- Ratey, J.J. (Fall, 2010). Your Brain On Exercise. ADDitude, 11 (1), 36-39.
- Ratey, J.J. (2008). Spark: The Revolutionary New Science of Exercise and The Brain. New York, NY: Little, Brown.
- *Always consult a physician before starting an exercise program!*



# Emotional Salience Landscape Difficulties- Mirror Neurons

- Problems in the amygdala and lack of emotional salience landscape may account for sensory sensitivity.
- These problems are found in those with Autism Spectrum Disorder.
- Insula/Amygdala : pain & disgust

Ramachandran, V.S. and Oberman, L.M. (November, 2006). *Broca's Area and the Social Brain*.  
Scientific American, 296(5), pp. 62-69.



# Emotional Salience Landscape Difficulties- Mirror Neurons



**“In a typical child, sensory information is relayed to the amygdala, the gateway to the emotion-regulation limbic system. Using input from stored knowledge, the amygdala determines how the child should respond emotionally to each stimulus, creating a salience landscape of the child’s environment. In children with autism, the connections between the sensory areas and the amygdala may be altered, resulting in extreme emotional responses to trivial events and objects.” (p. 68)**

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

# Emotional Salience Landscape Difficulties- Mirror Neurons



**When the child with Autism Spectrum Disorder looks into another's eyes:**

- 1. The "...altered connection between the cortex and amygdala distorts (the) child's response.**
- 2. (The) Amygdala triggers the autonomous nervous system, raising heart rate.**
- 3. (As a result the) Child looks away to reduce stress." (p. 68)**

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

# Emotional Salience Landscape Difficulties

## Mirror Neurons



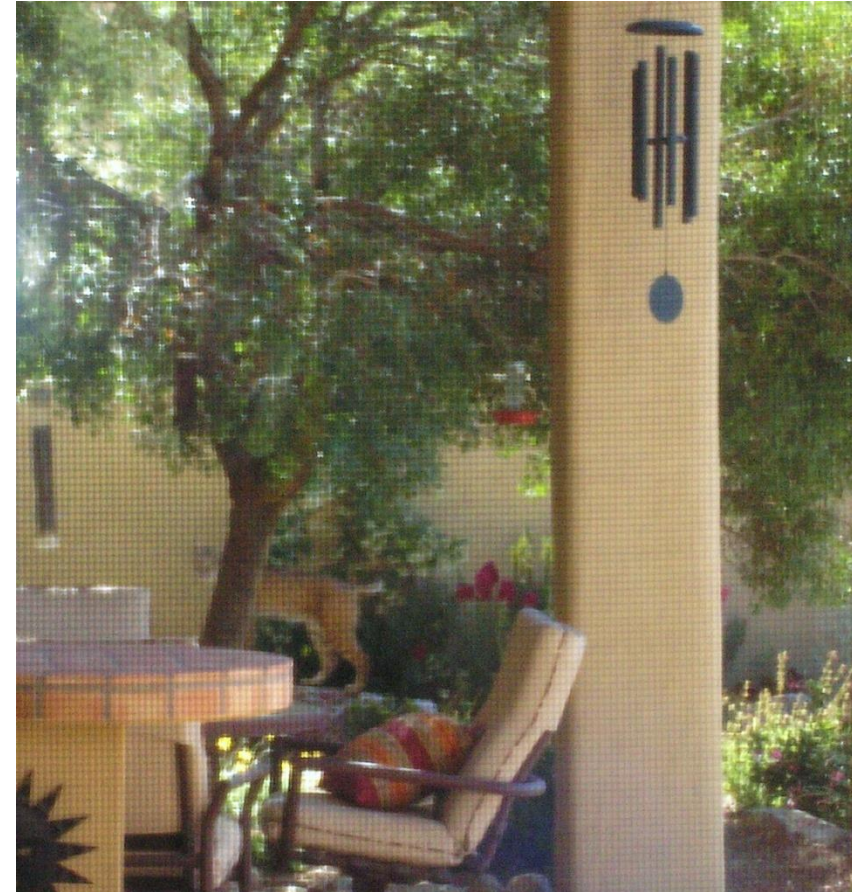
**“People with autism show reduced mirror neuron activity in the inferior frontal gyrus, a part of the brain’s premotor cortex, perhaps explaining their inability to assess the intentions of others. Dysfunctions of mirror neurons in the insula and anterior cingulate cortex may cause related symptoms, such as the absence of empathy, and deficits in the angular gyrus may result in language difficulties. People with autism also have structural changes in the cerebellum and brain stem.” (p. 65)**

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

# What To Do With Your Eyes When You Have Eye Gaze Problems

- People stare at you because they want to know if you are interested in them.
- Look toward peoples' eyes and cheekbones.
- Use media to disconnect sound from faces.
- If you don't use eye contact others will emotionally leave you.

Garcia Winner, M., and Crooke, P. (2011). Social Thinking At Work: Why Should I Care. San Jose, CA: Social Thinking.



# 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.

# 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.**

# 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 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/j.ad.2010.09.024.**



# Relaxation Tools

- Take a break
- Sit by self
- Talk to someone
- Stretch
- Deep breaths
- Exercise
- Sports
- “Creative Destruction”

**Taking out the trash**

- Music
- Drawing
- Solitude Massage
- Reading
- Repetitive Action
- Sleep

Scarpa, A., Reyes, N, and Attwood, T. (2013).  
Cognitive-Behavioral Therapy for Stress and Anger  
Management in Young Children 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.



# ***People and Organizations Who Can Help With Social Anxiety/Shyness***

- American Psychiatric Association:  
[www.apa@psych.org](http://www.apa@psych.org)
- American Psychological Association: [www.apa.org](http://www.apa.org)
- American Association of Marriage and Family Therapists:  
[www.aamft.org](http://www.aamft.org)
- National Board of Certified Counselors:  
[www.nbcc@nbcc.org](http://www.nbcc@nbcc.org)
- National Association of  
Social Workers: [www.naswdc.org](http://www.naswdc.org)
- Anxiety Disorder Association of  
America: [www.adaa.org](http://www.adaa.org)



# 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>

# 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.**



# Hyperacusis





# Hyperacusis

- A condition marked by super sensitive hearing.
- Often environmental sounds are so loud to them it is painful.

**Edelson, S. (1994 Spring). Your Questions Answered. Perspectives of the Orton Dyslexia Society, 20 (2), p. 7.**



# Hyperacusis



“Hyperacusis has been defined as ‘unusual tolerance to ordinary environmental sounds’ and more pejoratively, as ‘consistently exaggerated or inappropriate responses to sounds that are neither threatening nor uncomfortably loud to a typical person.’ Common to both is the implication that the experience can be evoked by sounds of low intensity and that sounds in general, rather than specific sounds are problematic.” (p. 582)

**Baguley, D.M. (2003). Hyperacusis. Journal of the Royal Society of Medicine, 96 (12), 582-585.**

# Asperger's Disorder and Hyperacusis



- **70 to 80% of those with Asperger's Disorder have some form of Hyperacusis.**
- **The three types of sounds people with Asperger's Disorder have difficulty with:**
  - **Sudden Unexpected Noises – dog bark, school fire alarm, etc.**
  - **High Pitched Continuous Noises - electric motors. toilets, etc.**
  - **Confusing Multiple Sounds – shopping mall, sporting event, etc.**

**Attwood, T. (2007). The Complete Guide to Asperger's Syndrome. Philadelphia, PA: Jessica Kingsley, p. 221.**



# English Language Questionnaire for Hyperacusis

Khalfa, S., Dubal, S., Veuillet, E., Perez-Diaz, F., Jouvent, R, and Collet, L. (2002). Psychometric Normalization of a Hyperacusis Questionnaire. Otorhinolaryngology, 64, 438-442.



# Sensory Sensitivity Symptoms in Asperger's Disorder

- **Sensory Profile Checklist-Revised (SPCR):** From - Bogdashina, O. (2003). Sensory Perceptual Issues in Autism and Asperger's Syndrome: Different Sensory Experiences, Different Perceptual Worlds. London, England: Jessica Kingsley.
- **Sensory Behaviour Schedule (SBS):** From - Harrison, J., and Hare, D. (2004). Brief Report: Assessment of Sensory Abnormalities in People with Autism Spectrum Disorders. Journal of Autism and Developmental Disorders, 34, 707-730.

# Hyperacusis: Diagnosis



- Go to a “World Class” university medical center (i.e., Harvard Medical School, Vanderbilt Medical School, Mayo Clinic, UCLA Medical School, etc.) and have the following:
  - a thorough medical examination
  - a very detailed history taken (i.e., medical, family, educational, audiological, work, social, etc)
  - a thorough ear examination
  - a thorough hearing examination
  - a thorough hyperacusis examination that includes a loudness discomfort test.

Baguley, D.M. (2007). Hyperacusis and Other Forms of Sound Tolerance. British Tinnitus Association. From website: [www.tinnitus.org.uk](http://www.tinnitus.org.uk).

# Good Book On Hyperacusis

Baguley, D., and Andersson, G. (2007). Hyperacusis: Diagnosis, Mechanisms and Therapies. London, England: Plural.



# Treatment of Hyperacusis

- Some use exposure to “pink noise” with the hope that it will desensitize them to their hyperacusis.
- Pink Noise is similar to white noise.
- CDs with such sounds are available from the Hyperacusis Network, P.O. Box 8007, Green Bay, WI 54308; [www.hyperacusis.net](http://www.hyperacusis.net)

# Hyperacusis: Treatment

“There have been only a few studies outlining management for hyperacusis patients. Currently assessment indicates that the Jastreboff model for treating hyperacusis is the most widely accepted among practitioners. It is similar in purpose, to the Jastreboff approach for treating tinnitus: Tinnitus Retraining Therapy (TRT)...However, no one clinical approach has been sufficiently compelling to gain universal acceptance.” (p. 1 of 2)

Sandlin, R. (May 3, 2004). Current Research in Hyperacusis. Audiology On Line: From website: [www.audiologyonline.com/askexpert/display\\_question.asp?question\\_id=224](http://www.audiologyonline.com/askexpert/display_question.asp?question_id=224), p. 1 of 2.

# TRT Therapy Developer

- ❖ Pawel J. Jastreboff, Ph.D., Sc.D., M.B.A.
- ❖ Professor and Director
- ❖ Tinnitus and Hyperacusis Center
- ❖ Emory University
- ❖ Atlanta, Georgia
- ❖ [www.tinnitus-pjj.com](http://www.tinnitus-pjj.com)





# Hyperacusis Treatment in Asperger's Disorder

“It is important to first identify which auditory experiences are perceived as painfully intense, with the child communicating distress by covering his ears, flinching or blinking in response to sudden noises, or simply telling an adult which sounds are hurting.” (p. 277)

**Attwood, T. (2007). The Complete Guide to Asperger's Syndrome. Philadelphia, PA: Jessica Kingsley, p. 221.**

# Treating Hyperacusis in Those with Asperger's Disorder

- Remove the sound from the environment
- Use sound suppression (i.e., silicone ear plugs, sound suppression – Bose Quiet Comfort headphones, a fan, etc.
- Explaining the cause and the duration of the painful sound may be helpful: Carol Gray's "Social Stories" offer such information - <http://www.thegraycenter.org/social-stories>

**Attwood, T. (2007). The Complete Guide to Asperger's Syndrome. Philadelphia, PA: Jessica Kingsley, p. 221.**

# Recruitment: Treatment

“New digital hearing aids are being developed which employ sound compression and volume control. These devices hold promise as technology improves however each person with recruitment is different and a good hearing aid would have to be customized to the patient’s recruited ears. In fact, the two ears on an individual with recruitment may have different levels of hearing loss, thus a pair of hearing aids may have to be tuned differently for each ear.” (p. 4 of 25)

The Hyperacusis Network (No Date) Supplement. From Website:  
[www.hyperacusis.net/hyperacusis/supplement/default.asp](http://www.hyperacusis.net/hyperacusis/supplement/default.asp).

# Helpful Websites about Hyperacusis

- **The Hyperacusis Network:**  
P.O. Box 8007  
Green Bay, WI 54308  
[www.hyperacusis.net](http://www.hyperacusis.net)
- [www.earhelp.co.uk](http://www.earhelp.co.uk)
- **National Institute on Deafness and Other Communication Disorders:** [www.nicdinfo.nidcd.nih.gov](http://www.nicdinfo.nidcd.nih.gov)
- **American Academy of Audiology:** [www.audiology.org](http://www.audiology.org)
- **American Speech-Language Hearing Association:** [www.asha.org](http://www.asha.org)



# Helpful Websites about Hyperacusis (Continued)

- American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS): [www.entnet.org](http://www.entnet.org)
- National Coalition for Auditory Processing Disorders: [www.ncapd.org](http://www.ncapd.org)
- American Tinnitus Association: [www.ata.org](http://www.ata.org)



# Tactile Sensitivities: LD and AD/HD



# Tactile Sensitivities



- “*Tactile perception* is obtained through the sense of touch via the fingers and skin surfaces. The ability to recognize an object by touching it, to identify a numeral that is drawn on one’s back or arm, to discriminate between smooth and rough surfaces, and to identify which finger is being touched (with eyes closed or while blind folded-sic) are all examples of tactile perception” (Lerner, 1997, p. 337).

Lerner, J. (1997). Learning Disabilities: Theories, Diagnosis and Teaching Strategies, 7<sup>th</sup> Edition. Boston, MA: Houghton Mifflin.



# Tactile Defensiveness



- Silver wrote of LD and/or AD/HD individuals who have problems with tactile defensiveness. From early childhood many of these people do not like to be touched. They did not cuddle as a child, may complain about labels in clothing and only respond to deep touch. In some light touch may cause feeling of fear or anger.

**Silver, L. (1992). The Misunderstood Child: Guide for Parents of Children with Learning Disabilities, 2<sup>nd</sup> Edition. Blue Ridge Summit, PA: Tab books.**

# 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.**

## *Tactile 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

# 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



“Children who suffer from touch deprivation need more body contact. Methods of sensory motor therapy used by Occupational therapists for tactile defensiveness include touching and rubbing the skin surfaces, using lotions, and brushing skin surfaces” (p. 325).

Lerner, J. (1997). Learning Disabilities: Theories, Diagnosis and Teaching Strategies, 7<sup>th</sup> Edition. Boston, MA: Houghton Mofflin.

# Tactile Defensiveness



“Despite frequent anecdotal accounts from both professionals and parents that SI (sic. Sensory Integration Therapy) therapy can improve behavior and functioning, there is little scientific validation for this technique as yet. In fact, some studies have shown that SI interventions are no better than more traditional therapies...You may want to try them out, but as with all treatments...especially those for which there is little research support...”

# Tactile Defensiveness (Continued)

“...be skeptical and carefully assess the benefits you see” (p. 102).

Ozonoff, S., Dawson, G., and McPartland, J. (2002). A Parent's Guide to Asperger Syndrome & High Functioning Autism. New York, NY: Guilford.





# ***Temple Grandin, Ph.D.'s Squeeze Machine***

- Therafin Corporation  
19747 Wolf Road  
Mokena, IL 60448

[www.therafin.com/squeezemachine.htm](http://www.therafin.com/squeezemachine.htm)

[Info@therafin.com](mailto:Info@therafin.com)

800-843-7234

- ***More research is needed!***

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](http://www.grandin.com/inc/squeeze.html)



# Adult Physical Intimacy and Tactile Defensiveness

- Sensate Focus (Masters and Johnson, 1970)
- Poor knowledge of human sexuality (Cruickshank, 1984)
- American Association of Sex Educators Counselors and Therapists (AASECT): [www.aasect.org](http://www.aasect.org)



Masters, W. H. and Johnson, V.E. (1970). Human Sexual Intimacy. Boston, MA: Brown Little and Company.

Cruickshank, W.M. (1984). LD and the Lifespan. Seminar presented at the Association for Children with Learning Disabilities (ACLD) conference, New Orleans, LA.

# *Adult Physical Intimacy and Tactile Defensiveness*



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

# Adult Tactile Defensiveness

- Willey (1999) an adult with Asperger's Disorder made the following suggestions for what she called "Tactile Sensitivity":
  - "If you dislike being touched, politely ask those around you to warn you before they touch you or ask them not to touch you at all. If you decide someone can touch you, let them know which you prefer, light or firm pressure.



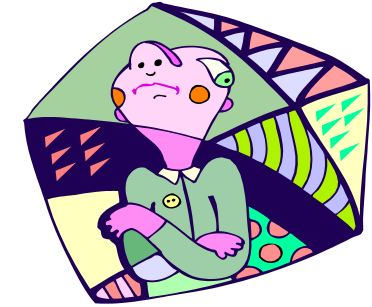
# Adult Tactile Defensiveness



- Willey Continued:
  - If even the slightest sensation aggravates your nerves, try to move your work, study and other personal spaces as far away as you can from air vent currents, window treatments and other obstacles that might inadvertently brush against your body.
  - If you enjoy the sensation of deep pressure, you might put weights...in the pockets of jackets...” (p. 155-156).

**Willey, H.L. (1999). Pretending to be Normal: Living with Asperger Syndrome. Philadelphia, PA: Jessica Kingsley.**

# Adult Tactile Defensiveness



- Willey Also Suggested:
  - Get every garment made of materials that feel good.
  - Cut hair short if you cannot stand to wash your hair.
  - If you need to chew do so on paraffin wax, rubber tubing, gum or plastic straws.
  - Use squeeze balls for motor restlessness.
  - Bathing with brushes and scrubbing lightly or firmly

Willey, H.L. (1999). Pretending to be Normal: Living with Asperger Syndrome.  
Philadelphia, PA: Jessica Kingsley.

# Tactile Defensiveness

- Helpful Profession:
  - American Occupational Therapy Association:  
[www.aota.org](http://www.aota.org)





# Tactile Defensiveness

- Other Helpful Websites:

- [www.hyperlexia.org](http://www.hyperlexia.org)
- [www.ldonline](http://www.ldonline)
- [www.asperger.org](http://www.asperger.org)
- [www.udel.edu/bkirby/asperger/](http://www.udel.edu/bkirby/asperger/)
- [www.sinetwork.org/index.htm](http://www.sinetwork.org/index.htm)



# Tactile Defensiveness



- Good Resource:

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



# Developmental Coordination Disorder



# Sensory Integration Disorder

**Occupational therapists claim that one in six children have Sensory Processing Disorder.**

**“Although a cadre of occupational therapists fought for 12 years to have the disorder listed in the current iteration of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)* the American Psychiatric association (APA) opted not to include it – which means, basically, that the group does not recognize it as a legitimate condition” (p. 64). The American Academy of pediatrics in 2012 said, “the amount of research regarding the effectiveness of sensory integration therapy is limited and inconclusive” (p. 64).**

**Moyer, M.W. (September/October, 2015). My Son Has a Disorder That Does Not Exist. Scientific American Mind, 25(5), 62-67.**

# Fine Motor Skills and Academics

**“The present study examined two separate elements of fine motor skills--visual-motor coordination and visual-spatial integration--and their associations with various measures of academic achievement. Visual-motor coordination was measured using tracing tasks, while visual-spatial integration was measured using copy-a-figure tasks. After controlling for gender, socioeconomic status, IQ, and visual-motor coordination, and visual-spatial integration explained significant variance in children's math and written expression achievement. Knowing that visual-spatial integration skills are associated with these two achievement domains suggests potential avenues for targeted math and writing interventions for children of all ages”(p.514).**

# Reference

**Carlson, A.G., et al. (September-December, 2013). Disentangling fine motor skills' relations to academic achievement: the relative contributions of visual-spatial integration and visual-motor coordination.**

**Journal of Genetic Psychology, 174(5-6), 514-533**

# Balance and Coordination Disorders



- Children with Coordination Disorders tend to have:
  - Poor Social Competence
  - Low Self-Esteem
  - Reluctance to engage in Physical Activities

**Fox, A.M. (Summer, 1998). Clumsiness In Childhood: Developmental Coordination Disorder. Learning Disabilities, 9 (2), pp. 57-64.**



# Developmental Coordination Disorder

- “I’ve always felt like a klutz. I’m not a good runner. I move quickly. I’m full of energy. But I’m not the most graceful person! Or if your talking sports, in grammar school, I got benched a lot because they didn’t want me for a team...Hitting the ball would be a fluke” (p. 150). – Hannah w/ NVLD
- Poor academics keep disabled children out of sports and clubs.

Wren, C. (2000). Hanging by a Twig. New York, NY: Norton.



# Developmental Coordination Disorder

“Learning to ride a bike, play board games, cards, and sports are all supposed to be fun and a normal part of growing up, but they are difficult for anyone with a spatial learning disability. Being accepted is paramount to any fourth grader. I desperately wanted to do the same things I saw the other kids doing...” (Britt Neff, p. 42).

Neff, B., Neff-Lippman, J., and Stockdale, C. (2002). The Source for Visual-Spatial Disorders. East Moline, IL: LinguiSystems,



# *Manifestation of DCD*

- Significant delays in motor milestones
- Poor sports performance
- Poor Handwriting
- Drop things often
- Clumsy



Harris, Z. (October 27, 2006). ADHD and DCD: The Double WHAMMY. Paper presented at the 18<sup>th</sup> Annual CHADD International Conference, Chicago. IL.

# Developmental Coordination Disorder

- People with AD/HD may have a significantly reduced life expectancy due to an impulsive lack of concern for health related issues, exercise, diet, drugs, etc.

Barkley, R.A. (1998). Attention-Deficit Hyperactivity Disorder, Second Edition. New York, NY: Guilford.



# Developmental Coordination Disorder



- “It is further suggested...that clinicians be aware of the larger realm of possible health-related difficulties that may arise in adults with ADHD and perhaps inquire about them as part of the initial evaluation” (p. 64).

**Barkley, R.A., and Gordon, M. (2002). Research on Comorbidity, Adaptive Functioning, and Cognitive Impairments in Adults with ADHD: Implications for Clinical Practice. In S. Goldstein and A. T. Ellison (Eds.), Clinician’s Guide to Adult ADHD: Assessment and Intervention. New York, NY: Academic Press, pp. 43-69.**

# Developmental Coordination Disorder



- People with Asperger's Disorder often cannot relate to the feeling of satisfaction, etc. of being on a team.
- If they do participate in sports they will have a better chance in individual sports more often.

Attwood, T. (1998). Asperger's Syndrome: A Guide for Parents and Professionals. Philadelphia, PA: Jessica Kingsley, p. 103.

# Developmental Coordination Disorder (DCD)



- These children have significant difficulty learning and internalizing tasks. It's not the timing of when they learn the tasks.

Fox, A.M. (Summer, 1998). Clumsiness In Childhood : Developmental Coordination Disorder. Learning Disabilities, 9 (2), pp. 57-64.



# Subtypes of DCD

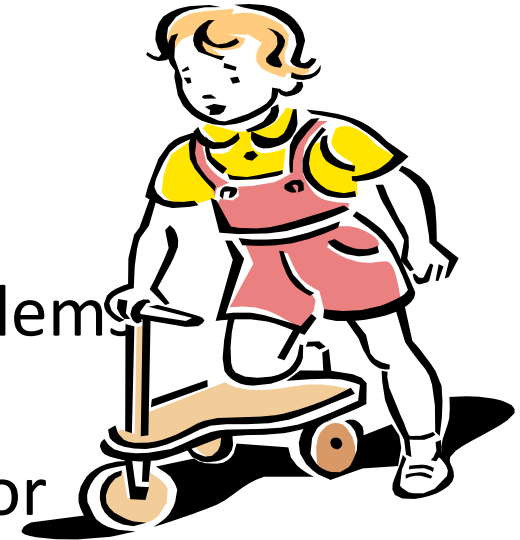
- Ideational Motor Planning
- Nonverbal Learning Disorders
- Proprioception and Kinesthetic Disorders
- Minimal Cerebral Palsy (CP)
  - 60% of children with CP outgrow their CP symptoms



Blondis, T.A. (October 18, 2002). FC1-The Association of Developmental Coordination Disorder (DCD) and AD/HD. Lecture presented at the 14<sup>th</sup> Annual CHADD Conference, Miami Beach, FL.

# Comorbidity and DCD

- 80% of Dyslexics have coordination problems
- 55% of those with AD/HD have DCD
- Those with NVLD often have psychomotor problems on their body's left side.
- 50-90% of those with Asperger's Disorder have coordination problems



Fawcett, A.J., and Nicolson, R.I. (2001). The Role of the Cerebellum . In A. J. Fawcett (Ed.), Dyslexia: Theory and Good Practice. Philadelphia, PA: Whurr, pp. 89-106.

Gillberg, C. (2001). ADHD with Comorbid Developmental Coordination Disorder: Long-Term Outcome in a Community Sample. ADHD Report, 9 (2), pp. 5-9.

Wren, C. (2000). Hanging by a Twig. New York, NY: Norton, p, 150.

Attwood, T. (1998). Asperger's Syndrome: A Guide for Parents and Professionals. Philadelphia, PA: Jessica Kingsley, p. 103.

# Treatment and DCD



- Children with DCD need to learn to verbally mediate to work around their coordination difficulties.
- Two large well designed Canadian studies have demonstrated Sensory Integration Training does not work. The same applies to the British “Kinesthetic Therapy”.

Blondis, T.A. (October 18, 2002). FC-1 The Association of Developmental Coordination Disorder (DCD) and AD/HD. Lecture presented at the 14<sup>th</sup> Annual CHADD International Conference, Miami, FL.

# ***Treatment and DCD***



- Other references on Sensory Integration Therapy and Sensory Integration Disorder:
  - Pallack, N. (2000) Keeping Current In Sensory Integration. CanChild (Centre for Childhood Disability Research), McMaster University. From Website: [www.canchild.ca/default.aspx?tabid=128](http://www.canchild.ca/default.aspx?tabid=128)
  - Heilbroner, P.L. (2006). Why “Sensory Integration Disorder” Is a Dubious Diagnosis. From Website: [www.quackwatch.org/01/QuackeryRelatedTopics/sid.html](http://www.quackwatch.org/01/QuackeryRelatedTopics/sid.html)

# *Treatment of DCD*



- 1994 International Consensus Meeting in Canada: Sensory Integration Disorder will be called “**Developmental Coordination Disorder**”.
- ICD-10: “**Specific Developmental Disorder of Motor Function**”
- Sensory Integration Training is a “school of thought” among Occupational Therapists as are Developmental and Cognitive Theories.

Polatajko, H., Fox, M., Missiuna, C. (1995). National Perspective. Canadian Journal of Occupational Therapy, 1, pp.3-6.

Harris, Z. (October 27, 2006). ADHD and DCD: The Double WHAMMY. Paper presented at the 18<sup>th</sup> Annual CHADD International Conference, Chicago. IL.

# Treatment and DCD



- “Acquired” AD/HD may respond better to Sensory Integration Training and Kinesthetic Therapy than “Genetic” AD/HD.
- They may work better with Brain Damage than with Developmental Disorders.

Barkley, R.A. (2002). Mental and Medical Outcomes of AD/HD. Paper presented at the 14<sup>th</sup> Annual International Conference, October 17-19, 2002, Miami Beach, FL.

# Treatment and DCD



- Cognitive Orientation to Occupational Performance (CO-OP):
  - Teaches cognitive strategies to overcome DCD
  - Hand over hand techniques
  - Repetition and corrective feedback

Fox, A. M. (Summer, 1998). Clumsiness in Childhood: Developmental Coordination Disorder. Learning Disabilities, 9 (2), pp. 57-64.

Smith, I. (2000). Motor Functioning and Asperger's Syndrome. In A. Klin, F. Volkmar, and S.S. Sparrow (Eds.), Asperger's Syndrome. New York, NY: Guilford, pp. 97-124.

# Possible Alternative Treatment of DCD

- Double Blind study of children with DCD treatment group given 6 capsules of 80% fish oil and 20% oil of rose pemrose. After 3 months little improvement in motor but much better academic functioning (10.9 months in reading and spelling 5.3 months) and AD/HD-like symptoms. **Replication needed & more research needed!**

Richardson, A.J., and Montgomery, P. (May 2005)

Pediatrics. 115, pp. 1360-1366.

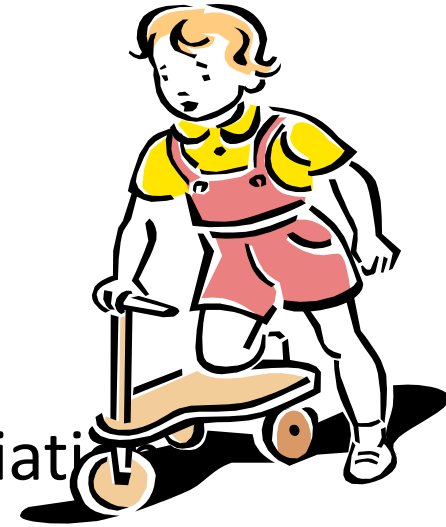
Ingersoll, B. (October 26, 2006). Complimentary Treatments for AD/HD.

Paper Presented at 18<sup>th</sup> Annual CHADD International Conference, Chicago, IL.





# DCD and Helpful Professionals



- American Occupational Therapy Association: [www.aota.org](http://www.aota.org)
- American Physical Therapy Association: [www.apta.org](http://www.apta.org)
- American Speech-Language Therapy Association: [www.professional.asha.org](http://www.professional.asha.org)
- Behavioral Neurologists: [www.anpaoline.org](http://www.anpaoline.org)
- Mental Health Professionals
- Neuro-Ophthalmologists: [www.ama-assn.org](http://www.ama-assn.org)

# *Developmental Coordination Disorder (DCD) and Balance*



# DCD and Balance



- Children with DCD have poor muscle tone and need to develop strength.
- Dyslexics have trouble with balance & motor skills, processing speed and working memory, especially with competing tasks.

Blondis, T.A. (October 18, 2002). FC-1 The Association of Developmental Coordination Disorder (DCD) and ADHD. Lecture presented at the 14<sup>th</sup> Annual CHADD International Conference, Miami Beach, FL.

Fawcett, A. (2001). Dyslexia: Theory and Good Practice. Philadelphia, PA: Whurr.

# DCD and Balance



- Dyslexics have abnormal postural reflexes and reflexes in general.
- These abnormalities can cause problems with riding a bike, skipping, hopping, throwing and catching a ball, swimming, fine motor skills, etc.

**Goddard Blythe, S. (April, 2001). Neurological Dysfunction as a Significant Factor in Children Diagnosed with Dyslexia. Paper presented at the British Dyslexia Association 5<sup>th</sup> Annual Conference, University of York, England.**

# DCD and Balance



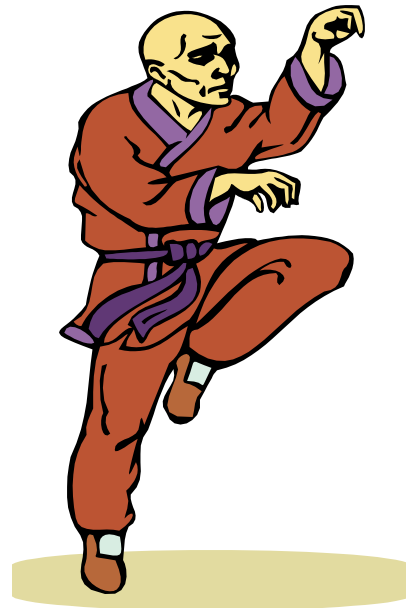
- Body Core=Trunk and Pelvis...provides the body “breaks” to slow down movement
- Legs and arms as well as muscles attach to spine and torso. The spine and torso provide a base.
- The body core is also the body’s center of gravity.

(September 23, 2003). Strength Training and Stability. From website:  
<http://www.benning.army.mil/usapfs/Training/Strength/>

# DCD and Balance

- NIH Study of ***T'ai Chi Chuan***
  - Improved balance in older adults by 50%

Hain, T.C., Fuller, L. . Weil, L. , & Kotsias, J. (1999). Effects of Tai Chi on Balance. 125, pp. 1191-1195.





# DCD and Balance

- Nowicki and Duke spoke of “Resting Posture” which is the posture one assumes when one is not feeling anything of note and is in a neutral position. Those with Expressive Dyssemia tend to use Resting Posture inappropriately.
- This may also be caused by poor core body strength.

Nowicki, S., and Duke, M. (2002). Will I Ever Fit In? New York, NY: Free Press.

# DCD and Balance



- Treatment:
  - Core strength and control can be developed by balance and stabilization training.  
(September 23, 2003). Strength Training and Stability. From website:  
<http://www.benning.army.mil/usapf/Training/Strength>
  - American Physical Therapy Association: [www.apta.org](http://www.apta.org)
  - American Occupational Therapy Association: [www.aota.org](http://www.aota.org)
  - American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS): [www.entnet.org](http://www.entnet.org)



# DCD and Balance

- ***Possible Alternative Treatment***

- NIH Emory University video tape:

- Dr. Xu's Tai Chi Research Center

- P.O. Box 98426

- Atlanta, GA 30359

- More Research***

- Needed!***



# Possible Alternative Treatment for Balance Problems

- Power Plate
  - Developed for Russian Mir Space Station Cosmonauts
  - Said to treat osteoporosis & balance problems
  - ***More research needed!***

From Website: [www.powerplateUSA.com](http://www.powerplateUSA.com)

Image From Website:

[www.costco/browse/product.aspx?Prodid=1100564&whse=&Browse=](http://www.costco/browse/product.aspx?Prodid=1100564&whse=&Browse=)



# DCD and Balance



- **Alternative Therapy:**
  - Neuro-Developmental Delay and its treatment.
  - Institute for Neuro-Physiological Psychology (INPP)
  - Primitive Reflexes
  - Peter Blythe and Sally Goddard Blythe
  - ***No Research indicates this is true!***

Goddard, S. (2002). Reflexes, Learning and Behavior: A Window into The Child's Mind. Fern Ridge Press.

# Synesthesia & ASD



# What is a Synesthesia?



“This is a rare condition that is not unique to people with Asperger’s Syndrome (LD and/or AD/HD-sic). The person experiences sensation in one sensory system and as result experiences a sensation in another modality. The most common expression is seeing colors every time the person hears a particular sound. This is called colored hearing” (p. 138).

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

# Synesthesia



“This cross-modal sensation is reproducible in a given individual during their lifetime, so that a given sound or word always leads to perception of the same color. Because of its curious phenomenology and its failure, usually to lead to significant problems in daily living, its existence has appeared hidden from medicine, including neuroscience, for the latter part of the century” (p. X).

Cole (1993). Forward. In R. Cytowic (Author), The Man Who Tasted Shapes: A Bizarre Medical Mystery Offers Revolutionary Insights Into Reasoning, Emotion, and Consciousness. New York, NY: Putman.

# Synesthesia



“‘Oh Dear’, he said (Michael), slurping a spoonful, ‘there aren’t enough points on the chicken’”(p.3). Michael continued, “‘You’re a neurologist, maybe it will make sense to you I know it sounds crazy, but I have this thing, see, where I taste by shape’”(p.4). Cytowic (1993) replied, “‘Where do you feel these shapes?’” To which Michael replied, “‘All over...but mostly I feel things rubbed against my face or sitting in my hands’”(p. 4).

Cytowic, R. (1993). The Man Who Tasted Shape: A Bizarre Medical Mystery Offers Revolutionary insights Into Reasoning, Emotion, and Consciousness. New York, NY: Puttman.



# Synesthesia



- “The latest scientific studies have found that as many as one in 100 people is synaesthetic” (p. 2 of 3).
- Often they score in the Superior range on I.Q.
- They often are left handed, have left -right confusion, and are Dyscalculic.
- High rates of Dyslexia and Autism in relatives

Author (June 2008). Derek tastes of Earwax. BBC Science & Nature: TV and Radio Follow-up. From: [http://www.bbc.co.uk/tvradio/programs/horizon/derek\\_qa.shtml](http://www.bbc.co.uk/tvradio/programs/horizon/derek_qa.shtml)

Carpenter, B. (March, 2001). Everyday Fantasia: The World of Synesthesia. Monitor On Psychology, 32 (3), pp. 26-29.

Cytowic, R. (1993). The Man Who Tasted Shape: A Bizzare Medical Mystery Offers Revolutionary insights Into Reasoning, Emotion, and Consciousness. New York, NY: Puttman.



# Synesthesia



- They are probably inherited by one gene.
- There appears to be 6 women to every man who has one.

Cole, (1993) Forward. In Cytowic, R. (Author) R. The Man Who Tasted Shape: A Bizzare Medical Mystery Offers Revolutionary insights Into Reasoning, Emotion, and Consciousness. New York, NY: Puttman.

# Synesthesia



- People with Synesthesias tend to be more creative than the general population:
  - They appear to have an exceptional ability to use metaphor.
  - Their brains seem to be set up to connect unrelated cognitions.

Ramachandran, V.S., and Hubbard, E. (May, 2003). Hearing Colors, Tasting Shapes: People With Synesthesia—Whose Senses Blend Together—Are Providing Important Clues to Understanding the Organization and Functions of the Human Brain. Scientific American.com. From website: [www.sciam.com/article.cfm?articleID=00030114B-9D06-1E8FA5809EFC5880000](http://www.sciam.com/article.cfm?articleID=00030114B-9D06-1E8FA5809EFC5880000).

# Synesthesia



“Using positron-emission tomography and functional magnetic imaging researchers have found that in synesthetes who report colored hearing, the visual area of the brain shows increased activation in response to sound. That isn’t the case with nonsynesthetes. Other studies have demonstrated that synesthetic perception occurs involuntarily and interferes with ordinary perception” (p. 27).

Carpenter, B. (March, 2001). Everyday Fantasia: The World of Synesthesia. Monitor On Psychology, 32 (3), pp. 26-29.

# Synesthesia



- “Studies have confirmed that the phenomena is biological and apparently unlearned, distinct from hallucination and metaphor” (. 27).

Carpenter, B. (March, 2001). Everyday Fantasia: The World of Synesthesia. Monitor On Psychology, 32 (3), pp. 26-29.

- “Cross wiring” in the fusiform gyrus and angular gyrus appear to be related to synesthesia.

Ramachandran, V.S., and Hubbard, E. (May, 2003). Hearing Coulrs, Tasting Shapes: People With Synesthesia—Whose Senses Blend Together—Are Providing Important Cluesto Understanding the Organization and Functions of the Human Brain. Scientific American.com. From website: [www.sciam.com/article.cfm?articleID=00030114B-9D06-1E8FA5809EFC5880000](http://www.sciam.com/article.cfm?articleID=00030114B-9D06-1E8FA5809EFC5880000).

# Types of Synesthesia

- Colored hearing
- Phonism-other senses being heard
- Conceptual Synesthesia-Seeing time as symbol
- Synesthesialgia- Painful synesthesia: Deaf man who hears what he sees (Cytowic, 1993).
- LSD Induced
- Photographic memory
- Sensory deprivation induced



# Types of Synesthesia

- Temporal lobe epilepsy induced
- There may be as many as 50 types of synesthesias

Ramachandran, V.S., and Hubbard, E.M., (April 14, 2003). Hearing Colors, Tasting Shapes: Common Questions, [Scientific American.com](http://www.sciam.com), from website:

[www.sciam.com/article.cfm?articleID=000C2CEC-A4FE-1E8F-8EA5809EC5880000](http://www.sciam.com/article.cfm?articleID=000C2CEC-A4FE-1E8F-8EA5809EC5880000) .



## *Not all Students Who get the Correct Math Answer but Cannot Show Their Work Are Cheating*

- Some synaesthetes (60%) calculate by seeing numbers in space around them often in a number line.
- The correct answer just appears to them; they cannot explain why, or how it does. It just does.
- They are not cheating. Test and proctor them by themselves.

Author (June, 2008). Derek Tastes of Earwax. BBC-Home. Science and Nature Follow-up:  
[http://www.bbc.co.uk/sn/tvradio/programmes/horizon/derek\\_ga.shtml](http://www.bbc.co.uk/sn/tvradio/programmes/horizon/derek_ga.shtml)

# Synesthesia



- Because most humans engage in metaphoric thought and communication we all may have some synesthetic ability. Diagnosed synesthesias have an extreme form of this condition.

Ramachandran, V.S., and Hubbard, E. (May, 2003). Hearing Colors, Tasting Shapes: People With Synesthesia—Whose Senses Blend Together—Are Providing Important Clues to Understanding the Organization and Functions of the Human Brain. Scientific American.com. From website: [www.sciam.com/article.cfm?articleID=00030114B-9D06-1E8FA5809EFC5880000](http://www.sciam.com/article.cfm?articleID=00030114B-9D06-1E8FA5809EFC5880000).



# Diagnosing Synesthesias



- Synesthesia is involuntary, but must be elicited. External stimulus sets it off.
- Synesthesia is projected “The parallel sense that is triggering is usually outside the body rather ‘in the mind’s eye’s’. If visual, synesthesia is experienced close to the face” (p. 76).
- Synesthetic perceptions are durable, discrete, and generic.

# Diagnosing Synesthesias (Continued)

- Synesthesia is Memorable. “The parallel sensations are vividly remembered, often in preference to the stimulus that triggered them” (p. 79).
- Synesthesia is emotional and noetic. “Synesthetes have an unshakable conviction that what they perceive is real (p. 77).



Cytowic, R. (1993). The Man Who Tasted Shape: A Bizzare Medical Mystery Offers Revolutionary insights Into Reasoning, Emotion, and Consciousness. New York, NY: Puttman.

# Treating Synesthesias



- Most synesthetes would not like to have their synesthesias removed.
- “At a practical level, many researchers observe, research on synesthesia will help raise the condition’s visibility, reducing the risk that clinicians might make it a sign of mental illness.

Carpenter, B. (March, 2001). Everyday Fantasia: The World of Synesthesia. Monitor On Psychology, 32 (3), pp. 26-29.

# Treating Synesthesia



- A Referral to a **Behavioral Neurologist/Neuropsychiatrist** is recommended:
  - They specialize in the behavioral aspects of dementia and memory disorders, neurobiological disorders (i.e., dyslexia, AD/HD, etc.), how to use medications with such populations, as well as some neuropsychology and psychiatry.

**[www.anpaonline.org](http://www.anpaonline.org)**

# Treating Synesthesia



- Caring for the emotional overlay:
  - American Psychiatric Association:  
[www.apa@psych.org](http://www.apa@psych.org)
  - American Psychological Association: [www.apa.org](http://www.apa.org)
  - National Association of Social Workers:  
[www.nasdc.org](http://www.nasdc.org)
  - National Board of Certified Counselors:  
[www.nbcc@nbcc.org](http://www.nbcc@nbcc.org)

# Treating Synesthesia

- Seek out a world class pain control clinic:
- American Pain Society:  
[www.info@ampainsoc.org](mailto:www.info@ampainsoc.org)



# Treating Synesthesia



- American Synesthesia Association:  
[www.web.mit.edu/synesthesia/www/synesthesia.html](http://www.web.mit.edu/synesthesia/www/synesthesia.html)
- International Synesthesia Association:  
[www.psychiatry.cam.ac.uk/isa/](http://www.psychiatry.cam.ac.uk/isa/)
- [www.mixsig.net](http://www.mixsig.net)
- The Synesthetic Experience:  
[www.web.mit.edu/synesthesia/www/](http://www.web.mit.edu/synesthesia/www/)

# “Face Blindness”

## Developmental Prosopagnosia





# *Face Perception*

- **The Fusiform Face Area (FFA) responds much more to faces than to other objects.**
- **Nine different labs have found that those with Autism Spectrum Disorders have a hypoactivation of the FFA when viewing faces.**
- **Developmental Prosopagnosia and Developmental Agnosia are separate disorders.**

--Schultz, R.T. (2005); Duchaine, and Nakayama, (2005)

# Rajarshi (Tito) Mukhopadhyay



**“In order to get a permanent impression of someone’s face, I needed some time. How much time? It depends on how much interaction with the voice generating from the face has with me.”  
He identifies people by their voice.**

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

# 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).**

# *Treatment of Prosopagnosia: “Are you my Mother?”*

- **Encourage the person to look at peoples faces when socializing.**
- **Introduce new people slowly and emphasize their characteristics: “Say hi to Billy with the red hair and freckles.”**
- **Have adolescents meet teachers long before school starts and have the child meet with them often.**
- **Have teachers keep their appearance “stable.”**
- **Play introduction games.**
- **Post photos of teachers, friends, parents on wall.**

--Grueter (August/September, 2007)

# *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>**

# *Mnemonic Techniques to Remember Faces*

- Lucas, J. (2000). Names and Faces Made Easy: The Fun Way To Remember People. Lucas.
- [www.jerrylucas.com](http://www.jerrylucas.com)

# *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](http://www.thetransporter.com)  
“Thomas the Tank-Engine” teaches faces.

# *Computer Programs to Treat Prosopagnosia*

- “Gaining Face”: [www.StoneMountainSoftware.com](http://www.StoneMountainSoftware.com)
- Paul Ekman, Ph.D. (“Lie to Me”/SPOT – Surveying Passengers by Observational Techniques) CD ROMS:
  - Micro Expression Training Tool (METT)
  - Subtle Expression Training Tool (SETT)
  - Repeated presentations of METT & SETT to those with Autism Spectrum Disorders

Available from: [www.paulekman.com](http://www.paulekman.com)



# ***Treating Problems Making & Reading Facial Expressions***

- **Cognitive Affective Training-Faces and Feeling Words: [www.CAT-kit.com](http://www.CAT-kit.com)**
- **Student Handout: Emotions and Facial Expressions – From: McAfee, J. (2002). Navigating the Social World. Arlington, TX: Future Horizons, pp 83-84.**
- **Ekman, P., & Friesen, W.M. (2003). Unmasking The Face: A Guide To Recognizing Emotions From Facial Cues. Cambridge, MA: Malor Books.**
- **Ekman, P. (2003). Emotions Revealed: Recognizing Faces and Feelings to Improve Communication and Emotional Life. New York, NY: Time Books.**

# Other Methods of Learning Facial Expressions

- Watch children's shows like Barney and Sesame Street and observe the difference between the facial expression reactions of children and adults.
- Watch TV with the sound turned off and look at the face.
- You can see extreme emotions on soap operas, animated movies (i.e., Toy Story) claymation (Wallace and Grommit).

--Garcia Winner, and Crooke (2011)

# ASD Treatment Plan for Social Skills



- ❖ **Verbal Mediation of Poor Visual-Spatial Abilities**
  - 1. Describe pictures in detail verbally**
  - 2. Teach the relationship between objects and pictures**
  - 3. Describe social interactions in movies**
  - 4. Videotape child or adolescent in social situations and teach from that**

Rourke, B.P. (1995). Syndrome of Nonverbal Learning Disabilities: Neurodevelopmental Manifestations. New York, NY: Guilford.

# NVLD/Asperger's Suggestions

- Photographs
- Movies
- Role Playing
- Coaching with mental health back-up
- “Rent a Friend”



Nowicki, S. and Duke, M. (2002). Will I Ever Fit In? New York, NY: Free Press.

Attwood, T. (1998). Asperger's Syndrome: A Guide for Parents and Professionals. Philadelphia, PA: Jessica Kingsley.

# Social Thinking

➤ “Social thinking is how we think about our own and others’s minds.” (p. 2)

Garcia Winner, M. and Crooke, P. (2011). Social Thinking At Work: Why Should I Care. San Jose, CA: Social Thinking.



# Four Steps of Communication

- 1. “Think about the people with whom you want to communicate.**
- 2. Use your body to establish a physical presence.**
- 3. Use your eyes to think about people as you relate to them.**
- 4. Use your words to relate to people when you talk to them.” (p. 71)**

Garcia Winner, M., and Crooke, P. (2011). Social Thinking At Work: Why Should I Care. San Jose, CA: Social Thinking.

# Teaching Social Thinking

**“Results indicated significant changes from pre to post measures on both verbal/nonverbal “expected” and “unexpected” behaviors, significant increases in the subcategories of expected verbal, listening/thinking with eyes and initiations with robust decreases in the subcategories of unexpected–verbal and unexpected nonverbal. Importance of social cognitive approaches for children with AS and HFA is discussed.”**

**Crooke, P., Hendrix, R., and Rachman, J.Y. (2007). Brief Report: Measuring the Effectiveness of Teaching Social Thinking to Children with Asperger’s Syndrome (AS) and High Functioning Autism (HFA). Journal of Autism and Developmental Disorders, 38 (3), 581-591.**

# Excellent Social Skills Program

## **Social Thinking Center**

**Innovative, Practical Treatment of High-Functioning Autism,  
Asperger's Syndrome, NLD, ADHD and other Undiagnosed Social-  
Cognitive Challenges**

**The Social Thinking Center**

**3031 Tisch Way, Suite 800**

**San Jose, CA 95128**

**Phone (toll free): 877-464-9278**

**Website: [www.socialthinking.com](http://www.socialthinking.com)**



# Social Competence Intervention Program (SCIP)

**“SCIP is an intervention that is multi-sensory in nature and targets underlying difficulties in social perception as well as providing exercises to improve the generating of strategies for problem solving”. (p. 104)**

**Semrud-Clickman, M. (2007). Social Competence in Children. New York, NY: Springer, p. 104.**

# Body Language



## ➤ Making SENSE in Conversations:

- Space, Eye Contact, Nod, Statements of Encouragement, Expression (Face/Body)

McAfee, J. (2002). Navigating the Social World: A Curriculum for Individuals with Asperger's Syndrome , High Functioning Autism and Related Disorders. Arlington, TX: Future Horizons, p. 102-108.

## ➤ Baron-Cohen, S. (2003). Mind Reading: An Interactive Guide To Emotions. Philadelphia, PA: Jessica Kingsley.

“Harry Potter” teaches facial expressions.

# NVLD/Asperger's/ASD Suggestions

## ❖ Tony Attwood says:

- Help ASD child develop a large vocabulary of emotional thought.
- Teach them how to use an emotional thermometer for expressive thought and interpreting receptive communication.

Attwood, T. (2007). The Complete Guide to Asperger's Syndrome. Philadelphia, PA: Jessica Kingsley, 155-156.

# Career Development



# 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](http://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.**

# Dr. Temple Grandin



**“During my travels to many autism conferences I have observed many sad cases of people with autism who have successfully completed high school or college but have been unable to make the transition into the world of work. Some have become perpetual students because they thrive on the intellectual stimulation of college.”**

Grandin, T. (1996). Making the Transition from the World of School into the World of Work. Bloomington, IN: University of Indiana Resource Center for Autism. From Website:  
<http://www.iidc.indiana.edu/index.php?pageId=599>



# Barriers for Employment for those with ASD

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

- **Poor time keeping**
- **Poor organizational skills**
- **Lack of concentration**
- **Difficulty multitasking**
- **Poor social skills**
- **Difficulty coping with change**



# State/Federal Work Transition

- **Pacer Center Project C3:**
  - **Designed for those with disabilities to improve postsecondary and employment outcomes.**
  - **Teaches parents and professionals about services available**
  - **Helps children and adolescents with disabilities prepare for adulthood and self-advocacy**
- **[www.pacer.org/c3](http://www.pacer.org/c3)**

# College Internship Program

**“CIP provides individualized social, academic, career and life skills instruction for students with Asperger's, Nonverbal, PDD-NOS, ADHD and other Learning Differences. Students obtain the skills necessary to inspire independence and expand the foundation on which they can build a happy and productive life.”**

**Website: [www.cipworldwide.org/about.html](http://www.cipworldwide.org/about.html)**

# Private Transition Programs

- **Options Program at Brehm (Carbondale, IL):**
  - **Structured living environment and independent living skills training**
  - **Social skills training**
  - **Academic training:**
    - College transition track
    - Certificate transition track
- [www.options.brehm.org](http://www.options.brehm.org)



# Other College Preparation Programs

- **Landmark College:**
  - Putney, VT
  - Website: [www.landmark.edu/](http://www.landmark.edu/)
- **Say YES (Your Education Solution) to College**
  - A College Transition Program for Students with Disabilities, Old Dominion University Campus
  - Phone: 757-683-3639
- **Wax, I.F., and Kravets, M. (2005). K & W Guide to Colleges for Students with Learning Disabilities or Attention Deficit Disorder, 8th Edition (College Admissions Guides). Princeton, NJ: Princeton Review.**



# APSE: Association for Persons in Supportive Employment

- **This is an association of on-site job coaches.**
- **Address: 416 Hungerford Dr., Suite 418, Rockville, MD 20850;**
- **Phone: 301-279-0060**
- **Fax: 301.279.0075**
- **Website: [www.apse.org](http://www.apse.org)**



# Transition Services/Job Coaching

- **Similar programs in Great Britton have had as much as a 70% employment rate for ASD adults over several years (Prospects Employment Service, National Autistic Society, Great Britton).**

Attwood, T. (2007). The Complete Guide to Asperger's Syndrome. Philadelphia, PA: Jessica Kingsley, p. 299.





# ***Workplace Accommodations***

**Job Accommodations Network**

**P. O. Box 6080**

**Morgantown, WV 26506-6080**

**Voice/TTY (in US): 1-800-526-7234**

**Voice/TTY (Worldwide): 1-304-293-7186**

**Fax: 1-304-293-5407**

**Web: [www.askjan.org](http://www.askjan.org)**





# *Workplace Accommodations*

- The Job Accommodations Network has a link on its website called SOAR (Searchable Online Accommodation Resource):
- “A grocery stock person with Autism cannot remember to wear all parts of his uniform. JAN suggested taking a picture of the employee in full uniform. Give him the picture and allow him to use the picture as reference when preparing for work. Approximate accommodation cost is \$5”.
- <https://askjan.org/soar/MR/MRex.html>.

# *Workplace Accommodations*

- **Center for Assistive Technology and Environmental Access (CATEA):**  
“...a multidisciplinary engineering and design research center dedicated to enhancing the health, activity and participation of people with functional limitations through the application of assistive and universally designed technologies in real world environments, products and devices”.
- **CATEA:** <http://www.catea.gatech.edu/>

# AHEAD



- **Association on Higher Education and Disability (AHEAD):**
- **Comeau, L. & Cronin, M. (2011). The Essential Six, Volume One (A Parent's Guide: How to Pave the Road to Self-Advocacy for College Students with Learning Differences). Huntersville, NC: AHEAD.**
- **[www.ahead.org](http://www.ahead.org)**

# Interest to Career Help

- **O-net Online: “O-NET Online has detailed descriptions of the world of work for use by job seekers, workforce development and HR professionals, students, researchers, and more!”**
- [www.onetcenter.org](http://www.onetcenter.org)



# The Wall Street Journal

**Temple Grandin says that articles about workplace behavior have been very helpful for her in learning about and understanding work environments. She recommends people on the spectrum subscribe to it to get helpful workplace hints.**

**Grandin, T. (2011). The Way I See It: A Personal Look at Autism & Asperger's Second Edition. Arlington, TX: Future Horizons.**

# American College Testing (ACT): Documentation Requirements

- **ACT Policy for Documentation to Support Requests for Test Accommodations on the ACT (No Writing) or ACT Plus Writing:** <http://www.act.org/aap/disab/policy.html>
- **ACT Services for Students with Disabilities:** [www.act.org/aap/disab/](http://www.act.org/aap/disab/)





# Self-Advocacy



# Self-Awareness

**“Not only does accurate self-awareness help motivate the learning process, but it also leads to more efficient self-advocacy. With accurate knowledge one can plan better how to deal with otherwise frustrating situations.” (p. 11) “It takes a modicum of self-esteem to tolerate thinking about what difficulties you have. Many students who have had many academic and social difficulties are in no position to tolerate any critical feedback about their behavior. Without being able to tolerate such feedback their personal growth is stymied.” (p. 14)**

**Baker, J. (2005). Preparing for Life: The Complete Guide for Transitioning to Adulthood for those with Autism and Asperger’s Syndrome. Arlington, TX: Future Horizons.**



# Self-Awareness: Evaluation

**The student needs a thorough evaluation which can be done by the public school's special education evaluation team, or the parent/guardian of the student can obtain this for the student privately. Such an evaluation should include, at the least, medical, neurological, developmental, psychological, speech and language, hearing and vision evaluations and can typically be obtained from the nearest university medical center.**

# “The Diagnosis”

**I believe the student should be told their diagnosis as soon as they are cognitively and emotionally capable of hearing it. They will need to be able to speak knowledgeably about it as an adult to self-advocate and to receive mandated services. An effort should be made to emphasize their strengths and to inform them of their weaknesses. And let them know, everyone has both.**

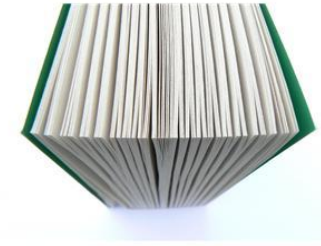
# “The Diagnosis”

- **Jed Baker, Ph.D. recommends discussing two or three strengths per every one weakness the student has when they learn about their diagnosis.**

**Baker, J. (2005). Preparing for Life: The Complete Guide for Transitioning to Adulthood for those with Autism and Asperger’s Syndrome. Arlington, TX: Future Horizons.**

# DSM-5 & ASD

(Due out May, 2013)



- **Types of High Functioning**

**Autism, Autism, Nonverbal LD, Asperger's Disorder, PDD, PDD, NOS:**

## **1. Autism Spectrum Disorder**

Author (2010). Asperger's Disorder. Washington, DC: American Psychiatric Association;  
[www.dsm5.org/Proposed/Revisions/Pages/proposedrevision.aspx?rid=97#](http://www.dsm5.org/Proposed/Revisions/Pages/proposedrevision.aspx?rid=97#).

Author (2010). Autistic Disorder. Washington, DC: American Psychiatric Association;  
[www.dsm5.org/Proposed/Revisions/Pages/proposedresisions.aspx?rid=94](http://www.dsm5.org/Proposed/Revisions/Pages/proposedresisions.aspx?rid=94).

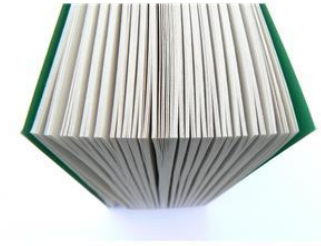
# DSM-5 & ASD



**“Because autism is defined by a common set of behaviors, it is best represented as a single diagnostic category that is adapted to the individual’s clinical presentation by inclusion of clinical specifiers (e.g., severity, verbal abilities and others) and associated features (e.g., known genetic disorders, epilepsy, intellectual disability and others.) A single spectrum disorder is a better reflection of the state of knowledge about pathology and clinical presentation; previously, the criteria were equivalent to trying to “cleave meatloaf at the joints.”**

Author (2012). Autism Spectrum Disorder: DSM-5 Development. Washington, DC: American Psychiatric Association:  
<http://www.dsm5.org/ProposedRevision/Pages/proposedrevision.aspx?rid=94#>

# DSM-5 & ASD



- **The three domains of impairment will become two:**
  - 1) **Social/communication deficits**
  - 2) **Fixated interests and repetitive behaviors**

# DSM-5 Severity of ASD

- **Level 3 (Requiring Very Substantial Support):** Very limited initiation and minimal response to others. Extremely difficult to refocus from fixed interests.
- **Level 2 (Requiring Substantial Support):** Limited initiation and limited response to others. Difficult to redirect from fixed Interests.
- **Level 1 (Requiring Support):** Without support has difficulty initiating and atypical response to others. Will resist efforts to redirect from special interests.

Author (January 26, 2011). Autism Spectrum Disorder, Severity. Washington, DC: American Psychiatric Association:  
<http://www.dsm5.org/ProposedRevisions/Pages/proposedrevision.aspx?rid=94#>.

# Social Communication Disorder

**“Social Communication Disorder (SCD) is an impairment of pragmatics and is diagnosed based on difficulty in the social uses of verbal and nonverbal communication in naturalistic contexts, which affects the development of social relationships and discourse comprehension and cannot be explained by low abilities in the domains of word structure and grammar or general cognitive ability.”**

**Rule out ASD, “restricted, repetitive patterns of behavior, interests or activities as part of the autism spectrum.”**

**Author(December 9, 2010). Social Communication Disorder. Washington, DC: American Psychiatric Association:  
<http://www.dsm5.org/ProposedRevision/Pages/proposedrevision.aspx?rid=489#>**



# International Classifications of Diseases- 11<sup>th</sup> Edition (ICD-11)

- **Due to be published in 2015**
- **Is coordinating diagnostic terms with DSM-5.**
- **American Psychological Association (APA) is very involved with development of ICD-11 and the Functional Mental and Medical Health Companion to ICD-11.**
- **Psychologists will be strongly encouraged to use the ICD-11 by APA.**

Clay, R. A. (July 2010). Defining disease worldwide.: The 11<sup>th</sup> revision of the International Classification of Diseases includes psychologists in key roles. Monitor On Psychology, 41 (7), 54.

Goodheart, C. (October 16, 2010). Psychology Practice: Preparing for Tomorrow. Paper Presented at the 2010 Annual Arizona Psychological Association Convention, Tucson, AZ.

Author (2012). The International Classification of Diseases 11th Revision is due by 2015. Geneva, Switzerland: World Health Organization:  
<http://www.who.int/classifications/icd/revision/en/index.html>

# Life Planning Timeline

- **Jed Baker, Ph.D. has a nice life planning guideline in his book on transitioning:**

**Baker, J. (2005). Preparing for Life: The Complete Guide for Transitioning to Adulthood for those with Autism and Asperger's Syndrome. Arlington, TX: Future Horizons, 30-32.**



# Person-Centered Planning

**This, “...is an umbrella term used to describe several approaches to developing goals for the future and identifying the supports and resources a disabled person may need to achieve his/her goals.” (p. 32)**

**Baker, J. (2005). Preparing for Life: The Complete Guide for Transitioning to Adulthood for those with Autism and Asperger’s Syndrome. Arlington, TX: Future Horizons.**

# Person-Centered Planning

- **Such plans:**
  - **Ensure the disabled individual is heard**
  - **Begin with how they want to live today and build upon that to plan for tomorrow**
  - **Take into account information from their family and friends about the person**
  - **And, investigate government, private, church, family and friends that can provide support.**

**Baker, J. (2005). Preparing for Life: The Complete Guide for Transitioning to Adulthood for those with Autism and Asperger's Syndrome. Arlington, TX: Future Horizons.**

# Person-Centered Planning

- **Places you can find person-centered planning programs:**
  - **Cornell University Person-Centered Planning Education Site:** [www.ilr.cornell.edu/edi/pcp/courses.html](http://www.ilr.cornell.edu/edi/pcp/courses.html).
  - **The Learning Community for Person Centered Practices:** [www.elp.net](http://www.elp.net)
  - **Allen, Shea, & Associates:** [www.allenshea.com](http://www.allenshea.com)
  - **Capacity Works:** [www.capacityworks.com](http://www.capacityworks.com)

# Decision Making & Problem Solving

- Teaching children decision making skills should begin in preschool.  
**“Mary do you want milk, or orange juice?”**
- By adolescence they should be taught how to use a decision and problem solving process to help them become independent.

Walker, E. (2010). Decision Making/Problem Solving Solutions with Teens (Fact Sheet). Columbus, OH: Family and Consumer Sciences, Ohio State University Extension: form: HYG-5301-98-R10.

# Teaching Decision Making & Problem Solving

- 1. Identify and define the problem**
  - a. Consider goals and optimum outcome**
- 2. Brainstorm all alternatives**
  - a. Encourage serious ideas**
  - b. Encourage silly ideas**
  - c. Write them down and don't be judgmental**



# Teaching Decision Making & Problem Solving

## **3. Evaluate all options.**

- a. Provide guidance and encouragement**
- b. Ask them permission to point out concepts they may not have thought of. This empowers them and fosters independence.**
- c. Help them determine if their decisions would infringe on the rights of others, is unkind, unfair, dishonest, etc. This is particularly important for ASD students with theory of mind issues.**

## **4. Choose an option that does not hurt others.**

## **5. Commit to a plan to implement the option.**







# Teaching Decision Making & Problem Solving

- 6. Evaluate the decision and its outcome**
  - a. Ask what was learned by this experience and how it can help in the future.**
  - b. Discuss how the decision was made.**
  - c. Have them take ownership of the decision.**
  - d. Don't brow beat them.**
- 7. Give them a laminated page with the steps for decision making on it.**

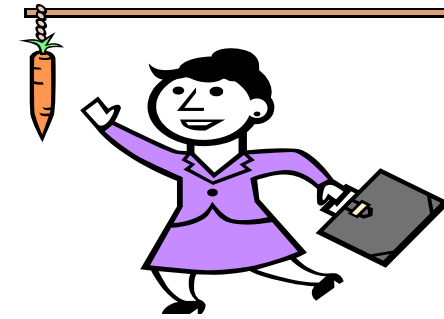
**Walker, E. (2010). Decision Making/Problem Solving Solutions with Teens (Fact Sheet). Columbus, OH: Family and Consumer Sciences, Ohio State University Extension: form: HYG-5301-98-R10.**

# A Lifetime of Job Decisions

- The average person in the U.S. has held 11 jobs in their lives between the ages of 18 and 44.
- It is important for the ASD student to learn career building skills and decision making because they will probably have many jobs in their lives. They will also probably need to be lifetime learners with regards to job skills.

Bureau of Labor Statistics, U.S. Department of Labor (September 10, 2010). NUMBER OF JOBS HELD, LABOR MARKET ACTIVITY, AND EARNINGS GROWTH AMONG THE YOUNGEST BABY BOOMERS: RESULTS FROM A LONGITUDINAL SURVEY. Form: USDL-10-1243. From Website: <http://www.bls.gov/news.release/pdf/nlsoy.pdf>.

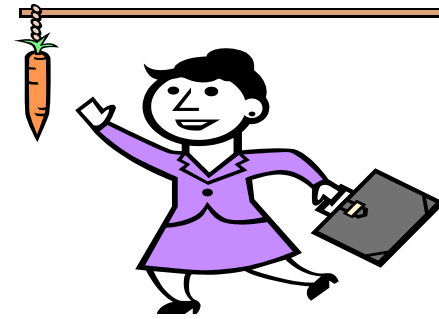
# Motivation



**“After years of social rejection, they want to be accepted for who they are rather than be told they need to change. How then could I motivate them to want to learn new social behaviors without suggesting that there was something problematic about their social functioning?” (p. 1)**

**Baker, J. (2005). Preparing for Life: The Complete Guide for Transitioning to Adulthood for those with Autism and Asperger’s Syndrome. Arlington, TX: Future Horizons.**

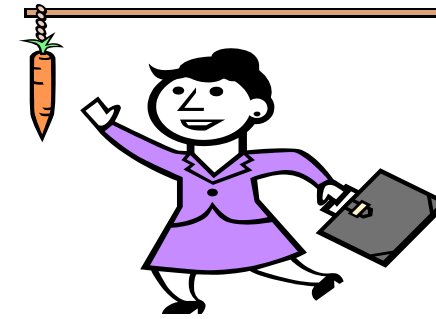
# Motivation



- **An individual can become so discouraged regarding their ability to get and keep a job they can begin to think a job is for other people not a loser like me.**
- **Parents of adult disabled children often become the “naggers” and the child becomes the “nagee” and this causes huge friction within a family.**

**Ford, A. (2007). On Their Own: Creating an Independent Future for Your Adult Child with Learning Disabilities and ADHD. New York, NY: New Market.**

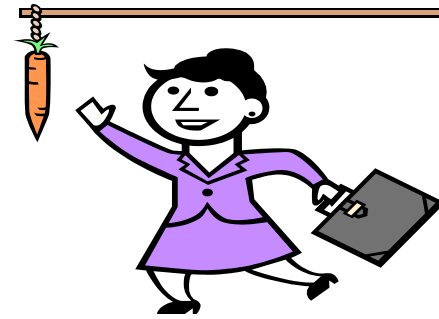
# Motivation



- Hiring a “professional nag” may be the solution; the “Life Coach”:
  - The, “...partnership between a client and a coach that helps the client move toward goals and take actions that will enable them to become the person they want to be in a more focused and rapid way than they would be able to do on their own.” (p. 167)

Ford, A. (2007). On Their Own: Creating an Independent Future for Your Adult Child with Learning Disabilities and ADHD. New York, NY: New Market.

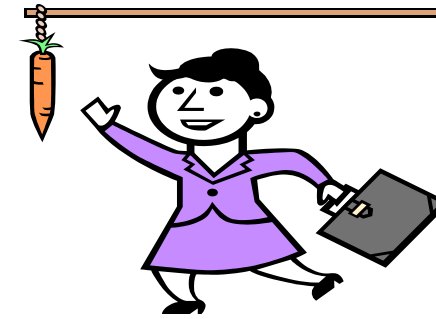
# Motivation



- **One way to motivate ASD students to learn social skills is to encourage them to learn social skills so they can teach others, perhaps to younger ASD students. To be able to teach something you must learn a lot about it, hence they will have to learn the social skills.**

**Baker, J. (2005). Preparing for Life: The Complete Guide for Transitioning to Adulthood for those with Autism and Asperger's Syndrome. Arlington, TX: Future Horizons.**

# Motivation



- Life coaches change negative self-talk that gets in the way of success.
- The life coach enters into a relationship where client accountability is paramount. “When clients agree to take action and move forward with a coach, they are more likely to actually follow through because they have to report back to the coach in their next session.” (p.170)

Ford, A. (2007). On Their Own: Creating an Independent Future for Your Adult Child with Learning Disabilities and ADHD. New York, NY: New Market.

# How to Find a Life Coach

- **International Coach Federation:** [www.coachfederation.org](http://www.coachfederation.org)
  - **Suggestion:** try to get one with at least a Masters degree in a mental health field.
  - **DeAngelis, T. (2010). First-Class Coaching. Monitor On Psychology, 41 (10), 48:** <http://www.apa.org/monitor/2010/11/life-coaches.aspx>



# One Stop Career Centers

- **Now Known as “CareerOneStop”, it is a partnership between the individual states and the U.S. Department of Labor that provides a whole menu of services, including career exploration and counseling, job training and listings, resume services, job interview training, and information on various careers Available at:**  
**[www.careeronestop.org/](http://www.careeronestop.org/).**

# Vocational Rehabilitation

- **When you cannot do your job due to a disability you can receive services for free from your state's Vocational Rehabilitation Center.**
- **One works with a “VR Counselor” who helps you learn ways to work around your disability.**

**Ford, A. (2007). On Their Own: Creating an Independent Future for Your Adult Child with Learning Disabilities and ADHD. New York, NY: New Market.**

# Vocational Rehabilitation

- **One needs documentation of having a disability written by a physician and/or mental health professional.**
- **The VR Counselor will interview the client to determine how they are doing in one of seven areas:**
  - **Getting to work, etc.**
  - **Listening and talking to others**
  - **Self-care**
  - **Work skills**



# Vocational Rehabilitation

- Cooperating with others
- Making and carrying out plans
- Needed job accommodations



**Ford, A. (2007). On Their Own: Creating an Independent Future for Your Adult Child with Learning Disabilities and ADHD. New York, NY: New Market.**

# Vocational Rehabilitation

- **The VR counselor will help the client create an “employment plan” which meets their needs, will lead to a job, and is complete.**
- **The VR counselor will determine if the client needs additional training and will help them get it.**
- **The VR counselor will give them advice on what the right job for them is given their interests, abilities, skills and disability/needs.**

**Ford, A. (2007). On Their Own: Creating an Independent Future for Your Adult Child with Learning Disabilities and ADHD. New York, NY: New Market.**

# Volunteer Work



- **If all else fails consider volunteer work:**
  - It gets the disabled adult child “off the couch”
  - May help them to develop some self-esteem
  - May help them develop some job skills
  - May help them get a job eventually through their volunteerism.

Ford, A. (2007). On Their Own: Creating an Independent Future for Your Adult Child with Learning Disabilities and ADHD. New York, NY: New Market.

# Career Counseling

- **Most community colleges offer extensive career counseling for young people, even those with disabilities:**
- **This would include:**
  - **An interview, an interest inventory, a career search, job shadowing and possible internships, volunteering, college majors and votech/trade schools training**
  - **What the person is not interested in is just as important as what they are interested in.**
  - **Also check out the National Career Development Association:**  
[http://associationdatabase.com/aws/NCDA/pt/sp/Home\\_Page](http://associationdatabase.com/aws/NCDA/pt/sp/Home_Page)

# Skilled Trade Schools



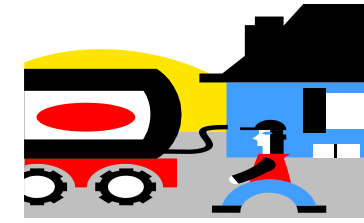
**“Trade schools can prepare you for a satisfying career that lets you use your hands to make a noticeable impact in the world. In fact, the skilled trades represent some of the smartest and most fulfilling job choices available today. If you enjoy building stuff, fixing problems, and doing work that is truly useful, then selecting a good trade school is one of the best ways to get closer to a life you can really be proud of.”**

**Author (No Date). Trade Schools, Colleges and Universities: Vocational and Skilled Trades.**

**From website: <http://www.trade-schools.net/directory/trade-schools-directory.asp>.**



# Types of Jobs



- **Often working a job at a large company doing a monotonous task works better. Adults with disabilities often thrive with repetition and are adverse to change. When you work for a small employer you often must do more things on the job.**

**Ford, A. (2007). On Their Own: Creating an Independent Future for Your Adult Child with Learning Disabilities and ADHD. New York, NY: New Market.**

# Vocational & Skilled Trade Schools

- **Where to find Skilled Trade Schools:**
  - <http://www.trade-schools.net/directory/trade-schools-directory.asp>



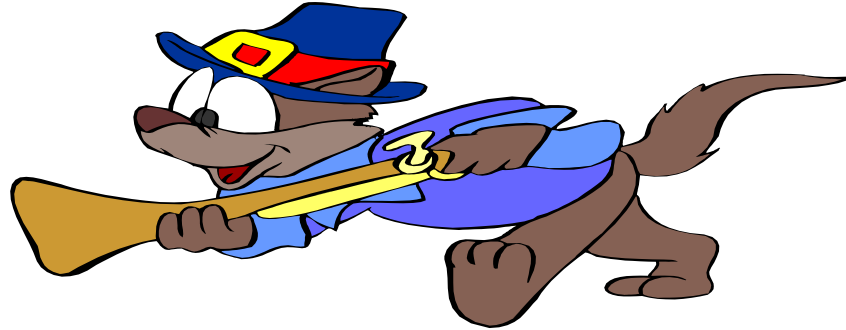
# Job Hunting



- **Resume and cover letter: Use a resume service**
- **Interview: be on time, dress appropriately, bring a pen and paper, no gum, soda, smoking, etc., be polite and smile. Practice, practice, practice for the job interview! A career counselor can help with all of the above, too.**

**Ford, A. (2007). On Their Own: Creating an Independent Future for Your Adult Child with Learning Disabilities and ADHD. New York, NY: New Market.**

# Job Hunting



- **Where to find a career counselor:**
  - **National Career Development Association:**  
[http://associationdatabase.com/aws/NCDA/pt/sp/Home\\_Page](http://associationdatabase.com/aws/NCDA/pt/sp/Home_Page)

# Work Portfolio

- **One can use their special Interests in getting a job (i.e., interest in video games = job creating video games, etc.).**
- **One can create a professional portfolio of examples of their special interests as part of their resume.**

Attwood, T. (2007). The Complete Guide to Asperger's Syndrome. Philadelphia, PA: Jessica Kingsley, p. 195.

# Disclosing of One's Disability

- **This is an important life skill for anyone with a disability.**
- **It is also fraught with “landmines”.**
- **A person with a disability needs to learn how the law applies to this, how to inform a teacher, professor, and/or employer about their disability confidently and knowledgeably as well as when it is safe and not safe to disclose.**

# Work Support for ASD

**“Findings suggested that support throughout the first few weeks is crucial. However, there remains a need for flexibility with support as several clients went through periods of change at work or had other problems which meant they had a temporary need for a boost in their support hours.” (p. 367)**

**Nesbitt, S. (2000). Why and Why Not? Factors Influencing Employment for Individuals with Asperger’s Syndrome. Autism, 4(4), 357-369.**

# Work & ASD





# Workplace Social Rules

**“Where are the rules of the workplace written and how come it seems not everyone got the memo? The ‘memo’ it turns out, is something most people are born with – an intuitive sense that allows them to be naturally aware of social expectations and feeds them the information they need to follow the social code.” (p. vii)**

Garcia Winner, M., and Crooke, P. (2011). Social Thinking At Work: Why Should I Care. San Jose, CA: Social Thinking.

# Work Promotions

**“In most companies, each promotion requires not only advanced knowledge or abilities, but a higher level of social and organizational skills as well.” (p. 127)**

**Garcia Winner, M., and Crooke, P. (2011). Social Thinking At Work: Why Should I Care. San Jose, CA: Social Thinking.**

# Tony Attwood on Successful “Aspie” Employment Outcomes

**“Where there is a successful outcome, common themes include the discovery of a mentor within the person’s family circle of friends and colleagues, who is able to provide guidance and encouragement, as well as the individual’s personal qualities of determination and perseverance...”**

# Tony Attwood on Successful “Aspie” Employment Outcomes

**“...Other keys to a successful outcome are employment during adolescence in the form of a part-time job and recognition that there is no career that should be avoided by someone with an autism spectrum disorder.” (p. 3)**

**Attwood, T. (2012). Forward; In 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, p . 3-4.**

# Temple Grandin, Ph.D. Says:

**“I am what I do.”(p. 5)**

**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.**

**“I sold my work, not myself.” (p. 6)**

**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**

# Temple Grandin On Her Employment History

**“I always found opportunities for work by locating the ‘back door.’ I never landed a job by filling out a job application or doing a formal interview. I got my freelance business started by showing potential clients a portfolio of my work.” (p. 381)**

**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**

# Temple Grandin Believes

- **Teens on the spectrum need a job.**
- **Those on the spectrum need to learn how to do work that is assigned by others.**
- **Those on the spectrum must learn to complete work in a timely fashion in a way the employer expects it.**

**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.**

# Temple Grandin's Employment Insights

- **Develop connections and a portfolio**
- **Find mentors**
- **Know what your potential employer wants**
- **Do one project at a time**
- **Find a career niche that fits abilities & skills**
- **Don't fixate on being on the spectrum**
- **Find a business manager**
- **People on the spectrum continue to grow throughout life**

**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.**



# Work & ASD



**“Many of us are workaholics. Many working AS adults report that we ‘have no life’ outside work. When we say this to others, our statements appear to be exaggerations...We know differently.” (p. 12)**

**Myer, R.N. (2001). Asperger Syndrome Employment Handbook. Philadelphia, PA: Jessica Kingsley.**

# Work & ASD



**“You feel so exhausted daily just from ‘hanging on’ or controlling yourself that you feel drained, virtually unable to function. You need a full recharge of your batteries just to face the next day. *Result: You don’t have time for family, intimate relationships, friendship and otherwise diverse interests to balance your life outside of work. You realize you are working just to work.*” (p. 13)**

**Myer, R.N. (2001). Asperger Syndrome Employment Handbook. Philadelphia, PA: Jessica Kingsley.**

# Work & ASD



**“As young persons, many of us didn’t learn that play has an intrinsic value in our lives” (p. 12).**

**Myer, R.N. (2001). Asperger Syndrome Employment Handbook. Philadelphia, PA: Jessica Kingsley.**

# Work & ASD



**“Like other non-AS working adults, we accept the fact that work is often unpleasant. We bitch and moan about it just like NT (neurotypical) folks. There’s one important difference: Somehow, they manage to break free of their ruminations and get on with their lives.” (p. 12)**

**Myer, R.N. (2001). Asperger Syndrome Employment Handbook. Philadelphia, PA: Jessica Kingsley.**

# Work and ASD



- **Beware of the “Cassandra Syndrome” ...Those at work not believing the professional documentation of your disability.**

Myer, R.N. (2001). Asperger Syndrome Employment Handbook. Philadelphia, PA: Jessica Kingsley.

# Work and ASD



**“Many employment counselors are not comfortable with the idea that persons with disabilities are entitled to equal consideration for competitive employment (real, market-rate work). Some of us may not be ready for that kind of work either, but ultimately that is our decision to make, not theirs.” (p. 39)**

**Myer, R.N. (2001). Asperger Syndrome Employment Handbook. Philadelphia, PA: Jessica Kingsley.**

# Work & ASD



- **“Buying Help”** regarding when and how to disclose and other work issues:
    - Professional Counselor, Employment Specialist, Job Coach, Job Developer, Vocational Rehabilitation Counselor
    - Voc Rehab has funds for training
    - Get training in how and when to disclose and other work related issues.
- Myer, R.N. (2001). Asperger Syndrome Employment Handbook. Philadelphia, PA: Jessica Kingsley.

# Work & ASD



- **“Buying Help”**: High school students over 16 can “buy help” through the federal school transition program due to the special education laws. Voc Rehab is mandated to be part of your transition team.
- “A transition plan is geared towards assuring your success as an independent adult.”(p. 50)

Myer, R.N. (2001). Asperger Syndrome Employment Handbook. Philadelphia, PA: Jessica Kingsley.



# Work & ASD

- **“Horse Trade”** skills and talents for accommodations not typically given to other employees.
- Go for the lowest tech accommodation
- Help employer lower their liability exposure and increase your productivity.

Myer, R.N. (2001). Asperger Syndrome Employment Handbook. Philadelphia, PA: Jessica Kingsley.



# Dr. Temple Grandin



- **Six things needed for a successful career transition:**

1. **Gradual transition from school to work**
2. **Work with supportive employers and teachers**
3. **Mentors**
4. **Educate employers and employees (your strengths and weaknesses)**
5. **Freelance**
6. **Make a skills portfolio**

**Grandin, T. (1996). Making the Transition from the World of School into the World of Work. Bloomington, IN: University of Indiana Resource Center for Autism. From Website: <http://www.iidc.indiana.edu/index.php?pageId=599>**

# Healthy Sexual Development



# 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)**

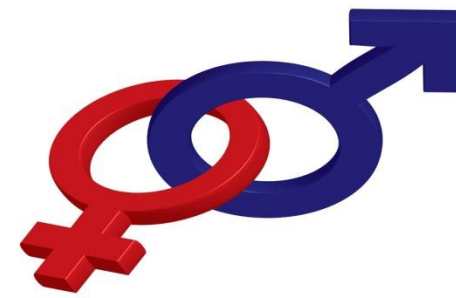
**Mukhopadhyay , T. R. (2011). The Mind Tree: A Miraculous Child Breaks the Silence of Autism. New York, NY: Arcade.**

# 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.

# “The Talk”

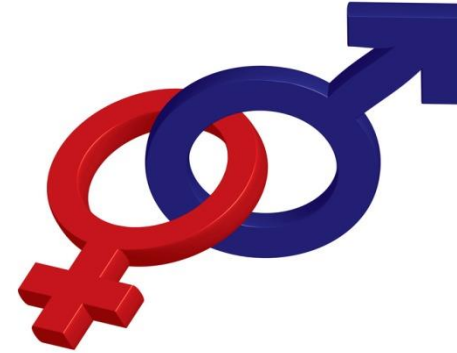


- **Watch for signs of interest in sex: signs of masturbation (usually begins in middle school); “the hidden Playboy”; “forbidden” websites, etc.**
- **Most public schools begin introducing sex education late in fifth grade and it is mostly plumbing and how to not catch STDs.**

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



# “The Talk”



- It is better to have the talk, “too early” than “too late.”
- Make sure you have it with you daughter prior to her first period.

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



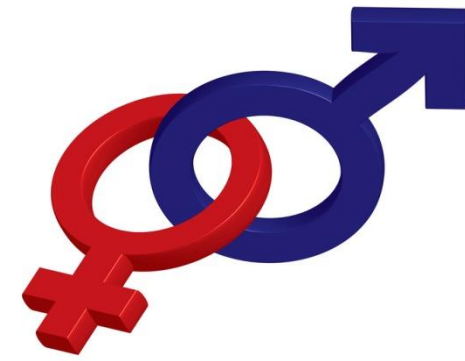
# “The Talk”



- Use the signs of interests in sex as an entre to discussing sexuality.
- Find a good time and place for the discussion.
- Begin by asking them what they know.
- Tell them its OK to know these things, that sexuality is not “dirty” and correct their misinformation and/or interpretations in a kind way.
- Discuss you family’s values/ethics/morals related to sexuality.
- Go through age appropriate sex ed literature with your child.

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

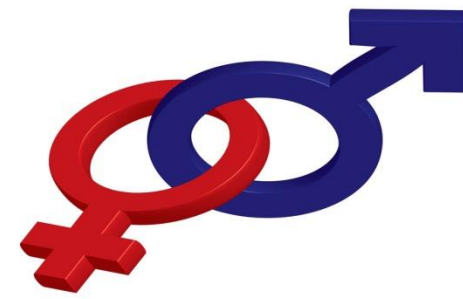
# “The Talk”



- **What to discuss during the talk:**
  - **Human anatomy with a diagram, discuss where it is appropriate to talk about sex, birth control, STDs and prevention, hygiene, responsibility, respecting wishes of partners, being left out, not using sex as a tool, “the talk” is not a one shot affair it is a process, warn them about “locker room bragging”, etc.**

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

# Dating & ASD



- **Parents must help their ASD children what most learn on their own.**
  - **Social gestures, Appropriate social risk taking, How to choose appropriate dates, What is an appropriate social activity, etc.**
- **If your ASD daughter has a boyfriend watch for exploitation.**

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

# 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.**

# Excellent Book On Sexuality and ASD

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



# 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.

# Excellent Book on Sexuality & ASD

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



# Sexuality and Disability: A Guide for Parents

- **Author (2009). Sexuality and Disability: A Guide for Parents. Alberta, British Columbia, Canada: Alberta Health Services, Sexual and Reproductive Health Education and Health Promotion, p. 1-21.**
  - [www.teachingsexualhealth.ca/media/pdf/Sexuality\\_Developmental\\_Disability.pdf](http://www.teachingsexualhealth.ca/media/pdf/Sexuality_Developmental_Disability.pdf)





# Flirting and Social Abilities



- "...a flirting plan is wired into us, and that it has been embedded in our genes and in our brain's operating system the same way and for the same reasons that every other sexual trait has been - by trial and error, with conservation of what works best." (Rodgers, 1999, p. 38)

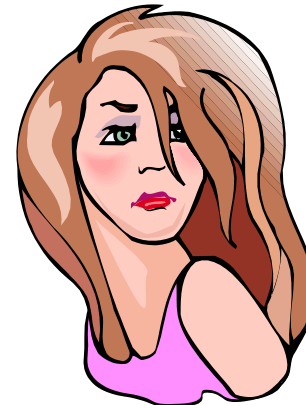
Rodgers, J.E. (February, 1999). Fascinating Flirting. Psychology Today, 32 (1), 36-41, 64-65, 67, 69-70

# Flirting and Social Abilities



- **“Enter creativity, humor and intelligence. Deployed in flirting they disclose more about an individual person than all the antlers do about leaching animals...They act as an honest signal that we’ve got a reasonably well put together nervous system.” (p. 70)**

Rodgers, J.E. (February, 1999). Fascinating Flirting. Psychology Today, 32 (1), 36-41, 64-65, 67, 69-70.

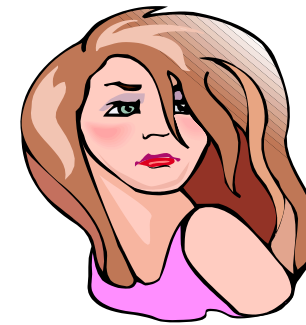


# Flirting and Social Abilities

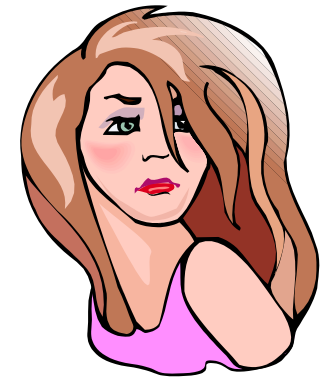


- **“The moment of attraction, in fact, mimics a kind of brain damage...In attraction, we don’t stop and think, we react, operating on a ‘gut’ feeling, with butterflies, giddiness, sweaty palms and flushed faces brought on by the reactivity of the emotional brain. We suspend intellect at least long enough to propel us to the next step in the mating game-flirtation.” (p.5)**

Ellison-Rogers, J. (January/February, 1999). Flirtation Fascination. Psychology Today, (Document ID: 575), From website: [www.psychologytoday.com/articles/index.php?term+pto19990101-000033&print=1](http://www.psychologytoday.com/articles/index.php?term+pto19990101-000033&print=1) .



# Flirting and Social Abilities



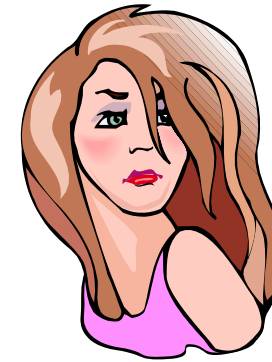
- **It takes about seven seconds to form a first opinion about another person. Most of this is done non-verbally.**

Nowicki, S. and Duke, M. (2002). Will I Ever Fit In? New York, NY: Free Press.

- **Mating and relationships would be almost impossible without facial expressions.**

Gladwell, M. (August 5, 2002). The Naked Face (Interview of Paul Ekman). The New Yorker, pp. 36-49.

# Flirting and Social Abilities



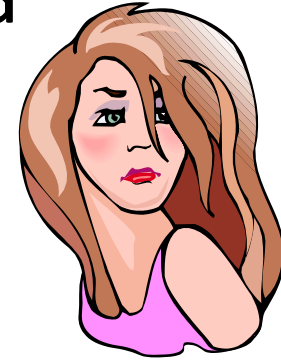
- **Attwood's (1998) story of the man with Asperger's Disorder in a singles bar.**
- **Cordoni stated you need the same behaviors to get a job as you need to get a date.**

**Attwood, T. (1998). Asperger's Syndrome: A Guide for Parents and Professionals. Philadelphia, PA: Jessica Kingsley.**

**Cordoni, B. (1987). Living With A Learning Disability. Carbondale, IL: Southern Illinois University Press.**

# How to Treat Flirting Difficulties

- Social Skills training by Mental Health Professionals and Speech-Language Pathologists
- Treat Neurosocial Comorbidities & lack of muscle tone
- Try an “Emotional Seeing Eye Dog” (Grandin, 1995)
- Address age appropriate dress and grooming.
- Take care of complexion, etc.
- **SIRC Guide to Flirting**



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

Grandin, T. (2006). Animals in Translation. New York, NY: Simon and Schuster.

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

Social Issues Research Centre (No date). SIRC Guide to Flirting, pages 1 to 16. [www.sirc.org/publik/flirt.html](http://www.sirc.org/publik/flirt.html).



# Nice Description of Human Flirting

**Brooks, D. (January 11, 2011). Social Animal: How The New Sciences of Human Nature Can Help Make Sense of a Life. New Yorker.**

- [http://newyorker.com/reporting/2011/01/17/110117fa\\_fact\\_brooks?printable=true](http://newyorker.com/reporting/2011/01/17/110117fa_fact_brooks?printable=true).

# Social Issues Research Centre (SIRC) Guide to Flirting

**“Flirting is a basic instinct, part of human nature. This is not surprising: if we did not initiate contact and express interest in members of the opposite sex, we would not progress to reproduction and the human species would become extinct. According to some evolutionary psychologists, flirting may even be the foundation of civilization as we know it. They argue that the large human brain – our superior intelligence, complex language, everything that distinguishes us from animals – is the equivalent to a peacock’s tail: a courtship device evolved to attract and retain sexual partners. Our achievements in everything from art to rocket science may be merely a side-effect of the essential ability to charm.”  
(Page 1 of 16)**



# Human Flirting Behavior

- **55% of first impressions come through appearance and body language.**
- **38% comes from your style of speaking, not the content of what you say.**
- **7% comes from the words you say**

Social Issues Research Centre (No date). SIRC Guide to Flirting, <http://www.sirc.ca/flirting.html>, pages 1 to 16.



# WHAT DOES THIS MEAN?



- **Work on appearance and body language first**
  - Age appropriate and stylish clothing and hair
  - Good hygiene and grooming
  - Cleaning up complexion (dermatologist, etc.)
  - Work on muscle tone (OT/PT/Personal Trainer, etc.)
  - Work on Body Language (Mental Health Professional and Speech-Language Pathologist)

# Digression: ASD and Appearance



- Those with Asperger's Disorder and High Functioning Autism have problems with Theory of Mind which can cause problems with receptive interpretation of non-verbal cues from others. It can also cause them problems in putting importance on their own non-verbal cues.

Klin, A., Volkmar, F.R. and Sparrow, S.S. (2000). Asperger Syndrome. New York, NY: Guilford.

# WHAT DOES THIS MEAN? (CONT.)

- **Work on speech second (Speech-Language Pathologist):**

**“Aim for moderation in volume and tone, with enough variation in pitch and pace to hold your companion's interest. Also remember that a rising or falling intonation, especially when accompanied by a drop in volume, is a 'turn-yielding cue', whereby speakers signal that they have finished what they are saying and are ready to listen to the other person. When you hear these vocal signals, your companion is probably indicating that it is your turn to speak. When your companion hears these signals, he or she may well assume that you are 'yielding' the floor.”**

**Social Issues Research Centre (No date). SIRC Guide to Flirting,  
<http://www.sirc.org/publik/flirt.html>,  
pages 1 to 16.**

# WHAT DOES THIS MEAN? (CONT.)

- Work on conversational content third (Speech-Language Pathologist and Parent) (**Practice, Practice, Practice!**):

**“The 'art' of verbal flirting is really just a matter of knowing the rules of conversation, the unwritten laws of etiquette governing talking and listening. The best and most enjoyable conversations may seem entirely spontaneous, but the people involved are still obeying rules. The difference is that they are following the rules automatically, without consciously trying, just as skilled, experienced drivers do not have to think about changing gears. But understanding how the rules of conversation work – like learning how and when to change gears – will help you to converse more fluently, and flirt more successfully.”**

Social Issues Research Centre (No date). SIRC Guide to Flirting,  
<http://www.sirc.org/publik/flirt.html>,

pages 1 to 16.

# Social Issues Research Centre (SIRC) Guide to Flirting (Continued)

**Social Issues Research Centre (No date). SIRC Guide to Flirting,  
<http://www.sirc.org/publik/flirt.html>,  
pages 1 to 16.**

**This offers an excellent scientific (& lay person friendly) description of human flirting behavior and can be used as a teaching tool.**

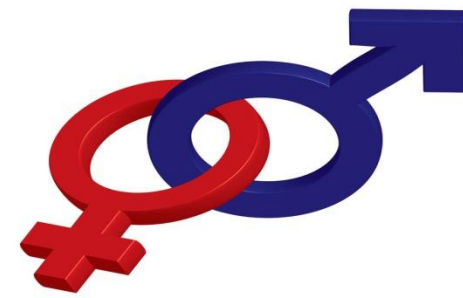
# What is a Date?



**“Going out with someone in an identified setting such as a restaurant, cinema, or cultural event with the intent of getting to know them better to see if you would be interested in developing a romantic relationship.” (p. 253)**

**Baker, J. (2005). Preparing for Life: The Complete Guide for Transitioning to Adulthood for those with Autism and Asperger’s Syndrome. Arlington, TX: Future Horizons.**

# Immaturity



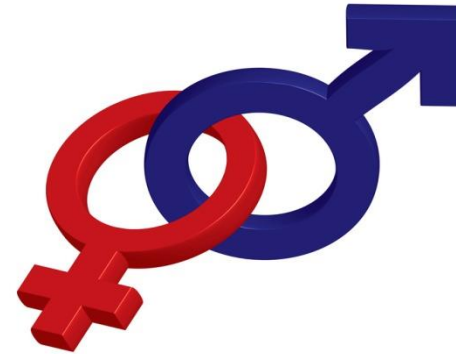
**Anne Ford wrote, “The most successful dates or boyfriend-girlfriend relationships I have seen in the LD community are between two adults with similar levels of disability who act more like best friends than lovers...When you find someone like that, other quirks and oddities of behavior don’t matter that much.” (p. 64-65)**

**Ford, A. (2007). On Their Own: Creating an Independent Future for Your Adult Child with Learning Disabilities and ADHD. New York, NY: New Market.**



# Where to Find a Date

- School & school social clubs
- Youth groups
- Places of worship and specialized clubs/groups sponsored by them
- Job training center
- Friends and family
- Internet
- Singles events
- Gym, library, dance clubs, parties, etc.



**Baker, J. (2005). Preparing for Life: The Complete Guide for Transitioning to Adulthood for those with Autism and Asperger's Syndrome. Arlington, TX: Future Horizons.**

# Rules for Internet Dating



- **Do not give out your home address or phone number.**
- **Always meet for the first time in a public place far from home (i.e., restaurant, coffee shop, etc.).**
- **Realize everything said on the internet is not true.**
- **Use a reputable internet dating service for added security.**

Ford, A. (2007). On Their Own: Creating an Independent Future for Your Adult Child with Learning Disabilities and ADHD. New York, NY: New Market.

# 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.**

# 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.**

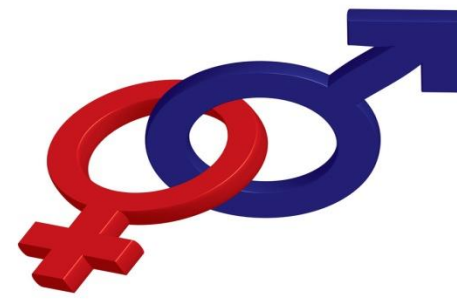


# Sexuality and ASD

- Kids with an “invisible disability” and an aid in a mainstream class are often seen as weird and shunned.
- The more the child is seen around the school without the aid the better.
- More restrictive environment can be a dumping ground: Conduct Disorder & Victim
- Without intensive social skills training in childhood the child will not be prepared for puberty.

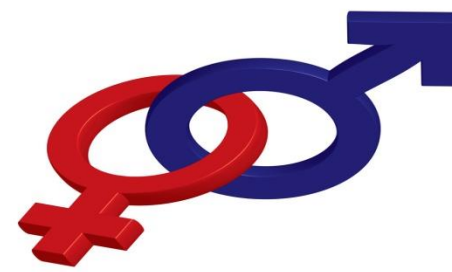
Newport, J., and Newport, M. (2002). Autism-Asperger's & Sexuality: Puberty and Beyond. Arlington, TX: Future Horizons.

# Sexuality and ASD



- Have your kid assigned a “**social helper student**”:
  - The child with excellent social skills in your class, who is a “good citizen” and good student.
  - Train the helper student in how to be a helper student.

Thompson, S. (1996). Neurobehavioral Characteristics Seen in the Classroom: Developing an Educational Plan for the Student with NLD. From NLD on the Web:  
[www.nldontheweb.org/thompson-5.htm](http://www.nldontheweb.org/thompson-5.htm) .

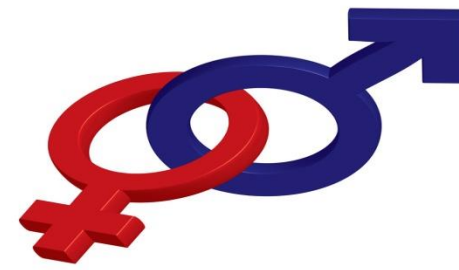


# Sexuality and ASD

**“An associate is someone who helps you perform an activity. This is someone you can trust long enough to complete that activity...Many autistic adults who find partners report those partners entered their life as trusted associates, people who could be relied on to share necessary or even enjoyable activities. “(p. 26-27)**

- **The person with ASD should be taught that just because someone is a trusted associate does not make them a potential date!**

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



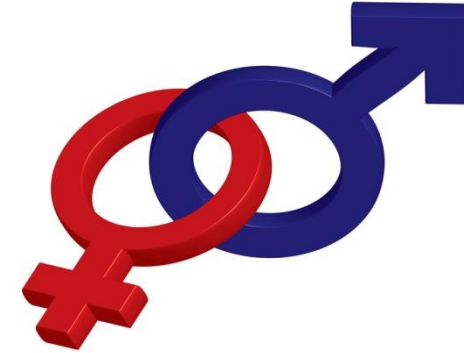
# Sexuality and ASD

- **Often the ASD child and adolescent does not have any friends, however, forcing them to interact socially may cause more harm than good.**
- **Get them involved in after school activities, clubs etc. they might be interested in and they will find others interested in the same things.**
- **Encouraging them when they start to show interest in someone.**

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



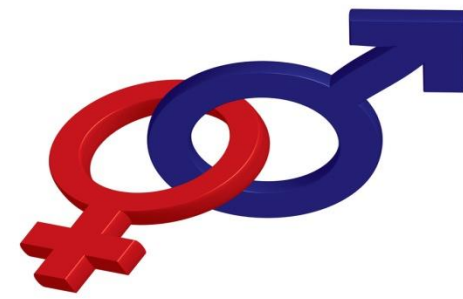
# ASD and Sexuality



- **Sports, PE (adaptive/or not), aerobic exercise, working with a fitness instructor etc. can help with appearance, confidence and fitness if done in a way that meets the child's/teen's needs.**

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

# Examples of “The Rules”



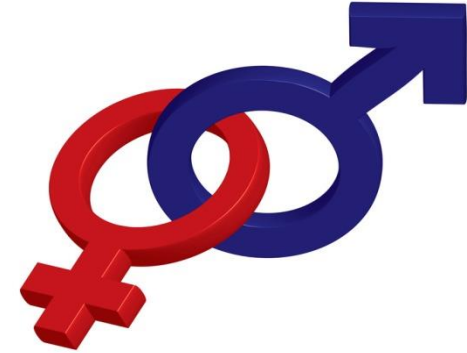
- If someone says “no” to going on a date with you three times (with more than one week between invitations) the person is ‘saying nicely’, “no I do not want to go out with you.” Don’t ask them again.
- Don’t expect physical contact on the first several dates. Maybe hold hands on second date, kiss at door good night.
- Don’t ask him in on the first several dates.



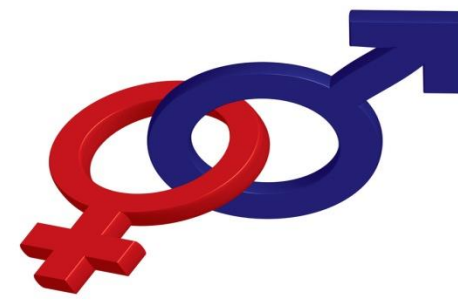
# Ask Questions

- **“Be friendly and engaging”- Ask open ended questions about them (teach this)**
- **Teach them how to respond to questions about themselves. Short, truthful, etc.**
- **Remember the best pick up line is, “Hi my name is...”**

# Be Mannerly



- Use proper table educate.
- Don't eat too fast or too slow.
- Choose activities and food your date and you would probably like.
- Avoid your “special topic”. Try to show interest in their special topic.
- The pace for all this is **SLOW!!!**

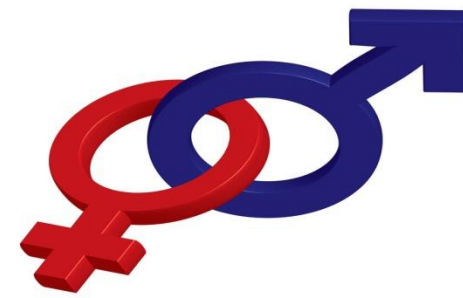


# Touching

- The first touch should be on the forearm/back of shoulder (typically non-threatening).
- If not rejected later touch hand.
- Later hold hand...
- If they say, “NO” then NO means NO!

Social Issues Research Centre (No date). SIRC Guide to Flirting,  
<http://www.sirc.org/publik/flirt.html>,  
pages 1 to 16.

# 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

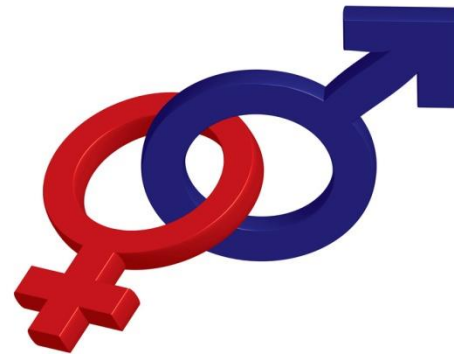
- **Registered nurse anesthetist & aviation photojournalist**

**“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.**

# Sex Therapists and Educators

- **American Association of Sexuality Educators and Therapists:**  
[www.aasect.org](http://www.aasect.org)
  - There are professionals in this organization that work with those with disabilities.





# Supplemental Information



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# Income Supports

- **Those with disabilities can receive financial support by two programs administered by The Social Security Administration:**
  - Supplemental Security Income (SSI)
  - Social Security Disability Insurance
  - [www.ssa.gov/pgm/disability.htm](http://www.ssa.gov/pgm/disability.htm)

# Supplemental Security Income

**“SSI benefits may be paid to persons who have a documented disability and who have little or no income. SSI provides cash to meet the basic needs of food, clothing and shelter.” (p. 36)**

**Baker, J. (2005). Preparing for Life: The Complete Guide for Transitioning to Adulthood for those with Autism and Asperger’s Syndrome. Arlington, TX: Future Horizons.**

# Social Security Disability Insurance

**“SSDI is an income assistance program that provides cash payments to individuals who have a disability. To be eligible, a person must have worked and paid taxes for five years, or be the adult child of a person who has worked and paid taxes.” (p. 36)**

**Baker, J. (2005). Preparing for Life: The Complete Guide for Transitioning to Adulthood for those with Autism and Asperger’s Syndrome. Arlington, TX: Future Horizons.**

# Housing



- **Pacer Centers Housing Project:**
  - **Helps young people understand their housing options**
  - **Helps parents and guardians consider children's housing options in high school**
  - **Information and referral, services and supports**
  - **State and Federal resources**
  - **[www.pacer.org/housing/](http://www.pacer.org/housing/)**

# Independent Living

- **National Center on Independent Living: [www.ncil.org/](http://www.ncil.org/)**
  - **“...NCIL was founded to embody the values of disability culture and Independent Living philosophy, which creates a new social paradigm and emphasizes that people with disabilities are the best experts on their own needs, that they have crucial and valuable perspective to contribute to society, and are deserving of equal opportunity to decide how to live, work, and take part in their communities”.**

Author (No Date). Vision. Washington: DC: National Center on Independent Living. From website: <http://www.ncil.org/about.html>.

# Developmental Disabilities Act

- **The Developmental Disabilities Assistance and Bill of Rights Act of 2000**
- **PUBLIC LAW 106-402--October 30, 2000  
114 STAT. 1677**

# Developmental Disabilities

- **Unites States Department of Health and Human Services, Administration for Children and Families, Administration on Developmental Disabilities:**  
[www.acf.hhs.gov/programs/add/](http://www.acf.hhs.gov/programs/add/).
- **Mission Statement:** The Administration on Developmental Disabilities ensures that individuals with developmental disabilities and their families participate in the design of and have access to culturally-competent needed community services, individualized supports, and other forms of assistance that promote self-determination, independence, productivity, and integration and inclusion in all facets of community life.

Author (No Date). ADD Mission. Washington, DC: Administration on DD:  
<http://www.acf.hhs.gov/programs/add/addaboutmission.html>.