



High-Functioning Autism in Adults: Practical Interventions for Challenging Behaviors

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Announcements, Disclosures and Paperwork



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Disclaimer

- **None of the techniques described in this webinar will work for all persons with autism spectrum disorder (ASD). Every person 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 webinar 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.**
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- **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 TPN.Health and royalties 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.

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**“If you have met one person with autism,
you have met one person with autism.”
-- Unknown**

Low-Functioning, High-Functioning, Verbal, Non-Verbal



Low-Functioning, High Functioning, Verbal, Non-Verbal

➤ **With or without accompanying intellectual impairment ***

➤ **With or without accompanying language impairment@**

***-We will discuss those without intellectual Impairment.**

@-We will mostly those who have little language Impairment

➤ **Level 1: Requiring Support ***

➤ **Level 2: Requiring Substantial Support**

➤ **Requiring Very Substantial Support**

*** -These are the ones which will sometimes be able to live on their own.**

--Author (2022).

Dismal Five

Difficulty with:

- **social–emotional reciprocity**
- **nonverbal communication behaviors used in social interactions**
- **developing, maintaining, and understanding relationships**

Difficulty with at least two of the following 4:

- **patterns of movement or speech**
- **sameness of routines or rituals**
- **special, highly focused interests**
- **strong responses to sensations in the environment**

--Author (2022).

Famous High-Functioning Non-Verbal People

➤ Elizabeth Bonker- 2022 Valedictorian of Rollins College, Orlando, FL.

- Gave valedictorian address with the help of a text to speech tablet.
- Created a non-profit called Communication 4 All to help the 31,000,000 non-verbal people with autism.

--Chappell, B (May 12, 2022; 2:44 PM EST); Rose, V, et al. (May, 2016).

➤ Rajarshi (Tito) Mukhopadhyay

- Born in India, he and his mother immigrated to USA
- Has written 4 books.

“...The contrast between Tito’s overt, typically autistic behavior – at one point he grabbed my hand to use it as a mechanical tool to turn a stiff door handle --and the sophistication of the language expressed through his alphabet board was truly amazing.”

--Mukhopadhyay, T.R. (2011); (Wing, L., 1999).

Famous High Functioning Verbal Person

- **Temple Grandin, Ph.D.**
 - Tenured professor at one of the leading veterinary medical schools in the world; Colorado State University.
 - Bachelor Degree in Psychology, Franklin Pierce College, 1970, Master Degree in Animal Science, Arizona State University, 1975, Ph.D. in Animal Science, University of Illinois. Champaign-Urbana, 1989
- Considered the premiere expert in livestock behavior in the world.
- Personally designed 2/3rds of the livestock handling facilities in North America.
- Time, magazine said she was one of the 100 most influential people in the world.
- She is one of the first people diagnosed as having Autism.

--Grandin, T. (2023).

Background



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 36 children age 8 meet criteria for ASD in the United States.
- Approximately 4% of boys and 1% of girls
- Slightly lower rates among whites,
- Racial and ethnic groups slightly higher rates
- African American children with ASD and intellectual disability higher rates than white children with ASD.

--Meanner, M.J. et al. (March 24, 2023).

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).**

--Schendel, D. et al. (October, 2012).

“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**

--Frye, R.E. et al. (May 1, 2012).

- **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).

Microbiome & Mental Health

- Only 43% of you is you the rest is microbiome, bacteria, viruses, fungi and single-celled archaea.
 - Disorders of your microbiome can be connected to disorders like allergies, obesity, inflammatory bowel disease, Parkinson's, whether cancer drugs work and even depression and **Autism Spectrum Disorder**.
- Australian research has indicated those with ASD have a significantly different gut biome (GB) than neurotypicals. The GB of those on the spectrum less diverse due to diet and restricted range of interests. This can cause gut problems and loose stools.

--Gallahger, J. (April 24, 2018).

--Yap, C.X. et al (November 11, 2021).

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 Brain 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).

ASD and Lifespan

- **The mean age for death of those with ASD in the USA is 36.2 years.**
 - **27.9% of those whom die by that age die due to injury**
 - **suffocation, asphyxiation, and drowning are the leading injury causes in those with ASD under the age of 15**
 - **This accounts for 74% of the accidents that result in death for those with ASD.**
- Guan, J. et al. (May 2017).
- **Those with the lifespan in the mid-thirties tend to be those with comorbid intellectual disability.**

- **Most common neurological reason for early death in Low-Functioning ASD: epilepsy.**

--Hirvikoski, T. (January 2, 2018).

- **Those with ASD whom do not intellectually disabled tend to live 53.87 years.**

--Marschall, A. (December 8, 2022).

When those with ASD live to age 65 they tend to go on to live the same lifespan as the non-disabled.

--Krantz, M. et al. (February, 2023).

Autism and Autoimmunity



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Autism & Autoimmunity

Children with autism are 35% more likely than their neurotypical peers at develop asthma. “Increased risk of type 1 diabetes, allergic rhinitis, atopic dermatitis, urticaria and a trend toward increasing comorbidity with Crohn's disease are also observed in subjects with ASD.” At least 50% of those with autism suffer from some sort of gastrointestinal disease. “Increased inflammation and dysregulation of the GI tract in ASD is important as this compartment comprises a significant percentage of immune cells in the body, and immune cells educated here participate in immune function throughout the body... The evidence that immune dysfunction likely plays a role in the etiology/pathophysiology of ASD is becoming substantial.”

--Hughes, H.K. et al. (November 13, 2018).

How Much at Risk are Those with ASD of Contracting COVID-19

Researchers from Drexel University found that adults with ASD, intellectual impairment, and/or mental health disorders are 3 times more at risk for COVID-19 exposure and severe infection than neurotypicals. Adults with ASD often are not able to communicate their concerns and medical difficulties and medical staff do not know how to work with them. Those with ASD have extreme difficulty obtaining services. The people with ASD need to be helped to get services. They have had trouble adjusting to the pandemic and will have difficulty transitioning to a non-pandemic world.

--Schott, W. et al. (August 2021).

ASD & Psychiatric Comorbidity



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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 (2017).

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

--Postorino et 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 (2017)

- **Bipolar Disorder: 6 to 27%; General Population: 4.4%**

--Autism Speaks (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).

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; hoarding**

➤ **Typical obsessive thought of neurotypical:**

➤ **Sex, religion, aggression, cleanliness.**

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

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

Suicide and ASD

- Swedish and American scientist found that those with ASD were 3 times more likely to attempt suicide and die from attempting than those without ASD.
- This was particularly so in those people with ASD with comorbid psychiatric disorders.

--Hirvikoski, T. et al. (June 26, 2019).

- 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).**
 - --Daily (2018).

8 Critical Things for Suicidal People with ASD

- 1. Pay Attention: Especially with behavior change & after concussion.**
- 2. Talk to them about ASD, 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!**

--Bernard, S. (April 8, 2019).

Suicide Risk, and Mental Health of Adults with ASD during the Pandemic

Australian researchers examined 111 adults with ASD (ages 20-70; 58% female, 32% male, 9% non-binary) regarding the affect the pandemic was having on their mental health and suicide risk. They found, as a whole they experienced an increase in depressive symptoms, and a decrease in wellbeing (changes in, “...routines, family income/employment, food access, medical health care access, mental health treatment access, access to extended family and non-family social supports, stress, and family discord.”) However, they did not experience a significant increase in suicidality.

Hedley, D. et al. (September 21, 2021).

Autism & Gender

“Compared to general population peers, more people with ASD, especially women, reported sexual attraction to both same- and opposite-sex partners. About half of the participants with ASD was in a relationship (heterosexual in most cases) and most of them lived with their partner. A notable number of autistic participants, again more women than men, reported gender non-conforming feelings. Attention to gender identity and sexual diversity in education and clinical work with people with ASD is advised.”

➤ In general, little is known about sexual identity development in adults with ASD.

Dewinter, J. et al (June 9, 2017). Sexual Orientation, Gender Identity, and Romantic Relationships in Adolescents and Adults with Autism Spectrum Disorder. Journal of Autism and Developmental Disorders. DOI: [10.1007/s10803-017-3199-9](https://doi.org/10.1007/s10803-017-3199-9).

Important to be Aware of ASD & Suicide

- **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.**

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).

➤ **AD/HD: 50 to 70%; 2.58 to 6.76% General Population**

--Hours, C. et al. (February 28, 2022)., Song, P. et al. (February 11, 2021).

➤ **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).

- **Microbiome: 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, V.L. (January 6, 2021).

Survey of Adults with ASD During Pandemic

- **Pets**
- **safety and security,**
- **Work/job loss**
- **Access to prescription pharmaceuticals**
- **Access to food; especially if lost job**
- **Women with higher levels of anxiety pre-pandemic had higher anxiety during the pandemic.**
- **Most reported more anxiety and depression during COVID-19.**
- **Lost a significant amount of help during pandemic: mental/medical health help, coaching, etc.**
- **Most reported less social anxiety and sensory sensitivity during lock down-isolated.**
- **A sizable group said they did not experience significant change in their levels of anxiety and depression during lockdown.***

*Oomen, D. (February 12, 2021)., Hedley, D. et al. (September 21, 2021)., Adams, A. E. et al. (April 12, 2021)., Bundy, R. et al. (January 27, 2022)., Lounds Taylor, J. et al. (October 9, 2021).

The Adult with ASD and Mental Health Services

- **Most Adults with ASD use Mental Health Services.**
 - **53% of people with ASD used Mental Health Services.**
 - **Seek help for depression, anxiety, AD/HD, OCD, eating disorders, etc.**
 - **30-60% seek Mental Health services every year**
 - **7.14% were in inpatient treatment in the last year**
 - **2.5% in in outpatient clinics in the last year**
 - **Women with ASD use Mental Health Services more than men.**
- **The office environment of Mental Health Professionals often does not meet the sensory need of those with ASD.**
- **They do use Mental Health services much more than neurotypicals.**
- **There is a lack of professional who are knowledgeable about adult ASD.**
- **Often the treatment techniques offered do not meet the needs of the adult on the spectrum.**

--Gilmore, D. et al (August 15, 2022).

False Beliefs About Adults with ASD

“...providers may inaccurately believe that autistic adults are unable to or uninterested in developing social, romantic, or therapeutic patient-provider relationships...this hurts.”

--Gilmore, D. et al (August 15, 2022).

“Providers may see a high-functioning person on the spectrum as coping well, but not understand how much they struggle to accomplish this “camouflaging.” “I am too high functioning for most ASD programming in my area, but not neurotypical enough to function well in conversational, work, and social environments.”

--Camm-Crosbie, L. et al. (November 29, 2018).

Common Adaptations of Psychological Therapies for ASD Adults

“The clinical features and cognitive differences characteristic of ASD mean autistic people require adaptations to standard evidence-based psychological treatments to adequately meet their needs...Such adaptations include an increased use of written and visual information, emphasising behaviour change over cognitive approaches, having well explained guidance and rules in therapy, involving a friend, family member or carer, having breaks, incorporating special interests and avoiding ambiguous use of language.”

--Cooper, K et al. (January 1, 2018).

Virtual Visits, ASD, & Pandemic



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Virtual Doctor Visits Vs. Real Doctor Visits

Professors from Ohio State University surveyed adults with ASD who were seen in both live and virtual doctor visits. Regarding virtual visits the clients said they felt more comfortable seeing their doctor from home, they liked not being exposed to others who may have COVID, and they reported as good or better communication with their doctor as well as they said they did not have to deal with so many sensory sensitivities. What they did not like was the possibility of computer/internet problems, they did not like that their doctor could not physically examine them, and the clients admitted they sometimes would not participate as much as they would with a live visit.

--Harris, L. et al. (November 30, 2021).

Anxiety, CBT, Telehealth, & The Pandemic

Scientists from Yale and UCLA concluded, “Ultimately, we believe that when approached with flexibility and fidelity, the delivery of CBT for anxiety in ASD via telehealth is not only possible but also presents unexpected opportunities and benefits for tailoring treatment to better serve the needs of children with ASD as we move forward beyond the COVID-19 Pandemic.”

--Kalvin, C.B. et al. (January 1, 2021).

Communication & ASD

Provider Communication with Adults on The Spectrum

- **Provider: “Mr. Sheehan what brings you here today?”**
 - **Mr. Sheehan: “My brother in his 2018 Honda Civic Type R with a 2.0 liter, intercooled, turbo charged engine that produces 306 brake horse power, 290 pound feet of torque, pulls 1.03 Gs on a 300 foot radius skid pad...”**
 - **Could that be a “little” Frustrating?**
- Gilmore, D. et al (August 15, 2022).



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.**
- **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.**

--Daily (2018).

Communication with High-Functioning Non-Verbal ASD Adults

- Surveys of ASD adults indicated they prefer identity-first language – Meaning an autistic person, **NOT** a person with autism.
- Sign Language American Sign Language (ASL)
- Written, or typed communication (electronic)
- Picture Communication (electronic)
- Augmentative and Alternative Communication (AAC).
- Alternative Language: “Not all nonspeaking autistic people are verbally mute. If the individual uses some sounds, ask them what sounds indicate certain words. Learn the language that works for them, and use that for communication.”
- All of these evolve with time.

Communication with High-Functioning Non-Verbal ASD Adults

➤ High-Functioning ASD adults

May at times become temporally non-verbal.

- When become stressed
- When feeling burnt out
- When overstimulated

--Marschall, A. (August 3, 2022).

➤ Loved ones and family members can help with communicating/translating for the ASD adult.

Common ASD Language Issues

- **Adults on the spectrum:**
 - **Have difficulty with verbal comprehension/understanding**
 - **Can be repetitive in language**
 - **Can use scripted language**
 - **Can be echolalic**
 - **May “shut down”; Catatonia**
 - **Comprehend language literally, not abstractly**
 - **Can become overwhelmed and overstimulated by language**
- **It often takes significantly longer to establish rapport with an adult with ASD (not minutes, multiple sessions)**

--Gilmore, D. et al (August 15, 2022).

Emotional Literacy

- **Many on adults on the spectrum do not have the emotional literacy to benefit from traditional talk therapy.**
 - **They may need “emotional intelligence” training before they can benefit from talk therapy.**
 - **Start off more as being a coach and teacher with such individuals; social skills, learn to identify emotions, when to know they are about to meltdown and strategies to avoid it, etc.**
- **Give them alternatives to stimming and/or melting down: Squeeze ball, take a walk, ask for a break, put on sound suppression head phones, something spin in hand, allow them to rock, etc.**

Camm-Crosbie, L. et al. (November 29, 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

Provider Language Suggestions

- **DO NOT** focus constantly on deficits.
- **DO NOT** use labels like “High-Functioning and Low-Functioning” with them.
- Talk about their strengths, and how they can use them in different environments.
- Talk about supports they can use in different environments.
- **Never** discuss their, “challenging behavior.”
- Instead use the words like, “meltdowns, stimming, etc.” Be specific and not judgmental.
- Mirror how the person refers to themselves and use their terminology. For example Don’t use the phrase, “a person with autism”, if they refer to themselves as an, “Aspie.”

--Gilmore, D. et al (August 15, 2022).

Other Things to Consider When Working Adults on the Spectrum

- **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/Diary**
- **Selection of Group Participants**
- **Time with loved ones and/or
guardians, etc. when
appropriate**

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

Common Adaptations of Psychological Therapies for ASD Adults

- “make sure the therapy room isn’t overwhelming
- use simple, plain language
- give time for autistic people to process information and answer questions
- ask them if they would like someone close to them to be involved in sessions
- support them to be able to label their own feelings and emotions
- try to integrate autistic people’s interests if that will help them
- note down what you have covered and share this with the autistic person.”

(p. 5) –Randall, J. et al. (November 8, 2021).

Therapeutic Abuse?

Some Adults on The Spectrum Feel They Have Been Abused By Therapist

“Research in ABA [Applied Behavioral Analysis, sic.] continues to neglect the structure the autistic brain, the overstimulation of the autistic brain, the trajectory of child development, or the complex nature of human psychology, as all of these factors were ignored in the response and are ignored in ABA practice itself. Providing a treatment that causes pain in exchange for no benefit, even if unknowingly, is tantamount to torture and violates the most basic requirement of any therapy, to do no harm.”

- **This may be one reason why you need to take a lot more time to establish rapport with an adult on the spectrum.**
- **There are other reasons, language difficulties, sensory issues, etc.**

--Shkedy, G. et al. (April 9, 2021)

But, The Scientific Literature Backs Up The Therapists

“ABA [Applied Behavioral Analysis, Sic] is scientific approach that identifies environmental variables that influence socially significant behaviors and develop strategies to cause behavior change that is practical and applicable, improve educational outcomes, and provide real-life support for parents and families who are seeking treatment for their loved one with ASD. In doing so, this paper will demonstrate that ABA is an efficacious approach that is supported by numerous scientific studies in the peer-reviewed literature.”

There is over 50 years of replicated double-blind research that has demonstrated ABA is the most efficacious treatment modality available to modify the behavior of a person with ASD to be within the accepted norms of behavior.

--Gorycki, K.A. et al. (September 23, 2020).

Please Note: Adults with ASD who reached adulthood 20, or more years ago, ABA still used punishment, etc. Today we have climbed into the “Black Box” and know much more about the “autistic brain” than we did back them.

Anxiety, CBT, Telehealth, & The Pandemic

Scientists from Yale and UCLA concluded, “Ultimately, we believe that when approached with flexibility and fidelity, the delivery of CBT for anxiety in ASD via telehealth is not only possible but also presents unexpected opportunities and benefits for tailoring treatment to better serve the needs of children with ASD as we move forward beyond the COVID-19 Pandemic.”

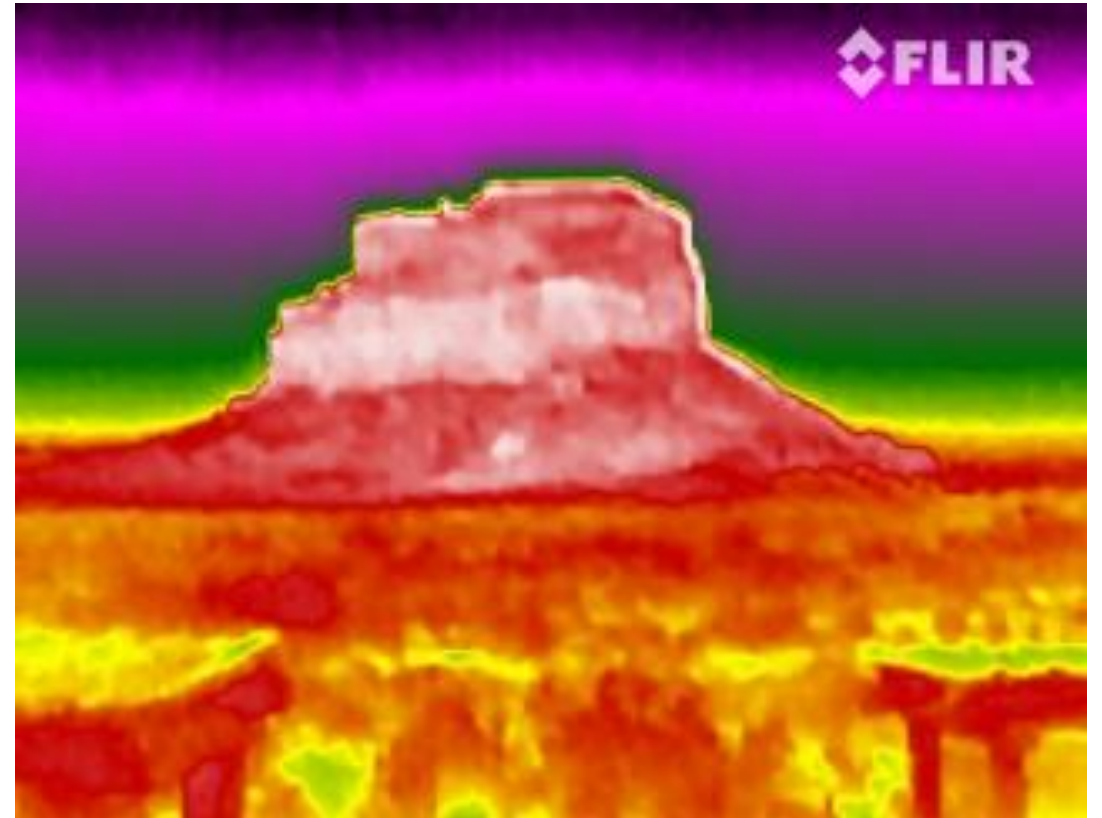
--Kalvin, C.B. et al. (January 1, 2021).

Autistic-Centered Therapy

“I’m autistic, and I specialize in Autistic-Centered Therapy (AuCT). AuCT is basically equal parts trauma work, advocacy work, autistic interpersonal therapy, and automotive maintenance...Due to the otheredness, there's often complex trauma that must be addressed. There's a lot of processing the trauma, working on healthy AUTISTIC coping skills, finding methods of self-care, and encouraging natural autistic relationship building. This one is tricky. Autistic interpersonal therapy (in my experience) can only be done well if the therapist is also autistic.” (Matt Lowry, LPP)

Lowry, M. (No Date). What is Autistic-Centered Therapy? From website:
<https://www.mattlowrylpp.com/blog/act-83tka>.

Sensory Issues



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 than neurotypicals processing such stimuli 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 the 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).

Temple Grandin (2014) believes:

People with ASD have three problems with processing incoming stimuli:

- 1. Sensory oversensitivity**
- 2. Perceptual problems**
- 3. Difficulties organizing information**

The ways those on the spectrum deal with sensory overload:

- Scream**
- Shut down**
- Fatigue can make sensory overload worse.**
--Grandin (2014).

Sensory Overload

“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)

--Gandin, T. (2014).

Hyperacusis

“Hyperacusis is a rare hearing disorder that causes sounds which would otherwise seem normal to most people to sound unbearably loud. People who suffer from hyperacusis may even find normal environmental sounds to be too loud.”

- One in 50,000 will have hyperacusis**
- One in 1,000 people with hyperacusis will have tinnitus**

--Goodson, S. and Hull, R.H. (2015).

Percentage of Hyperacusis and/or Tinnitus Among the Population of Those with ASD

- **Researchers from Vanderbilt wrote, “In this meta-analysis, we found a high prevalence of current and lifetime hyperacusis in individuals with ASD, with a majority of individuals on the autism spectrum experiencing hyperacusis at some point in their lives.”**

--Williams, Z.J. et al. (February, 2021).

Other researchers from the US found that 69% of those with ASD reported experiencing hyperacusis, 35% reported tinnitus, and 31% reported hyperacusis and tinnitus.

-- Demesh, A.A. et al. (July 26, 2015).

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 12, 2012).

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)

Relaxation Tools For Autistic Adults

- 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).

Adaptations for Waiting Areas and Offices

- “minimise unnecessary clutter
- be aware of loud and distracting noises, such as the radio playing or a ticking clock
- consider using dimmer lights or natural lighting
- consider the impact of smells
- allow the person to wait where is best for them.” (p. 21)

–Randall, J. et al. (November 8, 2021).

- No ornate designs on walls/carpet
- Check ventilation
- Check to see they can tolerate the material furniture is made of.

Treating Hyperacusis in Those with ASD

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

--Attwood, T. (2007).

How to Make your Classroom Acoustically Available for the Autistic Adult

- Provide good lighting in the room.
- Avoid assigning a therapist to client who **DOES NOT** speak with a common or local accent.
- Acoustical tile in the ceiling
- Carpeting with thick carpeting pad on the floor
- Beards and moustaches need to be well trimmed away from lips. This allows for better speech reading.
- No mini-blinds! Draperies! Draperies absorb ambient sound better.

Multisensory Perception



2018 05 17

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).

Neurology, Autism and Touch

There are three types of nerve fibers related to touch:

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

--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, light touch, slow transmitting - unmyelinated CT fibers.**
- **The CT Fibers appear to be geared more to feeling than sensing, and touch that is rewarding.**
- **Touch 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 that increase 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
- Ear plugs or headphones in noisy environments
- Closed door or high-walled work areas to block distracting sights and sounds
- 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.

--Autism Speaks (No Date). Sensory Issues

Emergency Department and ASD

Emergency Department and ASD

- **Adults on the Spectrum have significant difficulty navigating the system.**
- **ASD adults go to the Emergency Room (ER) 5 times more than Neurotypicals.**
- **The reason they go to the ER is much more likely to be related to mental health difficulties.**

--Gilmore, D. et al (August 15, 2022).

Emergency Department and ASD

“...the ED is characterized by a chaotic environment, unfamiliar people, rapid and multiple relocations to different areas within the department, and a lack of control over noise, light, odor, and temperature. Unpredictability and overstimulation, coupled with verbal and non-verbal communication deficits, can make ED visits especially an overwhelming experience for individuals on the autism spectrum.”

--Sadatsafavi, H. et al. (April 23, 2022).

Emergency Department and ASD

- Establish a “one voice” policy
 - Calm, smooth, slow
- Yes/no questions
- Try to isolate patient in separate low stimuli room
- Noise cancelling headphones, white/gray/brown/pink noise machine
- Offer soft music
- Offer word, phrase, or small bell ringing to indicate new activity
- Shut off unneeded technology in room
- Limit room traffic
- Approach patient slowly and calmly
- Soft light in room
- Try to do all procedures in one room; allow for acclimation

Sadatsafavi, H. et al. (April 23, 2022).

Emergency Department and ASD

- **Use an uncluttered room**
- **Put an actual stop sign on the back of the room door to keep them from wandering.**
- **Give them visual cues**
 - **Map of the hospital**
 - **Written schedule of what to expect**
 - **Demonstrate all procedures on a stuffed animal before doing the same with them.**
- **Provide picture of X-ray machine, etc.**
- **Let them “examine” devices**
- **“flash lights” to alert to changing activity**
- **Offer a tablet for distraction**
- **Provide a weighted blanket**
- **Touching patient with soft object can be used to indicate new activity.**

Sadatsafavi, H. et al. (April 23, 2022).

Emergency Department and ASD

- **Occupy patient's hands or body with fidget toys as a distraction strategy -- Occupational therapy devices**
- **If physical restraint is required, wrapping the patient tightly in a blanket is preferable to arm and leg restraints. Blankets have a softer texture and may provide both temperature and tactile stimuli that are pleasing in this patient group.**
- **Warm the equipment and use less abrasive materials**
- **Prepare the patient in advance for the need to touch, hold, or restrain. Approach slowly and demonstrate what you are going to do to help the patient understand and have a sense of control.**
- **Allow for “alternative seating”**

Sadatsafavi, H. et al. (April 23, 2022).

Emergency Department and ASD

- Stay away from multiple wrist bands
- Flavored lip balm and scratch and sniff stickers for distraction
- Compounding medication so it tastes good.

Sadatsafavi, H. et al. (April 23, 2022). Sensory-Friendly Emergency Department Visit for Patients with Autism Spectrum Disorder—A Scoping Review. Review Journal of Autism and Developmental Disorders. DOI: [10.1007/s40489-022-00318-6](https://doi.org/10.1007/s40489-022-00318-6).



Dogs and Autism

www.drkevintblake.com

Dogs and Autism

➤ Other animals often used with Autism:

- Horses
- Rabbits

➤ Dogs

- “There are three kinds of reactions the child [with autism, sic.] can have: The first is an almost magical connection with dogs. The child and dog are best buddies. They love being together...

- “...The second type of reaction is the child that may be initially hesitant, but learns to really like dogs. The third type of reaction is avoidance and fear.” (p. 119)

Wood, A. (2016).; Grandin, T. (2009).

ASD & Dogs

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

--Johnson, R.A. (2011)

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

--Odendaal, and Meintjes (2003)

ASD & Dogs

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

--Martin, and Farnum (2002)

Children with autism who bond with their dogs have better social skills.

--Carlisle, G.K. (May 2015).

- **Pet Partners (Therapy Animals):**
<https://petpartners.org/>
 - **4Paws For Ability (Service Animals)**
 - **253 Dayton Avenue**
 - **Xenia, OH 45385**
 - **Training Center:**
 - 937-374-0385
- Website:** www.4pawsforability.org

Thank You!



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