High-Functioning Autism: Proven & Practical Interventions for Challenging Behaviors in Children, Adolescents & Young Adults

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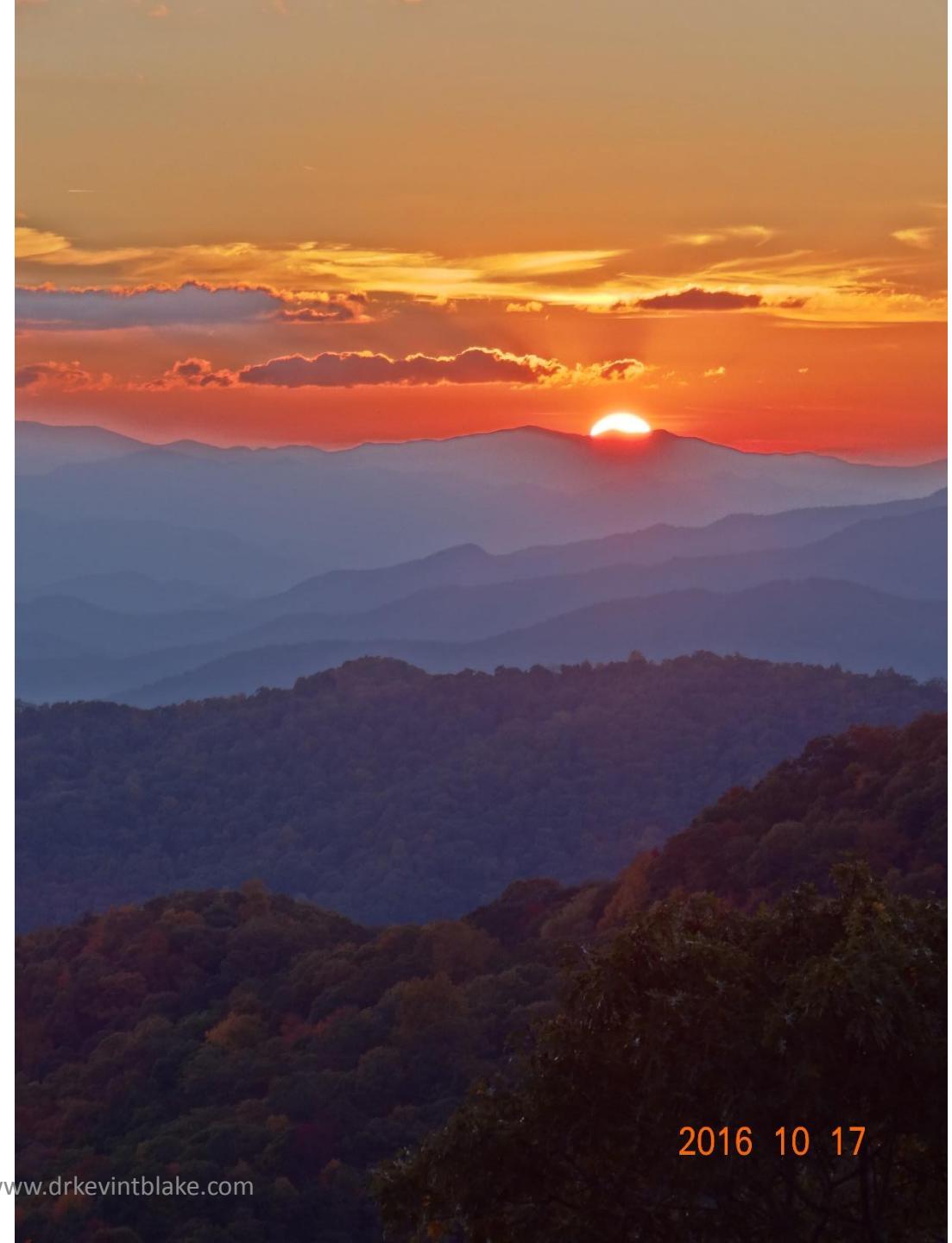
Announcements, Disclosures and Paperwork



Disclaimer

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

Disclaimer

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

Disclaimer

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

Disclaimer

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Baseline

Autism Spectrum Disorder is NOT New!

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

--Centers for Disease Control and Prevention. Autism Information Center. http://www.cdc.gov/ncbddd/autism/overview.htm#is

- **Henry Cavendish-Scientist (1731-1810) Asperger's Disorder?**

--Sacks (October 9, 2001).

- **Currently 1 in 59 children have ASD.**
- **Four times more males than females.**
- **Average prevalence between 1 and 2 percent in Asia, Europe & North America.**

--National Center on Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention (September 3, 2019).

What does ***NEUROBIOLOGICAL*** mean?

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

Durand, M.V. (2014).

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

***Ozonoff, et al. (2002); Kaiser, M.D., et al. (November 15, 2010).**

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).

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

--Durand, M.V. (2014)

- There are 239 likely candidate genes for autism.

--Issifove, I. et al. (October 13, 2015).

- Of the 200 + genes related to autism about 70 are directly related to brain development
- The remainder are related to,"…psychiatric disorders and peripheral comorbidities that include cancer, cardiovascular disease, renal disorders, respiratory disorders and metabolic disorders, demonstrating a broader impact of brain-associated genes in other developing organ systems. Some of these may be related to random errors of metabolism and/or mutations in mitochondrial DNA as well as unusual gut microbiomes that can negatively effect the brain.

--Stevenson, J.A. et al. (October 20, 2015).

Autism & Genetics

- 40% to 70% of ASD population has significant GI problems

  --Buie, T., et al. (November 7, 2014).

- About 7% of those with ASD have mitochondrial disease

  --Korson, M., et al. (November 7, 2014).

- Recently scientists have discovered through brain imagery the brain has a lymphatic system. This caused the scientists to postulate that this may indicate disorders like autism have some link to inflammation.

  --Louveau, A., et al. (June 1, 2015).

- Heritability between 60 and 70%
- <10% of cases caused by Fragile X, Tuberous Sclerosis, etc.

--Volkmar et al. (2017).

- 30 to 61% of those with ASD will have comorbid AD/HD

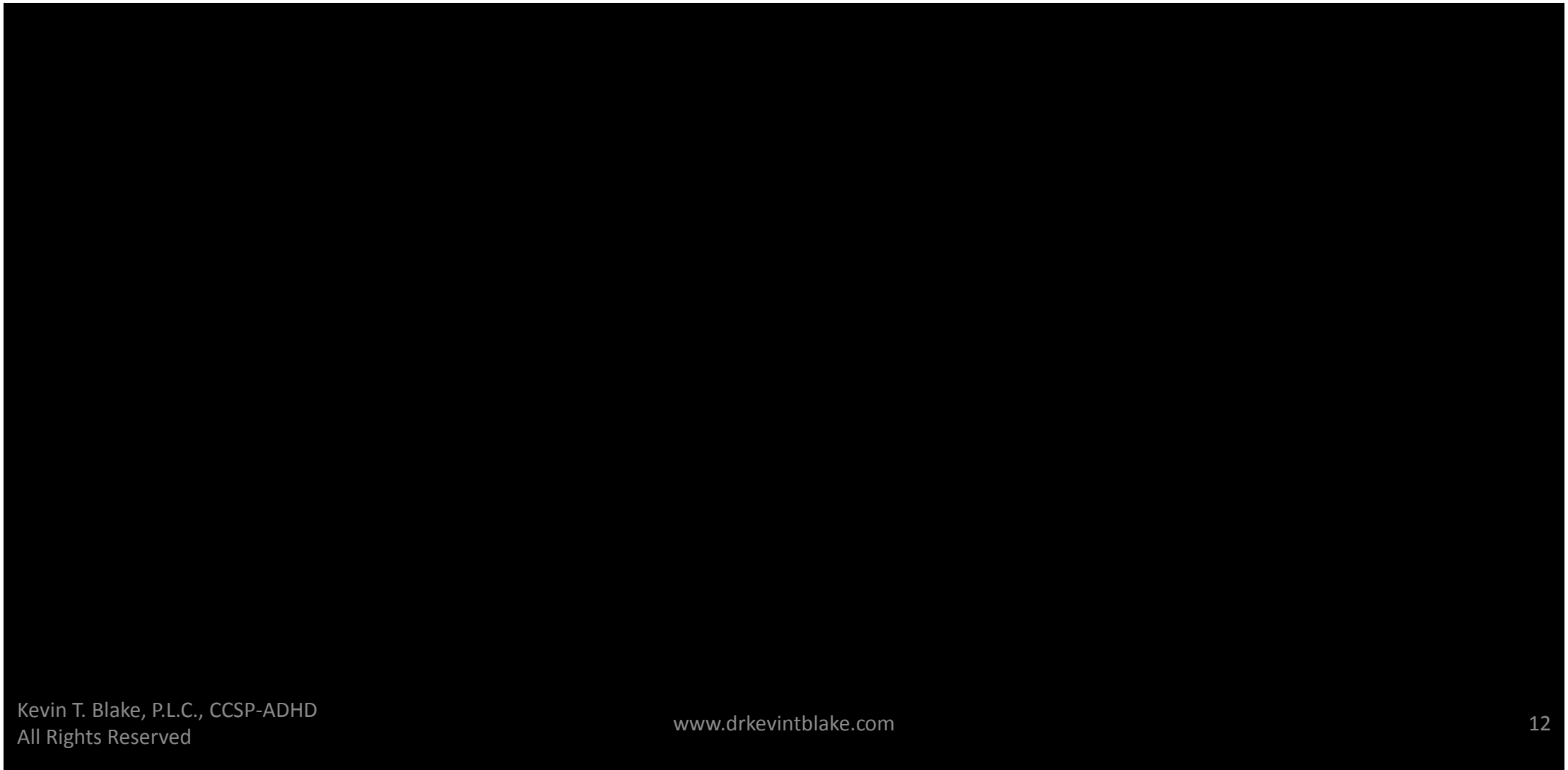
--Autism Speaks (No Date).

- 14% of those with AD/HD have comorbid ASD

--National Center on Birth Defects and Developmental Disabilities (October 15, 2019).

Genetic Testing

https://youtu.be/pY6yY6r3_EU



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).
- Overall Bain Size Larger.

Ecker, C., (February 8, 2012); Durand, M.V. (2014); Volkmar (2017).

- 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.
- Estimates are 38% of those with ASD have intellectual disabilities.

--Durand, M.V. (2014).

- 41% have an IQ>85

--Baio et al. (April 17, 2018).

Keep in Mind

- **"We observed that despite almost a third of our FXS sample meeting criteria for autism, the profile of brain volume differences for children with FXS and autism differed from those with idiopathic autism. These findings underscore the importance of addressing heterogeneity in studies of autistic behavior" (Cody-Hazlet, March 5, 2009).**
- **"Abnormalities in functional connectivity are most evident in younger children and adolescents, with decreasing abnormality with the age of the individual into early adulthood. Functional connectivity abnormalities are correlated with disease severity in multiple studies and may allow sensitive and specific classification of autism" (Anderson, 2014).**

Plasticity and It's Limits

"One study examined the structure of the brain in a group of subjects before and after a three-month course in juggling. What the scientists found was that an area in the occipital lobe specializing in the perception of motion grew over this period, but three months after training stopped it had shrunk again, and lost roughly half the increase previously induced by training".

--Klingberg, 2009

"In order to have a chance of repair, a certain (as yet unknown) number of neurons must remain intact. Thus, if a highly specialized brain 'circuit' is completely destroyed, the associated mental function may be lost. Currently there is no way of determining with certainty whether a lost function can be recovered".

--Hammond, June 6, 2016

Teco, The Autistic Bonobo Toddler

- Bonobo social brain closer to humans than chimps.
- 18 month old bonobo, Teco, male is autistic.
- Has repetitive movements
- Strict adherence to routines, or gets agitated
- Repetitive behaviors
- Likes objects, not bonobos
- Likes parts of objects
- No joint attention
- Avoids eye contact
- At two months nursing difficulties

--Deweert, S. (April 15, 2011).

- Transgenic macaques show autistic symptoms.

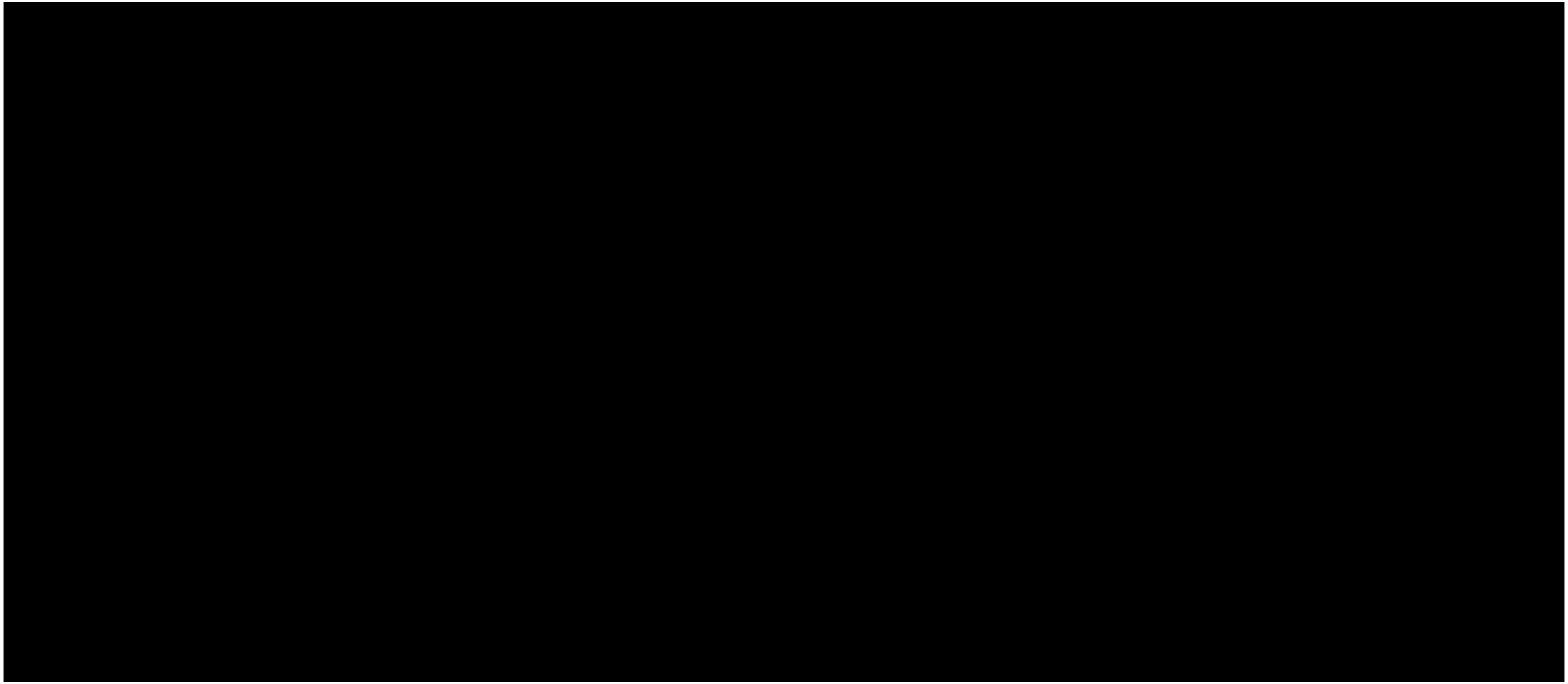
--Liu, Z. et al. (February 4, 2016).

- Some Bull Terriers may have tail chasing behaviors connected to autism-like difference.

--I Tsilioni et al. (October, 14, 2014).

Bonobo Vs. Chimpanzee

https://youtu.be/6esyaqOvcEY



ASD's Central Difficulty

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

--White, S.W. et al. (2013).

The Dismal Five

Diagnostic Criteria

Dismal Five	ICD-10	ICD-11	NIH-RDoC
Autism Spectrum Disorder	Autistic Disorder	Autism Spectrum Disorder w/or w/o	Autism Spectrum Disorder
Social & Restrictive/Repetitive Behavior	Asperger's Syndrome PDD PDD, Unspecified Rett's Syndrome Other, C.H. Disintegrative Other, PDD	Intellectual and/or Functional Language	Positive and Negative Consequences; Common Etiologies and Neural Abnormalities; Genetics; Heterogeneity; etc.
Severity Levels: 1,<2,<3	Pervasive Developmental Disorder	Pervasive Developmental Delay	Commonalities with Other Disorders
Neurodevelopmental Disorder	Social, Communication, Repetitive Behavior	Neurodevelopmental Disorder	Common Treatments with Other Disorders

Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (2013).
International Classification of Diseases and Related Health Problems (1992).
International Classification of Diseases and Related Health Problems (May 25, 2019).
Insel (March 6, 2012).
Foss-Feig et al. (February 27, 2017).

Which One Should I Use?

- **Standard of treatment is the Dismal, but the ICD-10 can be used, too.**
- **If someone does not fit the Dismal they may fit in ICD-10.**
- **IDEA and IEP will accept both.**
  - **Make such plans as detailed and specific as possible.**

--Daily (2018).

IEP

- Child should be, if at all possible, present at IEP and be allowed to ask questions.
  - The process should be explained to them in simple terms.
  - Ask them what they think (age and ability appropriate).
  - If they want to leave they can. Make sure a parent/guardian is with them.
  - Remember, there are no IEPs and IDEA for adult life.
    - If they are to be on their own they will have to know about their disability, how to explain it succinctly, in easily understood language, with confidence, and they will have to be able to ask for reasonable accommodations. Or, they will have to be able to do this with the help of an advocate.

How and When to Tell Child Diagnosis?

- **Most children know they are "different":**
  - **They know they see "special" doctors and get "special treatment".**
  - **Telling them when they are to young can lead to confusion.**
  - **Telling them when they are too old they will be sensitive to being "different".**
  - **It depends on the individual and their ability.**
  - **Set a family tone of everyone in the family is special with strengths and weaknesses.**
- **Opening : They ask, "What's wrong with me?"**
  - **You can start the process there. Be careful if they have several diagnoses; don't overwhelm them.**
  - **Don't give them too much information at one time; think of the "Birds and Bees" discussion.**
  - **Read books to them and watch videos about autism.**
  - **Have them meet others on the spectrum. "I am not the only one!"**

How and When to Tell Child Diagnosis?

- Enlist the help of school counselor, pediatrician, etc.
- Tell them about successful people on the spectrum (Temple Grandin, Ph.D., etc.).

--Wheeler (2003).

- Dura-Vila, G. and Levi, T. (2013). My Autism Book: A Child's Guide to Their Autism Spectrum Diagnosis. Philadelphia, PA: Jessica Kingsley. (Ages 5-9)
- Grandin, T. (2014). The Way I See It: A Personal Look at Autism & Asperger's. Arlington, TX: Future Horizons.

Animated Explanation of Autism

https://youtu.be/6fy7gUIp8Ms

Social (Pragmatic) Communication Disorder (SCD)

- "In sum, although SCD is a new, untested entity, clinicians and investigators can learn much from existing literature on pragmatic language impairment and other neurodevelopmental pragmatic impairments." (Swineford, 2014).
- SCD involves social communication difficulties, but not restricted and/or repetitive behaviors seen in ASD.
- Must rule out Autism to get diagnosis. (Paul et al., August 3, 2015)
- Some have said this is "Nonvebal Learning Disorder". (Topal et al. August 13, 2018); (Volden, 2002); (Rourke, 1995)
- Assessment: Hearing, Speech and Language, Neuropsych, Medical. ASHA (No Date)

Communication & Language

- All on the spectrum need speech language therapy:
  - Need social pragmatic skills
  - Nonverbals: Picture Exchange Communication System (PEC)
- Gaining Child's Attention:
  - Reduce distraction
  - Connect with child; one arm length away; eye level at 45 degrees
- Talk softly.
- Give them 30 seconds to respond.
- Don't repeat what you said.
- Give visual prompt, gesture; possibly show them a facial expression (i.e., sad).
- Give them one idea at a time.
- You must have an emotional bond with them.

--Daily (2018).

What a Multidisciplinary Clinic for ASD Needs

- Speech-Language Therapy
- Occupational Therapy
- Physical Therapy
- Ear, Nose, and Throat Doctor
- Gastroenterology
- Neurology
- General Medicine
- Psychiatry/Psychology
- Etc.

Bauman, M., et al. (November 7, 2014).

Comorbidity

ASD and Comorbidity

- **Epilepsy: Up to 46%; 22% develop after age 10; General Population 1.2%**

--Volkmar et al. (2019). CDC (January 25, 2019).

- **Anxiety Disorders: 50 to 80%; 42%; General Population: 6-10%.**

--Durand, M. (2014); Autism Speaks (No Date); CDC (April 19, 2019).

- **Obsessive Compulsive Disorder: 17.4% ; General Population: 1.2%**

--Postorino eta al. (October 30, 2018); National Institute of Mental Health (a) (November 2017).

- **Depressive Disorders: 25-34%; 7 to 26%; General Population: 2-6%**

--Durand, M. (2014); Autism Speaks (No Date); CDC (April 19, 2019).

- **Bipolar Disorder: 6 to 21.4%; General Population: 4.4%**

--Autism Speaks (2017); National Center of Mental Health (b) (November, 2017).

- **Schizophrenia: 1.5%; General Population: General Population: 0.25 to 0.64%**

--Baio (March 28, 2014); National Institute of Mental Health (May, 2018).

- **Sleep Disorders: 50 to 80%; General Population: 19 to 30%**

--Durand, M. (2014); Devnani et al. (October/November, 2015); Calhoun et al. (January, 2015).

Comorbidity: ASD & AD/HD

- General Population 6.1%
- 26% of Children with PDD-NOS, or ASD have comorbid Combined Type AD/HD
- 33% of Children with PDD-NOS, or ASD have comorbid Inattentive AD/HD
- 59% of Children with PDD-NOS, or ASD have some type of AD/HD

--Centers for Disease Control and Prevention (October 15, 2019); Sam Goldstein and Jack A. Naglieri (2011).

- British population study of AD/HD+ASD adults
- The higher the inattention scores the more social and communication difficulties.
- Conclusion: AD/HD and ASD may have "somewhat" common etiology.

--Panagiotidi, M., et al. (August 11, 2017).

Comorbidity

- **Specific Learning Disorder/Dyslexia: 6 to 30%; General Population: 17 to 20%**

  --Hendern et al. (March 27, 2018); Lyon (1998).

- **Hyperlexia: 9 to 20%**

  --Ostrolenk et al. (August 2017)

- **Developmental Coordination Disorder: 25%; General Population: 1.8%**

--Kopp et al. (March/April, 2010); Lingam et al. (April, 2009).

- **Tic Disorders: 22%; General Population: 2.99%**

--Cantitano et al. (January 2007);Knight (August, 2012).

- **Tourette's Disorder: 35%; General Population: 0.06%**

  --Centers for Disease Control and Prevention (July 18, 2019).

Comorbidity

- Gastrointestinal Problems: 42%; ASD 3X > General Population

--Durand, M. (2014); Chaidez et al. (May, 2015).

  - Microbione: 22.7%

    --Nikolov et al. (2009).

  - Constipation problems: 15%; General Population: 3.5%
  - Diarrhea: 13%: General Population: 1.6%
  - Gastroesophageal Reflux Disease (GERD): 2.9%; General Population: 0.3%

    -- Chaidez, et al. (May 1, 2015).

- Mitochondrial Disease: 5.0 to 30%; In General Population: < .01%

  --Cheng et al. (February 21, 2017)

- Eating Problems: 36%

--Romero et al. (2016).

  - Food Sensitivities: 31%; General Population: 4.5%

    --Chaidez, V. et al. (May 1, 2015).

  - Overeating/Obesity: 32%; General Population 23%

    --Autism Speaks (No Date)

  - PICA: 23.2%; General Population: 3.6%

    --Fields et al. (May, 2019)

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.**
  - **Cognitive Behavioral Treatment may help.**

--Durand (2014); Nadeau, J. M., et al. (September 20, 2014).

- **"…sleep allows us to process and retain new memories and skills." (p. 58)**
- **Deprive sleep/block training improvement in skill**
- **"Evidence for sleep's effect on declarative memory is much weaker than its effect on procedural memory." (p. 59)**
- **Good sleep creates better procedural memory.**
- **Sleep Hygiene, Sleep Clinic, Sleep Study**

--Stickgold (2005); Winerman, (January, 2006); Schonauer (January 2014).

ASD Comorbidity Assessments

- Achenbach System of Empirically Based Assessment (https://aseba.org/) (ages 1.5 through adult)
- Behavior Assessment of Children, Second Edition/Third Edition (Reynolds et al, 2004)
- Autism Comorbidity Interview, Present and Lifetime Version (Leyfer et al., 2006)

- Good References:
  - Deprey, L. et al. (2009). Assessment of Comorbid Psychiatric Conditions in Autism Spectrum Disorders. In S. Goldstein et al. (eds.). Assessment of Autism Spectrum Disorders. New York, NY: Guilford.
- Goldstein et al. (2009) Assessment of Autism Spectrum Disorders. New York, NY: Guilford.

Therapies for Autism

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 o 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)

Applied Behavioral Analysis

- **"ABA is considered an evidence-based 'best' practice treatment by the US Surgeon General and by the American Psychological Association. "Evidence based" means that ABA has passed scientific tests of its usefulness, quality, and effectiveness" (Bing et al., May 2012).**
- **"Association for Behavior Analysis International Endorses Torture" (Autistic Self Advocacy Network, May 23, 2019).**

Applied Behavioral Analysis

- **40 year of research has shown these techniques are effective with those with intellectual disabilities and autism spectrum disorders.**
- **Many professional organizations and state governments have endorsed the use of these techniques with such individuals.**

--Hagopian, L.P. (August 27, 2010)

Temple Grandin, Ph.D. On ASD & Therapy

"Both research and practical experience show that an intensive early education program, in which a young child receives a minimum of twenty hours a week of instruction from a skilled teacher, greatly improves prognosis…ABA (Applied Behavioral Analysis) programs using discrete trial training have the best scientific documentation backing up their use, but other programs, such as the Denver Early Start Program, have been validated in a randomized trial.

The autism spectrum is vast and diversified. Children have different ways of thinking and processing information, and it is important that an intervention method be aligned with the child's learning profile and personality."

--Grandin, 2014, p. 1

More About ABA

- ABA research and practitioners recommend 25 to 45 hours per week of therapy for ASD child for 1 to 3 years then tapering.
- Treatment is based on persons abilities and skills and may include the following:
  - Communication and language; Social skills; Self-care (such as showering and toileting); Play and leisure; Motor skills; Learning and academic skills.
- Masters/Doctoral degree in ABA
  - Some states have certification
- Insurance MAY help pay for it…
- Behavioral Analysis Certification Board: https://www.bacb.com/

Autism Speaks (No Date). Applied Behavioral Analysis (ABA)

Denver Early Start Program (ESDM)

- Developed out of ABA
- For children 12 to 18 months old
- Parents and therapists use play to develop good relationships and boost cognitive skills, communication and social interactions.
- Parent involvement is key to success of program.
- Based on understanding of normal toddler learning and development; Focused on building positive relationships; Teaching occurs during natural play and everyday activities; Uses play to encourage interaction and communication.
- A variety of Mental Health and Medical Professionals can be trained in this.
- These is specific training and certification in this model available through:

Early Start Denver Model: https://www.esdm.co/become-certified

--Autism Speaks (No Date). Denver Early Start Program (ESDM)

Treatment and Education of Autistic and Related Communication Handicapped Children Program (TEACCH)

- Developed for children with ASD to use their strengths in visual spatial processing to help them with their weaknesses in communication, executive function and attention.
- Provides external support for executive function and attention.
- Provides written and visual stimuli to support communication.
- Provides structured support for social communication.
- Classroom support in:
  - Organization of physical environment.
  - Schedules (individualized)
  - Activity support systems
  - Visual structure of tasks and activities.
  - Can be used with other therapeutic modalities.
- TEACCH Training and Certification: https://teacch.com/

--Autism Speaks (No Date). TEACCH

DIR Floortime

- DIR = "(D)evelopmental", (I)ndividual (differences), (R)elationship (-based human development model)
- DIRFloortime = "A warm and intimate way of relating to a person. A Floortime approach involves engaging, respecting, and attuning to the person while encouraging the person to elaborate his/her ideas through gestures, words, and pretend play."
- Floortime = Six to eight 20 minute sessions per day with child doing the above.

https://www.icdl.com/dir/terms

- Significant gains in social interaction skills, initiation of joint attention, and communication. Skill of caregiver + intervention caused significant improvement in children's interactions.

--Casenhieser et al. (September 16, 2011)

Social Thinking

- **What is it? "..how we think about our own and other's minds" (p. 2).**
- **What it teaches? "…the ability to adapt our social behavior around others according to the situation, what we know about the people in that situation, and what our own needs are"(p. 2)**

Garcia Winner et al. (2011).

- **Teaches the ability to know what is going on in your mind, and theory of mind (TOM), and given that how to act accordingly. Teaching pragmatic thinking…**

--Nowell et al. (July 2019); Baker-Ericzén et al. (October 14, 2017); Garcia Winner et al. (2009)

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.**
- **If you don't use eye contact others will emotionally leave you.**
- **Use media to disconnect sound from faces.**

--Garcia Winner, M. et al. (2011).

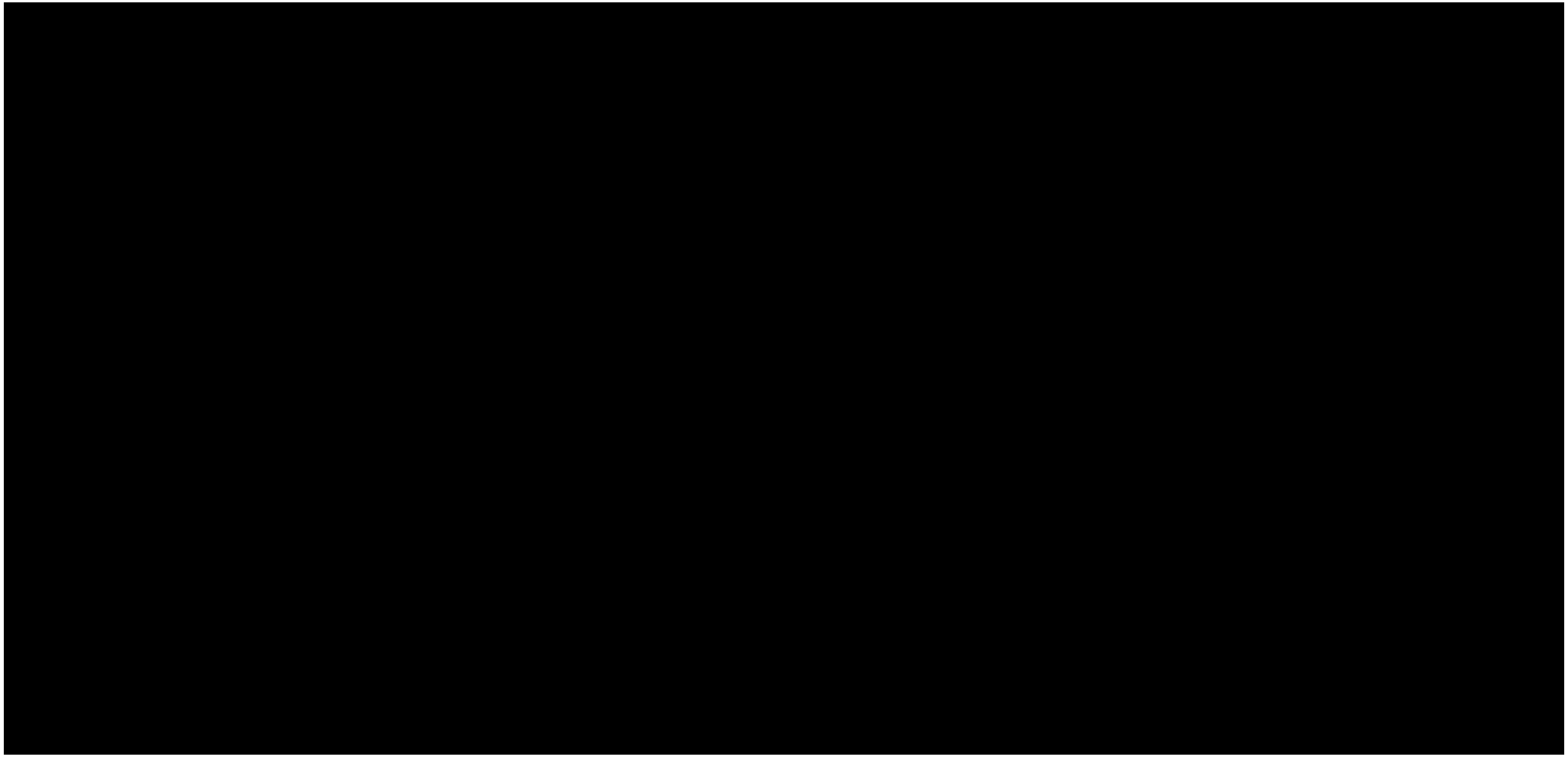
Four Steps of Communication

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 et al. (2011).

Autism Speaks DIY: Communicator Cards

https://youtu.be/YmHTYEwz1rU



Social Stories

"Social Stories are a social learning tool that supports the safe and meaningful exchange of information between parents, professionals, and people with autism of all ages. The people who develop Social Stories are referred to as Authors, and they work on behalf of a child, adolescent, or adult with autism, the Audience."

--Gray, 2020.

- **A 2018 literature review found the following:**
  - **4 studies were found to have very significant results.**
  - **Many studies had confusing results.**
  - **The multitude of different "stories" made it difficult to determine what was causing effects.**
  - **Determined that Social Stories can have good impact on ASD socialization, but more research is needed.**

--Karal et al. (2018).

With All of the Above Keep in Mind

- For most with ASD their "primary language" is visual.
  - Act don't yak!
  - Use pictures more
- They process the individual pieces, but not the Gestalt. Must take them through tasks step by step.

--Daily (2018).

- Use a soft voice
- Give time for processing (3 minutes…)
- One idea at a time
- Ask once, then prompting gesture (visual) if no immediate response.

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)**

--Semrud-Clikeman, M. (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 (2007).

Social Competence and Health

- **"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, M. (2007).

Social Skills Training Parent and Child

- **"When I said something rude about the appearance of a lady at a store, Mother instantly corrected me and explained that commenting on how fat the person is was rude. I had to learn the concept of "rude behavior" by being corrected every time I did a rude behavior. Behavior has to be taught one *specific* example at a time" (Grandin, 2014, p. 175).**

- **Therapy dog team trainers talk about how the dog picks up on the handlers bad habits and mirrors them.**
- **When a therapy dog barks at another dog while working (a bad thing) 99% of the time to dog is picking up on the handler's anxiety. The dog doesn't know why the handler is anxious. The handler feels anxious because they are afraid their dog will bark.**
- **Hence, changing the handler's behavior will change the dog's.**

Social Skills Training Parent and Child

- **Parents are often the same way with their children:**
  - **If the child thinks the parent is anxious they will get anxious.**
  - **Hence, several of the above therapy techniques involve the parents being in training groups with the child.**
  - **This accomplishes several things:**
  1. **The parent learns ways of controlling their behaviors that will help their child.**
  1. **The parent can learn how their child experiences the world and how they can help them.**
  2. **The parent can see the child improve and develop hope, which the child can sense.**
  3. **The parent can report problems from the real world that the professionals can help with.**
  4. **The parent can provide another 10 to 20 hours of training to the child in it's natural environment which can help with generalization.**

--Daily (2018).

Social Skills Training Parent and Child

5. **By the child being involved in groups with parents and children (on the spectrum) the child can start to learn to interact with others and for the behavior of others.**

ASD Social Skills Suggestions

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

--Attwood, T. (1998).

Social Skills for ASD Child

- Generalization is always a problem:
  - Preschool: Don't bother
  - Elementary: A bit better
  - High School: Better
- The child will need pull out programs in school, but least restrictive environment so can be around neurotypical children is a must.

–Daily (2018)

- Program for the Education and Enrichment of Relational Skills (PEERS): https://childrensautismcenter.org/uploads/page/PEERS_for_Adolescents.pdf

- PEERS Program For Adolescence:
  - "..14-week evidence-based social skills intervention for motivated adolescents in middle school or high school who are interested in learning ways to help them make and keep friends. During each group session adolescents are taught important social skills and are given the opportunity to practice these skills in session during socialization activities (e.g. playing sports, board games, etc.). Parents are taught how to assist their teens in making and keeping friends by providing feedback through coaching during weekly socialization homework assignments".

PEERS Program For Preschoolers
PEERS Program for Young Adults

- **PEERS for Preschoolers: Ages 4 to 6**
- **PEERS for Young Adults: Ages 18-35**
- **Includes romantic relationships/dating**
- **Must bring a "Peer Mentor", parent, etc.**
- **UCLA PEERS® Clinic: https://www.semel.ucla.edu/peers/resources/role-play-videos**
- **Great Videos There!**

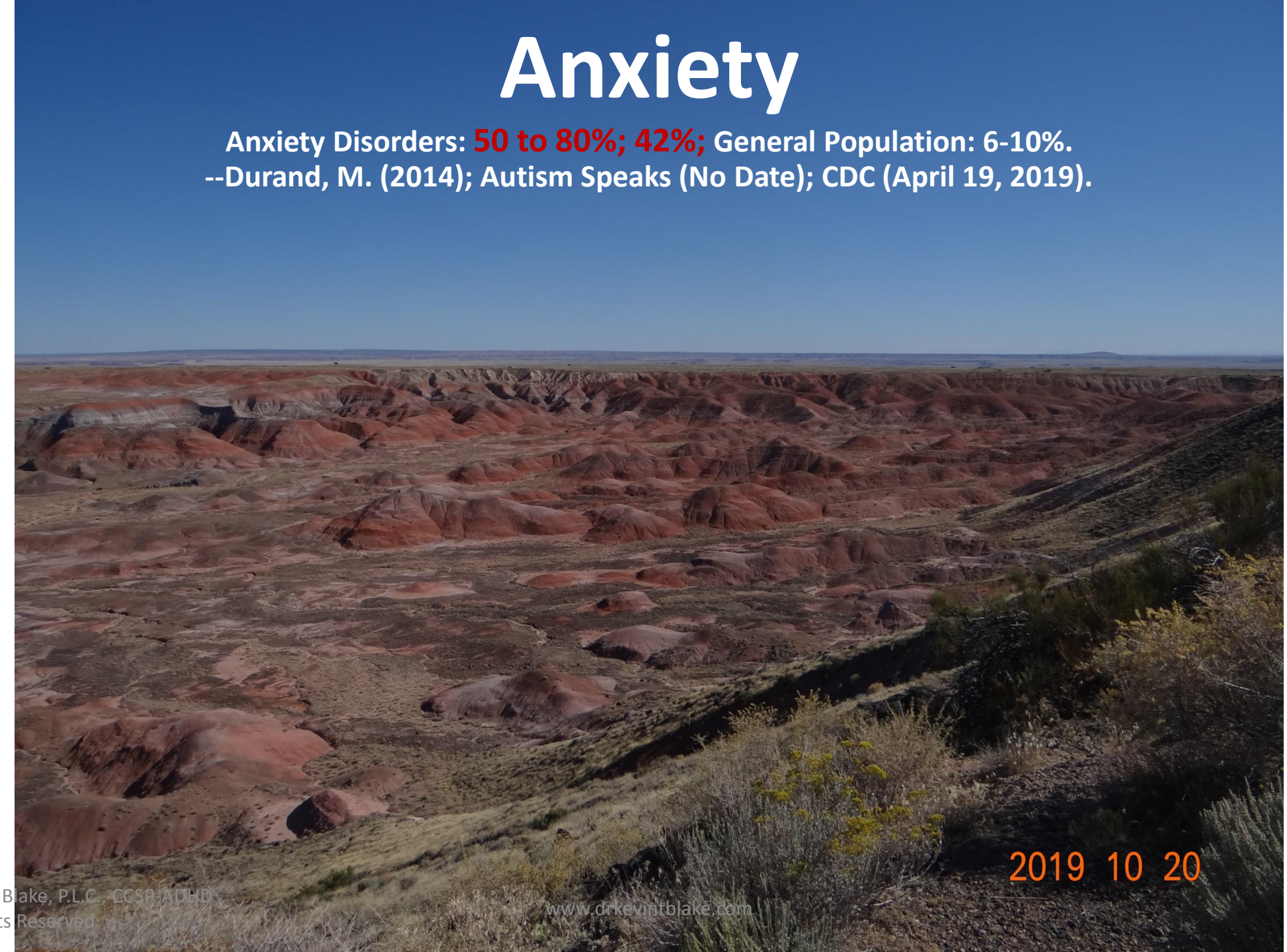
Social Skills for ASD Child

- If you show child a social skill and they don't respond model it for them.
- Don't touch them.
- First give a verbal prompt.
- Use a soft voice.
- Wait 30 seconds for a response.
- Then rephrase prompt.
- Wait 30 seconds.
- Don't repeat verbal prompt.
- Gesture or visual prompt.
- Cover one idea/concept at a time.

--Daily (2018).

Anxiety

Anxiety Disorders: 50 to 80%; 42%; General Population: 6-10%.
--Durand, M. (2014); Autism Speaks (No Date); CDC (April 19, 2019).



Child and Adolescent Multimodal Study (CAMS)

- **Results:**
  - **All treatments were significantly better than placebo pill**
  - **Co-therapy (CBT + Medication [sertraline/Zoloft] did best)**
  - **Good news! Three potential treatments for child and adolescent anxiety – medication alone, CBT alone, or co-therapy**
  - **More good news: Suicidal ideation is far less likely to be seen in children and adolescents administered SSRIs than in those with depression.**

Child and Adolescent Multimodal Study (CAMS): Follow-Up

Study Results

- 80% of responders at 24 and 36 weeks.
- Group 3, CBT + Medication (sertraline/had significantly better results than CBT, or Medication alone.
- There was no difference between the CBT alone group, and the medication alone group.
- All the treatment groups did better than placebo
- At 48 weeks the children/adolescents who were in the placebo group received the combination therapy (CBT + Medication)

Child and Adolescent Multimodal Study (CAMS)

Study Results

- **Acute responders were more likely to be in remission 6 years after the study.**
- **48% of the responders had relapsed after 6 years.**
- **Those who relapse may have needed longer combined therapy.**

--Piacentini, J., et al. (March, 2014)

ASD + Anxiety

- **Temple Grandin's Amygdalae are 22% larger than average. This probably explains her panic attacks and high anxiety. When she started to take antidepressants in the 1980's this improved. (Grandin-2013).**
- **ASD + Anxiety Symptoms:**
  - **Increased restlessness, increased rumination, more ridged, regression, more focus on special interest, less skill at understanding sarcasm (Daily, 2018)**
- **Childhood Manifest Anxiety Scale: https://www.wpspublish.com/rcmas-2-revised-childrens-manifest-anxiety-scale-second-edition.**
- **Rule out: Psychosocial, educational stressors, and medication side effects; sensory stressors**

--Daily (2018)

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.**

--Attwood, July, 2002

- **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, 2000

ASD + Anxiety & Language Considerations

- **ASD children and adolescents that are nonverbal, or have poor language skills may:**
  - **Look anxious, may engage in stereotyped movements, self-injury and aggression**
- **ASD children and adolescents who are verbal and/or high functioning may:**
  - **Have the language skills to talk about their anxiety.**

--Volkmar et al., 2017

- **CBT may be useful with ASD nonverbal people who have a functional communication system and cognitive ability that a therapist can use to connect with them.**

--Scarpa et al. (2013)

Cognitive Behavioral Therapy for Anxiety

- Kendall, P.C. et al. (2006). Treating Anxiety Disorders in Youth. In P. C. Kendall (Ed.), Child and adolescent therapy: Cognitive-behavioral procedures (p. 243–294). Guilford Press. From Website: https://psycnet.apa.org/record/2006-12734-007.
- Kendall P.C, & Hedtke K.A. (2006). Cognitive-Behavioral Therapy for Anxious Children: Therapist Manual, 3rd Edition. Ardmore, PA: Workbook Publishing. (Ages: 7-13)
- Kendall, P.C. et al. (2002). "The Coping C.A.T" Manual for Cognitive Behavioral Treatment of Anxious Adolescents. Ardmore, PA: Workbook Publishing. (Ages: 14-17)
- Kendall, P.C. et al (2002). The C.A.T. Project Workbook for the Cognitive Behavioral Treatment of Anxious Adolescents. Ardmore, PA: Workbook Publishing. (Ages: 14-17)
- Howard, B. et al. (1996). Cognitive Behavioral Family Therapy For Anxious Children, Second Edition. Harrisburg, PA: Capital Psychiatric and Psychological Associates.

All Available from: https://www.workbookpublishing.com/.

- Burns, D. (1999). The Feeling Good Handbook. New York, NY: Penguin Putnam.

Teaching Emotions

Teaching Emotions

- **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.**
  - **Create physical thermometer for this with laminated paper.**

Attwood (2007).

- **Board Game Called: The CAT-kit (CAT=Cognitive, Affective Training)**
  - **"It is designed to help students become aware of how their thoughts, feelings and actions all interact and, in the process of using the various visual components, they share their insights with others."**
  - **http://www.tonyattwood.com.au/the-cat-kit**

Teaching Emotions

- Check immediate environment for sensory stressors that may cause anxiety.
  - Teach child to identify such stimuli and "remove" them.
- Extensive psychoeducation in how to identify their emotions.
  - "I am not sad. I am crying."
  - Describe what you see, "you look sad because you are crying."
  - Describe sadness to them. Give them a picture and/or write it down.
- Do this for all emotions
- Then help them identify the situations that caused emotions in them.
  - (Q): What happened just before you cried?
  - (A): "I lost my toy."
- Have them make a list of antecedents to specific emotions and "laminate" for them.
- https://www.teacherspayteachers.com/Browse/Search:feelings%20and%20emotions%20posters

Digression: Psychoeducation for ASD

- **Psychoeducation before age 12 for Depression, Anxiety, OCD, ASD, masturbation, etc.**
- **Should constantly do psychoeducation from about age 3 and above.**
- **Must have bond with child first.**

--Daily (2018).

Teaching Emotions

- "Biofeedback":
  - What do they experience in their body prior to and while feeling certain emotions?
  - Do guided imagery of situations where they were angry, sad, etc. and ask what they are experiencing in their body.
  - Actual biofeedback equipment may help them identify what they are feeling in body.
- Teach facial expressions and how to interpret them.
  - Making a facial expression will make you feel the associated emotion.

--Ekman, 2002

  - Can do this using videos designed for those with ASD:

"Let's Face It!": http://web.unic.ca/~letsface/letsfaceit/index.php

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

Baron-Cohen, S., Drori, J., Harcup, C. (2009). The Transporters (USA Version). London, England: Changing Media Development: www.thetransporter.com

Rajarshi (Tito) Mukhopadhyay
Nonverbal Adult with ASD

"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)

Temple Grandin Leaning Emotions

- **Group setting of ASD children:**
  - **Have them choose their favorite TV program ("Star Trek").**
  - **Each week children are assigned a different character and act out last week's episode.**
  - **Therapist asks questions about how they think the character is feeling, what kids of body language would convey that feeling, etc.**

- **Children act out every character (no one can be Data all the time).**

--Grandin (2014).

Relaxation Techniques

ASD & Relaxation Techniques

- **Extensive training in diagrammatic breathing**
  - **Teach child not to hyperventilate by placing hand on stomach and as they breath in through the nose push their stomach out first then breath through their chest second.**
  - **Then slowly breathe out through the mouth.**

--Daily (2018)

- **If nonverbal learn what sooths them and use that to calm them. Slowly teach them to learn when they need soothing and to indicate it, etc.**

Helping A Child To Relax

Verbal Child

https://youtu.be/VOnDA6_MAWI

Nonverbal ASD

https://youtu.be/13DiS7cPgX0

Teaching Relaxation to the Child on the Spectrum

- Lynch (June 3, 2019) said:
  - "Belly Breathing"
  - Progressive Muscle Relaxation
  - Guided Imagery
  - Meditation
  - Or a combination of the above can work with those on with ASD.
- With the following modifications:
  - Justify the technique: Explain it in simple words.
  - Use visuals, videos of relaxation, etc.
  - Be aware of their sensory issues.
  - This will not generalize easily. You will have to do it over, and over, and over.
- By doing this a kid on the spectrum can gain some relaxation skills.

Lynch, C (2019). Anxiety Management for Kids on the Autism Spectrum. Arlington, TX: New Horizons.

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

--Scapra et al. (2013).

Cognitive Behavioral Therapy (CBT)

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).

Cognitive Behavioral Therapy for ASD + Anxiety

- "Results provide preliminary evidence that a modified version of the Coping Cat Program may be a feasible and effective program for reducing clinically significant levels of anxiety in children with high-functioning ASD".

McNally-Keehn et al. (January, 2014)

- Cognitive Behavior Therapy (CPT) with ASD and Anxiety:
  - Talk less: More Visuals
  - Write things down
  - Make more sessions than with neurotypical
  - Eliminate and eventually self-accommodate for exacerbating outside stimuli.
  - Diet and Exercise
  - Help them understand emotions and if possible put words/pictures to them.

--Daily (2018)

- Video: https://adaa.org/webinar/consumer/building-bridges-bringing-anxiety-treatments-children-and-adolescents-autism (Anxiety and Depression Association of America)

--Hammett, October 6, 2016

Coping Cat Program For ASD Children: "Facing Your Fears Program"

- Use of standard CBT Group counseling: somatic management, focus on improvement of emotional regulation, cognitive self-control and graded exposure.
- ASD modifications:
  - Token economy, visual structure, establishes routine for every session, written examples of every concept, hands on activities, focus on special interests, repetition, repetition…, practice, video self-modeling

--Scarpa, 2013; Reaven et al., 2011

- 14 week program (+/-); 90 minute sessions:
  - Ages 7 to 14
  - Includes:
    - Psychoeducation, about anxiety & CBT; learning to ID anxiety; how to manage emotional dysregulation; graded exposure homework; parenting training and how parental anxiety affects child; ASD communication difficulties; and how the above can lead to excessively protective parental style

--Scarpa, 2013; Reaven et al. 2011

Fear Plan

- **Develop a "FEAR Plan"**
  - **(F) Am I (f)eeling anxious or frightened?**
  - **(E) What is my self talk (what am I [e]xpecting to happen?)**
  - **(A) What are the (a)ttitudes, or actions that might help?**
  - **(R) Rewards (self-evaluation and Self-(R)eward)**

-- Kendall, P.C. et al (2002).

Coping Cat Program For ASD Adolescents: "Facing Your Fears Program –Adolescent Version"

- 14 sessions (+/-) with the following modifications:
  - Intensive social skills training; Parent & teen work together to develop diagnostic and related goals; Use digitalized personal assistant (e.g. iPad, etc.); more exposure sessions; parent training on ASD teen issues; much teen and parent interaction in group.
- Groups emphasize teen strengths & that resistance may come in part from a long history of social rejection instead of lack of motivation, etc.
- Much work done to improve parent teen interactions.

--Scarpa, 2013; Reaven et al. 2011

Examine Self-Talk

- Have them make a list of what makes them feel frustrated.
  - What they feel just before feeling frustrated.
  - What did they feel and say to themselves when they feel frustrated.
  - Have them develop a positive thoughts list.
  - Ask them if the thought was positive, or negative.
- If negative self talk (said to self- "Never"):
- Have them change that thought pattern:
  - Ask a friend
  - Do an experiment
  - Check their calendar
  - Examine the evidence; "Pros and Cons"

--Daily (2018)

Other Things to Consider When Working with ASD Children and Adolescents

- One-Track Mind: Set shifting
- Fear of Making a Mistake
- Consistency and Certainty
- Special Interests & Talents
- Converting Thoughts to Speech: Texting instead of face to face
- Problems with Pragmatics, Syntax and Prosody
- Teaching Theory of Mind (ToM)
- Dealing with Sensory Sensitivity
- Between-Session Projects
  - Workbooks
- Selection of Group Participants
- Time with Parents After Every Session

--Attwood, T, and Scarpa, A. (2013).

CBT & ASD

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

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

CBT & ASD with Comorbid AD/HD in Children

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

--Attwood, T, and Scarpa, A. (2013)

Treating ASD + Anxiety with Medication

- **There is no research evidence for using medication to treat anxiety in ASD children and adolescents. It has just not been done.**
- **High functioning people with ASD and anxiety may get some benefit.**
- **"While drugs may often be prescribed in this context no solid evidence exists to support this practice, and risks including behavior activation must be weighed against potential idiosyncratic benefit" (p. 166).**

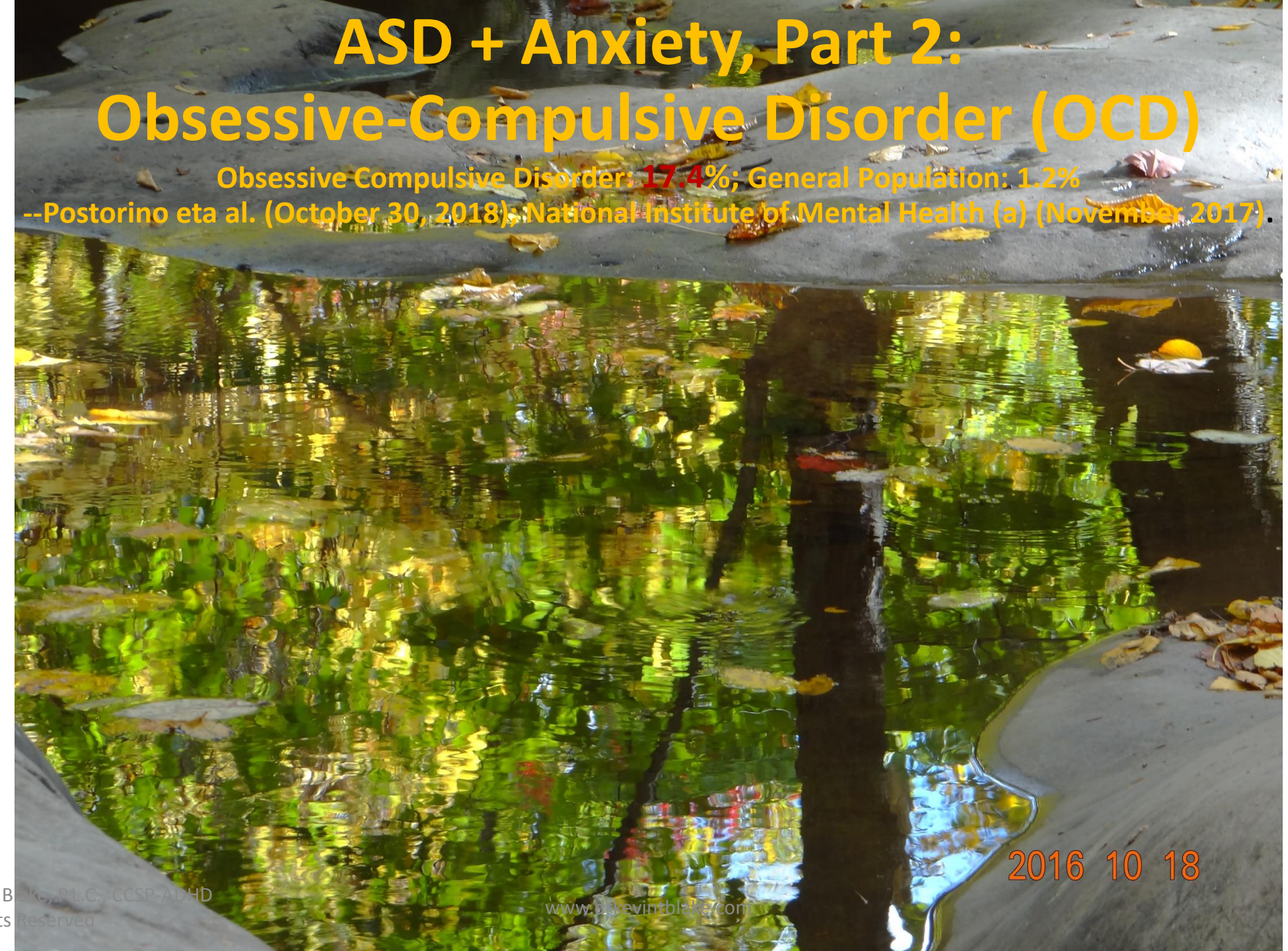
--Mooney et al. (2019)

Two Good Books On Anxiety and ASD

Grandin, T et al. (2015). The Loving Push. Arlington, TX: Future Horizons.

Baker, J. (2015). Overcoming Anxiety in Children and Teens. Arlington, TX: Future Horizons.

ASD + Anxiety, Part 2: Obsessive-Compulsive Disorder (OCD)



Obsessive Compulsive Disorder: 17.4%; General Population: 1.2%
--Postorino eta al. (October 30, 2018); National Institute of Mental Health (a) (November 2017).

Pediatric OCD Treatment Study (POTS)

- **Study Name: Cognitive-Behavior Therapy, Sertraline, and Their Combination for Children and Adolescents With Obsessive-Compulsive Disorder: The Pediatric OCD Treatment Study (POTS) Randomized Controlled Trial**

--March et al., (October 27, 2004).

- **Neurotypical children ages 7 to 17 with OCD**
  - **Medication treatment (sertraline/Zoloft) alone significant improvement, but not as good as;**
  - **CBT alone, but it was not as good as;**
  - **medication and CBT combined**
- **Conclusion: Use CBT alone, or Combination Therapy**

Pediatric OCD Treatment Study 2 (POTS II)

- **Study Name: Cognitive Behavior Therapy Augmentation of Pharmacotherapy in Pediatric Obsessive-Compulsive Disorder: The Pediatric OCD Treatment Study II (POTS II) Randomized Controlled Trial**

--Franklin et al. (September 21, 2011).

- **Neurotypical children ages 7 to 17.**
  - **Medication ("SRI") plus CBT was superior on all outcome measures.**
  - **Did significantly better than Cognitive Behavior Instruction, and SRI alone.**

ASD + OCD

- Must rule out:
  - Is it a "Special Interest"?
  - Is it "Perseveration"?
- Obsession = Repetitive thought that causes distress (i.e., "My parents are going to die today!")
- Compulsion = Behavior that reduces distressing thought (i.e., Counting all the steps you take to keep your parents from dying.)

--Daily (2018)

- Neurotypicals with OCD:
  - Checking, cleaning, counting, etc.
- ASD with OCD:
  - Lining up objects, touching, etc.

--Durand, 2014.

Temple Grandin (2014)

- Three reasons for repetitive behavior with ASD:
  1. To screen out painful sensory input.
  2. To cope with sensory overload.
  3. A neurological "tic" (nonverbal: limited voluntary control)
- She would ask the same question again and again because she enjoyed hearing the answer.

ASD + OCD

- Vulnerable times for child with ASD to develop OCD:
  - Between ages 10 & 12, and early adulthood
- Thoughts they do not want to think about; distressing ("Obsession")
- Behaviors they do not want to do; distressing ("Compulsion")
- Special interest not distressing, reinforcing, hence not compulsion.
- ASD + OCD more risk of: AD/HD, Tourette's, Anxiety

–Attwood, (2007)

- Typical obsessive thought of those with ASD:
  - Cleanliness, bullying, teasing, making a mistake, being criticized; hording
- Typical obsessive thought of neurotypical:
  - Sex, religion, aggression, cleanliness.

--Attwood, T. (2014); Westphal et al. (2014).

Assessment OCD

- Yale-Brown Obsessive Compulsive-Scale (Y-BOCS)
- Children's Yale-Brown Obsessive-Compulsive Scale (CY-BOCS)
- Children's Yale-Brown Obsessive-Compulsive Scale for Pervasive Developmental Disorders (CY-BOCS-PDD)

--Deprey et al. (2009).

- Scahill, L. et al. (October, 2006). Children's Yale-Brown Obsessive Compulsive Scale Modified for Pervasive Developmental Disorders. Journal of the American Academy of Child and Adolescent Psychiatry, 45(9), 1114-1123. DOI: 10.1097/01.chi.0000220854.79144.e7.

ASD + OCD & The Need to be Perfect

- **Temple Grandin said:**
  - **Often people on the spectrum cannot tolerate not being perfect.**
  - **Some on the spectrum hide abilities because they are afraid they will not be perfect with them.**
  - **This is Black and White thinking.**
  - **This creates massive anxiety.**

"It is important for parents to teach a child, in concrete ways, that 1) skills exist on a continuum and 2) there are different levels of quality required for different levels of work. To start, explain to the child that even the greatest experts in a field may have imperfections in their work."

--Grandin (2014), p. 193.

ASD + OCD Treatment

- **Treatment**
  - **Cognitive Behavior Therapy + Medication**

    --Attwood (2007).
  - **Exposure and Response Prevention (ERP)**

  --Gorbis et al. (2011); Daily (2018).

- **Visual Schedules with counter arguments:**
- **Work with one thing at a time.**
- **Lower functioning children need visual schedule with them all the time.**

--Daily (2018).

Treating ASD + OCD with Medication

- **A recent literature review of what research has been done to medicate ASD + OCD and repetitive behavior in children and adolescent determined that due to the high risk of harm medication is not suggested. They went on to say SSRI may be safe and useful with adults with ASD + OCD and repetitive behavior.**

--Mooney et al. (2019)

Too Much Time on Special Interest

- Incorporate special interest into teaching.
  - If the kid is into gangsters have them act out interchanges between gangsters.
- Use the special interest as a reward, “if you do 20 math problems you can read 5 minutes about gangsters”.

--Scarpa et al. (2013).

- Pace and lead:
  - If the kid is into electric toasters have them do a presentation on the history of toasters.
  - Then send them to shop class to learn how to fix toasters.
  - Then have them do a presentation on the history of the toaster oven, etc.

Depression

Depressive Disorders: 25-34%; 7 to 26%; General Population: 2 -6%

--Durand, M. (2014); Autism Speaks (No Date); CDC (April 19, 2019)

The Treatment for Adolescents With Depression Study (TADS) Long-term Effectiveness and Safety Outcomes

- 327 neurotypicals 12-17 with moderate to severe depression.
- 36 weeks randomized treatment.
- Random assignment to:
  - Placebo (sugar pill)
  - CBT only
  - Medication only (fluoxetine/Prozac)
  - CBT + Medication
- Results:
  - CBT alone significantly better than control.
  - Medication alone significantly better than control.
  - Adding medication to CBT "accelerates response rate".
  - CBT when used with medication significantly reduced suicidal ideation.
  - Co-therapy (CBT+ Medication) best.

--March et al. (October, 2007).

Cognitive Behavioral Therapy and Depression

- **"This phase I open treatment trial of Parent-Child Interaction Therapy – Emotion Development produced promising results, with large effect sizes specific to depressive symptom reduction in the young child" (Lenze, February, 2011). (3 to 6 year olds)**
- **A recent literature review indicated, "The most studied combination includes fluoxetine with cognitive behavioral therapy. Once symptom remission is obtained, treatment should be continued for 6 to 12 months before a slow taper is initiated" (Mullen, November 1, 2018). (6 to 12 year olds)**
- **"In adolescents with moderate to severe depression, treatment with fluoxetine alone or in combination with CBT accelerates the response. Adding CBT to medication enhances the safety of medication. Taking benefits and harms into account, combined treatment appears superior to either monotherapy as a treatment for major depression in adolescents"**

--(March, October, 2007).

ASD + Depression

- Depression is not such an issue until they become cognitively aware they are "different".
- Depression "skyrockets"
- Lag in social awareness.
- 14% of HFA 16 years old suicidal ideation/attempts.
- HFA adults 66% suicidal thoughts; 35% plans/attempts

-- Daily (2018)

- 3rd leading cause of death in youth with ASD, behind cardiac and neurological reasons.
- Assume those with ASD are depressed to be safe.
- Symptoms: aggression, mood swings, hyperactivity, restlessness, ask the same question over and over, decreased self-care and adaptive behavioral skills deteriorate, inaction, not motivated, no energy, learned helplessness, increased repetitive behavior, fluctuation in ASD symptoms, stop coming for appointments, no more special interests, catatonia

EF (Executive Function) in ASD Adults

- Parents of adults with ASD and average/above IQ report their challenged children with ASD have significant problems with EF at work and in their adaptive function.
- This is typically paired with significant depression and anxiety.
- The profile of EF difficulties in an ASD adult matches those seen in ASD children and adolescents: especially high weaknesses in flexibility and planning/organization.
- It appears the EF flexibility problems are related to anxiety.
- Depressive symptoms seem to be related to metacognitive processing problems and impaired adaptive functioning.
- None of the above appears to be related to possible comorbid AD/HD.
- Should evaluate EF in ASD adults, too.

--Wallace et al. (March, 2016).

ASD + Depression Assessment, etc.

- **Beck Youth Inventories, Second Edition For Children and Adolescents (Beck et al., 2005) (Ages 7 to 18)**
- **The Children's Depression Inventory (CDI) 2 (Kovacs, 2010) (Ages 7-17)**
- **Is there a marked change in behavior? Anything *Extreme*?**
- **With Nonverbal ASD:**
  - **2 domain assessment of risk**
    - **1. Family History; 2. Significant life change**

--Daily, 2018

- **With Verbal ASD:**
  - **Look at all 3 life domains**
  - **Education; not necessarily a good thing**
  - **Seeks friends but no success**
  - **Being bullied**
  - **Learned helplessness**
  - **Feels incompetent**
  - **Situational anxiety**
- **Suicide assessment: Be super specific:**
  - **Q:"Do you want to kill yourself?" A: "No." (But, I have a gun and I'm going to shoot myself).**

ASD + Adolescent Depression

- Daily (2018) stated with ASD start to realize they are "different" in adolescence. Risk of suicide is high.
- Suicide risk of adolescent girls with ASD 3 times higher than neurotypicals.
- Over all ASD in adolescence gives you twice the risk of neurotypicals.
- ASD people use firearms less to commit suicide.

--Kirby et al. (January 21, 2019).

- Kirby (June 25, 2019) stated, "If your child is nonverbal, you can look for other clues. Changes in appetite or sleep, or lack of interest in typical activities, are also signs of depression. Social withdrawal, low energy and flat facial expressions, while common in autism, can also signal depression if they are new symptoms."

8 Critical Things for Suicidal People with ASD

1. Pay Attention: Especially with behavior change & after concussion.
2. Talk to ASD child about depression & suicide + get professional help.
3. Prevent bullying; work with school.
4. Reduce social isolation.
5. Promote Health Lifestyles:
   - Exercise, diet, sleep, relaxation, no street drugs, etc.
6. Monitor Medication Side Effects: Some can cause suicidal ideation.
7. Remove lethal objects form environment.
8. Act Quickly!

--Autism Speaks (April 8, 2019).

Things to Be Aware Of

- Things to ask and assess:
- Are they aware of their difference?
- Are they aware of being bullied?
- Are they aware of learned helplessness?
- Do they feel incompetent?
- Do they have situational anxiety?
- Are they seeking friends, but unsuccessful and they are aware of that?

--Daily (2018)

Loneliness Vs. Solitude

"Loneliness involves intra-individual characteristics like self-esteem and shyness as well as inter-individual experiences referring to positive and negative peer interactions varying from social acceptance and friendship to bullying and victimization. Loneliness appears to be the result of a complex interplay between a person's desires, social abilities, perceptions, and interpretations, and social interactions and thus reciprocal processes with others. While it is perfectly normal to feel lonely every now and then, it is also clear that persistent and increased feelings of loneliness have to be considered as clinically relevant" (Deckers et al, 2017).

"In solitude, there is no one to talk to , so there is no speech and language peculiarities; and the child can engage in a special interest …, without anyone judging is abnormal…" (Attwood, 2007, p. 55)

- **Solitude can be relaxing**
- **Solitude can help them recover from an overly stimulating situation.**

--Attwood (2007).

CBT For ASD + Depression

- Use Coping Cat Manual's section on cognitive distortions.
- Require movement and deep breathing.
- ASD children in Social & Vocational programs show improved mood.
- Family therapy will improve mood.
- Solution Focused Therapy: The "Miracle Question"

--https://solutionfocused.net/what-is-solution-focused-therapy/

--Daily, 2018

- ACTION program: Game format, encourage children to be emotion detectives to investigate the three "B's": Brain, Body, Behavior

--Scarpa et al, 2013

- More recently, non-CBT approaches, such as mindfulness-based intervention (MBI) have been applied successfully with clients with ASD, with preliminary evidence suggesting that MBI has the potential to reduce the impact of co-occurring anxiety and depression.–White et al. (August, 2018)

Mindfulness Program for ASD

- My Mind Program
- Parent and Child with ASD mindfulness & yoga training program:
  - Ages 8-19
  - 2 month program
  - Child significant communication, behavioral and emotional improvement
  - Same in parent plus improved parenting and increased mindfulness.
  - One year follow-up.

--Ridderinkhof et al., 2018

- Bogels, S. et al. (2014). Mindful Parenting: A Guide for Mental Health Practitioners. New York, NY: Springer.
- https://ddmh.lab.yorku.ca/mymind-mindfulness-training/

Mindfulness Activities for ASD

1. **Bell Listening:**
   - ➢ **Ring a bell or use phone app.**
   - ➢ **Tell child to raise hand when hear bell stops ringing.**
   - ➢ **Tell them to listen to the sounds around them for 1 minute.**
2. **Bedtime:**
   - ➢ **Lay, eyes closed and have them pay attention to different parts of their body; from toes to head.**
3. **Walks:**
   - ➢ **Have child walk through neighborhood with you and listen. Then report what they heard, and felt.**
4. **Breathing and guided meditation.**
5. **Soles of Feet: When child is agitated, angry, aggressive, etc. have them pay attention to a neutral part of their body. Guide them through the process.**
6. **Glitter Jar: Fill a jar with water, glitter, glycerin, and or baby oil shake up the jar and have them watch it while you do guided imagery with them. A snow globe can be good, too. Metaphor: Chaos**

--Patel (February 24, 2017).

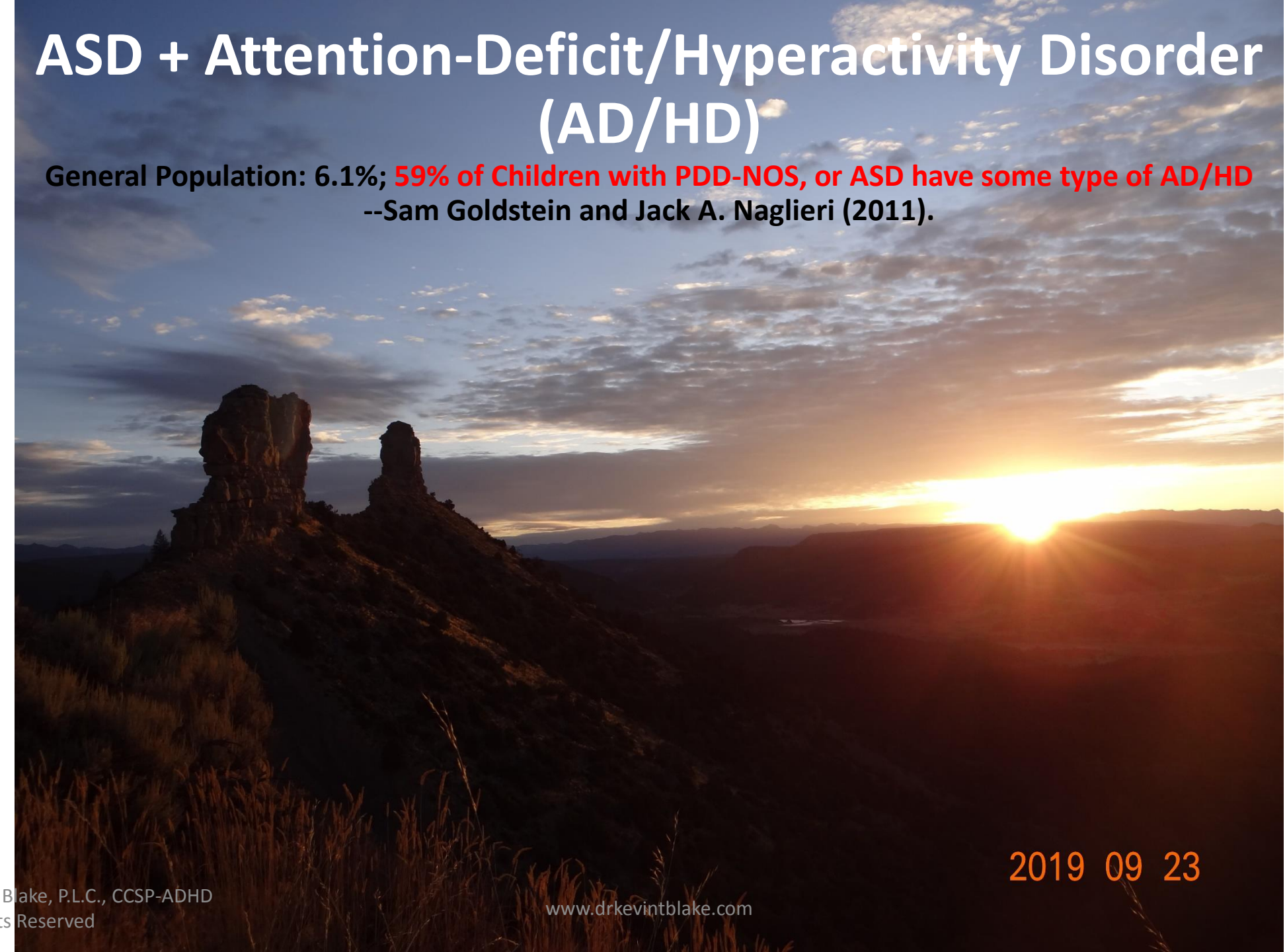
ASD + Depression & Medication

- Not much research into this.
- SSRIs can have very bad side effects with ASD (i.e. “activation syndrome”)
- Clomipramine/Anafranil needs ECG and blood draws for medication levels.
- Bupropion/Wellbutrin cannot be used with people with seizure disorders.
- floxetine/Prozac and citaloprom/Celexa can slow down metabolism and cause dangerous drug interactions.

--Volkmar et al. (2017).

ASD + Attention-Deficit/Hyperactivity Disorder (AD/HD)

General Population: 6.1%; 59% of Children with PDD-NOS, or ASD have some type of AD/HD
--Sam Goldstein and Jack A. Naglieri (2011).



AD/HD & DSM-5©

In DSM-5© there is one type of Attention-Deficit/Hyperactivity Disorder and it is Attention-Deficit/Hyperactivity Disorder, Combined Type. Since DSM-IV© was published in 1994, longitudinal studies have found Attention-Deficit/Hyperactivity Disorder/Impulsive Type is the early manifestation of Combined Type AD/HD

… in preschool and early grade school. As the child ages and his/her frontal lobe develops, they gain more control of their hyperactive motor movements and begin to appear as what was called (in DSM-IV© and DSM-IV, TR©) Combined Type. This process continues until their late 20's/early 30's when their frontal lobes are fully developed. By that time they appear to be the *Inattentive Type*…

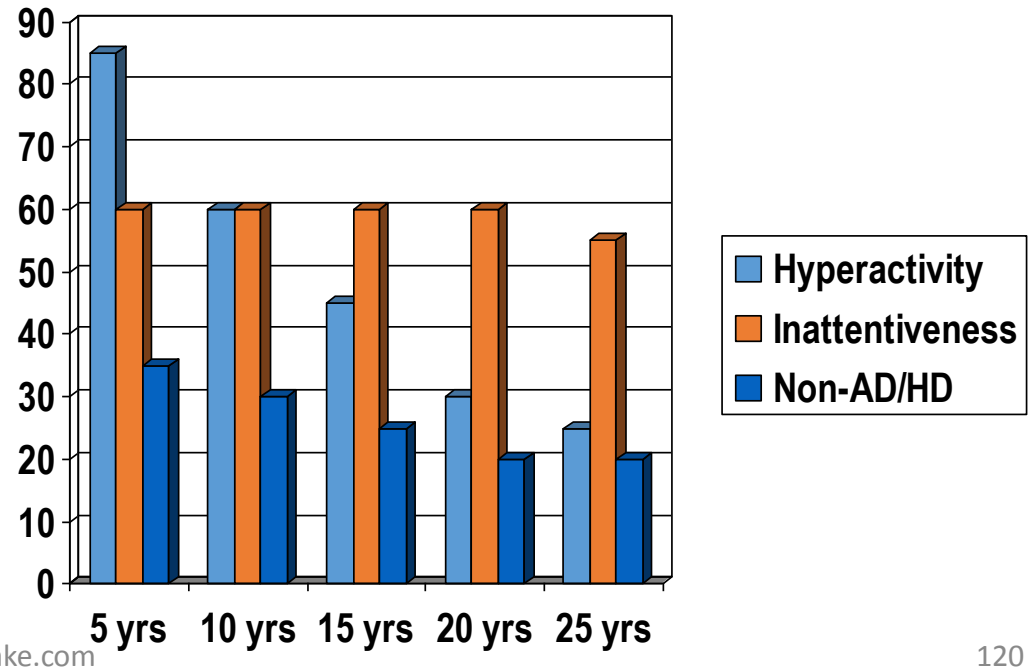
AD/HD & DSM-5©

…when their current adult behavior is compared to their non-AD/HD peers. Remember, when you diagnose someone with AD/HD, you compare them to their non-AD/HD age peers.

--Swanson, J., Hinshaw, S., Hechtman, L. and Barkley, R. (November 9, 2012).

Longitudinal Studies of AD/HD

--Barkley, R.A., Murphy, K.R. and Fischer, M. (2008); Weiss, G. and Hechtman, L. (1993).



Your Tax Dollars at Work

The Multimodal Treatment Study of Children with Attention Deficit Hyperactivity Disorder

(MTA Study = Multimodal Treatment Assessment of AD/HD)

1999

--Jensen, P.S., et al. (February, 2001).

MTA Study

- **Medication Management Treatment Group did best with a 50% decline in symptoms.**
- **Medication with Behavioral Modification Group did no better.**
- **Behavior Modification Group did better than placebo.**
- **Community Treatment had only a 25% decline in symptoms.**
- **Medication helps with social interaction.**

--Author (December, 1999). Author (December, 2009).

AD/HD Response Rate to Stimulant Titration

- Titration using all three stimulants there is a 90% response rate

--Mahoney (2002).

- Patients improve 70 to 90 percent of the time and normalize 50 to 60 percent of those while on a therapeutic dose.

--Barkley (2018)

- "When the discussion is specifically reserved to symptom relief and impairment reduction for ADHD, this series of articles adds to an impressive body of scientific literature…

"…demonstrating that medication treatment, in the case of methylphenidate, is cost efficient and may be all that is needed for good responders." (p. 3)

--Goldstein (December 2004).

- Only 49% in ASD youth response rate with stimulants. (methylphenidate/Ritalin).
- About 50% had adverse side effects.
- Guanfacine/Intuniv ER: 50% response rate, better tolerated; 1st Line treatment.

--Mooney et al. (2019)

ASD & AD/HD

- 26% of Children with PDD-NOS, or ASD have comorbid Combined Type AD/HD
- 33% of Children with PDD-NOS, or ASD have comorbid Inattentive AD/HD
- 59% of Children with PDD-NOS, or ASD have some type of AD/HD

--Sam Goldstein and Jack A. Naglieri (2011).

- British population study of AD/HD+ASD adults
- The higher the inattention scores the more social and communication difficulties they had
- Conclusion: AD/HD and ASD may have "somewhat" common etiology

--Panagiotidi, M., et al. (August 11, 2017).

AD/HD Diagnostics

AD/HD

- Conners 3rd Edition (4th edition coming soon)
  - Parent/teachers form
- Conners, C.K. (2008). Conners, 3rd Edition. New York, NY: Pearson.

Sluggish Cognitive Tempo (SCT)

- For SCT Dx for Barkley recommends 6/9 inattentive symptoms from DSM-5 and major life impairment

--Barkley (August 28, 2018).

- Barkley, R.A. (2018). Barkley Sluggish Cognitive Tempo Scale—Children and Adolescents (BSCTS-CA). New York, NY: Guilford.

AD/HD Inattentive Presentation, Restrictive Sluggish Cognitive Tempo (SCT)

Inattentive AD/HD?

What about Attention-Deficit/Hyperactivity Disorder, Inattentive Type? It is a separate and distinct disorder behaviorally, neuro-biologically and genetically from AD/HD. It is not included in the Dismal-5. In research it may be referred to as AD/HD, Inattentive (Restrictive) Presentation, Sluggish Cognitive Tempo, Concentration Deficit Disorder and/or Crichton Syndrome.

- **SCT was first described by Alexander Crichton (1798).**

--Barkley, R.A. (August 28, 2018).

- **Sluggish Cognitive Tempo causes difficulties in Executive Function, but they are different from those seen in AD/HD.**

--Author (May 3, 2012); Barkley, R. A. (November 9, 2012); Goldstein, S. (November 9, 2017).

SCT Symptoms

- Daydreaming excessively
- Trouble staying alert or awake in boring situations
- Easily confused
- Spacey or *in a fog*; mind seems to be elsewhere
- Stares a lot
- Lethargic, more tired than others
- Underactive or have less energy than others
- Slow moving or sluggish
- Doesn't seem to understand or process information as quickly or accurately as others

SCT Symptoms (Continued)

- Apathetic or withdrawn; less engaged in activities
- Gets lost in thought
- Slow to complete tasks; needs more time than others
- Lacks initiative to complete work or effort fades quickly

Barkley, R. A. (November 9, 2012).

Sluggish Cognitive Tempo and EF

- SCT is not a primary disorder of Executive Function
- May be in posterior brain areas of controlling and orientating attention
- More impairment than those with AD/HD in:
  - Community activity, education, social status, household organization & work
  - More disabled in all life domains than controls, but not as much as those with AD/HD
  - Slow reaction time and shy
- Those with SCT have
  - Lower education level, less income, more unemployment and not married more than those with AD/HD
  - Possible Treatments:
    - Cognitive Behavioral Therapy
    - Behavioral Techniques
    - Social Skills Training

--Barkley, R.A. (2018).

Medication & ADHD

AD/HD Medication Research Summary

Behavioral Benefits of Stimulants:

- **Increased concentration and persistence**
- **Decreased hyperactivity and Impulsivity**
- **Increased productivity**
- **Decreased absences**
- **Better reading achievement by 18 years**
- **Less likely held back a year**
- **Better emotional control**
- **Less defiance, aggression & antisocial behavior**
- **Lowers chances of substance abuse and smoking**
- **Better compliance**
- **Better internalized speech and Working Memory**
- **Better motor control and handwriting**

--Barkley (2018).

Long-Term Medication Treatment and Adult AD/HD

- **Recent research found with AD/HD adults between ages of 18 and 54:**
  - **Have structural changes in their cool EF network.**
  - **This tends to indicate improvement in the EF system.**
  - **This appears to be due to long-term stimulant medication treatment**
  - **This is another study that demonstrates stimulant medication treatment for AD/HD is neuroprotective.**

--Moreno-Alcazar (August 30, 2016).

Common Stimulant Side Effects

- **Decreased appetite:**
  - Dose after meals, encourage frequent snacks, drug holidays, decrease dose
- **Behavioral rebound:**
  - Try a sustained-release stimulant, add reduced dose in late afternoon
- **Irritability/dysphoria:**
  - Try another stimulant medication, consider coexisting conditions (eg, depression) or medications (eg, antidepressants)
- **Sleep problems:**
  - Institute a bedtime routine, reduce or eliminate afternoon dose, reduce overall dose, restrict or eliminate caffeine
- **Edginess:**
  - Change preparation, change class of stimulant, consider adding low-dose β blocker
- **Dry mouth:**
  - Proactive dental hygiene, encourage sips of water through the day, use of Biotene or equivalent, avoid sugared candies

Rare Stimulant Side Effects

- **Exacerbation of tics:**
  - **Observe, try another stimulant or class of attention-deficit/hyperactivity disorder medication (eg, α-adrenergic drugs)**
- **Psychosis/euphoria/mania/depression:**
  - **Stop treatment with stimulants, refer to mental health specialist**

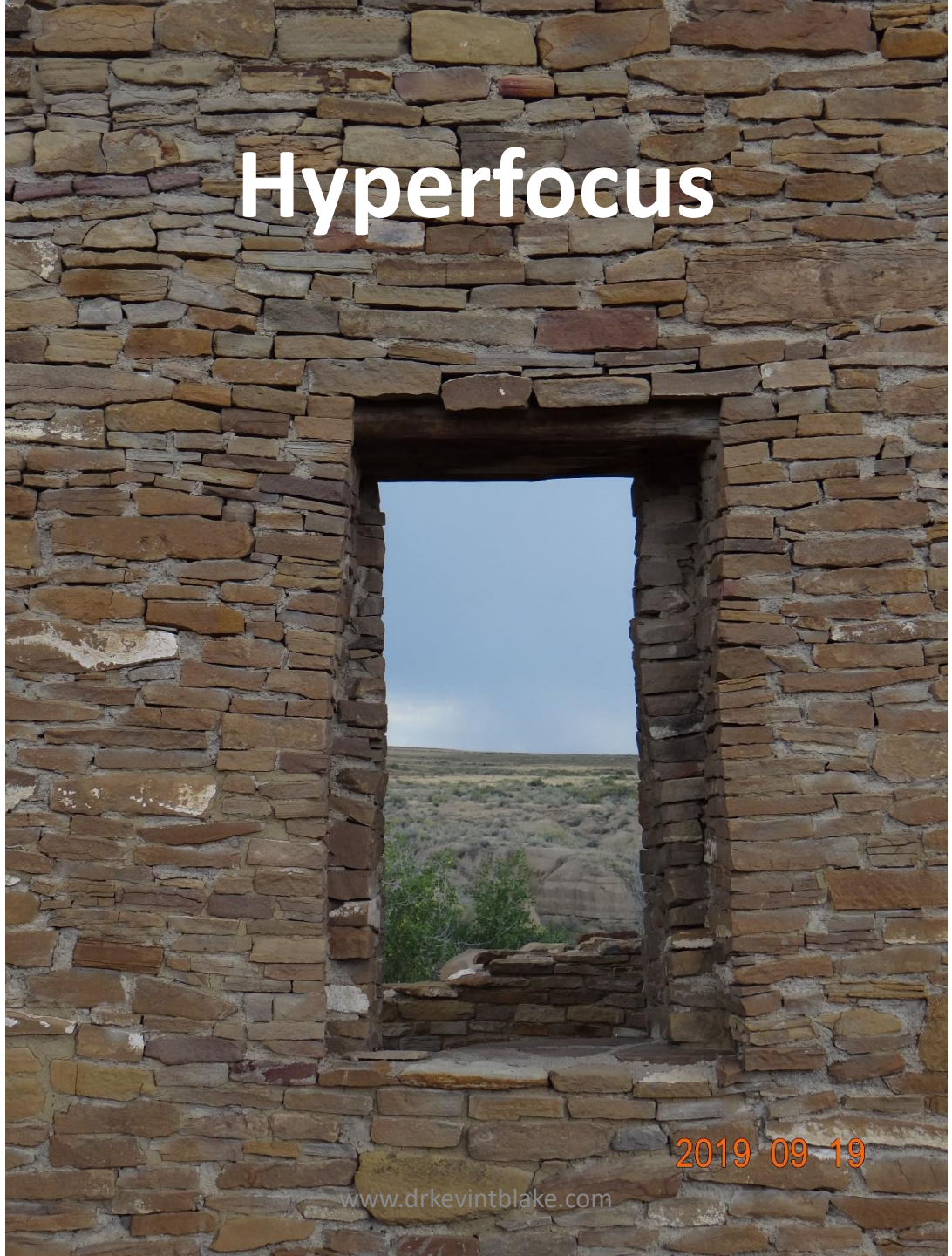
--Stevens, J.R. et al. (March 28, 2013).

ASD + AD/HD & Medication

- Stimulants have been found not to be as effective as they are in those with AD/HD alone.
- Those with ASD + AD/HD have significantly more serious side effects than those with AD/HD alone.
- Stimulants, methylphenidate/Ritalin in particular, 2nd line treatment.
- Alpha-2-agonist hypertension medication guanfacine ER/ Intuniv ER approved or AD/HD.
- Tolerated much better with similar response rate to stimulants. Side effect sleepiness.
- First line treatment.
- Atomoxetine/Strattera: Second line treatment.

--Mooney et al. (2019).

Hyperfocus



Hyperfocus and AD/HD

US researchers learned:

- **Adults with AD/HD with the most impairing symptoms had more hyperfocus episodes of more severe nature than those with less impairing AD/HD.**
- **Found in "real life", school, hobbies, & screen time.**
- **They concluded Hyperfocus is another symptom of AD/HD.**

--Hupfeld et al. (June, 2019).

- **Use timers to help complete important tasks and chores.**
- **Learn to set priorities and methodically complete them one at a time.**
- **Get rid of distractions.**
- **Ask others to turn off TV, etc.**
- **Tell others to call, text, etc. a certain times to break possible hyperfocus.**

--Barrell (2019, July 8).

Hyperfocus

AD/HD

Russell Barkley said, "If they're doing something they enjoy or find psychologically rewarding, they'll tend to persist in this behavior after others would normally move on to other things. The brains of people with ADHD are drawn to activities that give instant feedback." –Flippin (December 17, 2019).

- **He went on to say those with AD/HD have difficulty shifting attention from activity to the next. –Flippin (December 17, 2019).**

ASD

- **It appears that Hyperfocus exists in autism, but one must distinguish it from stereotypic behavior.**
- **It may be related to Stereotypic Behavior.**
- **It may be related to reducing anxiety because they know the outcome of the repeated behavior.**

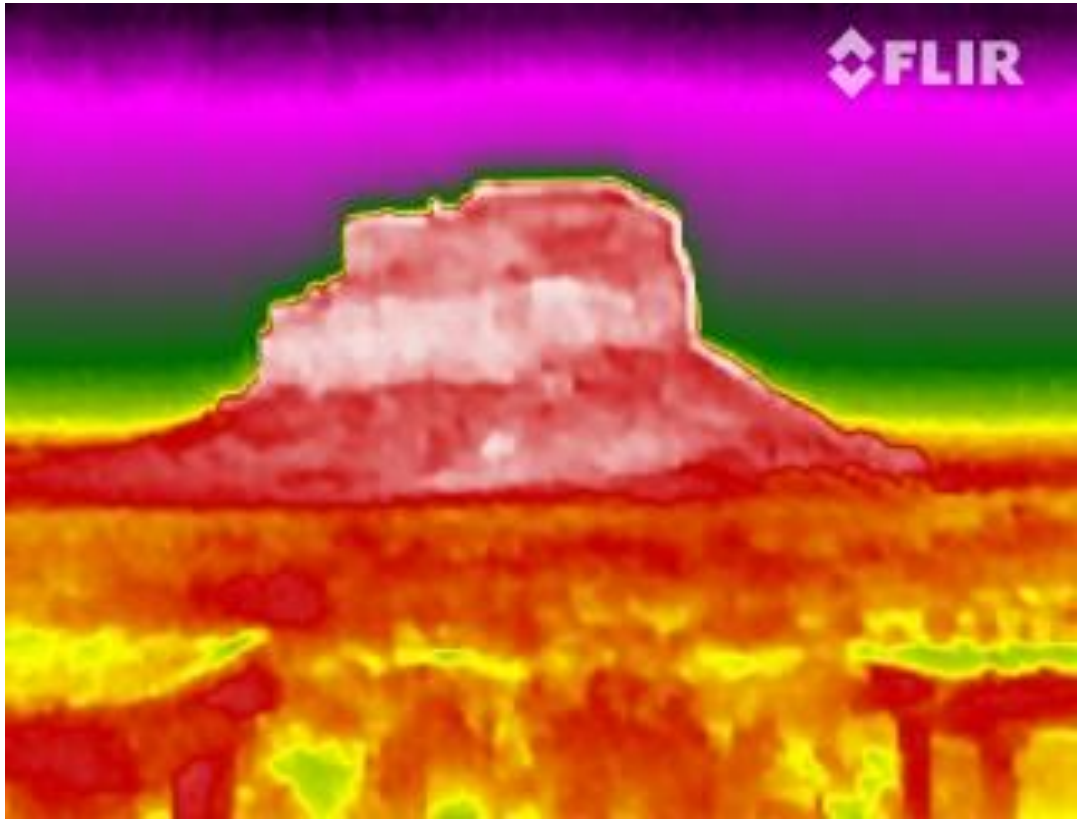
--Ashinoff et al. (September 20, 2019).

Mistakes That Escalate Defiant Behaviors

- Saying "no" to a simple request.
  - Processed as: "No, from now to the end of the universe you may not do that."
  - Alternative: "Yes, you may in 10 minutes."
  - Teach them follow-up questions: (Q). "What do you mean?" (A). You can do so after recess."
- Not giving options: Give them choices. "Which do you want and apple, or a banana?"
- Not controlling for sensory overload. Not teaching them how to avoid this, too.
- Not preparing for transitions. Not teaching them how to cope with this.
- Not giving them enough time to respond to a question. Teach "stalling tactics", and "legitimate excuses".

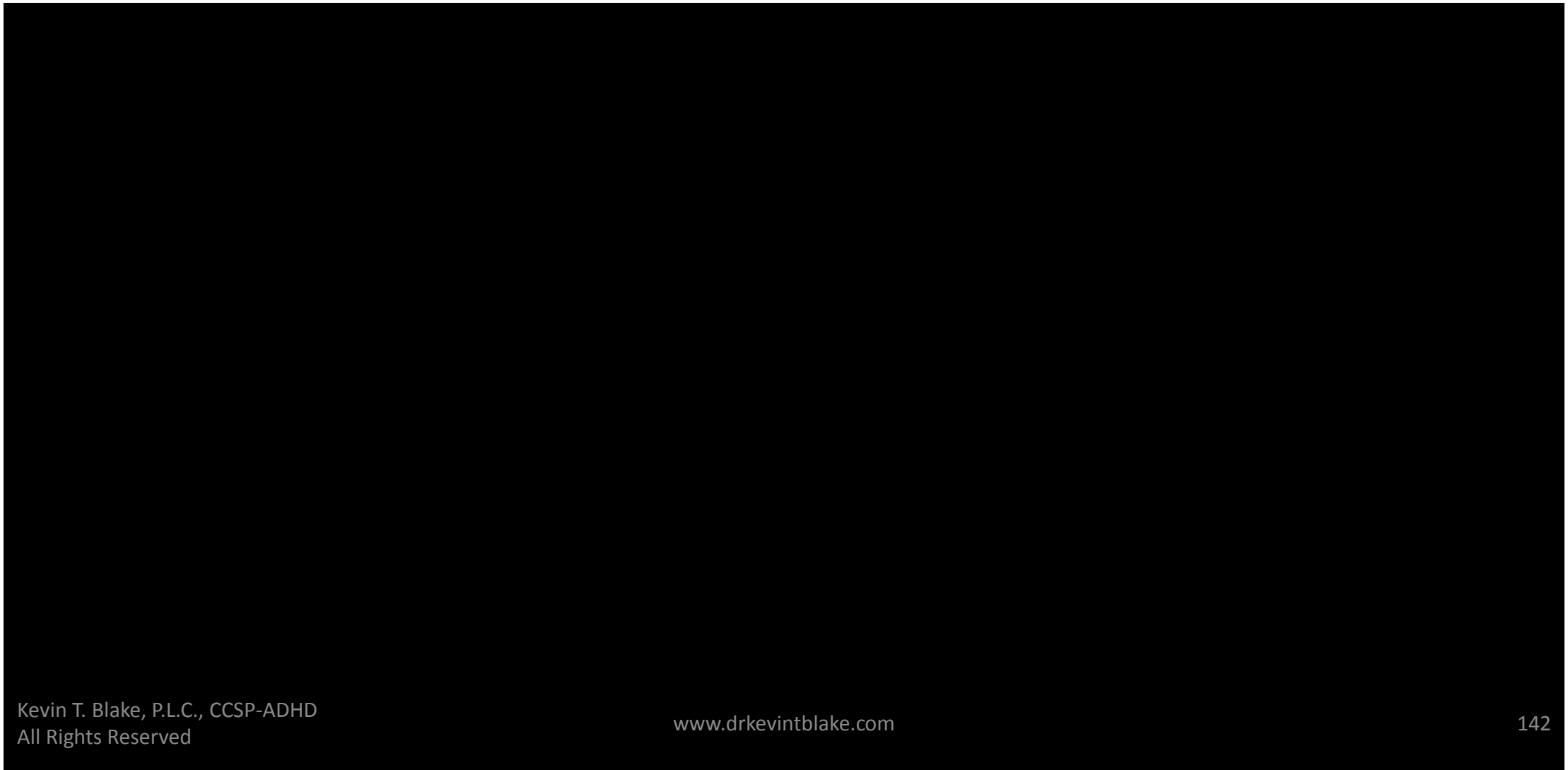
--Zimbardo (2000); Grandin (2014); Daily (2018).

Sensory Issues



Carley’s Coffee Shop

<iframe width="560" height="315" src="https://www.youtube.com/embed/KmDGvquzn2k" frameborder="0" allow="accelerometer; autoplay; encrypted-media; gyroscope; picture-in-picture" allowfullscreen></iframe>



Activity

- Break into groups
  - One person sits in chair.
  - One person in front of them waving arms.
  - One person singing loudly in one ear.
  - One person telling them some thing very important in the other. Identify yourself as the important one. This person needs to talk to me.
  - One person behind them touching them randomly one or both shoulders.
  - Do this for one minute.
- Person in chair tell us what the important message was.
- "How did you feel about that?"
- What was the story?

--Daily (2018).

Sensory Issues and ASD

Sensory Processing in Those with ASD:

British researchers reported results of a study that indicated that those children with ASD had significantly different audiovisual, auditory, and visual processing of social facial, and speech stimuli than typically developing children. Those with ASD have significantly less activation in the brain areas that do the above processing and in the frontal lobe when exposed to social stimuli.

--Regener et al. (May 13, 2016).

Researchers at the University of California Davis found that children without a disability, those with developmental disorders and those with autism spectrum disorder all tend to have sensory issues, particularly in the smell, taste and auditory senses when they are very young, but they typically developing children grow out of them. Those with developmental disorders and ASD often do not.

--McCormick et al. (September 22, 2015).

Tony Attwood Asks Temple Grandin a Question

TONY: **"I'd like to ask you a technical question. If you had $10 million for research and you were either going to create research in new areas, or support existing research, where would you spend that money?"**

TEMPLE: **"One of the areas I would spend it on is really figuring out what causes all the sensory problems. I realize it's not the core deficit in autism, but it's something that makes it extremely difficult for persons with autism to function" (p. 376).**

--Grandin (2014).

Problems Processing Incoming Information in People with ASD

- **Temple Grandin (2014) believes:**
  - **People with ASD have three problems with processing incoming stimuli:**
  1. **Sensory oversensitivity**
  2. **Perceptual problems**
  3. **Difficulties organizing information**

Sensory Overload

- The 2 ways kids on the spectrum deal with sensory overload:
  - Scream
  - Shut down
- Fatigue can make sensory overload worse.

--Grandin (2014).

"Do you see him putting his, hands over his ears to block out noise? Does he become agitated every time you're in a bustling, noisy, or chaotic environment? Are there certain textures of food he just will not tolerate? Do you find her pulling at or taking off clothes that have rough textures or tugging at necklines where tags are rubbing?" (p. 104)

Melting Down

- When you melt down you use the more “primitive” parts of the brain and your frontal lobes shut down.
- With stress there is a shrinkage of the prefrontal gray matter while the amygdala enlarges.

--Arnsten et al. (April, 2012).

- 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).

Multisensory Perception

Rajarshi (Tito) Mukhopadhyay
Nonverbal ASD + Perceptual Problems

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

--Mukhopadhyay, T.R. (2011).

Multisensory Processing in ASD

- **Found that ASD children did not integrate multisensory (auditory-somatosensory) stimuli as well as non-disabled children.**
- **Molholm stated ASD children have difficulty simultaneously processing faces and voices.**

--Russo, N. et al. (October, 2010).

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).

Rajarshi (Tito) Mukhopadhyay

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

--Mukhopadhyay, T.R. (2011).

Rajarshi (Tito) Mukhopadhyay

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

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

--Mukhopadhyay, T.R. (2011).

Hyperacusis & ASD

- What is Hyperacusis?
  - "Hyperacusis is a hearing disorder that results in difficulty tolerating sounds that would not bother most people. This condition may occur due to many different causes, such as head injury, viral infections, or neurological disorders. In some people with hyperacusis, sounds are perceived as being much louder than they would be by someone without this disorder. Some people may have emotional reactions to sounds, such as being annoyed or afraid. Others experience pain with low-level sounds."

National Institute of Health, Genetic and Rare Diseases information Center (December 21, 2017).

- Danesh et al. (October, 2015) found that 69% of those with ASD experience hyperacusis, 35% of those with ASD report tinnitus, and 31% experience hyperacusis and tinnitus.
- Treatment:
  - Sound suppression
  - Sound desensitization – listening to static every day for a set time over six month gradually increasing volume.
  - Auditory Integration Therapy (AIT) – cannot be recommended; no research.

--Goodson et al. (2015).

Autism, GABA, and Touch

GABA and Tactile Defensiveness:

Researchers recently found that children with autism have reduced GABA which causes them difficulty in behavioral inhibition and tactile information processing (i.e., tactile defensiveness).

--Puts et al. (September 9, 2016).

Touch and ASD:

Children with autism have higher tactile thresholds than non-ASD children and the bigger the ratio the more autistic traits the ASD child has. The less inhibition to tactile stimuli the more ASD symptoms the autistic child has. This is connected to the GABA neurotransmitter system.

--Tavassoli et al. (June 2016).

Neurology, Autism and Touch

There are three types of never fibers related to touch:

- **A-beta = - they discriminate what is felt, are all over the body (especially the palm), are highly myelinated and send messages very fast.**
- **Two different types of C fibers that detect pain and itches –The information these transmit moves slower, but is richer.**

--Denworth (July/August, 2015); Cascio et al. (April 6, 2007).

- **C - Tactile, or CT fibers - found on the hairy skin of the back and forearm, tuned to gentle touch, temperature, lite touch, slow transmitting\ - unmyelinated CT fibers.**
- **The CT Fibers appear to be geared more to feeling than sensing, and touch that is rewarding.**
- **Though is the first sense to develop in utero and is the most developed at birth**
- **People with autism appear to have difficulty with the CT- fiber system and forming social bonds; they often do not find gentle stroking as rewarding.**

Sensory Desensitization

Auditory Sensitivity

- "When I was a child, the ringing of the school bell hurt my ears; it felt like a dentist's drill hitting a nerve. This is common among the autism population" (Grandin, 2013, p 116).
- Some can be helped by making a recording of the school bell and playing it to them at slowly increasing volume.
- Allow the child to be in control of the increase in the volume.
- People with less challenging auditory sensory issues can:
  - Use ear plugs and/or sound suppression (but not all the time).
  - Use them no more than ½ day.

--Grandin (2014).

Sensory Desensitization

- Temple Grandin recommends:
- Get Occupational Therapy on a daily basis (probably through the child's school).
- They can assess the child and determine the correct sensory diet for them.
- This would include, but would not be limited to a Sensory Integration diet (treatment plan), deep pressure, slow swinging, visual tools, and games in balance and coordination.
- Sensory integration (SI) problems tend to decrease with time, especially with QT.
- Untreated sensory problems can make otherwise good treatment plans not work.
- OT and SI need to be a part of every treatment plan.

--Grandin (2014)

Sensory Desensitization

- **A sensory diet would include:**
  - Asking student about their sensitivities, how they cope, what helps and what doesn't.
  - "Choice card/Break card"
  - Do they self-stim to compensate?
  - Teach when/where is it appropriate to self-stim and when/where is it not.
  - Teach skills to use "in addition" to self-stimming. Temple Grandin (May 12, 2012) still rocks after a seminar.
- **This skills would include:**
  - Using deep breathing and muscle relaxation.

--Daily (2018).

- **This skills would include:**
  - Using deep breathing and muscle relaxation.
  - Using calming self-speech.
  - Have a "Home Base" when about to be over stimulated. & Organize by physically labeling everything
  - Limiting transitions and prepare for transitions. Visual Schedule!
  - "one room schoolhouse"
  - Apps:
  - https://seedautismcenter.com/our-favorite-apps/
  - Brady, L.J. (2015). Apps for Autism – Revised and Expanded. Arlington, TX: Future Horizons.

General Sensory Accommodations

- Dimmed lights
- Incandescent versus fluorescent lighting
- Sunglasses or visor to block overhead fluorescent lighting
- Earplugs or headphones in noisy environments
- Closed door or high-walled work areas to block distracting sights and sounds

--Autism Speaks (No Date). Sensory Issues

- Avoidance of strongly scented products (perfumes, air fresheners, soaps, etc.)
- Food options that avoid personal aversions (e.g. intensely spicy, textured, cold, hot, etc.)
- Clothing that accommodates personal sensitivities (e.g. to tight waistbands and/or scratchy fabric, seams and tags)
- Request for permission before touching.

Video Games & Rules

ASD + Video Games

ICD-11: "Gaming disorder is defined in the 11th Revision of the International Classification of Diseases (ICD-11) as a pattern of gaming behavior ("digital-gaming" or "video-gaming") characterized by impaired control over gaming, increasing priority given to gaming over other activities to the extent that gaming takes precedence over other interests and daily activities, and continuation or escalation of gaming despite the occurrence of negative consequences.

https://www.who.int/features/qa/gaming-disorder/en/

- **Mazurek et al. (2011) found that teens with ASD spent 64% of time with non-social video games and TV.**
- **Temple Grandin (2014) suggests:**
  - **Set period of time for video game every day.**
  - **Video game activities should be monitored by parents and teachers.**
  - **Have the child process with you what goes on in video game with you to teach empathy.**
  - **Games that are first person shooter should be discouraged.**
  - **Educational games encouraged.**
  - **Video games should be used as a reward.**

Kid Cops

- "People on the spectrum often have a strong sense of social justice" (Grandin, 2014, p. 6).
- "Rigidity in both behavior and thinking is a major characteristic of people with autism and Asperger's. They have difficulty understanding the concept that sometimes it is okay to break a rule" (Grandin, 2014, p. 51).
- Use a visual metaphor like mixing paint, "What happens when you mix black and white paint? You get gray paint Which is the correct paint?"
- Teach them how categories can change (a tool can be used as a toy in some situations; a camera can be a toy, or for a professional photographer it is a tool, etc.).

Temple Grandin's Rule Categories:

- Really Bad Things:
  - Thing that would cause an end to civil society (i.e., murder). Teaching children how to play fair…
- Courtesy Rules:
  - Say "Please" and "Thank you"; being polite.
- Illegal but not Bad:
  - Rules that can be broken in very specific circumstances. Driving 2 MPH over the speed limit, late to school, but not running a red light.
- Sins of the System:
  - Using a fake ID to get into a bar; such things if found out have very serious consequences.

--Grandin (2014).

Teaching Flexibility

Tony Attwood (2007) recommends:

- **Video recording the ASD child while playing with another child. Then showing the video to the child and teach social behaviors/flexibility from that.**
- **Having the child play pretend games where they use a objects in unique ways (like Grandin's categories).**
- **Use Social Stories to teach the child how to be flexible in play.**

Medication and ASD

Antipsychotic Medication and ASD

- Only medications approved for ASD.
- Targets irritability: Aggression, self-injury, and severe tantrums.
- Second-Generation Antipsychotics Approved for ASD:
  - Risperidone/Risperdal
  - Aripiprazole/Abilify
- Risperidone/Risperdal:
  - 59% Vs. 14.1% medication to placebo reduction in irritability
  - Also can lessen repetitive behavior and depression.
  - Side effects: Gynecomastia (boys developing breasts), sedation, weight gain.
- Aripiprazole/Abilify
  - Significant reduction in irritability.

--Mooney et al. (2019).

Antipsychotic Medication and ASD

- **Aripiprazole/Abilify (Continued)**
  - **Side effects: Significant weight gain, drowsiness, & extrapyramidal symptoms ("difficulty in speaking, drooling, loss of balance control, muscle trembling, jerking, or stiffness, restlessness, shuffling walk, stiffness of the limbs, twisting movements of the body, or uncontrolled movements, especially of the face, neck, and back." Mayo Clinic, January 1, 2020. From Website: https://www.mayoclinic.org/drugs-supplements/prochlorperazine-rectal-route/precautions/drg-20406214).**

--Mooney et al. (2019).

  - **Most common side effects: drowsiness, weight gain, drooling.**
- **First Generation Antipsychotics:**
  - **Haloperidol/Haldol Decanoate**
  - **When coupled with language training improved irritability.**
  - **Sedation, dystonic reactions (intermittent spasmodic or sustained involuntary contractions of muscles in the face, neck, trunk, pelvis, extremities, and even the larynx), extrapyramidal symptoms, withdrawal dyskinesias (chorea, athetosis, tongue protrusion, chewing movements, facial grimacing, finger, toe, ankle movements, ballistic movements, vocalizations, and spasmodic torticollis.) Second line treatment!**

--Mooney et al. (2019).

Latest Overall Information on Autism

- **Hyman, S.L., Levy, S.E., Myers, S.M. and COUNCIL ON CHILDREN WITH DISABILITIES, SECTION ON DEVELOPMENTAL AND BEHAVIORAL PEDIATRICS (January, 2020). Identification, Evaluation, and Management of Children With Autism Spectrum Disorder. Pediatrics, 145 (1), e20193447; DOI: 10.1542/peds.2019-3447.**

- **American Academy of Pediatrics (AAP), Council on Children with Disabilities (COCWD): https://services.aap.org/en/community/aap-councils/council-on-children-with-disabilities/.**

Antipsychotic Medication and ASD

- When should approved Second Line antipsychotics be administered?
  - It depends on the child's behavior, especially aggression.
  - Risperidone/Risperdal – no instant results; takes 8 weeks +/- to get correct blood level.
  - At first parents think it is great…the child is sedated then the problem behaviors can come back.
- There is some clinical indication that children with ASD metabolize medications differently than neurotypicals, hence the poor response rates and bad side effects.

--Daily (2018).

Temple Grandin (2014) and ASD Medications

- **"Little research exists on long term drug use in children. Doctors and parents need to be doubly careful and consider medications only after other behavioral/educational options have failed to alleviate the symptoms" (p. 228).**

- **"Most of the new drugs are slight modifications of old generic drugs. They have no advantages and are much more expensive" (p. 230).**

Temple Grandin (2014) and ASD Medications

"I started taking Tofranil (imipramine) in 1980. Within a week, the anxiety and panic was 90% gone. No drug can provide 100% control of symptoms and I avoided the temptation to take more of the drug every time I had a minor anxiety episode. Three years later, I switched to Norpramin (desipramine) and it has worked consistently well at the same low dose for over 30 years. Another benefit was that my stress related health problems stopped. Colitis attacks and pounding headaches ceased" (p. 230-231).

- **When newer SSRI antidepressants became available she decided not to try them because what she was taking seemed to be doing the job. She didn't want to risk the change.**

The Future

Future: Genetic Testing for Medication (Not Ready, Yet)

Developed through research at the Mayo and Cleveland Clinics. Swab inside of your cheek for DNA. Sample sent to GeneSight lab. Within 36 hours doctor gets report. Can choose appropriate medication and dose by your genes. As of June 2019 they do not do testing for AD/HD Medications. They still do testing for depression.

- **www.genesight.com**
- **Bose-Brill et al. (September 25, 2017). Pharmacogenomic testing: aiding in the management of psychotropic therapy for adolescents with autism spectrum disorders. Pharmacogenomics and Personalized Medicine. DOI: 10.2147/PGPM.S130247.**

Future: Oxytocin & ASD

- **"Our findings indicate that by upregulating communication among regions related to motivational valuation, social perception, thinking about the self, and reward memory, OT (Oxytocin) may facilitate social motivation. In individuals with ASD, such an effect may be clinically meaningful; many of the processes we influenced via OT administration are…**
- **"…dysfunctional in ASD, where the social world may have reduced reward value, and neural specialization for social perception is decreased. We note that the effects we observed were context-specific; OT effects on systems underpinning social motivation are best observed in the context of rewarding social stimuli."**

--(Gordon et al., November 15, 2016).

What Increases Oxytocin?

- Interactive touch between humans can produce more oxytocin in the brain. It can even increase one's level of trust.
- Temple Grandin's "squeeze machine"
- Hirstein's "squeeze vest" Elmhurst College

- Risperidone/Risperdal rises prolactin which interacts with oxytocin.
- Aripiprazole/Abilify appears to lower prolactin

--Morhenn et al. (November 2008); Grandin, T (1992); Ramachandran et al. (2006); McDougle et al. (May, 1997); Augustine et al. (2017); Blankenship et al. (September 29, 2010).

Vasopressin and ASD

- **"Arginine" vasopressin (AVP) administered**
- **30 Children with ASD**
- **Ages 6 to 9.5 years**
- **Significantly reduced anxiety and repetitive behaviors.**
- **Well tolerated and no significant changes in health.**

--Parker et al. (May 8, 2019).

Oxytocin & Vasopressin In Mammals

- **"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)

Bonobos & Vasopressin

- **"Interestingly, this same polymorphic microsatellite in the human *AVPR1A* that has been associated in autism is absent in the common chimpanzee, but present in the bonobo. Bonobos are known for high levels of psychosexual reciprocity and they appear to use sexuality to promote social reconciliation as well as social bonding within the group. Therefore, it is intriguing to consider that as in voles, variations in unstable microsatellite sequences in the promoters of the primate vasopressin receptor may contribute to species difference in expression and social behavior, as well as to individual differences in social behavior." (p. 2195)**

--Hammock, E.A.D. and Young, L.J. (December, 2006).

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).**
- **A brain scan of a child with ASD indicated it had a small olfactory bulb. Reduced olfactory function would lower prolactin and oxytocin and possibly social connectedness in ASD.**

-- Hammock, E.A.D. and Young, L.J. (December, 2006); Ramachandran (2011).

Kevin T. Blake's Suggestions

Kevin T. Blake's Suggestions

- **If possible do not have a general practitioner physician prescribe medication to a child on the spectrum.**
- **Use the following specialists:**
  - **Developmental Pediatrician: Society for Developmental and Behavioral Pediatrics (SDBP) - http://www.sdbp.org/**
  - **Behavioral Neurologist: "…expertise in evaluating and treating people with brain conditions that may affect their memory or thinking (cognitive) skills." https://www.mayoclinic.org/departments-centers/division-behavioral-neurology/overview/ovc-20443621**
  - **Neuropsychiatrist: American Neuropsychiatric Association (ANPA) - https://www.anpaonline.org/**

Kevin T. Blake's Suggestions

- One typically finds such experts at:
  - A world-class medical center (i.e., Mayo Clinic)
  - A university medical center (i.e., Stanford Medical Center)
  - The most prestigious medical center in your region of the country.
  - University medical centers will usually see people for reduced fees. "Teaching Hospitals".
- Work with compounding pharmacies:
  - Usually these pharmacist's have more training than a typical drugstore pharmacist.
  - They can work with prescriber to determine side-effects, drug interactions, etc.
  - They can also modify medication delivery.

Transitions & Laws

Adolescence and Transition

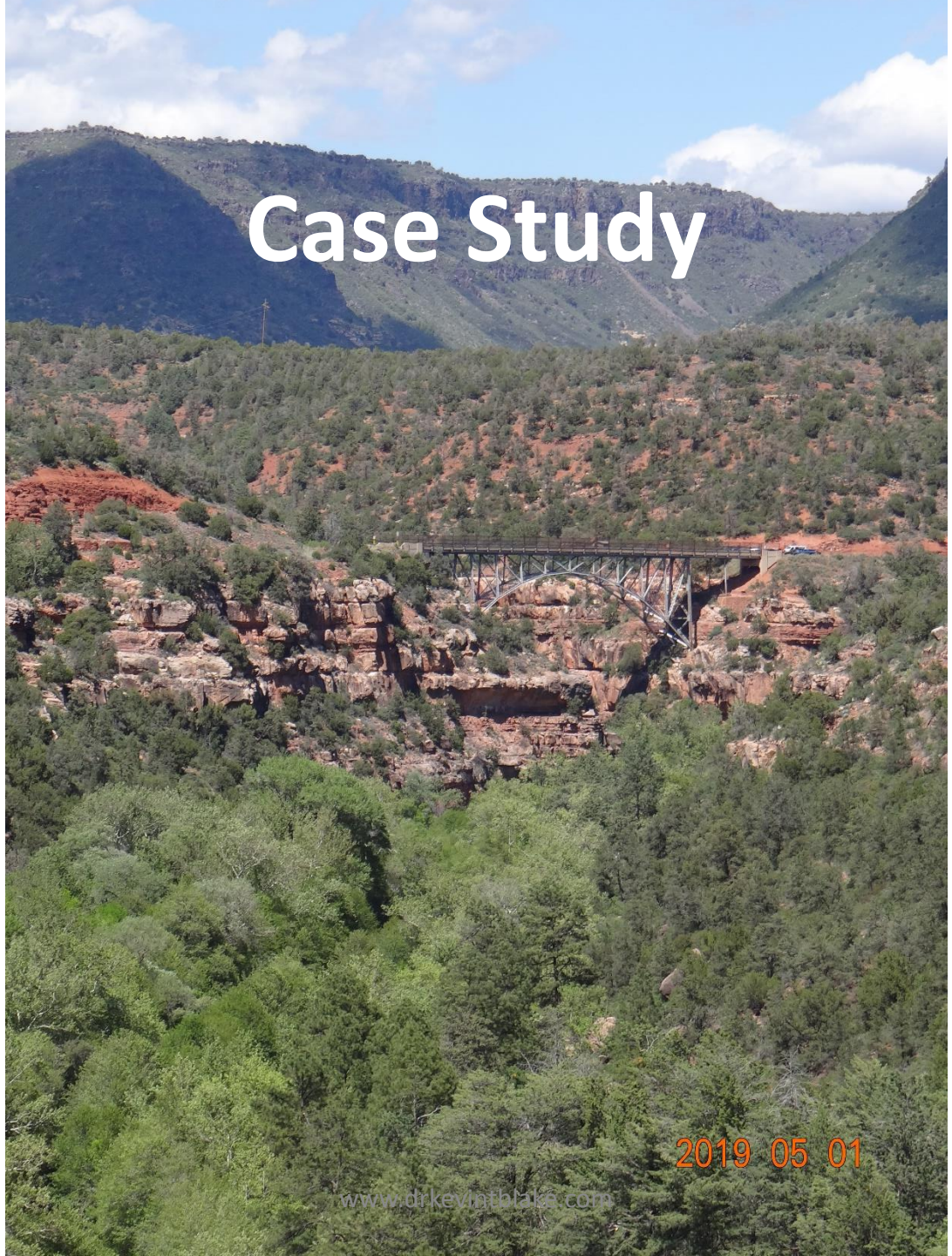
- **Autism Speaks Transition Tool Kit: https://www.autismspeaks.org/tool-kit/transition-tool-kit**
- **At age 14 start teaching:**
  - **Independent living skills:**
  - **Vocational skills, time management, problem solving, decision making, leisure skills, community safety skills, how to use public transportation, money skills, grooming skills, social skills, how to speak up for themselves, sex ed., relationship skills, driving skills (what to do when an officer pulls you over), etc.**
- **The student needs to be able to explain their disability to a health care provider cogently and succinctly.**
- **All this should be included in their IEP**
- **The IEP is in effect until age 22.**
  - **If they have problem remembering to put on deodorant, that needs to be in IEP.**

--Daily (2018).

Disability Laws and Estate Planning

- Place to go to learn about disability rights and advocacy for IEP, IDEA, and ADAAA:
  - National Disability Rights Network: https://www.ndrn.org/
  - They can tell you where to go in your state for such free services.
- Guardianships, Trusts, Estate Planning, etc.:
  - Certified Elder Law Attorney (CELA): www.nelf.org
  - Most major brokerage firms have Special Needs financial advisors.
  - Most major law firms have elder law attorneys who can help you create a special needs trust.

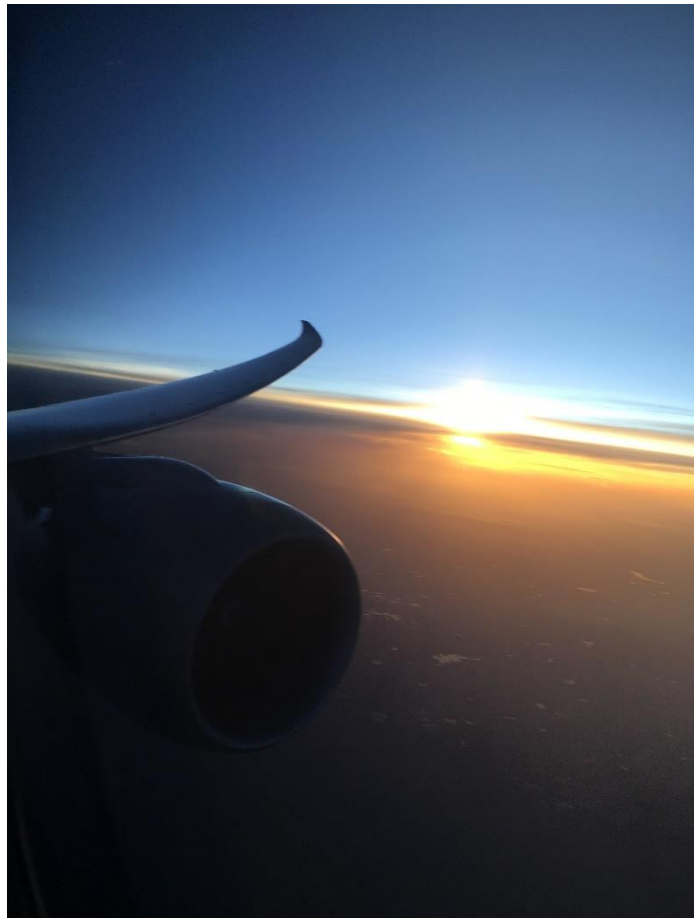
Case Study



Case Study

- George is a 14 year old male has never been diagnosed with anything.
- Recently he has been bullied at school.
- He is significantly depressed and anxious and is planning to commit suicide.
- He says, " I know I am different. I want to know why…"
- "…I don't fit in. Help me!"
- Parents do not want him evaluated/tested.
- He wants to be evaluated/tested.

Thank You!



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