Autism Causes, Traits, & Definitions

From Rob Dial's Mindset Mentor podcast, an excerpt of which was posted to Facebook on 11/11/2025: "In 1973 a Stanford psychologist, **David Rosenhan**, wanted to find out [if diagnostic labeling is an accurate practice in modern psychiatry]. And so, he designed an experiment and sent eight normal volunteers to twelve different psychiatric hospitals around the country and told them all one simple thing to say - that they heard a voice that said one word: "Empty." That's it. Nothing else. And the moment they walked in, they were told to act completely normal after that. And the wild part is that every single one of them was diagnosed as mentally ill. Seven were **labeled** as Schizophrenic, and one was labeled as [Bipolar]/manic-depressive. **Not one doctor figured out that they were faking it**. Normal behaviors, like taking notes, were labeled as compulsive writing disorder; if they were being polite to people, they were labeled [as] exhibiting a pathological need to please. One of them flushed the toilet, and the staff called it 'ritualistic behavior.' The shortest stay was seven days. The longest stay was fifty-two days. On average, it was 19 days before they were let out [i.e., allowed to leave the facility]. And in that time, the eight people were prescribed 2,100 total antipsychotic drugs [Note: This statement is a little misleading, as that many different antipsychotics don't actually exist; besides, eight people taking, say, three doses of three different antipsychotics per day – if you add it up over 19 days – comes to a total of 1,368 pills, or doses]. **That's how powerful a label can be.** It distorts your reality … not just for doctors, but for everyone around you. **You only see what you EXPECT to see**. So, what's the takeaway from this? Sometimes the real problem isn't the patient, it's the system. So, never let a label define who you are [… or define another person]. Always question what you're being told, especially if your intuition says something different."

Sadly, for decades, psychologists essentially taught parents to see their Autistic child as automatically having a low IQ when, in reality, a great many Autistic people are highly intelligent. What is your own view of your child, and where does that view come from?

What Should I Call You?

Person-First Language: "A person with Autism."
Identity-First Language: "An Autistic person."

For a great little article that will help you to figure out what kind of language to use, go to this link right here:

- https://www.autisticscholar.com/84-2/

Scientists have identified 4 distinct autism subtypes

Story by Devika Rao, The Week US • 1mo • 3 min read

https://www.msn.com/en-us/health/other/scientists-have-identified-4-distinct-autism-subtypes/ar-AA1IYzY9?ocid=socialshare

The four autism subtypes are (according to a study published in the journal, Nature Genetics):

(1)social and behavioral challenges,
(2)mixed ASD with developmental delay,
(3)moderate challenges, and
(4)broadly affected.

While it's already known that autism is tied to genetics, this study "takes an approach that differs from classic gene discovery efforts by identifying robust autism subtypes that are linked to distinct types of genetic mutations and affected biological pathways," said a news release on the study. Each of the subtypes has certain characteristics associated with it.

Social and behavioral challenges: Children in this group have "more difficulty with social communication and restrictive and repetitive behaviors than other autistic children," as well as "more challenges with disruptive behavior, attention and anxiety," said Scientific American. Those in this subtype, however, "do not experience significant developmental delays."

Mixed ASD with developmental delay: Those in this subtype tend to "reach developmental milestones, such as walking and talking, later than children without autism," said the release. They usually do not display disruptive behaviors or show signs of anxiety and depression. The term "mixed" refers to "differences within this group with respect to repetitive behaviors and social challenges."

Moderate challenges: This subtype tends to display "core autism-related behaviors but less strongly than those in the other groups," said the release. They "usually reach developmental milestones on a similar track to those without autism" and do not tend to have other psychiatric conditions in tandem with ASD.

Broadly affected: This category makes up the smallest proportion of the study participants and is characterized by "more severe and wide-ranging difficulties with social communication, restrictive and repetitive behaviors, and other core autistic traits, including developmental delays," said Scientific American. These children also tend to have co-occurring conditions like depression and anxiety.

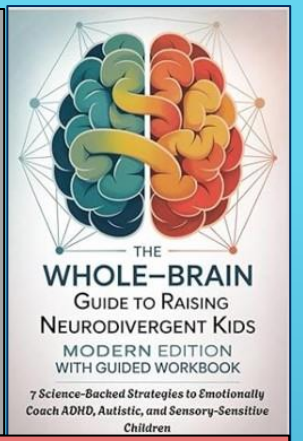
While there's still variation within these groups, participants in each were "more similar to one another than they were to participants in other groups," said Scientific American. These findings are "powerful because the classes represent different clinical presentations and outcomes, and critically, we were able to connect them to distinct underlying biology," said Aviya Litman, the co-lead author of the study, in the release.

Opening Question:

Is Autism a:

- Behavioral Disorder?
- Neurobehavioral Disorder?
- Neurodevelopmental Difference?

"Neurodivergence isn't a collection of deficits requiring correction. It's a different way of experiencing and interacting with the world, often accompanied by remarkable strengths that remain invisible when viewed through deficit-focused lenses."



Read pgs. 10-12 in this book for more about "The **Hidden Gifts** of AD/HD, Autism, and Sensory Processing Disorder."

See questions #1 - #3 on pgs. 17 and 18 for some excellent **introductory discussion questions**.

By the end of this section, we'll discover what the "right" answer is and why it represents the best lens through which to view ASD.

Appendix D

Glossary of terms

Adaptive Response is a purposeful, goal-directed response to sensory information or a task demand.

Apraxia is a difficulty in planning motor movements. It usually refers to an acquired motor coordination deficit in an adult. Speech therapists may refer to an apraxia of speech.

Developmental Coordination Disorder (DCD) is a DSM-IV diagnosis for a motor coordination disorder. This term is used frequently in research on motor coordination problems in children and is increasingly used by physicians. It is commonly used in Great Britain and in Europe. DCD is characterized by a motor coordination problem which results in functional difficulties. Some adults who experience sensory processing difficulties later in the their lives were diagnosed with DCD as children.

Gravitational insecurity is intense fear or anxiety that occurs when there is a change in one's head position or when moving through the environment.

Hyper-responsivity is a strong negative emotion or behavior associated with over-sensitivity to sensory stimulus. Yous may react defensively, withdraw or become overwhelmed.

Hypo-responsivity is under-sensitivity to sensory stimulus. You may crave intense sensations.

Motor planning is the ability to create a plan for motor actions, develop steps to complete the plan, and then execute the plan.

Praxis or motor planning is the ability to plan and sequence the steps of a motor action and is dependent on effective sensory discrimination. People with praxis problems have difficulty executing motor tasks, developing organizational skills, and interacting with unfamiliar objects in an efficient way. Problems in this area are often referred to as dyspraxia.

Proprioception is the sensory information generated by a person's joints and muscles. It tells a person where their body parts are in space. It is important for force regulation, control of posture and body awareness. It is also an important sensory input for promoting self-regulation. Proprioception works in conjunction with both the tactile and the vestibular sensory systems.

Sensory discrimination allows us to learn about the specific qualities of sensory information such as size, shape and texture, direction of a noise, and body position and movement in space. Sensory discrimination difficulties most always result in motor related difficulties such as lack of coordination or delayed motor skill development.

Sensory integration assessment is a specialized occupational therapy assessment which is conducted from a sensory integration theory frame of reference. The evaluation process assesses how a person processes (discriminates and modulates) sensory information; how that sensory processing impacts on foundational mechanisms such as postural-ocular skills, visual perceptual skills, hand skills and handwriting, as well as fine and gross motor skills; and how sensory processing and praxis abilities impact daily life functioning.

Sensory integrative deficits is a term that refers to the problems an individual has with one or more areas of sensory processing or motor planning or coordination.

Sensory integrative dysfunction is a term that refers to deficits in one's ability to integrate and interpret sensations from the environment. Sensory integrative dysfunction is an inability to efficiently and effectively process sensory information.

Sensory Integration and Praxis Tests (SIPT) is a standardized evaluation developed by Dr. Jean A. Ayres' to assess a child's sensory integration skills and abilities. A therapist must be trained and certified to perform the SIPT. Although the SIPT was designed originally for children, it gives very detailed information that will assist an OT in determining areas of need for a client of any age.

Sensory integration theory refers to the theoretical neurologically-based constructs that discuss how the brain processes sensation and impacts on motor, behavior, emotion, and attention responses.

Sensory integration intervention is a specific intervention model based on sensory integration theory whereby the provision of enhanced sensory information, in the context of meaningful and purposeful activities is believed to improve the development of an individual's nervous system functioning. Ayres® Sensory Integration intervention is a unique intervention that is client-directed and takes place in a friendly, loving and fun environment.

Sensory modulation is the ability to take in sensory information, decide what is relevant, and make an appropriate behavioral response. Difficulties in this area can result in avoidance or fear of normal sensations or unusual sensory-seeking behaviors. Sensory modulation problems can impact behavior and emotional development.

Tactile defensiveness is a strong negative reaction to touch or light-touch to one's body.

Tactile discrimination is the ability to distinguish and identify differences in touch and tactile sensations. It is also the ability to distinguish different characteristics of an object through touch, such as shape, size, and temperature.

Vestibular sensory inputs refer to a person's movement sense. This is sensory information from the inner ear that is responsible for balance. It detects and processes information in all planes of movement. In addition to balance, the vestibular system controls one's protective responses and posture, and works in tandem with one's visual system to allow efficient movement through space. It also has a strong influence on emotions and self-regulation.

Spiral foundation
Sensory Processing Institute for Research and Learning

Sensory Processing Disorder (SPD), sometimes referred to as sensory integration disorder/dysfunction or sensory processing dysfunction, is an often unrecognized condition that may be seen in otherwise typically functioning individuals as well as those with autism, attention deficit disorder, learning disabilities, and other neurological conditions. These individuals are not able to effectively process information from their senses (touch, hearing, sight, taste, smell, and movement), potentially resulting in sensory sensitivities, delays in motor skills and problems with self-regulation, attention and behavior. Sensory Processing Disorder consists of several types of sensory and/ or motor dysfunctions. Someone with SPD may demonstrate one or more of these types of problems:

Sensory Modulation Dysfunction is characterized by over-sensitivities to sensory information that is typically not bothersome to others. Problems in this area can result in difficulties with self-regulation and fight, flight or fright behaviors. Individuals may be sensitive to clothing, have difficulty coordinating their movements, react strongly to sounds, or feel anxious in crowded/busy places.

Sensory Discrimination Dysfunction is difficulty with processing and interpreting the important qualities of sensory information. For instance, discrimination of movement information determines if one is upside down or right-side up, moving or not moving. Discrimination of sensory information allows one to perform motor skills and problems with sensory discrimination typically result in difficulties with posture or skilled motor activities such as driving, handwriting, or coordination.

Praxis Disorders involve problems with motor planning, coordinating two sides of the body and performing complicated motor coordination actions involving timing and movement through space. Problems in praxis result in difficulties with performing motor tasks and everyday motor activities such as dressing, using utensils, playing sports, or organizing your daily schedule.

Few people can claim to have coined a term that changed the world for the better. Judy Singer can.

- *Steve Silberman, Author of "Neurotribes"*

NeuroDiversity

The Birth of an Idea

JUDY SINGER

The ground-breaking sociology thesis that prefigured the last great liberation movement to emerge from the 20th century

Neurodiversity Defined

- Neurodiversity is the concept that we recognize, value and celebrate that we all think differently due to underlying neurological differences
- Neurodiversity is an umbrella term for a set of differing skills profiles
- Includes Autism, Asperger's, Dyslexia, Dyspraxia, Attention Deficit Hyperactivity Disorder

Diversity Project

Improving Social Communication in Autistic Clients

Neurodiversity Principles in Action

Barry M. Prizant, Ph.D., CCC-SLP
Visiting Scholar
Brown University, Providence, RI
Director, Childhood Communication Services, Cranston, RI

www.barryprizant.com
www.SCERTS.com
www.uniquelyhuman.com

rsity Defined

"The standard for neurodiversity is recognizing natural variations of human brains and minds as a valuable aspect of human diversity. Neurodiversity promotes the inclusion of all types of minds to break down the barriers of constraint. Just as diversity equates to a cornucopia of differences, neurodiversity is specifically referring to differences in neurology, including the way one thinks, processes, behaves, functions, copes and perceives".

- Samantha Craft, 2019

All of the information in this class is based on the idea of **"Neurodiversity"** and all of the **positive** ramifications of it. However, this term is **not** going to be used to endorse the idea of **Total Freedom**. In other words, parents are still encouraged to develop their own set of **"house rules"** based on right/wrong, their own value system, the principles of moral and behavioral accountability, etc. At the same time, parents who **"punish"** their ASD child in the same ways they would discipline a neurotypical child are bound to experience a great deal of unwanted pain.

Neurodiversity Defined
Current Debates

- Boundaries of Neurodiversity
  - Developmental vs. acquired conditions (TBI)
  - Mental health conditions – bipolar, schizophrenia
  - Environmental – poverty, trauma that may cause neurological changes

("**TBI**" stands for Traumatic Brain Injury, which is acquired through accident or trauma and therefore is not something a person is born with).

- Terminology
  - Neurotypical
  - Neurodiverse: Includes everyone!
  - Neurodivergent: Refers to people who fall towards the ends of the bell-shaped curve (e.g., those who are Autistic or have other developmental or acquired conditions)

*"We're all neuro-**diverse**, but only some are neuro-**DIVERGENT**"* – Dr. Wenn Lawson

Brilliant and talented, "DESPITE" their autism, or "DUE", at least in part, to their autism?

"Neuro[divergent] people's differences are characteristics, not defects"

Racial Disparities and Neurodivergence in Autism:

Strategies for Systemic Change for Equitable Care

2nd Annual Autism Symposium
April 21-22,2022

Michael Hannon, Ph.D., Montclair State University
Robert Naseef, Ph.D., Alternative Choices

Improving Social Communication in Autistic Clients

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To understand autism at a human level

- → *"Different but not less."* (T. Grandin)
- → *"You don't outgrow autism, you grow into it."* (D. Gassner)
- → *"Acceptance is a start not a finish."* (M. J. Carley)
- → *"The face of autism is changing. And more often than we realize, that face is wearing lipstick."* (J. O'Toole)
- → *"If you know one child with autism, you know one child with autism."* (S. Shore)
  - → Want to learn/hear more? Visit Autistic Self Advocacy Network

Racial Disparities and Neurodivergence in Autism:

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Diagnosing always implies that you are identifying what is **"wrong"** with a person so that, with professional help, those things can be **"fixed,"** **"cured,"** or otherwise **transformed** so that the person no longer functions **differently** in the world but, instead, functions in a **"more healthy" manner**. **Question:** How many times is **"healthy"** serving as a euphemism for **"normal."**

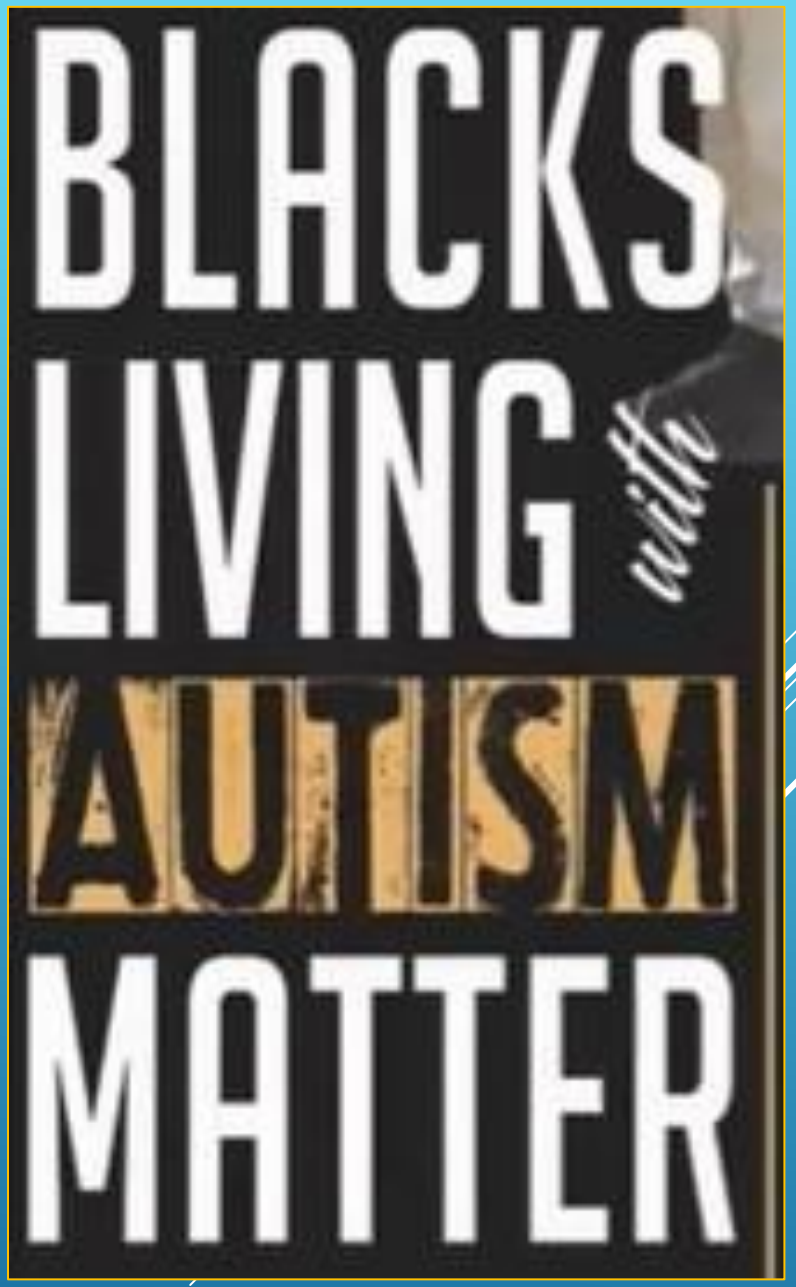
Racial Disparity:

According to Dr. Robert Naseef and Dr. Michael Hannon, the research clearly indicates that in our country there has persisted a chronic disparity between whites and blacks when it comes to identifying Autism, treating Autism, and providing access to resources for Autism.

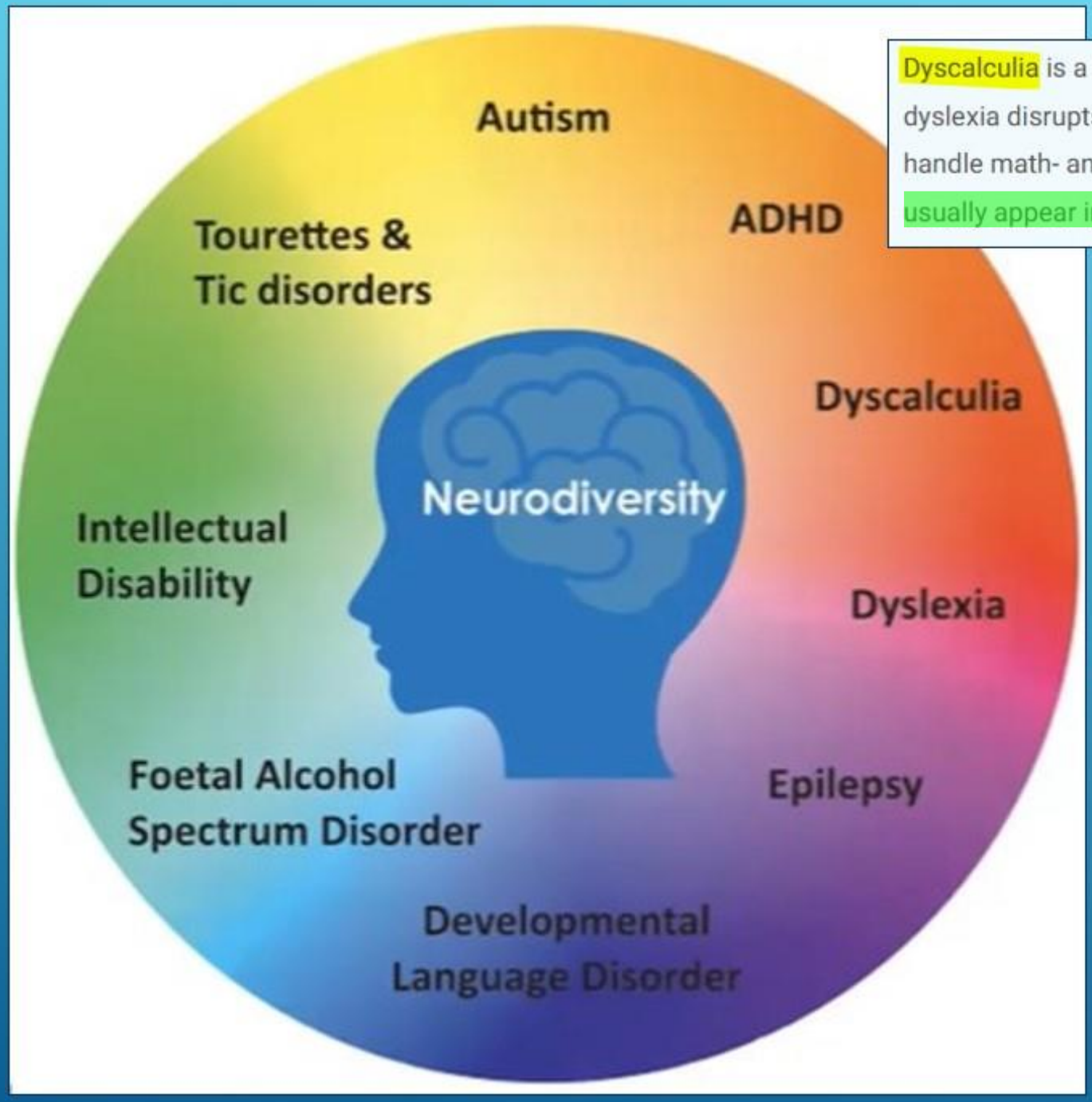
https://www.psychologytoday.com/us/blog/spotlight-on-special-education/202408/why-autism-in-black-boys-is-often-missed

Despite the increasing awareness and understanding of ASD, "African-American and Latino children with autism are **diagnosed at older ages** than white children, giving them less of an opportunity for proper intervention and treatment." Mandell et al. (2002) found that "African-American children with autism were diagnosed **an average of 1.4 years later** than white children and spent eight more months in mental health treatment before being diagnosed." In this study, Black children were 2.6 times less likely to receive an autism diagnosis than white children.

Black boys are typically first diagnosed with other conditions, such as attention-deficit/hyperactivity disorder (ADHD). Black children, particularly boys, are **more likely to be misdiagnosed** with behavioral disorders like ADHD or conduct disorders before receiving an autism diagnosis.



(On Instagram)



Dyscalculia is a learning disorder that affects a person's ability to do math. Much like dyslexia disrupts areas of the brain related to reading, dyscalculia affects brain areas that handle math- and number-related skills and understanding. Symptoms of this condition usually appear in childhood, but adults may have dyscalculia without knowing it.

"Let's not [- i.e., let's NO LONGER -] ***pathologize [neurological] differences*** *which, unfortunately in my career, has been done so much in the area of Autism, and specifically in the areas of language and communication and Autism."*

Dr. Barry Prizant

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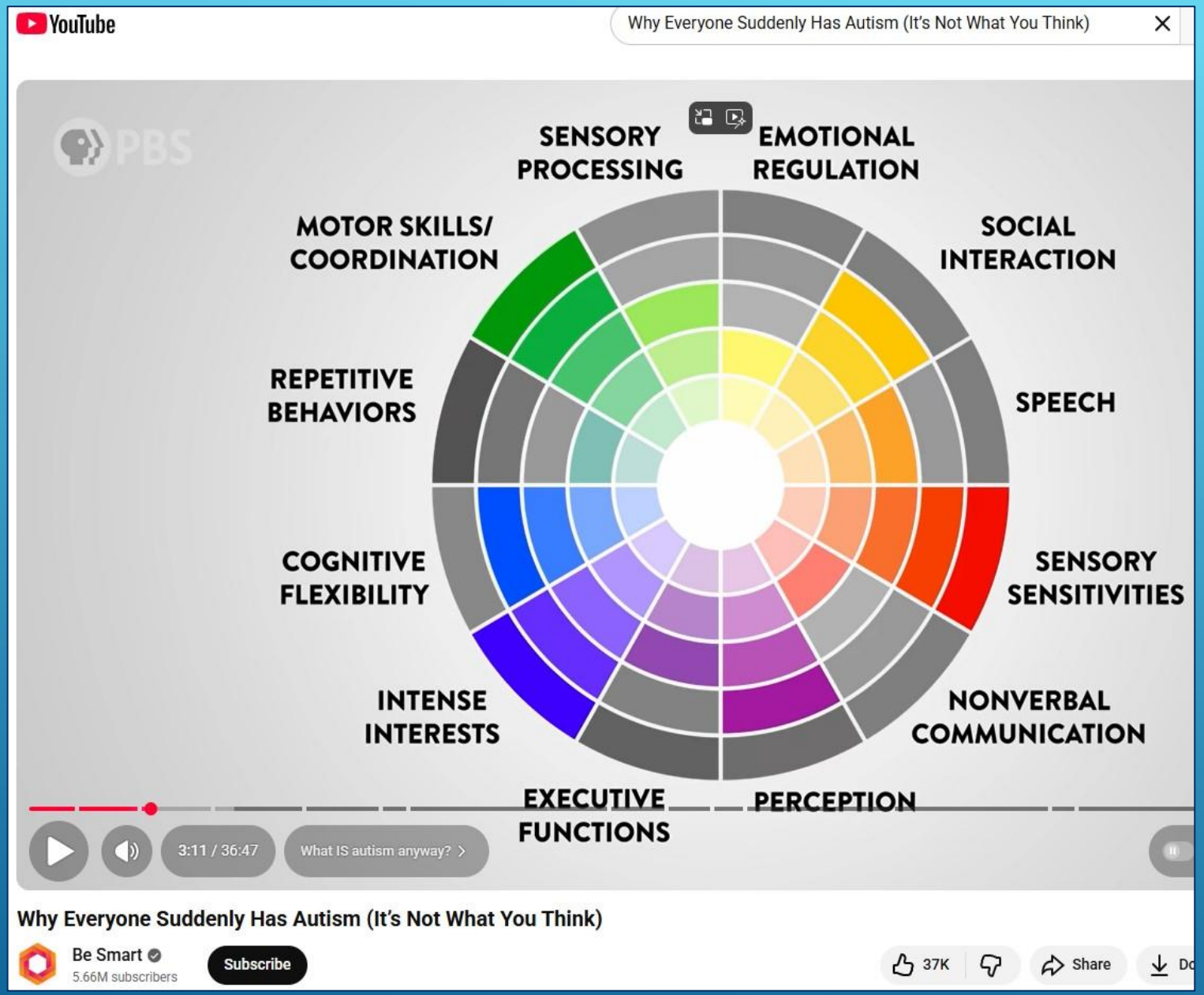
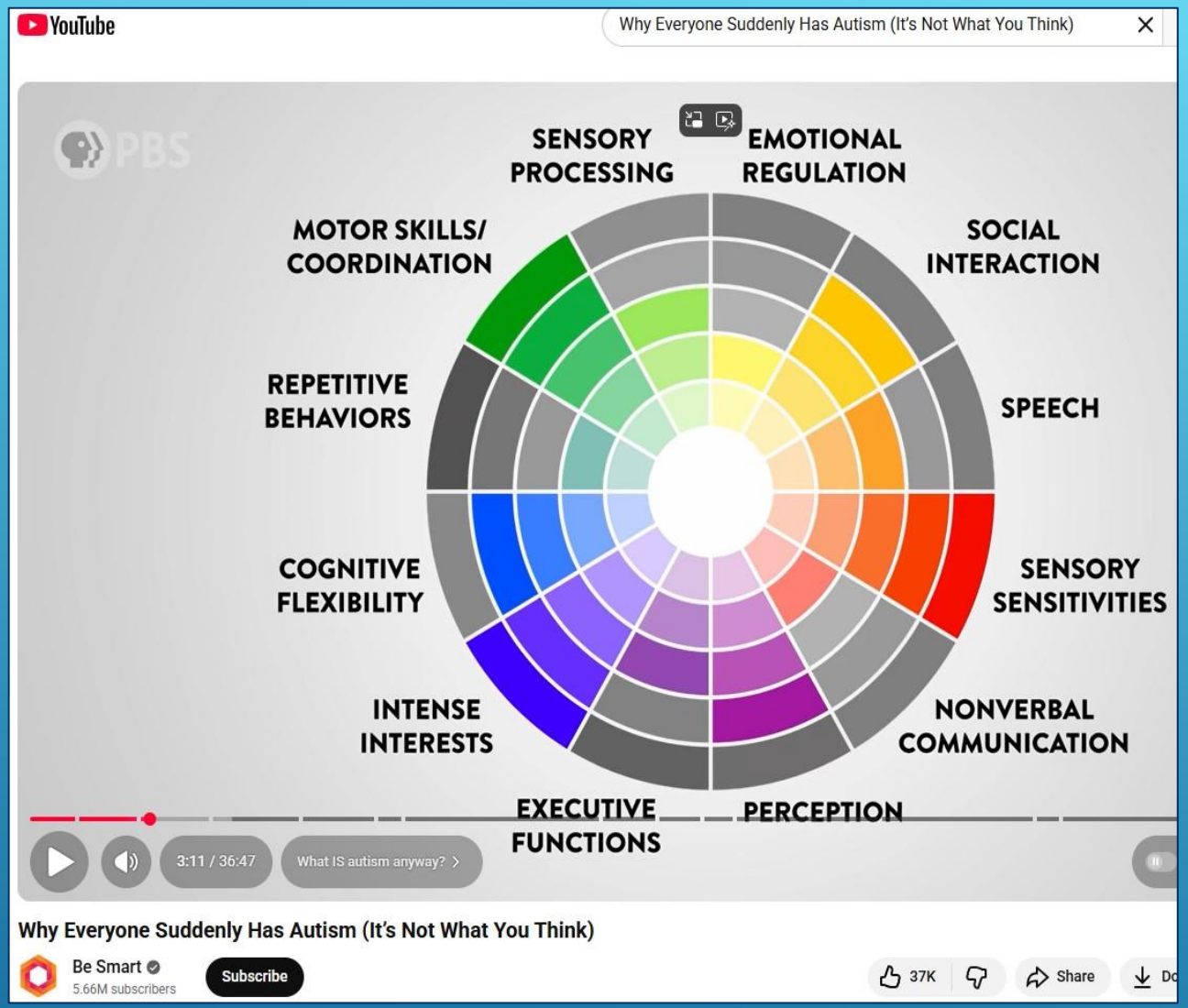
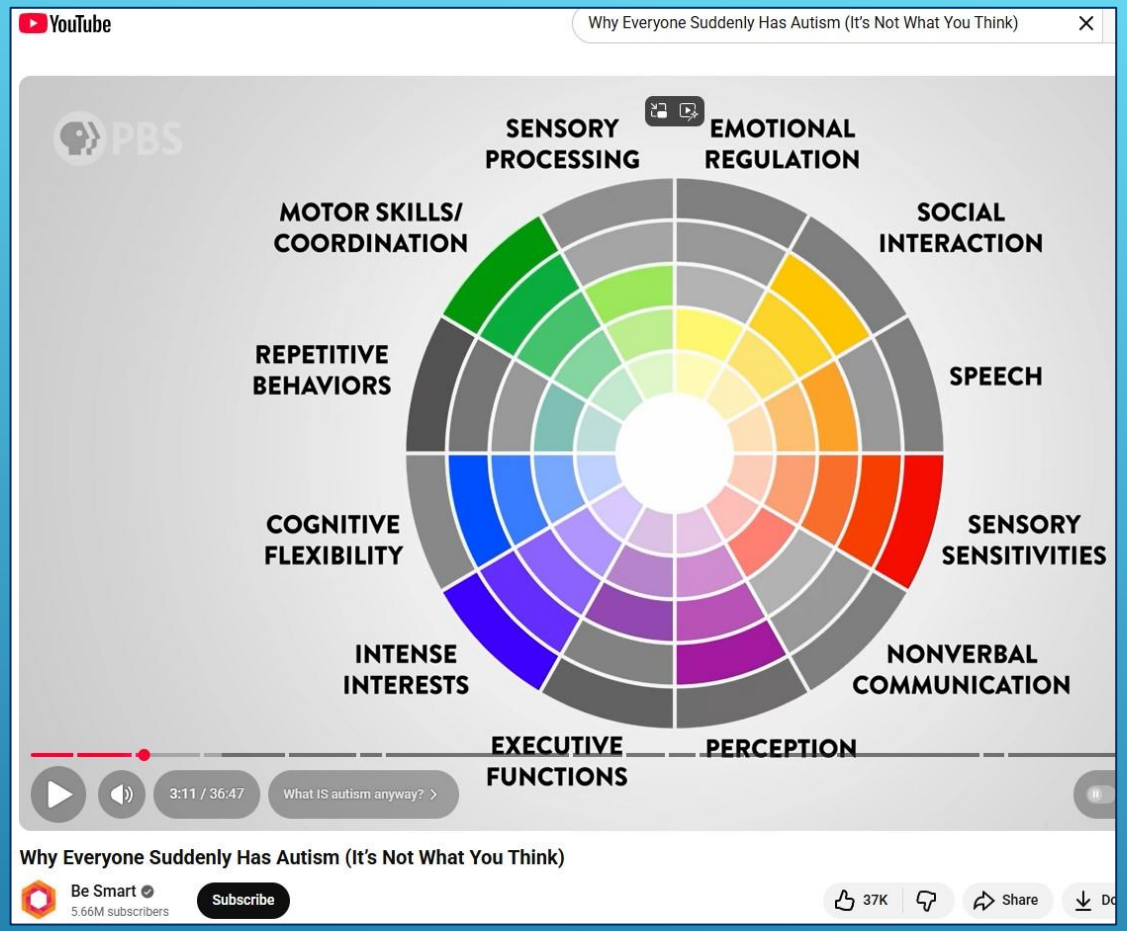


"Even though the name Autism Spectrum Disorder, or ASD, does do a really good job of getting across the idea that **this is not a one-size-fits-all condition**, it's also **not** quite as simple as [the traditional] idea of a line going from less autistic to more autistic … [in fact] most experts in the field today are actually leaning towards thinking of this as more of a **wheel**. Each individual may have greater challenges in some areas than others. So, every autistic person's wheel is going to be pretty unique. And we used to hear autistic people described with terms like "low functioning" or "high functioning," but that's not how experts look at this anymore. Autism is typically diagnosed in **levels defined by how much support someone might need in their day-to-day life**" in each area.



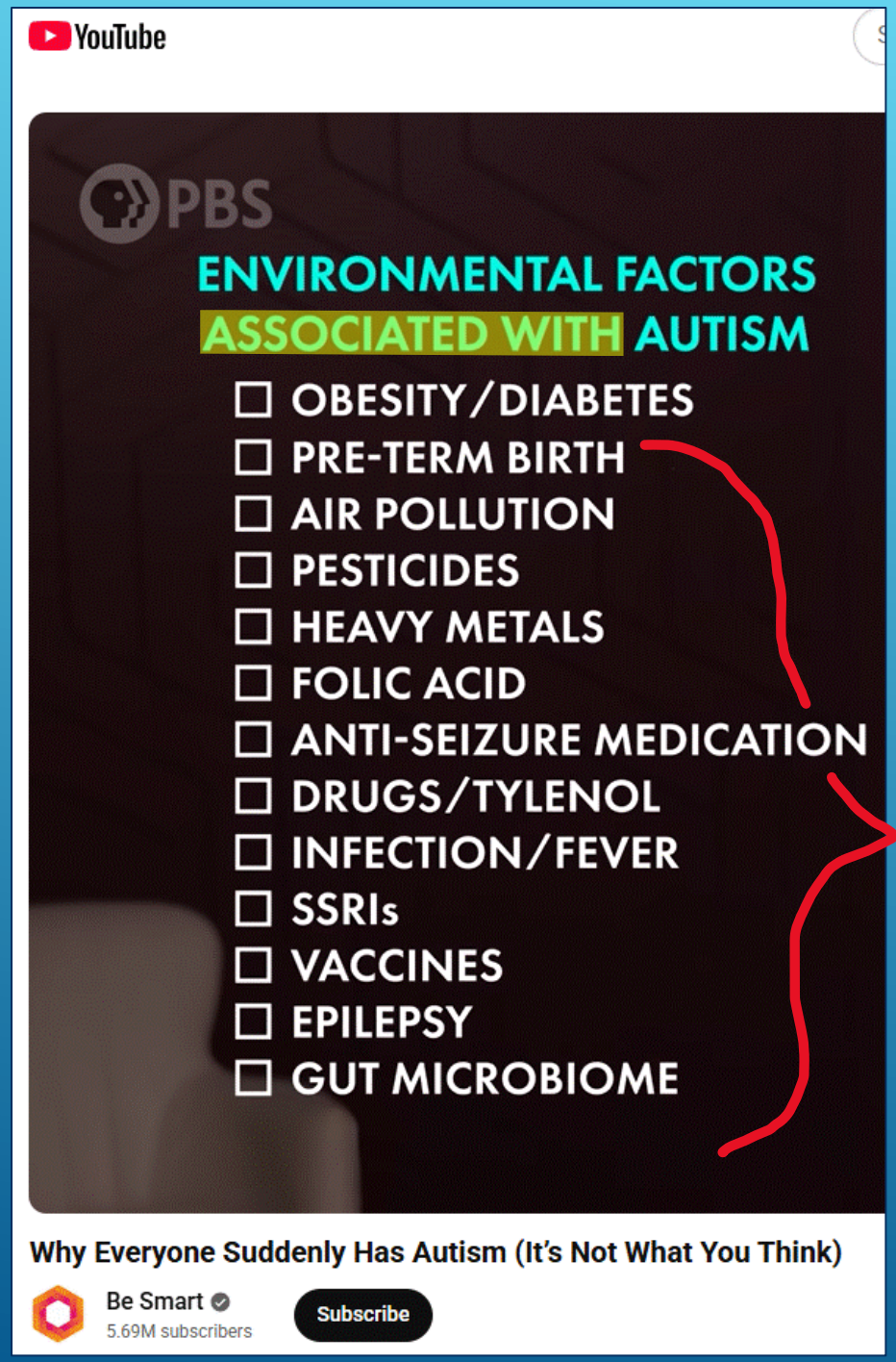
"And scientists think they've only discovered about a **quarter** of the genes that cause autism. So, they think there's probably **around 400 genes** or so that are linked to autism in some real, causal way."

"Autism tends to show up really strongly in **identical twins**. A ton of research has been done since that confirms this, that if one twin is autistic, sometimes you see more than a 90% chance that the other twin is autistic. And when you look at fraternal twins who don't share identical DNA, but they're born at the same time, that rate drops to one in three. And in normal siblings, it's like one in five. These are all way higher than the rate that you'd expect [for a] randomly [selected person]. Which tells us there's definitely something going on with our genes – i.e., the call is coming from inside the house. So as genome sequencing has gotten cheaper and more advanced, scientists have so far been able to identify **over a hundred genes** where, when a mutation occurs in that gene, that person is more likely to have autism. You can study those variants in a population of kids, and you can see that all of the kids who have that variant or that gene have **a set of common clinical features**. You can clearly see the genetic factors are causal, and you can understand their role in brain development."

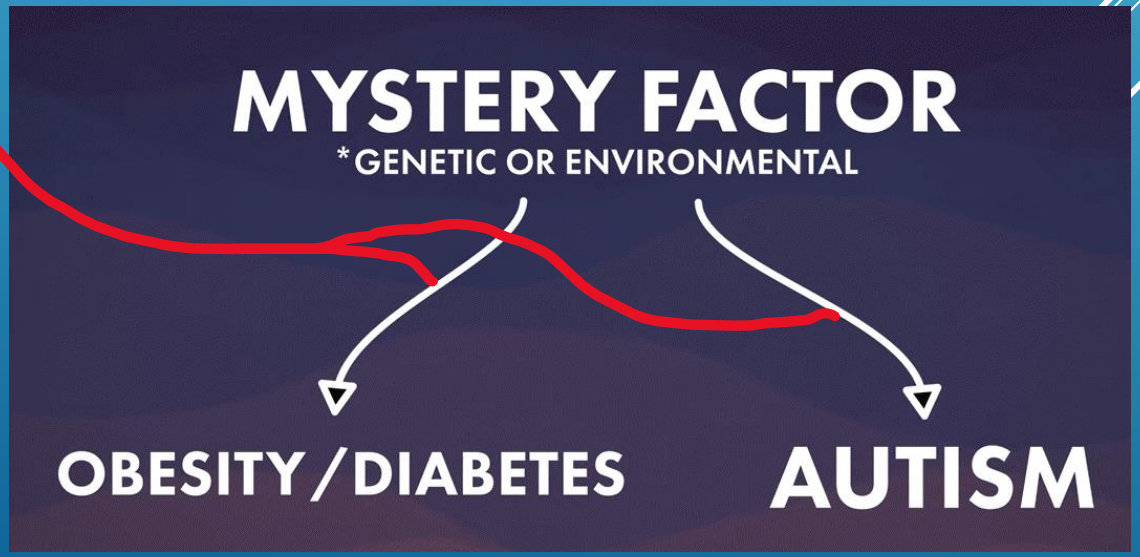


Genetic mutations do not operate epigenetically:
Genetic mutations do not operate epigenetically like healthy genes. **Genetic mutations are permanent changes in the DNA sequence**, which can lead to changes in gene expression but do not involve epigenetic modifications. In contrast, **epigenetic changes** are reversible and involve modifications such as DNA methylation, which can turn genes on or off without altering the DNA sequence itself. Therefore, while both processes affect gene expression, they do so in fundamentally different ways. (HowStuffWorks**+5)**

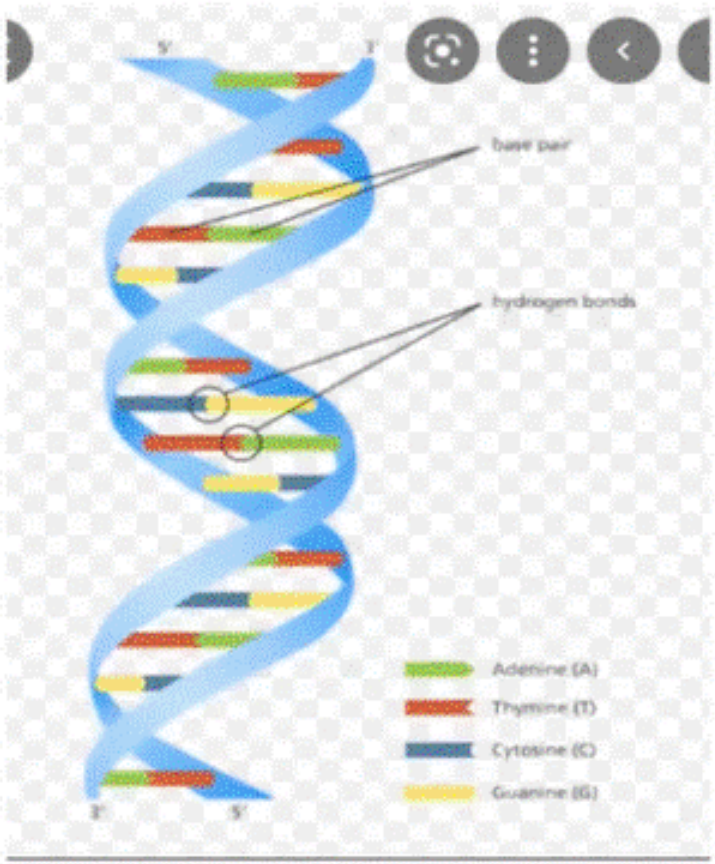
"Every child born has **about a hundred mutations that they did not inherit from mom or dad, that actually accumulate in the sperm or the egg**. In fact, most of them accumulate in sperm. Because sperm are constantly dividing, those are the de novo mutations. We all have these. Each of us is born with these **totally new random mutations in our DNA that our parents don't have. And most of the time they're invisible**, right? They don't do anything. But you have to imagine every so often, **if one of those mutations lands in a gene that's important, in say, fetal brain development, that could lead to that person developing autism**, even if no one in their family has ever been diagnosed. Now, studies suggest that these **spontaneous new mutations contribute to a really major chunk of autism cases**. And remember, we haven't even found most of the genes that cause autism yet. So this is likely an underestimate."



"Now before we get started, here's sort of the fine print terms and conditions of this info. We can't give you neat, exact numbers. Science doesn't work like a weather app. **You don't get a clean 40% chance of rain, 20% chance of autism. There may be exact figures from individual studies, but we can't apply those numbers to everyone.** It's impossible to say, 'This factor will increase your risk by this percentage.' And this is a big one: When we look for things in our environment that may influence or cause autism, **the point is not to blame parents for something they did or didn't do during pregnancy**, especially towards moms who still often get unfairly singled out. It's about understanding the interplay of complex, biological, and environmental factors interacting with genes" … **IN OTHER WORDS:**

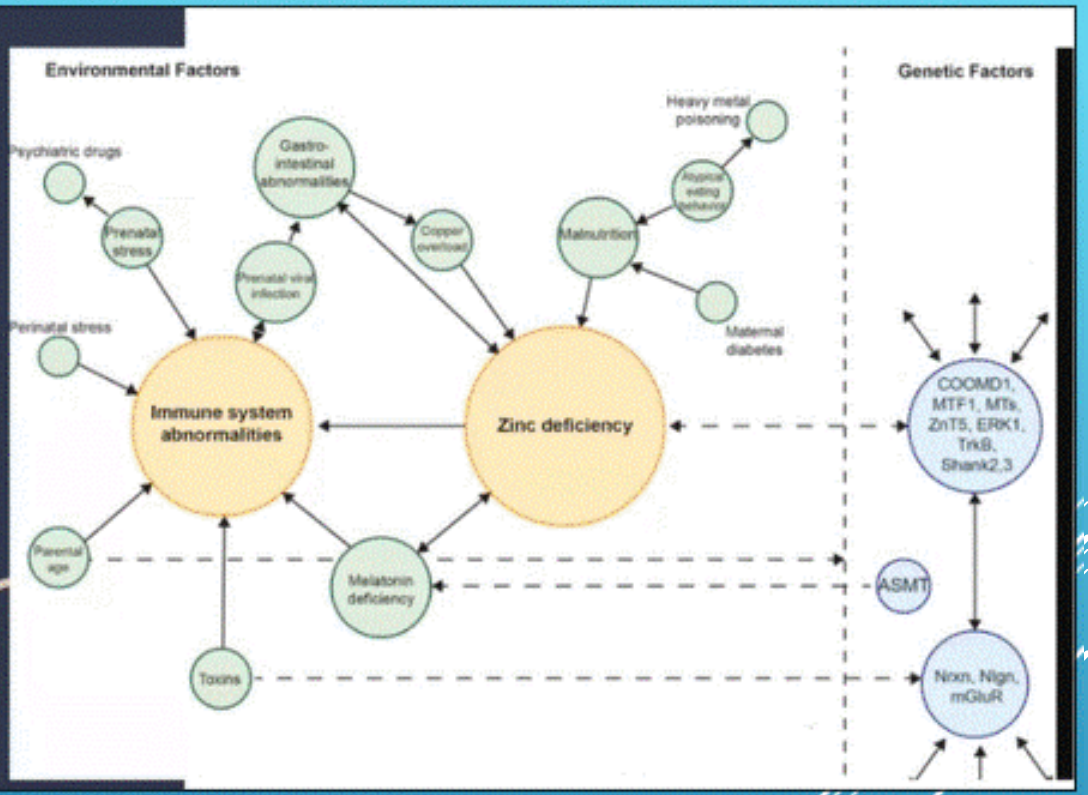


Is ASD Genetically-Based or Is It Caused by Something Else?



It is estimated that [redacted]
40-80% of ASD is genetic

Others think its more .... Environment



"The traditional [Medical Model] view is that ASD is lifelong and enduring." Compare this to:

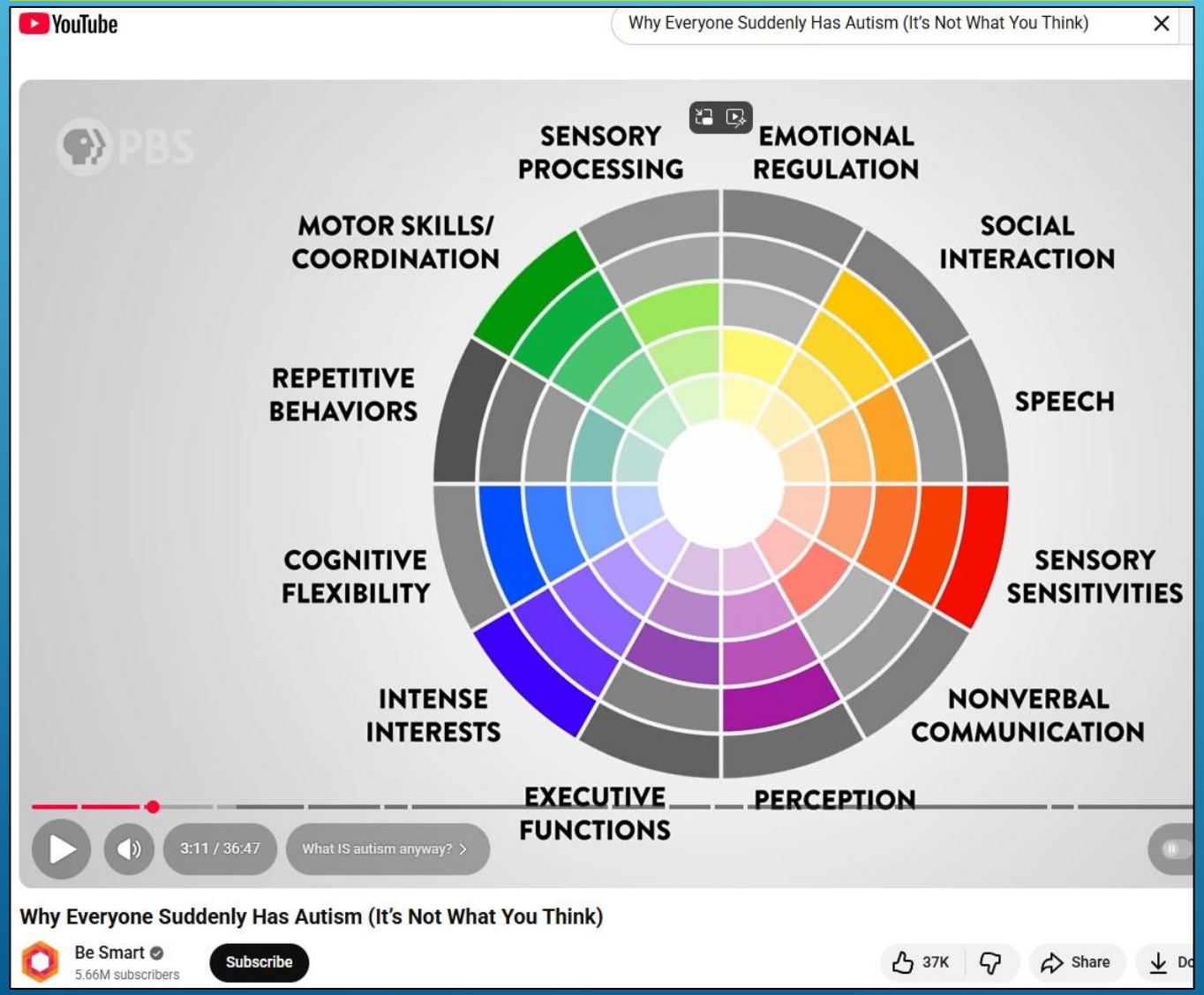
"When I was 18, I was probably 'more diagnosable' with ASD than I am now, which means that, by now, my Autism has changed as I've gotten older. I personally think Autism has more to do with safety, or with a person's felt sense of safety – it's more state-specific than purely genetic." – Dr. Sean Inderbitzen

Treating Autism and PTSD Comorbid Through a Polyvagal-Informed Lens

A Framework to Inform EMDR and Sensorimotor Psychotherapy Interventions in TherapySelf-Compassion

Sean Inderbitzen, APSW, MINT

Can Autism Still Have a Genetic Cause Even When ASD Isn't Obvious at Birth and Even When Regression in Functioning Doesn't Become Noticeable Until Later On?



"Different genes get turned up or down at different stages of development [Note: This phenomenon is studied within the field of Epigenetics]. So that means genetic changes that are linked to autism aren't always obvious right at birth. Imagine a scenario like this: A baby might seem to develop really typically for the first year, but **around 12 or 18 months old, they start losing skills**. Maybe they stop saying mama or dada. Maybe they stop making eye contact, they regress. Families sometimes think, **"Wait, if this is genetic, then I should have seen it right from birth, right?"** But **the gene was always there**. It just didn't come into play [or get fully activated epigenetically] until this stage of development when its effects become visible. This [scenario] doesn't feel like what a genetic condition should look like, but it ***is*** a genetic cause."

McCULLOUGH FOUNDATION

https://mcculloughfnd.org/pages/autism-research-report

Key Findings

Comprehensive Scope —
Over **300 studies** analyzed across epidemiologic, clinical, mechanistic, and molecular domains, integrating genetic, environmental, and iatrogenic factors within one unified framework.

Vaccine Association Evidence —
Of **136 studies** evaluating vaccines or their ingredients, **107 (79%)** identified evidence consistent with a vaccine–autism link, including findings of neuroimmune injury, mitochondrial dysfunction, and developmental regression following immunization.

Healthier Unvaccinated Cohorts —
All **12 studies** comparing fully vaccinated versus completely unvaccinated children found **superior overall health outcomes**—and dramatically lower risks of autism and chronic disease—among the unvaccinated.

Mechanistic Convergence —
Independent lines of evidence across disciplines converge on shared biological pathways of **immune dysregulation, mitochondrial injury, oxidative stress, and neuroinflammation**, triggered by antigen, adjuvant, and preservative exposure during critical neurodevelopmental windows.

Cumulative and Timing Effects —
The data indicate that *clustering multiple vaccines within short timeframes* and administering them *at earlier developmental stages* significantly increases neurodevelopmental risk, particularly among genetically or immunologically susceptible children.

Policy Implications —
To date, **no study has ever evaluated the safety of the full pediatric vaccine schedule** for long-term neurodevelopmental outcomes through age 9 or 18.
With autism now affecting **1 in 31 U.S. children**, a comprehensive reevaluation of cumulative vaccine exposure and timing is an **urgent moral, scientific, and public-health imperative.**

Diagnostic Criteria for ASD

My wife and I were at a fireworks show. We got there early and were chatting with four other people we knew. I saw an older couple and their adult son getting out of their car. The adult son proceeded to walk over, stand three feet away from my friend, and began to talk at him very energetically about something. It was difficult to understand him, and he didn't stop until he was done … which took about 90 seconds. He then stopped, turned, and walked away.

Social Communication:

Deficits in:

- Reciprocity
- Nonverbal
- Relationships

Repetitive/Restricted:

Presence of 2 of these 4:

- Stereotyped or repetitive behaviors
- Insistence on sameness
- Restricted/fixated interests
- Sensory differences

From a video by Tom Galperin, founder of Galperin Autism Consulting LLC

Diagnostic Criteria for Autism Spectrum Disorder:

- Persistent deficits in social communication and social interaction across multiple contexts:
  - Struggles with language and social communication – these are struggles that are not a choice, and do not represent rudeness or ill intent.
    - The connections in their brain that are around emotion and language and processing information don't work as efficiently, which results in trouble processing social language and noticing social cues.
  - Deficits in social-emotional reciprocity.
    - Not seeming to be aware of what's going on externally.
  - Deficits in non-verbal communicative behaviors used for social interaction:
    - Not picking up on facial expressions or body language
    - The inability to notice non-verbal communication is one of the biggest things that lead to poor interactions or the escalation of interactions with police, first responders, doctors, etc.
  - Deficits in developing, maintaining, and understanding relationships:
    - It doesn't mean that they don't want social relationships or that they're antisocial and/or don't like people.
    - They want friends, social connections, and want to be more successful in social interactions, it's just harder for them.
- Restricted, repetitive and stereotyped patterns of behavior, interests, or activities:
  - They are very rigid and repetitive and want (need) things to be the same way all the time.
    - They like and prefer (and need) stability and predictability – doing things in the same way in the same order.

(Dr. Wes Dotson: this slide + next 3 slides)

Diagnostic Criteria for Autism Spectrum Disorder: (Continued):

- They are very rigid and repetitive and want (need) things to be the same way all the time.
  - They like and prefer (and need) stability and predictability – doing things in the same way in the same order.
  - Fixed and very narrow interest(s); different kinds of rigidities (e.g., eating only one or a few kinds of food and/or food prepared in a particular manner)
- Stereotyped or repetitive motor movements, use of objects, or speech
  - E.g., hand flapping, rocking back and forth, pacing
  - Very repetitive and repeated pattern of movements are often a coping strategy – the more you see it, the more stressed they are.
    - "Normal" kids act-out when the expectations of a situation exceed their level of skill mastery for confidently handling those expectations. With ASD kids, the level at which certain expectations will overwhelm and exceed their skill level tends to be much lower (from Dr. Ross Greene)
- Insistence on sameness, inflexible adherence to routines, ritualized patterns, or verbal/non-verbal behavior
  - Wants the routines to be followed – e.g., they might always sit at a preferred seat at the table and will get really upset if someone else is sitting there.
  - Someone on the ASD spectrum might not want to interact with someone whose nametag is crooked, for example. This isn't about routine, but about how orderliness lowers stress.

Diagnostic Criteria for Autism Spectrum Disorder: (Continued):

- Highly restricted, fixated interests that are abnormal in intensity or focus.
  - They have 1 or 2 things that are their special interests, the things that they are most interested in. The intensity of this/these interests make it very difficult for them to focus on something else … especially new things and/or things that are non-preferred.
  - Can often be confused with Obsessive Compulsive Disorder.
    - What distinguishes ASD versus OCD is that OCD does not have the social impairment, language processing deficiency, and the rigidity in other areas of life.
    - Those with ASD need a ritual for navigating every part of their life. Think of it like someone walking a narrow, 6"-wide mountain ridgeline with 5,000-foot cliffs to either side. The ritual represents the narrow 6" path in the ASD person's life. Stepping off of that path can feel like a life or death decision to that person, resulting in what appears to others to be an unnecessary temper tantrum.
    - One way to offset a difficulty with navigating social cues is to use routines and fixed patterns to handle social situations.
      - When they don't have a routine, rule, or set pattern that they understand, they're at a TOTAL LOSS for what to do, and just *telling* them what to do isn't going to suddenly equip them with the skills to implement a new plan.
- Hyper- or hypo-reactivity to sensory input, or unusual interest/intensity of interest in sensory aspects of the environment.
  - Either over- or under-reactive to things in the environment in ways that are unusual:
    - Sensitivity to the texture of the clothes they're being asked to wear, to food textures, etc.
    - Can't concentrate if there are fluorescent lights turned on in the room because they can literally hear the oscillation of the electric current in the light (sensitive hearing).

Diagnostic Criteria for Autism Spectrum Disorder: (Continued):

- Can't concentrate if there are fluorescent lights turned on in the room because they can literally hear the oscillation of the electric current in the light (sensitive hearing).
- Overly sensitive to touch, so, when they're not ready to be touched, they might exhibit a disproportionate (in our eyes) defensive reaction against unexpected contact with another person or an object. The person can be a family member who feels offended because, well, the child "should" feel comfortable being touched by now; but the issue isn't that the child is rejecting them or is communicating a lack of love or warm feelings, it's the unexpected touching itself that's the problem … it's a sensory issue. Imagine having an open burn on your arm at all times and then occasionally people you're close to want/need to touch that area of your body. Will you ever feel "ready" for your burn to be touched?
- Listen to music at a really loud level that non-ASD people find overwhelming.

- All of these characteristics look different for every person with ASD.
  - Some people with ASD may be verbal and they can go to college and get married and have a job – you see absolutely nothing in their external presentation that suggests they have Autism.
    - I have a close friend of 30+ years who turned 63 and only discovered 3 years ago that he has ASD. He owns his own company with five employees and is quite the salesman. I remember thinking years ago that he was awfully pushy about things, but now I understand that's because he was unaware of how his salesman role was causing discomfort in others outside of work … he was unable to notice how his pushiness was causing others to want to disconnect from conversations with him, etc.
  - Other folks with ASD might be more impacted. Their sensory sensitivities might require constant attention and accommodation. They also might be non-verbal, with other intense symptoms.

Autism's Intersections With Other Mental Health Conditions

"We have to appraise whether exhibiting symptoms that you're seeing are related to Autism or a **co-occurring mental health diagnosis** or even if it has **nothing to do** with mental health at all here. [It's possible that] this is purely Autism that a person is taken over with. That's who they are, and [therefore that's why] they're not connecting to the bigger picture" that neurotypical people do connect with. "And then we have to evaluate the interplay between Autism and poor mental health and the clinical implications" of these intersections and interplays.

- Bipolar
- Depression
- Panic Attacks
- PTSD
- Psychosis
- Other mental health conditions
- Learning disabilities
- Sensory Processing Disorder
- Unhealthy personality traits

Individuals with ASD are usually either:

- Sensory-avoiding,
- Sensory-seeking/craving … or a little bit of both!

Giving ASD children **some control** is crucial. Dr. Varleisha Gibbs notes: "I tell parents and teachers that one of the main things I find with children [in general] is that they want to know what the expectations are, they want to have control over things. [It triggers them] when a situation is unknown, they don't know who's going to enter the room, which sounds are going to be [experienced] there, etc. We need to expose them ***before*** we put them into that new environment, either through video, visiting, [or at least making sure we discuss the details with them ahead of time]. Dr. Temple Grandin notes that cattle freak out the worst when **(1)** they haven't been previously exposed to much, and **(2)** they're being taken someplace entirely new.

Question: When was the last time you **worried** about which **sounds** you'll be experiencing in a new environment you're going to be visiting soon?

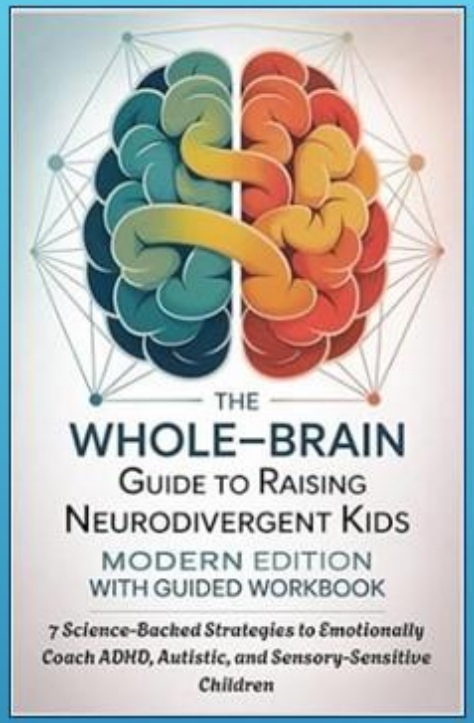
Autistic Catatonia:

- Is often misinterpreted by parents and teachers as being a sign of an **"oppositional" or "defiant"** attitude, or as being a **"behavioral" problem** to be fixed when, in reality, the ASD person has shut down due to a preceding experience of feeling overwhelmed or overloaded. It's like when too much electricity is sent through a circuit, causing the breaker to flip to the "Off" position. Catatonia can be seen in how an ASD person becomes completely frozen in place, or, it can be seen in how they might be perseverating and are unable to break their attention away from what it is that they are perseverating on.

  - What **helps** ASD individuals experiencing Catatonia is/are the following:

    - Patience and kindness, emotional support and understanding, empathy
    - Gentle verbal prompts – one at a time, followed by adequate periods of silence so that the ASD person does not begin to experience additional auditory overload.
    - Clear and concrete visual prompts – e.g., First, Then, Next, Last cards.
    - Removal of excessive stimuli and/or gently escorting the ASD individual to a much more stimulus-free environment.
    - A therapy dog.
    - Introduction of an already-known self-soothing item.
    - Other things as well: _____

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism,* by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller.



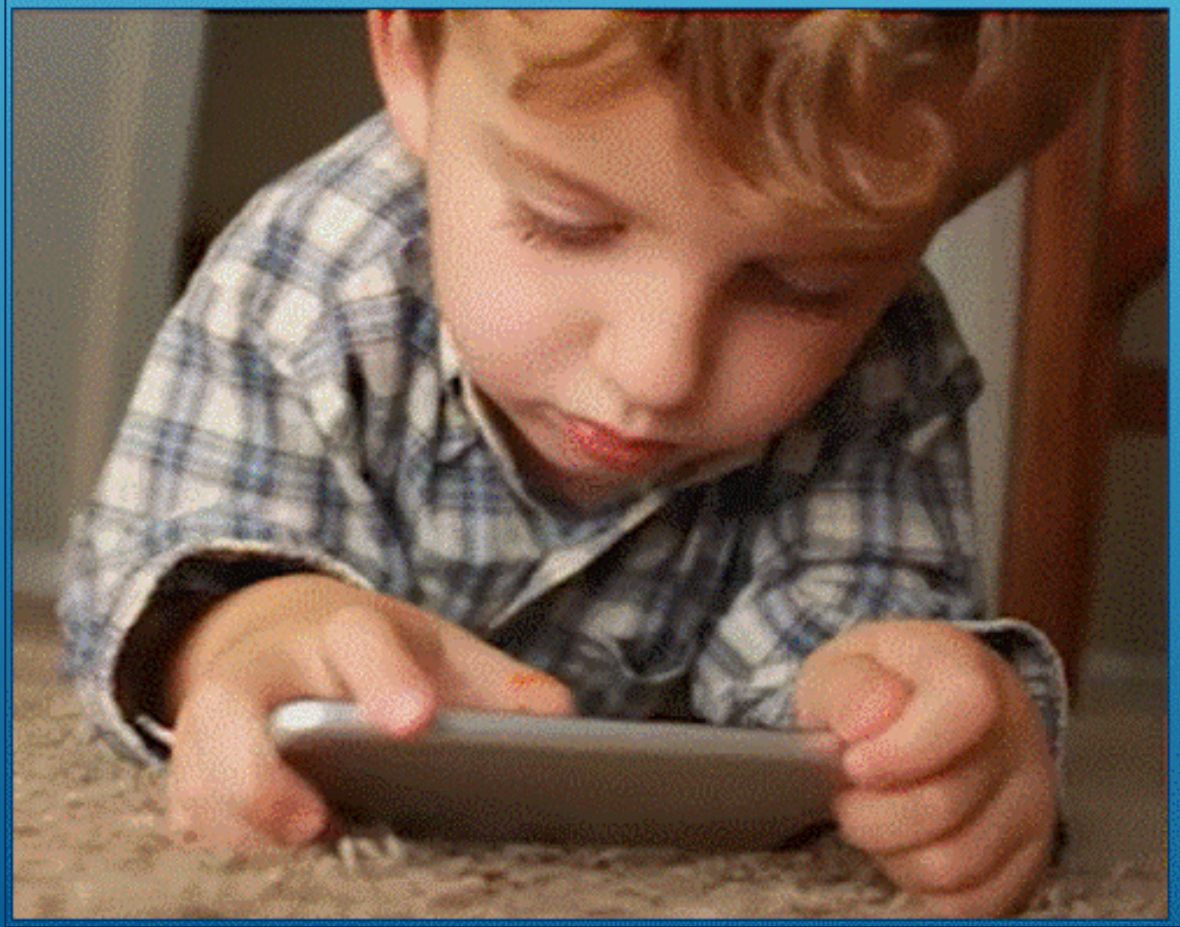
Get free, email-based support at: emergenceinstitute1@gmail.com

There are several different kinds of "meltdowns" that ASD kids can and do experience:

1) **Sensory Overload Meltdowns**: "These occur when environmental input exceeds the child's processing capacity." Remember, some stimuli are physically painful for ASD kids, too.
2) **Executive Function Meltdowns**: These "happen when demands exceed the child's planning, organization, or working memory abilities."
3) **Transition Meltdowns**: These "occur when changes happen too quickly or without adequate preparation for a nervous system that needs predictability and processing time."
4) **Social Overwhelm Meltdowns**: These "happen when social demands exceed the child's capacity for communication, emotional regulation, or sensory processing in group settings." These meltdowns also occur when an ASD child *anticipates* being in the next social situation that they already know is going to overwhelm them, and when they don't have the skills to handle the feelings that the anticipation engenders.
5) **Emotional Flooding Meltdowns**: These "happen when feelings become too intense for the child's current regulation abilities."

NOW imagine what the ASD child is experiencing when two or more of these kinds of "exceedings" are happening all at once!

[redacted]. And we can see that for many individuals who have autism their attempt to regulate, or self-regulate is object focused,while [redacted] typically developing individuals, we'll co-regulate with other individuals. So you start seeing the object becomes predictable. And our nervous system starts to understand that predictability is really a neural metaphor for safety. And now we can see that object focused self-regulation for the autistic individual is their heroic attempt to regulate their physiology by having predictability in their life. [redacted]



Why Do Autistic People Avoid Social Connections and Gravitate Much More Towards "Interacting" With Inanimate Objects?

The Neuroscience of Safety:
The Transformative Impact of the Polyvagal Theory on Supporting Children on the Autism Spectrum

Stephen W. Porges, PhD
Distinguished University Scientist, Kinsey Institute, Indiana University
Professor Psychiatry, University of North Carolina

What is stimming and why do people do it?

Stimming is when a person repeatedly makes the same movements or sounds.

"Stims are things you do without meaning to, and they usually serve some purpose, like helping you regulate your emotions," Howk explains. "A lot of people stim, even if we don't always hear it referred to that way."

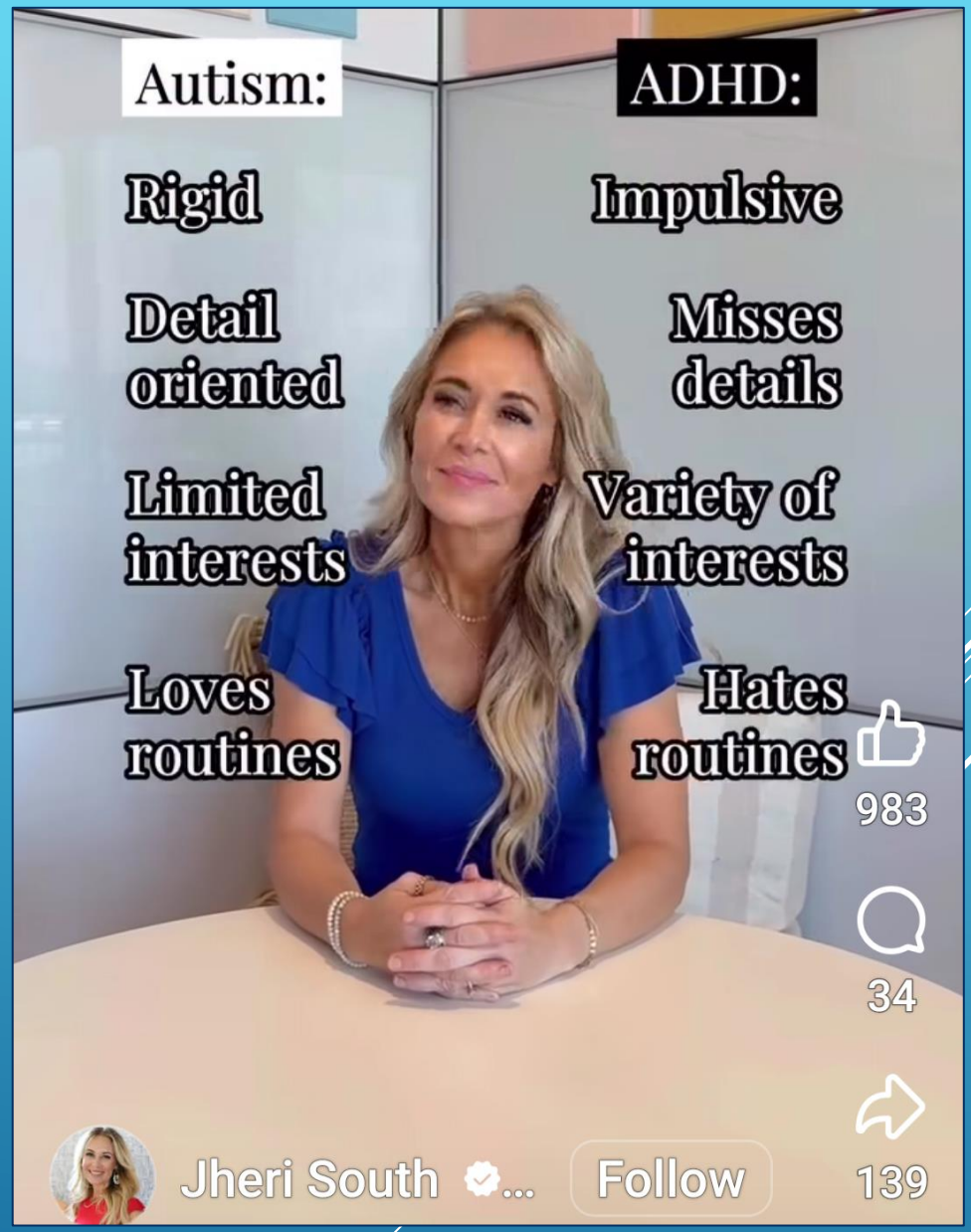
Have you ever been so bored in a meeting that you've started fidgeting with your pen? Or maybe you've been so distracted in class that you've doodled designs all over the margins of your notes? Maybe you're a habitual throat-clearer, or you're prone to literally jumping up and down with joy when you're excited about something.

Whether you realize it or not, all of these habits could be considered self-stimulatory behaviors, also known as stims.

"Stimming, which is clinically referred to as 'self-stimulatory behaviors,' is identified by its repetitive movements and/or vocalizations," explains behavior analyst Laura Howk, MS, BCBA. It's often (though not always) associated with autism spectrum disorder (ASD) and other neurodevelopmental conditions.

Here's what you need to know about stimming, including what it is, why people do it and when, if ever, it should be managed:

https://health.clevelandclinic.org/what-is-stimming



Specify

- With or without intellectual impairment
- With or without language impairment
- Associated with another neurodevelopmental, mental, or behavioral problem
- With catatonia
- Associated with a known medical or genetic condition or environmental factor

Levels

3. "Requiring very substantial support"

2. "Requiring substantial support"

1. "Requiring support"

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

NOTE:

For some autistics, these levels can cloud the actual level of support needed as different environmental and situational factors can affect support needed. In other words, sometimes I may just need support but other times I require very substantial support

This is extremely important for parents to be aware of when advocating for and seeking services for their child. In one situation/environment they might need very little support, while in **new and challenging environments** the opposite is true.

"I can fluctuate between a 1 and a 3 within the same day, sometimes!" … and yet, the APA wants us to be believe that a person with Autism can be described by one "level"-number all the time.

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism,* by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller.

Autistic Children of America

For more information visit our web site at MYASDF.ORG.

4/2023

Early detection means earlier access to intervention during sensitive periods of brain development. Below you will find milestones to look for in young children.

Please share these milestones with other parents and please evaluate the progress of your own children to detect any potential issues.

By the end of 7 months, many children are able to:

- turn head when name is called
- smile back at another person
- respond to sound with sounds
- enjoy social play (such as peek-a-boo)

By the end of 1 year (12 months), many children are able to:

- use simple gestures (waving "bye-bye")
- make sounds such as "ma" and "da"
- imitate actions in their play (clap when you clap)
- respond when told "no"

By the end of 1.5 years (18 months), many children are able to:

- do simple pretend play ("talk" on a toy phone)
- point to interesting objects
- look at an object when you point at it and tell them to "look!"
- use several single words unprompted

By the end of 2 years (24 months), many children are able to:

- use 2 to 4 word phrases
- follow simple instructions
- become more interested in other children
- point to object or picture when named

By the end of 3 years (36 months), many children are able to:

- show affection for playmates
- use 4 to 5 word sentences
- imitate adults and playmates (run when other children run)
- play make-believe with dolls, animals and people ("feed" a teddy bear)

By the end of 4 years (48 months), many children are able to:

- use 5 to 6 word sentences
- follow 3-step commands ("Get dressed, comb your hair and wash your face.")
- cooperate with other children

Autistic Catatonia

A regression in self-care, functional skills and independence compared to previous levels.

A marked and obvious deterioration in:

- movement
- volition
- level of activity
- speech

Indicators include...

- increased slowness
- getting stuck in postures.
- freezing during actions
- increase in repetitive movements and hesitations
- difficulty starting & stopping actions
- difficulty completing movements
- increased reliance on physical or verbal prompts
- increase in repetitive and ritualistic behaviors
- difficulty crossing thresholds
- marked reduction in speech or complete mutism

Wing, L & Shah, A (2000) Catatonia in autistic spectrum disorders. British Journal of Psychiatry. Vol. 176, 357-362.
Wing, L & Shah, A (2006) A Systematic Examination of Catatonia-Like Clinical Pictures in Autistic Spectrum Disorders. Catatonia in Autism Spectrum Disorders. International Review of Neurobiology Vol 72 P.21-37. Elsevier Inc. USA.

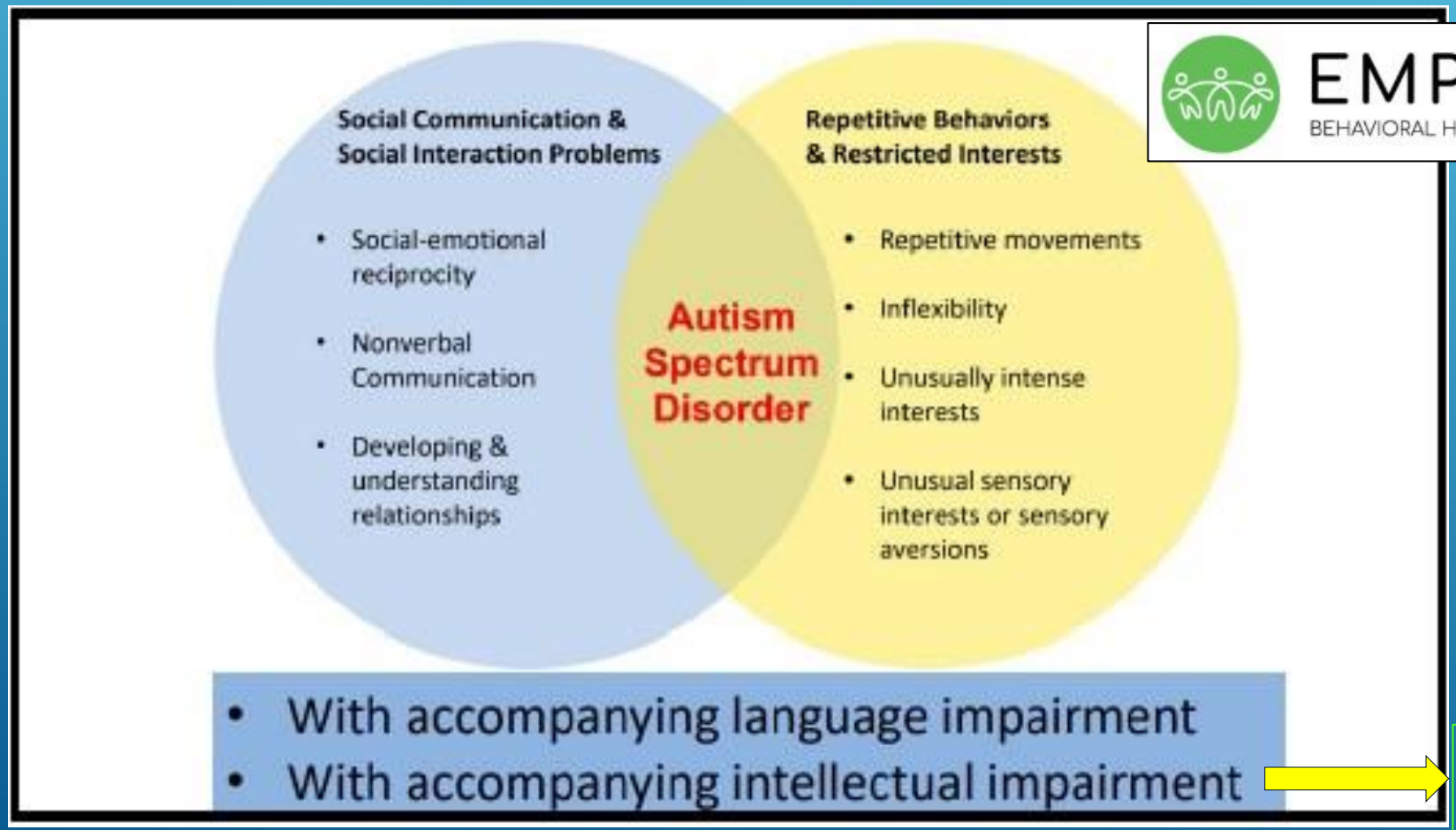
For Kim, these symptoms started in her 20s and continue to this day, *"Sometimes lasting for ten or fifteen minutes, but at other times the catatonia can last for an hour! I end up needing William [husband] to come and cue me to get me to move."* William noted that Kim can even get stuck on a word, like "Saying 'no' over and over and over again without stopping."

Think of Autistic Catatonia like this: I have a laptop computer with only 16 GB of RAM, so, when I have a lot of applications open, that puts a lot of demand on the RAM-memory, even maxing it out which, in turn, causes my computer to run more slowly, freeze, glitch, or otherwise operate in a stilted and choppy manner.

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism,* by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller.

Girls tend to get diagnosed with ASD later than boys, because:

- Girls are generally better at mimicking the acceptable social behaviors of others in their environment – i.e., they're better at becoming a social chameleon while masking their struggles.
- The "bad behavior" of girls tends to be responded to with a little bit more tolerance than that of boys.



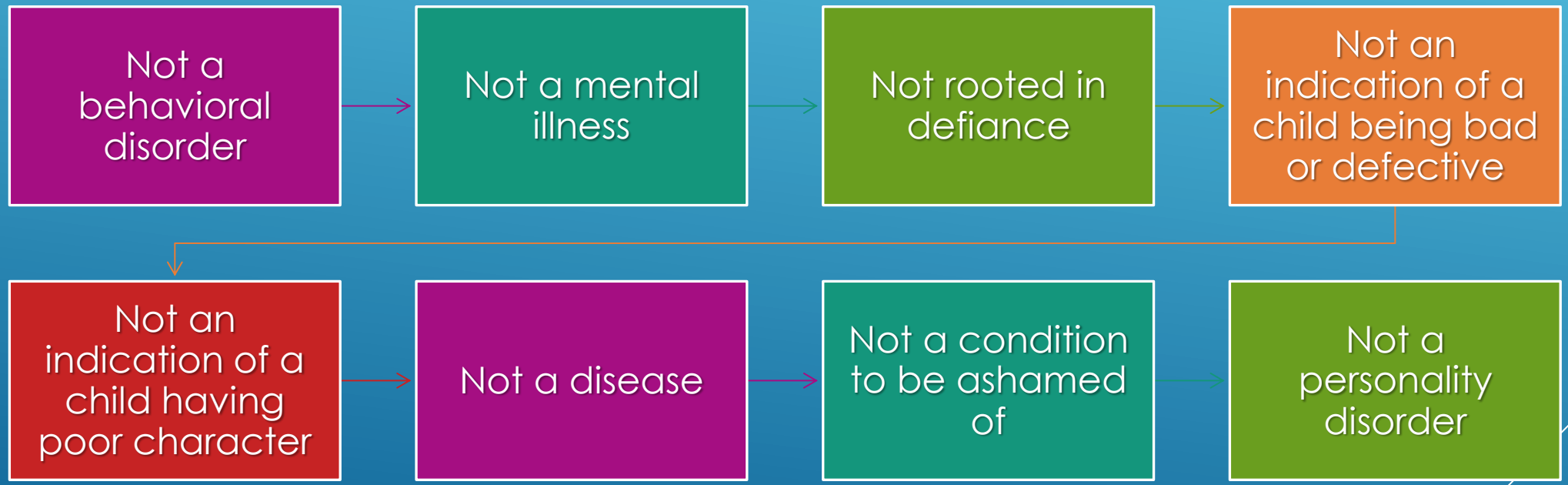
EMPOWER
BEHAVIORAL HEALTH & INTERVENTION

40% are nonverbal
44% Have average or above average intellectual ability
31% have an intellectual disability

do

Do NOT assume this, though, even if they're non-verbal!!!

WHAT ASD IS NOT:



From a video by Tom Galperin, founder of Galperin Autism Consulting LLC
(this slide and the next slide)

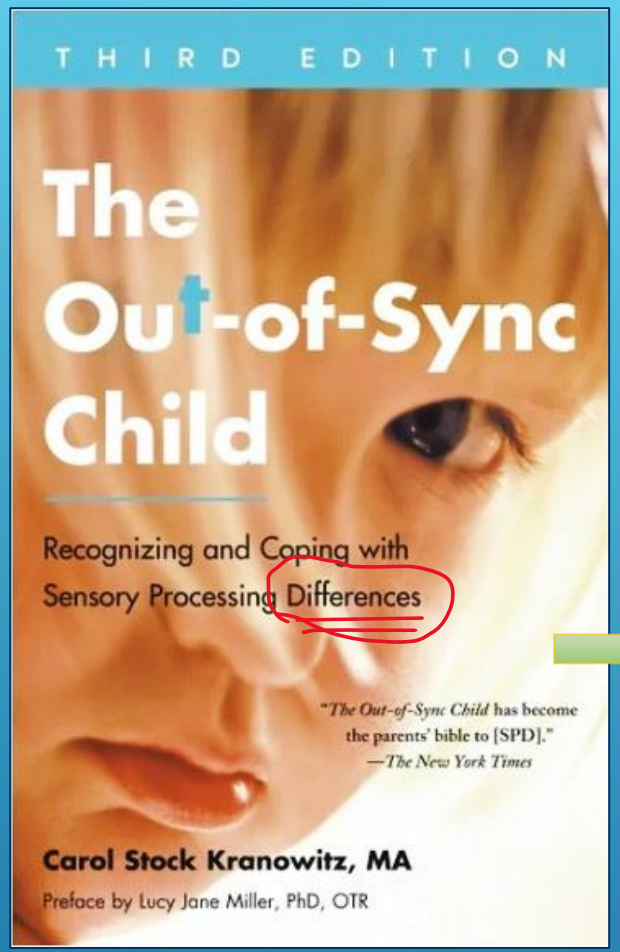
NOTEWORTHY POINTS ABOUT ASD:

WHAT AUTISM IS NOT AND WHAT IT IS

"Autism isn't something a person has, or a "shell" that a person is trapped inside. There's no normal child hidden behind the autism. Autism is a way of being. It is pervasive; it colors every experience, every sensation, perception, thought, emotion, and encounter, every aspect of existence. It is not possible to separate the autism from the person--and if it were possible, the person you'd have left would not be the same person you started with" (Sinclair, 1993)

- Neurological in nature (traditional view)
- Makes a child more susceptible to becoming easily overwhelmed
- Its existence does not mean the child does not have any strengths
- Its existence does not mean the child does not communicate (though verbal communication might be lacking)
- Like with AD/HD, striving to train ASD youth to make and hold eye contact is not helpful & often only leads to destructive blow-ups
- The ASD child is not helped by efforts to make them "normal"/neurotypical
- ASD is a spectrum diagnosis that covers the full range of IQ scores and functional levels that we see in the general population.
- People with ASD can also experience other mental health struggles just like anyone else, from depression to PTSD to psychosis, etc.
- Genetics: 4x more prevalent in boys than girls. If you have a sibling with ASD, you are 8x more likely to have ASD traits, 4x more likely if immediate family.

Eye Contact: If you look across a room and see a stranger staring at you, will you or will you not feel threatened? Well, imagine having Autism with sensory sensitivities and an overwhelmed nervous system, and an unknown adult or mere acquaintance adult is trying to force you to make eye contact with them! Even adults who are deeply romantically involved will struggle to maintain eye contact for more than a few seconds without starting to feel uncomfortable!



When mild, SPD can cause delays in developmental milestones, such as learning to walk later than most children. When severe, it can significantly hinder the development of self-regulation, movement, learning, language, and social/emotional skills. SPD may begin in utero, becoming evident in infancy, childhood, adolescence, or adulthood and usually lasting throughout a person's life span.

The chart shows three diagnostic groups and subtypes, based on terminology proposed by Lucy Jane Miller, PhD, a mentee of Dr. Ayres, and other esteemed OTs.[1] (Terms will be explained in chapter 4.)

SUBTYPES OF SPD

1. Sensory Modulation Differences			2. Sensory Discrimination Differences	3. Sensory-Based Motor Differences	
A. Sensory over-respon-sivity	B. Sensory under-respon-sivity	C. Sensory craving	Touch Movement Body position Sight Sound Smell Taste Internal organs	A. Postural chal-lenges	B. Dyspraxia (move-ment and coordina-tion problems)

Notice the word "Differences" in the title?: This is a change from "Disorder" from the 2nd Edition. The reason is that these sensory challenges lie on a **continuum**. Mild processing challenges may be labeled as "challenges" or "differences," while severe challenges may be viewed more through the lens of a "Disorder." Some other appropriate "D" words, depending on symptom severity, are: **Dysfunction**, **Delays**, **Deficits**, **Disabilities**, **Difficulties**, **Dimensions**, and **Diversity**.

SPD: Notice Any Similarities with ASD?

It is important to note that sensory challenges are often part of the ASD landscape. A few minutes ago, we looked at one of the criteria for ASD, which is: Hyper- or hypo-reactivity to sensory input. We will also look later at Success Stories, one of which is Carly Fleishmann. Carly notes in her book that her legs would feel like they're on fire and it would often feel like bugs were crawling up her arms, two very intense sensory experiences that would fall partly into category **1.A.** on the SPD chart to the left … unless these sensation are ***not*** an overreaction to an external stimuli. When we see that ASD also has a criteria of Stereotyped or repetitive motor movements, use of objects, or speech, we begin to understand that odd and/or repetitive movements in ASD people might very well be directly connected to **pain or irritation** associated with **sensory over-responsivity**.

From: https://thespiralfoundation.org/evidence-based-practice/

Sensory Processing in Children With and Without Autism: A Comparative Study Using the Short Sensory Profile

https://sensoryhealth.org/sites/default/files/publications/10SensoryProcessingInChildren.pdf

This study investigated the differences in sensory processing among children 3-6 years old with and without Autism. Results found that **95%** *of autistic children demonstrated some degree of sensory processing challenges, with greatest differences from the comparison group being with Under responsive/Seeks Sensation,* ***Auditory Filtering****, and Tactile Sensitivity.*

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Professor Psychiatry, University of North Carolina

"Autistic kids are often hypersensitive to [background] sound, but hyposensitive to the sound of your voice, which is paradoxical: 'Sound is too loud, but I can't hear your voice.' And that's because there's a **re-tuning of how their neurological structures are working when the body is under a state of threat.** Under a state of threat, our neural regulation in the middle ear structures **allows** low frequency sounds (associated with predators) to permeate through our middle ear to our inner ear and into our brain. And what that does is it actually **dampens** the C-range frequency band, which is where **social communication** occurs … the **frequency band of human voice.** Unfortunately, the background noises are amplified in their auditory system." This also explains why a husband doesn't hear his wife when he's intensely visually focused on the game on TV!

Middle Ear Muscle Dysfunction

- Without functioning middle ear muscles, we are hypersensitive to the low frequencies sounds that trigger anticipation or presence of predator!
- Without functioning middle ear muscles, we are hyposensitive to human voices that are masked by the low frequency sounds signaling threat.

Due to being in chronic states of poor Vagal tone and dysregulation, ASD individuals tend to have middle ear muscles that are not functioning as robustly as in non-ASD individuals. This poor functioning creates middle ear conditions that result in the two states mentioned above.

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From https://thespiralfoundation.org – from their, ***A Guide to Sensory Integration for Adolescents and Young Adults***:

Emile Gouws PhD (special education teacher with ASD):

*"**Sensory overstimulation**, especially in unfamiliar environments, was one of the big reasons why I remained non-verbal until almost age 15."*

To this day, even as a PhD in the field, Emile becomes impaired – through stuttering – when he finds himself to be in a new and unfamiliar environment.

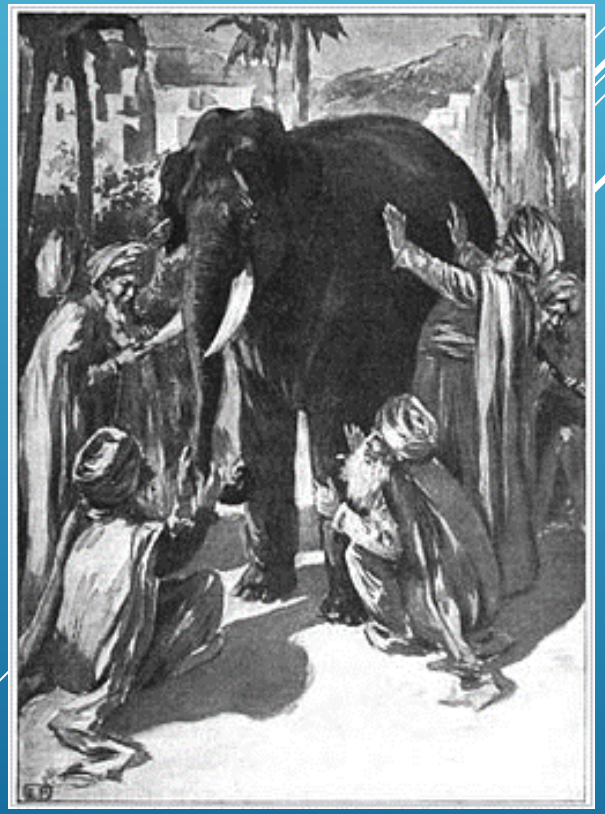
And let's remember that, for everyone, heightened and/or chronic anxiety greatly impacts a person's working memory, since **adrenaline** and **cortisol** block both learning and memory recall.

"Basically, having ASD and/or SPD makes it very hard to take-in two or more sensory stimuli and still produce an adaptable, [regulated], and meaningful response." – Dr. Varleisha Gibbs

Sensory problems	*Signs or difficulties you may have*
Overly sensitive to touch, movement, sights or sounds	• Easily distracted by sounds, movement, and objects • Discomfort when unexpectedly touched by something/someone • Bothered by certain textures—of food or clothing • Sensitivity to loud or unexpected noises • Nervousness or 'bad reaction' to movement (easily car-sick, or motion sickness, avoiding elevators and escalators) • Overwhelmed or extremely irritated by very busy environments • Avoidance of anything 'messy,' seeking to immediately wash hands/body if they get 'messy' • Very sensitive to strong perfumes, cleaning products, body odors; may react strongly to smells that no one else notices
Seeking or under-reactive to sensory stimulation	• Seeking out intense movement sensations (thrill-seeking), like fast rides, roller coasters, and sports • Higher 'pain tolerance' than others, not noticing bruises, cuts, and bumps • Preferring foods with very strong textures or flavors
Unusually high/low activity level	• Constantly on the move, can't sit still • Dislike for 'down-time,' activities planned for every moment of the day • Slow to 'get moving,' fatigue easily • Appear lazy or unmotivated to others, but just prefer to 'chill out' during free time
Coordination Problems	• May have poor balance, trip frequently, difficulty walking on uneven surfaces • Difficulty with sports, driving, or timing of movement • Feeling awkward, stiff, or clumsy—especially when learning a new movement task • Clumsy with cell phone buttons, zippers, utensils, and other smaller items
Problems at work or in social situations	• Unable to stay focused on tasks at work, overwhelmed by workload even when it's within your abilities • Nervousness or avoidance of busy social situations like malls, festivals, or crowded restaurants • Difficulty tracking appointments, birthdays, or time of day • Difficulty maintaining relationships with 'unpredictable' people • Avoidance of hand-holding, kissing, or other romantic activities

WIKIPEDIA
The Free Encyclopedia

The parable of the **blind men and an elephant** is a story of a group of blind men who have never come across an elephant before and who learn and imagine what the elephant is like by touching it. Each blind man feels a different part of the animal's body, but only one part, such as the side or the tusk. They then describe the animal based on their limited experience and their descriptions of the elephant are different from each other. In some versions, they come to suspect that the other person is dishonest and they come to blows. The moral of the parable is that humans have a tendency to claim absolute truth based on their limited, subjective experience as they ignore other people's limited, subjective experiences which may be equally true.[1][2] The parable originated in the ancient Indian subcontinent, from where it has been widely diffused.



Think about this parable when reading the **orange text** in the **next slide ("Answer to the Opening Question")** where Sean Inderbitzen PhD is operating on the belief that ASD is a "disorder," but not of the brain, rather, it's "a disorder of [feeling like one is **under] a constant state of threat**":

Answer to the Opening Question:

Is Autism a:

- Behavioral disorder?
- Neurobehavioral disorder?
- Neurodevelopmental difference?
- Condition rooted in HRV differences?

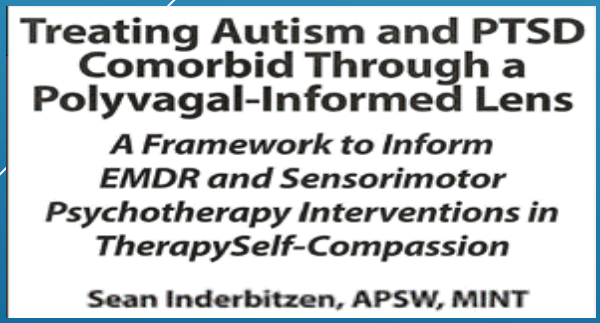
The "right" answer is:

"ASD is not a behavior-problem issue, it's **a way of being that is neurologically based**, just like each person's way of being is." – Emile Gouws PhD …
and yet, Sean Inderbitzen PhD, who's also on the Spectrum, believes that ASD is a condition that is explainable by **differences in HRV (Heart Rate Variability)**! Logically, then, we should put both of these truths **together** vs. viewing ASD through an **either-or lens**.

- It's a Neurodevelopmental **Difference**
  And yet, clinicians adhering to the DSM 5 will refer to it accordingly, as a Neurodevelopmental **Disorder**. This difference in perspective can create some tension between clinicians, who are trained to treat deficits - with a goal of trying to make ASD youth as "normal" as possible - and parents, who may be fighting to get help that works with their child's strengths instead.
- It's a sensory-motor-processing **challenge**
  From "Spellers – The Movie" (a documentary on Autism – see later slides).
  Yes, there are social *deficits* involved, but that's not what ASD *is*.

From: Greg Handleton MA, LPCC-S, TRCC

The **logical problem with the "HRV-only" model of Autism** is that – if this model be true - when the ASD person is feeling perfectly safe and calm, then all ASD symptoms (e.g., low eye contact, repetitive and stereotypical behaviors, hyper-focus on a limited range of interests, trouble perceiving and understanding body language and other social cues, sensory sensitivities, difficulties with expressive and/or receptive language, etc.) should all go away … but for many ASD people, they don't. Just because Sean Inderbitzen feels, at the age of 31, that he is not as diagnosable with ASD as he was when he Was 18 – reportedly because he's now in a much calmer state (feeling more secure) – that might not mean that his underlying neurology has actually changed. It could simply mean that he has developed **new neural pathways around coping**, pathways that he's able to consciously access so quickly that it feels to him as though his ASD neurology has changed. **But, in his defense!:** See the story of Barry Kaufman's son with severe ASD who, at age 5, had an IQ of 29 but who has been symptom-free for decades now!



But! … some say that Autism is ***not*** genetic in origin and that, instead, it's rooted in something called:

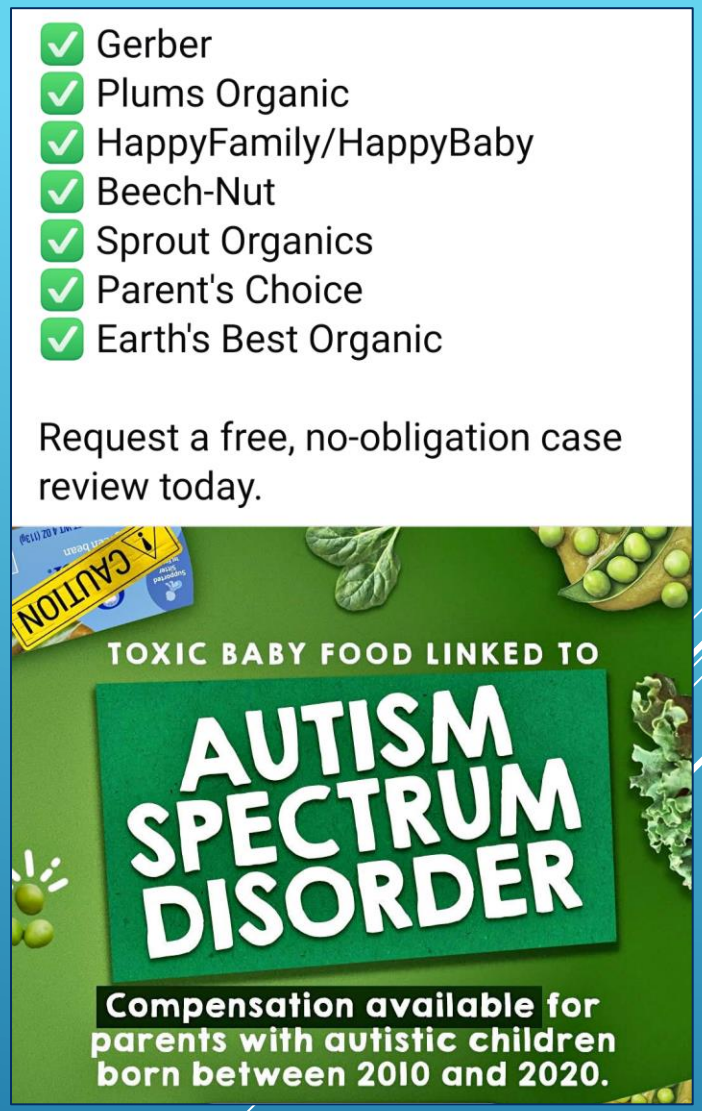
Cell Danger Response:

- The activation of this cellular response would indicate that Autism is a metabolic reaction of **shutdown** triggered by toxins (including heavy metals stored in the brain), infections/illness, or chronic stress.

We'll look at this in a later section entitled, ***Can Autism be Cured, Healed, or be Made Less Severe?*** *The next slide will list potential "causes," and then we'll* explore everything we need to know about Autism from a traditional medical and treatment perspective.

Possible Causes of Autism (old and new):

- Genetic mutation/problem with encoding or copying
- Pharmaceuticals of different kinds, especially pre-natal
- Air and/or water pollution
- Gut microbiome problems/deficiencies
- Pre-term birth/premie
- The "Refrigerator Mom" – poor/low/absent attachment from the mother
- Pesticides
- Infection/high fever
- Age of parent(s) – older



<u>Newer potential causes</u>:

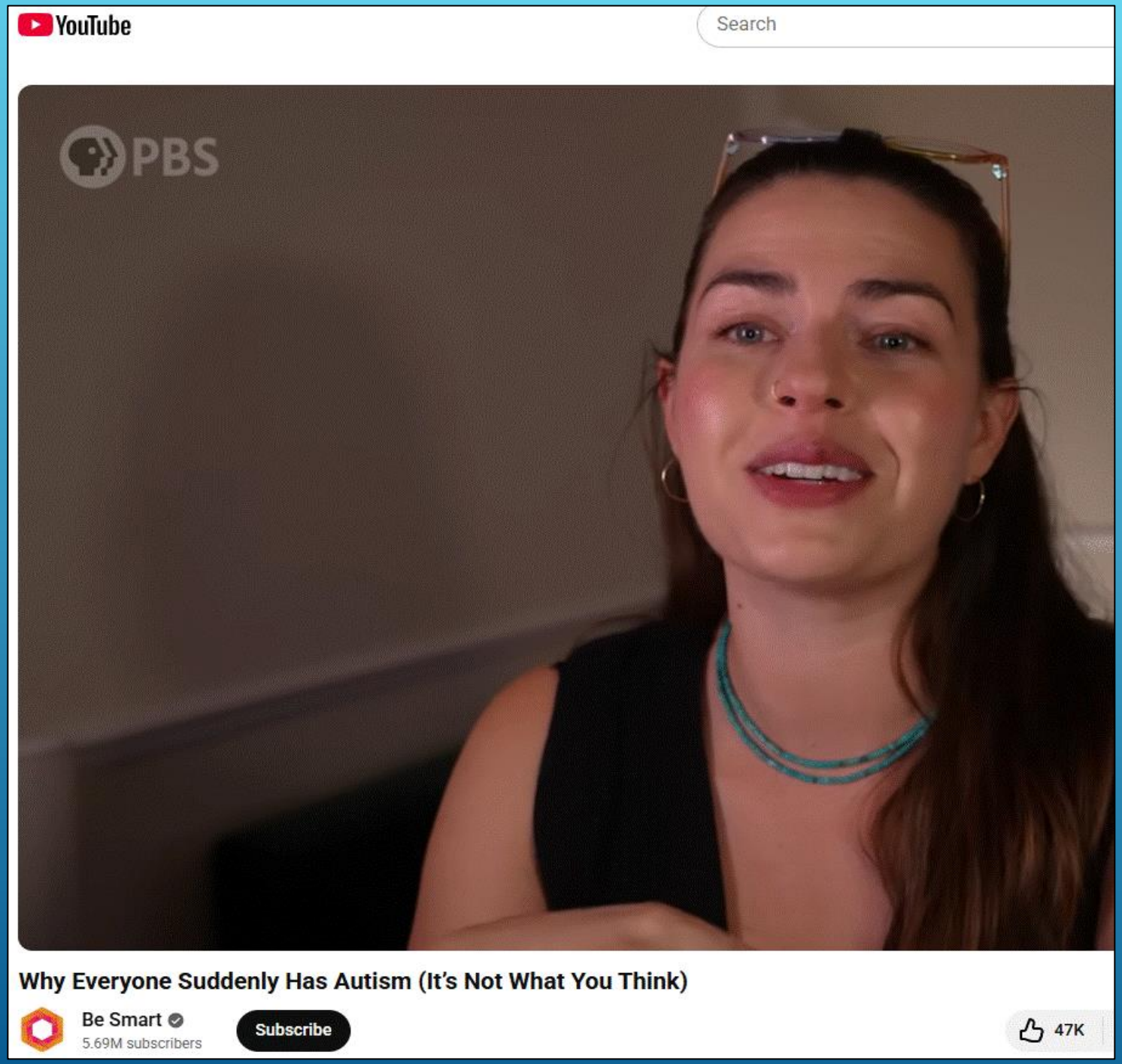
- Genetically modified foods
- Vaccines (including ingredients of animal DNA, heavy metals, formaldehyde, etc.) – possible allergy-type reactions that never go away

"Autistic people are not 'Dis-abled,' they are 'Differently-abled."

Dr. Temple Grandin

(an adult on the Spectrum)

Basically, if you've met one person with Autism, you've met only one person with Autism. No two people with Autism are exactly alike.



"Also, autism is often talked about like it's this **one single thing**, but we should really be thinking about it **more the way we think about cancer**. Now, the key difference is that cancer is a disease that we try to cure. While autism is not an illness, it's **a form of human diversity, but like cancer, autism is not one condition**. It's a **whole family of complex conditions with different causes and presentations**, and they're shaped by [a huge] … mix of genetic and environmental factors."

Barkley's Theory Of Executive Functioning

Executive Functioning as defined by Dr. Barkley is: "Self-regulation across time for the attainment of one's goals (self-interests), often in the context of others." (Barkley, 2011). Dr. Barkley identifies five areas that EF (meta-construct) covers:

1. Self-Management to Time
2. Self-organization/problem solving
3. Self-restraint
4. Self-motivation
5. Self-regulation of emotions

Treating Autism and PTSD Comorbid Through a Polyvagal-Informed Lens

A Framework to Inform EMDR and Sensorimotor Psychotherapy Interventions in TherapySelf-Compassion

Sean Inderbitzen, APSW, MINT

*"A lot of studies **correlate IQ score [with] executive function**. Barkley and others **demonstrate [that] that's not the case**; [these two things are] not really correlated. I have this kid with Autism that I see who can build a car engine. He is seven. He can put together a car engine but he can't regulate his fists." We must **STOP making these kinds of assumptions based solely on IQ**. "If [they] had just assumed that because he [struggled] with schoolwork that [that alone] is predictive of his [low level of academic] ability, that would [have been] a very poor assumption … if [they had followed] the traditional model in Education that IQ predicts executive functioning skills, [they would have] been **wrong** and this kid probably would never have reentered public school."*

"Autism means that you are really good at some things and not so good at other things"

- Mrs. Lee's 3rd grade class

Some parents and some professionals in the Autism field find it particularly difficult to embrace these new/different kinds of **PERSPECTIVES** about Autism. Why might that be?

"Having autism – being autistic – represents but one more wrinkle in the fabric of humanity…No one among us is living a life unwrinkled".

Ari Ne'eman, Founder and former President – Autistic Self-Advocacy Network

Improving Social Communication in Autistic Clients

Neurodiversity Principles in Action

Barry M. Prizant, Ph.D., CCC-SLP
Visiting Scholar
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CHARACTERISTICS OF AUTISM SPECTRUM DISORDER

COMMUNICATION

- Poor interaction
- Late or no social smile
- Late verbal speech
- Developed verbal speech then stopped/lost what was had
- Little/no eye contact
- Decreased facial expressions
- Poor eye contact
- Limited or no gestures
- Joint attention
- Echolalia

Noticeable in infancy up to the beginning of toddlerhood

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From a Webinar by Dr. Wes Dotson entitled, *What Criminal Justice Professionals Need to Understand About ASD* (provided through Justice Clearinghouse):

Markers that you might be talking to somebody who's on the spectrum.

- Struggle with eye contact
  - Might be looking at something else other than your eyes
  - Might be staring at you and never breaking eye contact
- Repetitive behaviors or pacing
  - When overwhelmed or in a situation or environment for which they don't have any history or expectations, repetitive behaviors are amplified
  - E.g., Pacing, flapping hands, rocking, looking at hands
- Unusual or no response to spoken instructions
  - They do not respond to spoken instructions from someone they don't know in an environment in which they're not familiar
  - When they are overwhelmed, they're not processing language well
  - If you're encountering someone with autism in public for the first time, they're probably not going to respond at all
  - The more you talk to try to make them respond, the less likely they are to respond because they get overwhelmed by the language

✓ But these same things could also manifest in someone who's under the influence of narcotics

Difficulty in experiencing, identifying, and expressing emotions

Alexithymia is a condition characterized by **difficulty in experiencing, identifying, and expressing emotions**. It is often referred to as "emotional blindness" and can be influenced by various factors, including genetics and past experiences. People with alexithymia may struggle to differentiate their feelings from bodily sensations and often find it challenging to articulate their emotions. While it is not classified as a mental health disorder, it can be associated with conditions such as PTSD and eating disorders. Medical News Today +4

Restricted Interests/Repetitive Behavior

- Hand flapping
- Body tensing
- Body rocking
- Food/liquid refusal
- Sensory seeking/avoiding
- Watching things that spin or blink
- Resistance to change
- Cannot tolerate altered routines
- Lining up objects

Suggestion: Watch the 1990s/early 2000s show, ***Monk***. Adrian Monk was likely a child with moderate-to-severe Autism. Then he became a Detective. But when his wife was murdered and he was unable to solve the crime, Adrian's chronic grief only fueled his anxiety, multiple phobias, resistance to change, etc. The acting is superb!

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From a Webinar by Dr. Wes Dotson entitled, *What Criminal Justice Professionals Need to Understand About ASD* (provided through Justice Clearinghouse):

Keep in mind

- Don't take it personally
  - They're going to do things that feel off-putting or rude – they don't mean it, it's not personal, it's not aimed at you
- They usually WANT to do the right thing
- They LIKE rules and structure
  - People with autism like rules, consistency, stability, and predictability, and are often incredibly motivated to do the right thing
  - They tend to be the most compliant people once they understand what you want – they're rule followers
  - But if those rules and structures are not spoken or made explicit, they may not pick it up
- It will be awkward
  - They can't just turn it off, and focus and try a little harder
  - Their deficit is about how their brain is wired, not about a choice they're making to be rude or not do what you want

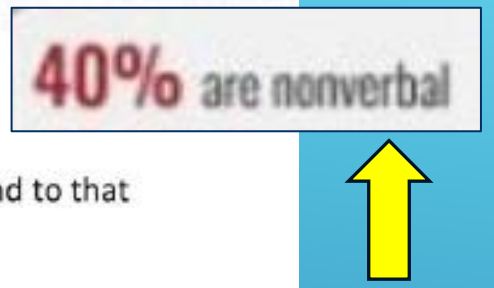
From a Webinar by Dr. Wes Dotson entitled, *What Criminal Justice Professionals Need to Understand About ASD* (provided through Justice Clearinghouse):

ASD folks tend to be very, very **literal** in their thinking: e.g., "a couple" means 2; "some" is 4, and "a few" is 3! So, if you say, "We'll be gone a couple of hours" knowing you could be gone for up to four hours, the ASD person will get upset after 121 minutes has elapsed!

CHARACTERISTIC BEHAVIORS THAT CAUSE PROBLEMS (42:05)

Literal

- They struggle to identify non-verbal cues
  - They are black and white
  - They're going to take what you say and only what you say and respond to that
  - They interpret language based only on its literal meaning
- They're usually not being difficult or defiant
  - Go play outside
    - Mom who asked a child who is preoccupied with computer games to go outside went and played his computer game outside
- Be aware of your language and explain exactly what you want and be prepared to clarify
  - Boil 2 cups of water
    - Instead of measuring 2 cups of water and putting it in a pot to be boiled, he put water in two cups and boiled it
  - When you mention that what they did – following your instruction – was wrong, it will confuse them because they just did what you said
- They will do exactly what you said – not what you meant, wanted, wished, or intended
- It's not coming from a place of disrespect
  - They are sincerely trying to do exactly what you say
  - Instead of getting frustrated about them not doing what you said, think about what you said and what you meant
- The more stressed they are, the harder it is for them to process language
- It is not just a choice, and they can't just listen, focus harder, or pay more attention, it's just that's not how their brains work



From a Webinar by Dr. Wes Dotson entitled, *What Criminal Justice Professionals Need to Understand About ASD* (provided through Justice Clearinghouse):

- Repetitive and routine driven
  - Difficulty handling surprises and changes in routines
    - They like things to be the same way all the time and they want a very consistent routine
    - They're going to have a lot more stress and a lot more anxiety when they're having to do something that they've never done before or is interrupting their daily routines
    - Those changes in routines could be in the form of a court hearing, traffic stop, wreck, meeting with a parole officer, or anything that is not a day-to-day routine activity
    - It doesn't mean that they're going to be angry or upset, but they're just going to be a little bit stressed or nervous than maybe might be warranted by what the conversation
    - You will likely encounter them already in a heightened state because whatever the situation, it is likely surprising or different
  - Predictability and stability are important
    - Help them see how, whatever your interaction is, can have a standard form
    - Provide visual support
      - Show them what will happen
      - Model or use pictures if possible
    - Give advance notice
      - Provide advance warning and instructions
      - Tell them before you touch them
      - Let them know what will happen and when as much as possible
        - Interactions get a lot easier when they have time to see things coming and anticipate

From a Webinar by Dr. Wes Dotson entitled, *What Criminal Justice Professionals Need to Understand About ASD* (provided through Justice Clearinghouse):

- Unusual sensory responses
  - People with ASD may respond in unusual ways to the environment
    - Not respond to loud noises or other people
    - Show increased sensitivity to things such as light level, crowds, sounds, and textures
    - Look for that and try to accommodate it as much as possible
  - Motor behavior is often unusual and persistent (spinning, tapping hard surfaces, pacing, rocking, flapping)
    - The more stressed they are, the more they tend to engage in repetitive behaviors, and the calmer they are, the more of those behaviors tend to come down.
    - The rate of repetitive behavior can be a useful barometer
      - The more escalated they are, the more we need to talk less, give them space, simplify things
      - When the repetitive behavior gets less, we can start using a little more language, and interacting a little bit more
  - What these characteristics mean for you
    - When you interact with people with autism, they will struggle more as more people are around
      - The fewer people and stuff going on – the better they're able to focus

From a Webinar by Dr. Wes Dotson entitled, *What Criminal Justice Professionals Need to Understand About ASD* (provided through Justice Clearinghouse):

- They will engage in more unusual social behavior (especially when stressed) – it WILL be awkward
- People with autism often get overwhelmed
  - People with autism have a threshold
  - When the environment is too much and they can't process anymore, they're not going to be able to interact with you or successfully navigate the environment until they've had a chance to calm down
  - Give them the space and the time to calm down before you try to move interactions forward
- Overwhelm/sensory overload looks like
  - Rocking
  - Covering their ears
  - Physically running away
  - Resisting physical contact
  - Stopping from speaking
  - Curling into a ball and going to a corner
  - Zoning out
  - Pacing
  - Screaming
  - Irate repetitive behaviors
- What to do
  - Back off to the extent that you're able to create space
  - Recognize that that interaction is not going to move forward until they've had a chance to calm down no matter how long that takes

From a Webinar by Dr. Wes Dotson entitled, *What Criminal Justice Professionals Need to Understand About ASD* (provided through Justice Clearinghouse):

- Difficulty communicating
  - They struggle with communication when they're calm – only aggravated when they're stressed
  - When overwhelmed, they will find it difficult to communicate with you:
    - Likely to NOT respond to spoken language
    - NOT pick up on or notice non-verbal cues at all
    - WILL respond in unusual or "outsized" ways
  - Assume non-responsiveness is passive failure to perceive expectations rather than active resistance
    - They're not responding because they're failing to perceive your expectations, they are not actively resisting and are not choosing to not do it
    - When they're overwhelmed, they don't even recognize other people and what's being asked of them
  - The more you talk, the harder it is for them to process and comply
    - You are not going to talk them down
    - The more they have to keep trying to pay attention to your language and the more overwhelming it becomes
    - Often, de-escalation in autism is silence and giving them space
    - An adult with autism in the community will know what they need to calm themselves down, and though it may seem unusual, they're doing it because it works
- Why this is important
  - Images: Headlines of incidents where people with ASD...
    - Try to calm themselves down by doing these unusual things and they're perceived as drunk or on drugs
    - Who are self-soothing themselves while they're driving or are in a public park or at the mall and people assume impairment
  - ✓ Because they're stressed and are not listening or complying with the officer, they end up under arrest when these unusual repetitive behaviors are done in public

Dr. Stephen Shore (ASD):

Even in college, when he was doing SOOO much better, he still didn't "get" social inuendo. One time a girl told him she liked back rubs, but he failed to grasp that she was using inuendo to say she wanted to have sex with him. So, he threw himself into reading books about non-verbal and nuanced verbal communication (including *Dating for Dummies)*.

In graduate school, he started spending time with a new female friend, then at a beach she gave him a hug and a kiss and held his hand. THIS TIME he finally understood she was indicating that she wanted to be his girlfriend, AND he understood that he needed to:

- Give her a yes, no, or "I need more time" answer right away.

They've now been married for 33 years!

College was a utopia, too, because he was able to meet others who shared the same quirky interests. Now he's a university professor in Special Education. He spends lots of time diving deep with others into quirky topics that only a few others care about.

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ADDITIONAL INFORMATION

- Greater risk of victimization
- Greater risk of comorbidities
- Growing social differences
- Poor pragmatic skills
- Poor imitation skills
- No interest in age appropriate items
- Hyper Interests in videos/tablets
- Increase in anxiety
- Difficulty with emotional regulation

MONOTROPISM

Monotropism describes single focussed attention. 'Mono': one or single, tropism: channels. When sparked by interest connecting us to noticing, our attention is taken over by that one channel and there is no 'spare' attention left over. Socialising or engagement with more than one thing, requires the brain to be 'polytropic', a term used to represent divided attention. Poly: 'several' and 'tropism': channels. Poly individuals can accommodate their own interest, but also have attention to notice the interest of others. See: http://www.autisticscholar.com/monotropism/

Separating **Complex Autism Characteristics From Mental Ill-Health**

By Dr. Wenn Lawson (pHd) AFBPsS MAPs

A Depressed Social Engagement System

Features of Autism?

- Lack of prosody (intonation in voice)
- Poor eye contact and difficulties in social communication
- Blunted facial expressivity
- Difficulties in behavioral state regulation (hypervigilant, anxious, distractible, impulsive, tantrums, hypoarousal)
- Compromised vagal regulation (e.g., state regulation, digestion)
- Difficulties in listening, following verbal commands, speech-language delays
- Sound sensitivities
- Oral motor defensiveness (e.g., ingestive behaviors)

Per **Dr. Porges**, all of these "symptoms" of ASD are **actually symptoms of an Autonomic Nervous System that is in a constant state of defense and self-preservation** due to sensory overload as well as interoceptive signals from within … creating a negative feedback loop that is difficult for the ASD individual to break out of on their own.

Polyvagal Theory research is showing that many of the features of Autism **are NOT hard-wired**, but instead are the result of a nervous system that is acting as if it is **under a constant state of threat**. Imagine, then, that your Autistic 12 year-old has a nervous system that is *acting very much like* the nervous system of a person who has been a prisoner-of-war detainee for 12 years.

Building "Blocks" of Healthy Relationships

Social Engagement + **Social Bonding**

Safety → **Proximity** → **Contact** → **Bonds**

[redacted] we have to feel safe. And what this means from a neurophysiological level is that our autonomic nervous system has to be calm. It can't be in a state that supports defense, movement, aggressiveness. So we have these basic building blocks of healthy relationships. We have social engagement leading to social bonding, where we [redacted] develop strong relationships. The social engagement process could be seen as having two sub components, a context of safety, and then proximity, or at least proximity in psychological space. And once that psychological space of safety is conveyed, the bodies of individuals can come into physical contact and they can feel safe enough to give each other [redacted] hugs and feel comfortable and have the neurochemistry of social bonding, especially with the process of the neuro peptides, such as [redacted]oxytocin. [redacted]

The Neuroscience of Safety:
The Transformative Impact of the Polyvagal Theory on Supporting Children on the Autism Spectrum

Stephen W. Porges, PhD
Distinguished University Scientist, Kinsey Institute, Indiana University
Professor Psychiatry, University of North Carolina

Features of Autism

- Difficulties in feeling "safe" with others
- Difficulties in being in physical proximity with others
- Difficulties being touched or touching others
- Difficulties establishing "trusting" social relationships

~~Safety~~ → ~~Proximity~~ → ~~Contact~~ → ~~Bonds~~

Three Phylogenetic Stages of the ANS

Stage 1: Primitive unmyelinated 'dorsal' vagus (DVC)

- Immobilization behaviors (i.e., fainting, shutdown, dissociation)

Stage 2: Sympathetic Nervous System (SNS)

- "Fight-flight" behaviors

Stage 3: Myelinated mammalian 'ventral' vagus (VVC)

- Social communication (supports homeostasis)
- Enables social interactions to regulate physiology and promote health growth and restoration (balance between unmyelinated vagus and SNS)

Evolutionary Stages Timeline:

The Neuroscience of Safety:
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Stephen W. Porges, PhD
Distinguished University Scientist, Kinsey Institute, Indiana University
Professor Psychiatry, University of North Carolina

Faulty Neuroception

Challenges may:

- Shift physiological and behavioral state **inappropriately**
- Distort social awareness
- Displace 'appropriate' spontaneous social behaviors with asocial behavior or defensive reactions
- Frequently observed in individuals with autism

In other words, ASD individuals tend to have **faulty neuroception** – i.e., they tend to **excessively label** stimuli as being **dangerous or representing danger**, thereby throwing them chronically into cascades of neurological and physiological reactions that **negatively impact** their social lives and ability to connect with others. They react to others as if others are hungry lions when, in reality, they're no threat.

The Neuroscience of Safety:
The Transformative Impact of the Polyvagal Theory on Supporting Children on the Autism Spectrum

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Distinguished University Scientist, Kinsey Institute, Indiana University
Professor Psychiatry, University of North Carolina

Amen Clinics

This statement is true about *every* human being, both neurotypical and neurodivergent: *"Every strength can become a weakness, and every weakness can become a strength … depending on the situation."*

What are the Core Symptoms of ASD?

The signs of autism spectrum disorder typically appear by age 2 or 3 of a child's life, but if developmental delays are more severe, autism symptoms may become evident in very young children, including those under age 1. ASD affects each person differently. The following list includes several of the core symptoms of autism; however, because it is a spectrum disorder, not all people with an ASD diagnosis will have every symptom.

- ✓ Deficits in non-verbal communication, such as understanding social cues and reading facial expressions
- ✓ Difficulty with reciprocal communication or ability to initiate communication with other children or adults
- ✓ Repetitive movements, such as rocking or hand flapping
- ✓ Rigid adherence to routines and habits
- ✓ Repetitive use of objects, such as always lining up toys or turning things upside down
- ✓ Behavioral symptoms
- ✓ Difficulty learning new skills
- ✓ Aversion to change
- ✓ Sensory sensitivities
- ✓ Having an intense focus on certain things
- ✓ Echolalia (repeating words or sentences others say)
- ✓ Speech delays or significantly impaired language skills
- ✓ Poor eye contact
- ✓ Deficits with social skills
- ✓ Sleep disorders
- ✓ Narrow food preferences
- ✓ Intellectual disability
- ✓ Self-injurious behavior, such as repetitive head-banging, scratching, or biting
- ✓ Social isolation, particularly for older people with autism spectrum disorder who live alone

From: Dr. Stephen Shore (an individual with ASD):
"ASD people perceive their environment differently. This is why you might see an ASD child playing only with the wheels of a toy car instead of playing with the car as a car. Are there situations where it's advantageous to be super-focused on details? – Yes, of course. A 'normal' person might have a deficit in detail-oriented thinking! So, this justifies a systems-wide switching over to an abilities-based lens through which to view ASD," AD/HD, Asperger's, and other developmental challenges.

Amen Clinics

High & Low Activity Patterns in Autism Spectrum Disorder

In settings outside of Amen Clinics, the diagnosis of ASD is usually determined by a clinical history, criteria from the Diagnostic and Statistical Manual (DSM) published by the American Psychiatric Association, the autism mental status examination, and other structured screening tools, leaving clinicians in the dark about the underlying brain function problems. With brain SPECT imaging, an adult or child psychiatrist will frequently see increased activity in the anterior cingulate gyrus—linked to rigid, obsessive behavior—along with decreased activity in the temporal lobes (associated with language and deficits in social interactions), and in the cerebellum, which is involved with learning and physical coordination.

High Activity Patterns in ASD

Increased activity in the anterior cingulate gyrus and lateral prefrontal cortex, linked to symptoms such as:

- ✓ Repetitious speech and behavior
- ✓ Getting stuck on thoughts and routines
- ✓ An adult's or child's ability to cope well with transitions and change

An overall increase of activity throughout the brain, which may be associated with inflammation, and contribute to symptoms of:

- ✓ Mood instability
- ✓ Emotional meltdowns
- ✓ Anxiety

Low Activity Patterns in ASD

A smaller, less active cerebellum, associated with:

- ✓ Impeded or poor motor skills
- ✓ Problems with learning and thought coordination

Overall decreased activity on the surface of the brain as well as in the parietal and temporal lobes, contributing to:

- ✓ Difficulty with communication skills
- ✓ Learning deficits
- ✓ Problems with social skills
- ✓ Sensory processing issues
- ✓ Problems with abstract thinking
- ✓ Deficits with language skills

Thought-Starter:

Think of someone with chronic, severe back pain. This person is suffering. Their suffering causes them to have to ***constantly focus*** on their suffering, and it causes them to have to ***expend*** a great deal of time, thought, and energy on just coping with it … i.e., on just "treading water" emotionally, so to speak. They're in survival mode. Being in **Survival Mode** means they do not have the energy to spend for deeper and more complex kinds of learning or memory recall. They also do not have the energy to be able to learn or care much about other people's wants, needs, agendas, feelings, or perspectives.

Survival Mode:

- Now think of a person on the Autism Spectrum. If they are constantly overwhelmed with sensory input that is painful to them and which they can't just ignore or filter-out, then this experience really isn't much different than the person with chronic, severe back pain. An ASD person in Survival Mode is only able to focus on themselves and does not have the energy to be able to learn or care much about other people's wants, needs, agendas, feelings, or perspectives.

Even an Autistic person who does not struggle with painful sensory challenges is most likely experiencing the chronic emotional pain of social situations and expectations that exceed their stress threshold on a continual basis.

Question: Which kind of pain – physical or emotional – is more painful and difficult to deal with?

Non-ASD people experience sensory overload at times, too, especially when exhausted and/or sick.

When you have the Flu, isn't it true that a normal levels of light or sound that normally don't bother you at all make you feel like you just want to crawl into the back of a cave to escape the sensory overload that now has become so irritating? Well, for a majority of ASD people, sensory overload is a chronic and unending experience.

In addition, ASD people tend to be very **black-and-white thinkers, very concrete. They tend to think in literal terms** and have great difficulty with idioms, colloquialisms, figures of speech, and nuances of language:

- When Dr. Stephen Shore was in elementary school, they announced over the intercom that the Principal had "lost" his mother, so, Stephen thought he should volunteer to help find her.
- At age 10, when learning to "drop the 'e'" when adding an "ing" ending, he felt very concerned that the "e" would get hurt or broken from being dropped.
- At this age, too, a friend said, "I feel like a pizza," so, Stephen proceeded to argue with him, saying that his friend doesn't look like a pizza and can't possibly feel like one, either.
- If you say to an ASD person, "I'll get to your question in a minute," they are likely to start counting-out 60 seconds and then will ask the question again right at the 60th second whether you're in the middle of speaking to someone else or doing something else or not.

Because of literal thinking, an ASD child might come across as being flippant, rude, disrespectful, apathetic, etc., when in reality they are **confused** by the words and are probably also **being blunt** about their confusion because **(1)** they don't know how to handle their confusion in socially acceptable ways, and **(2)** they want their confusion to be resolved as quickly as possible … just like we all do.

	WHAT IT LOOKS LIKE?	WHAT IS HAPPENING?
Melting Down 	Covering ears Risk for "bolting" Pacing, hitting, screaming Communication difficulties Tense and/or overly fidgety Impulsive/safety awareness decreased	Caused by becoming increasingly overwhelmed Signs become outwardly noticeable Can proceed to shutdown It is a loss of control *Remember-Not doing it for attention*
Shutting Down 	Difficulty with, or no, verbal communication No thoughts/everything goes blank Paralyzed-may be really still May go into fetal position Stare off into space	Too much continuous information without a break The purposeful thinking in the brain "turns off" Think of a computer dying from too much input *Ability to think & act on thoughts returns slowly*

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism,* by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller.

Sensory Systems

- **Olfactory** (sense of smell)
- **Visual** (sense of sight)
- **Auditory** (sense of hearing)
- **Gustatory** (sense of taste)
- **Tactile** (sense of touch)
- **Vestibular System** (sense of balance)
- **Proprioceptive System** (feeling of muscles, tendons and joints)
- **Interoception** (internal organs)

PESI
2022 Autism Symposium

Helping Autistic Clients Relate and Communicate through DIR/Floortime®: A Powerful Evidenced-Base Developmental Model That Works!

Gil Tippy, PsyD

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How many senses do we have? – the standard answer is "five" – but there are more. And if there are more, then there are **more ways** that ASD individuals with sensory sensitivities and processing issues can feel confused, overwhelmed, and befuddled:

1) Vision
2) Auditory (hearing)
3) Touch
4) Smell (olfactory)
5) Taste (gustatory)

- - - - - - - - - -

6) Proprioception: knowing where your body is in space
7) Vestibular: balance and movement
8) Thermoreception: temperature
9) Nocioreception: pain
10) Prurretic: itchiness
11) Interoception: internal sensations

… it is speculated that the number of different senses might number in the 20s!

From a lecture entitled, *Dissecting the Brain-Gut Connection to Address Sensorimotor Concerns for Children with Autism*, by Dr. Varleisha Gibbs PhD, OTD, OTR/L, ASDCS

Sensory

My sensory sensitivities are more than just a dislike or a preference.

They are more than a nuisance or something I can tune out or get used to.

They are often disorienting, very painful, disabling, and isolative.

They make it hard to coordinate my body and make carrying out daily tasks and communications exhausting, or sometimes just impossible.

Kim Clairy MS, OT

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism,* by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller (this slide and the next slide)

Sensory Blindness: *(Some research shows that ASD kids don't hear voices as being noteworthy!):*

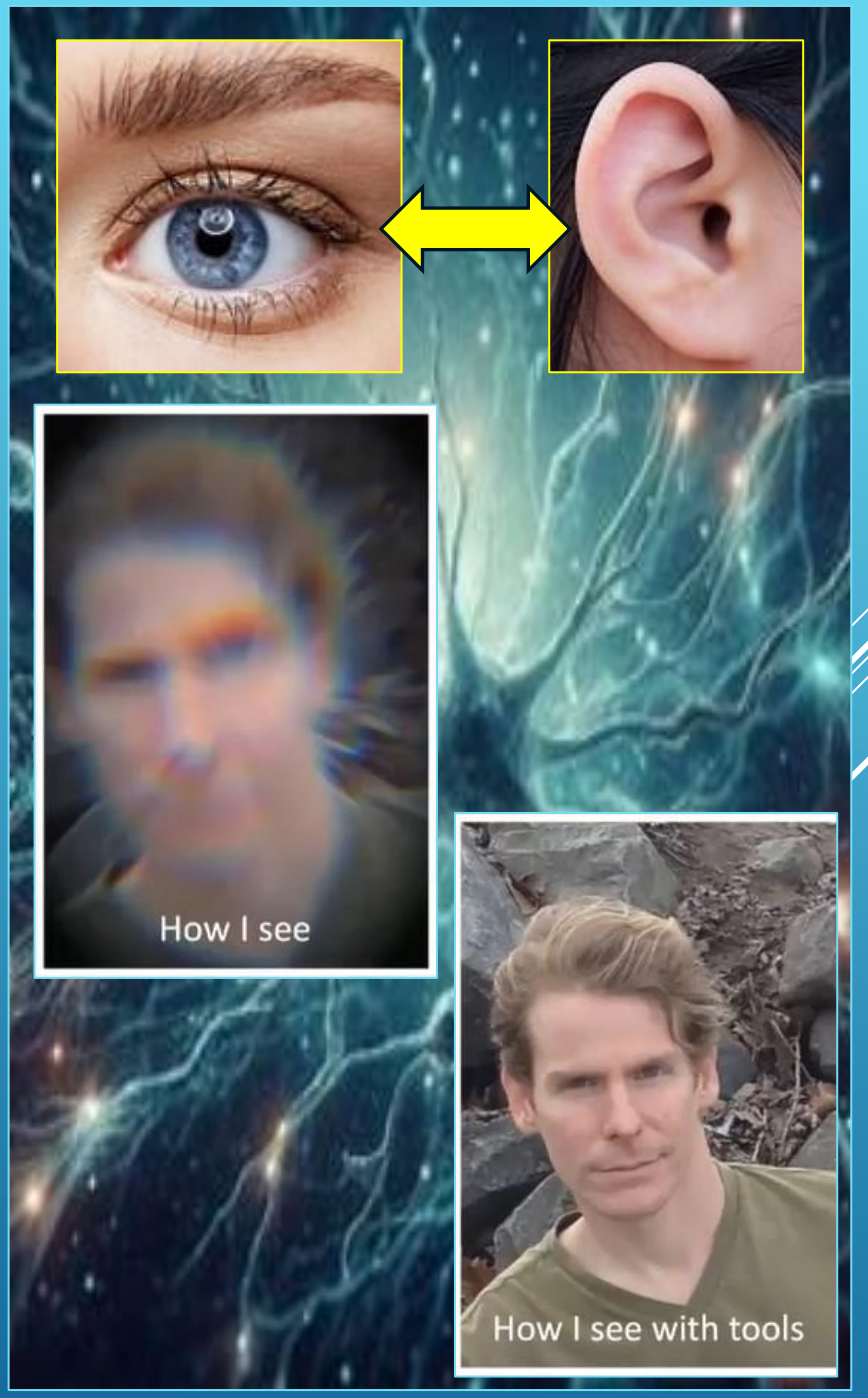
Anxiety and sensory overload can create what Emile Gouws PhD calls, "Sensory Blindness" or the inability to notice and process certain sensory input. As a toddler, Emile experienced the "Flight" part of the Sympathetic Nervous System's Flock/Fight/Flight/Freeze/Fawn response and therefore didn't/couldn't pay attention to visual and/or auditory data. This "Sensory Blindness" also affected his working memory, as evidenced by how he couldn't remember people's faces in connection with their names, nor was he able to retain information being taught later in his early elementary years. Note: Anyone experiencing a trauma of any kind will naturally struggle with working memory to one degree or another as adrenaline and cortisol are the stress hormones that move a person from being in a learning and information-retention mode into a survival and self-protection mode. When ASD people are experiencing chronically high levels of anxiety and stress related to:

- Sensory overload,
- Emotional abuse by others who are mishandling their symptoms (whether that be family members, peers, school personnel, doctors, or other adults),
- Not having age-appropriate coping- and problem-solving skills,
- Not being able to feel understood due to a lack of adequate verbal communication, and
- Constantly being expected to replace their preferred routines with "normal" behaviors, etc. …

… all of these factors combine to create a perfect storm of frustration, resulting in:

- Emotional dysregulation
- Fear about facing the same stressors again, which only reinforces their resistance and desire to withdraw.

"So, the smell of bacon is like a fire in my nose. When I smell bacon, I want to take my clothes off and run away. It hurts. It's painful. The smell clings to my clothes and then I'm in pain all day. I am very sensitive to sound, too. I can hear a blender, and just take off bolting, running away. Sensory [help] is huge because [overstimulation] affects [emotional] regulation, and the person needs to be regulated and feel safe in their body before you can do anything else. Imagine being a child growing up in school and the words on the black board are doing the shimmy shake on you; it's hard for you to understand why you're having difficulty and no one else is. But for me, that's normal. There's this component, too, where my senses can get crisscrossed and affect each other. I didn't discover this until I was 30? - 31?" [She then describes how she visually **saw people as blurry/mushy color blobs** until the following experience happened]: "So, William and I were at an airport, and I had noise cancellation headphones with me, but I never used them in public. But, I was about to melt down, so, I turned to William, threw my bags at him, took out my headphones, put them on, then I said, **'Oh my gosh! I can see! I can see details! I can see faces.'** Yeah, that's the difference. I didn't realize how huge of a difference [regulating my auditory input would make in allowing my visual cortex to function properly]." – Kimberly Clairy OT



Modulation:

Difficulty responding to the sensory environment & maintaining appropriate levels of arousal

3 Types:

Over-responsive, Under-responsive, Craving

Discrimination:

Difficulty recognizing, processing, & interpreting differences/similarities in qualities of sensory info

Motor-Based:

Difficulty planning, sequencing, & carrying out movements efficiently

2 Types:

Dyspraxia, Postural

Interoception

Smell

Vestibular

Tactile

Sensory Processing Difficulties

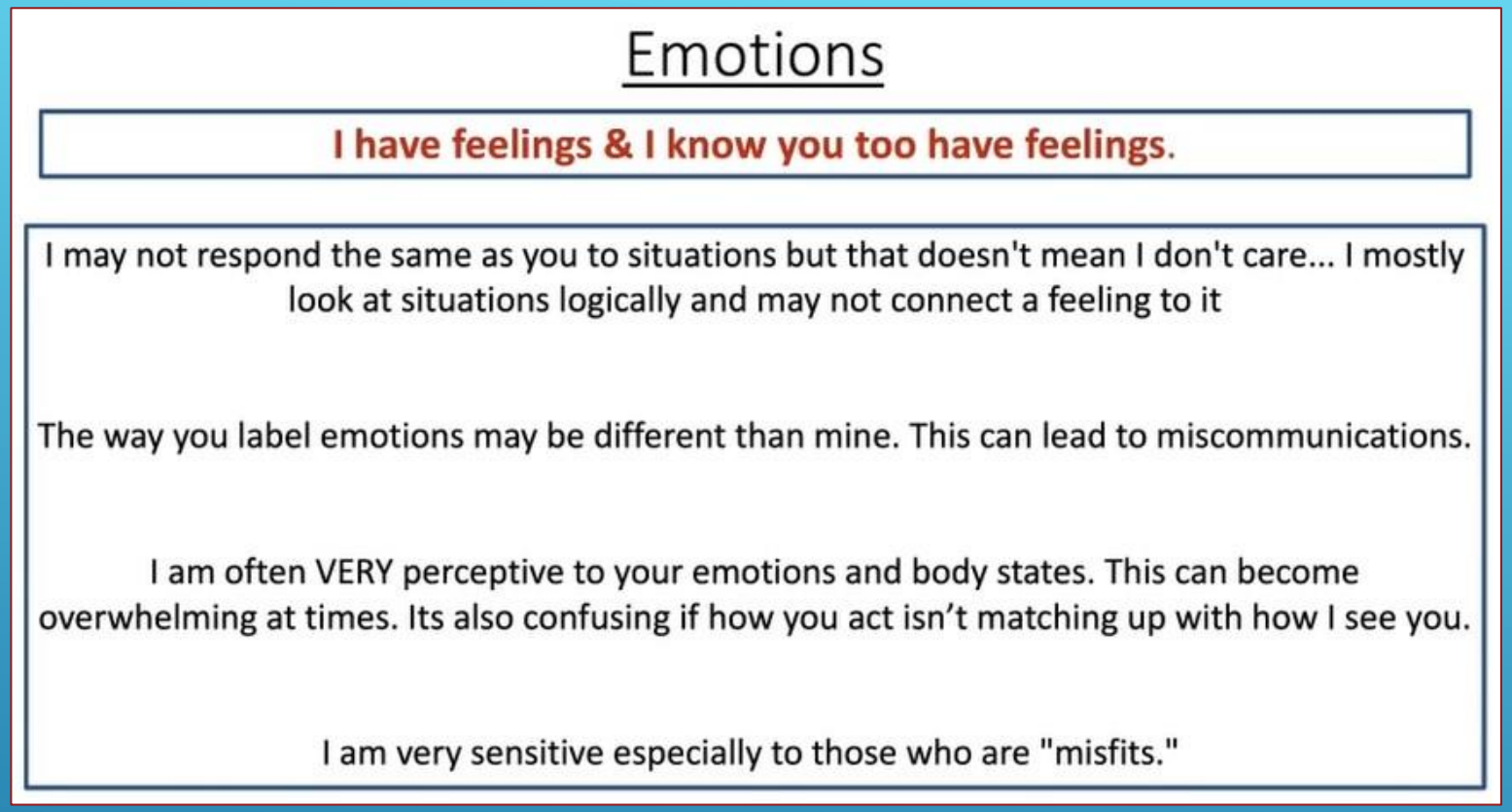
Taste

Proprioception

Auditory

Visual

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism,* by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller.



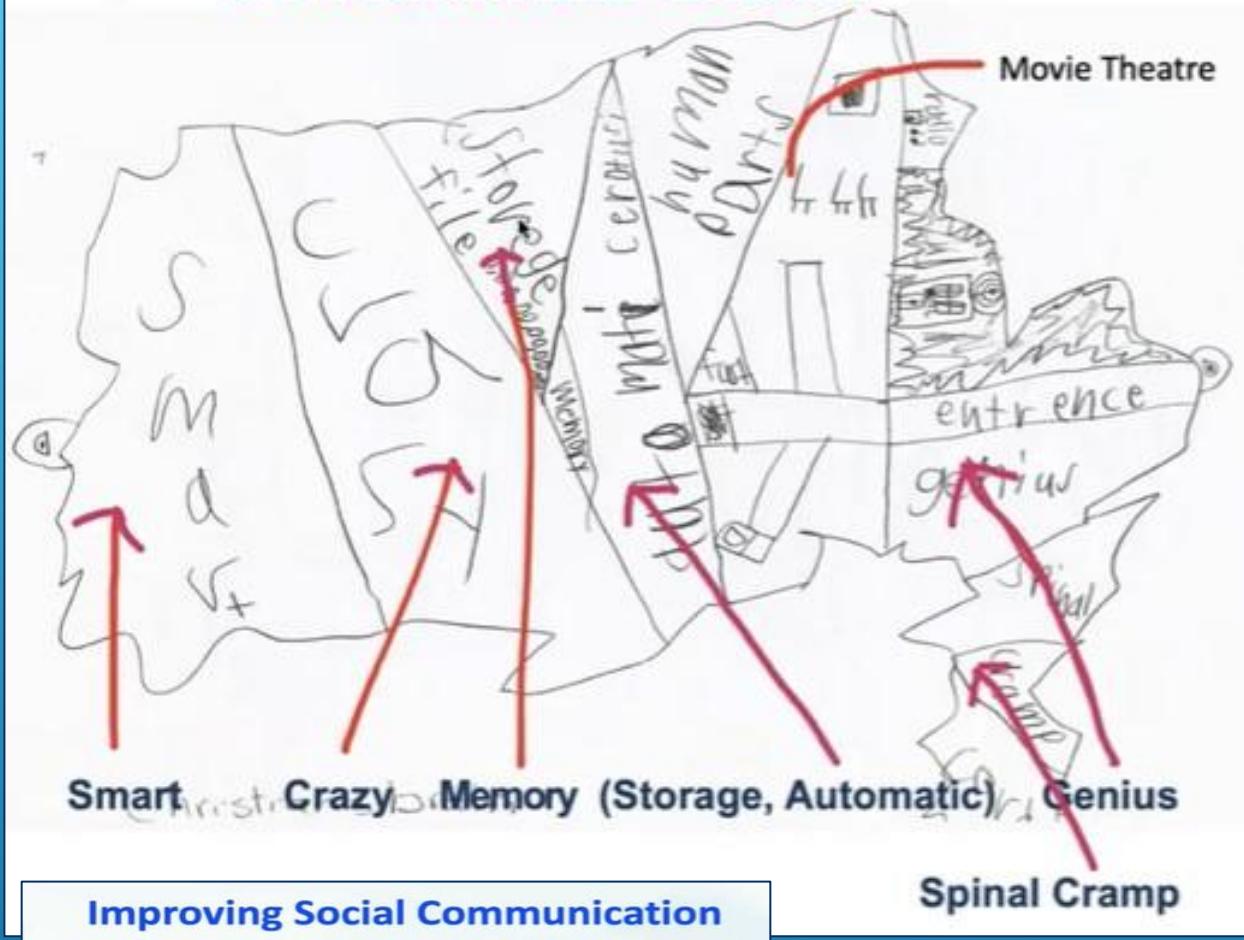
Interoception: This word is a label for all of the ways in which a person experiences internal feelings and sensations:

- The skin on my face and on left side of my neck feel sensitive - am I getting sick?
- My stomach's rumbling - am I hungry? Do I have to go to the bathroom?
- My body feels heavy - am I sad?
- I just feel "not right"? – a little disoriented.
- My left hand has fallen asleep.

"I was doing a class for young adults on emotions, on **interoception**, which is your body's internal [sensations]. I asked a young lady, 'Have you ever felt sad?' And she said 'Yes, when my grandfather died.' Then I asked her for another time. 'Yes, when my dog died.' And I asked her for another time. 'When my goldfish died.' And so she was connecting the word 'sad' [only] to somebody dying and not to other situations. It was sad when somebody died, [but she was just parroting the word 'sad' without feeling it. Sad] wasn't the actual experience that she felt in her body, which is so important for people with Autism to learn. **We need to learn what those body experiences are and how to connect them with emotion words, and [then we need to learn] how to express them.**" In that class, then, Kim had to give examples to the girl, like, you can also be sad when you lose your job. Giving those examples for them to begin to understand and make those connections is invaluable.

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism,* by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller.

Christian's Brain



This boy described his drawing of his own brain to Dr. Prizant. Notice that there's an eye all the way to the left, an eye all the way to the right, and everything about himself is located in between!

- The "Smart" part of his brain that helps him to come up with smart answers in school.
- The "Crazy" part is the place from which his out-of-control behavior is generated.
- The "Storage File" is the part where he is able to store information (probably a lot of it is visual).
- The "Movie Theatre" part is where he keeps all the information about movies he has MEMORIZED = visual memory related to things he's interested in is his super-power!
- The "Genius" part of his brain wasn't explained. Just know that HE HIMSELF identifies something about himself as existing at a "genius"-level. It's the adults' job to try to learn more about that in warm, affirming, and supportive manner.
- The "Spinal Cramp" area was simply Christian's way of trying to explain that sometimes information is trying to come into his brain in a good way, but it gets blocked somehow.

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Neurodiversity Principles in Action

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I wonder how your child would draw their own brain, and what kinds of wonderful conversations (even if very brief!) such a drawing might lead to!

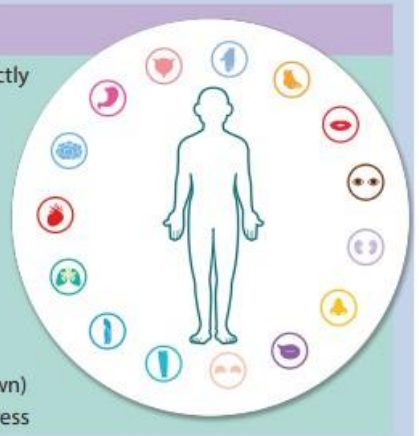
What is INTEROCEPTION?

Interoception is a sense that allows us to notice internal body signals like a growling stomach, racing heart, tense muscles or full bladder. When we notice these body signals our brain uses them as clues to our emotions. Interoception helps us to feel many important emotions including:

Hunger	Pain	Sleepiness	Anxiety	Calm
Fullness	Illness	Need for Bathroom	Distraction	Boredom
Thirst	Body Temperature	Anger	Focus	Sadness

Differences in Interoception

are very common and can lead to challenges in identifying exactly how one feels. Common signs of interoception differences can include **difficulty** with one or more of the following:



- Recognizing when hungry, full or thirsty
- Toilet training (daytime and/or night time)
- Identifying when sleepy
- Overly sensitive or not sensitive enough to pain
- Pinpointing symptoms of illness
- Identifying emotions in self
- Identifying emotions in others
- Recognizing building signs of distress (before a full meltdown)
- Independently using coping strategies during times of distress

Can interoception be improved?

The good news is YES! Research shows that interoception can be improved. There are many easy strategies that can be incorporated into your daily routines that can improve your child's interoception.

Strategies

1) Use **'Interoception Talk'**: Label the way your various body parts feel during daily activities (e.g. "My hand feels warm when you hold it; My cheek feels wet when you kiss it; My breathing feels fast when I run with you.").
2) Encourage your child's **'Interoception Attention'**: Encourage your child to notice how various body parts feel during daily activities (e.g. "How do your hands feel when you are holding a glass of ice water?; How do your eyes feel at bedtime?; Look at the goosebumps on your skin; Put your hand on your chest and feel your heart beating fast.").

For more information and free resources visit **www.kelly-mahler.com**.

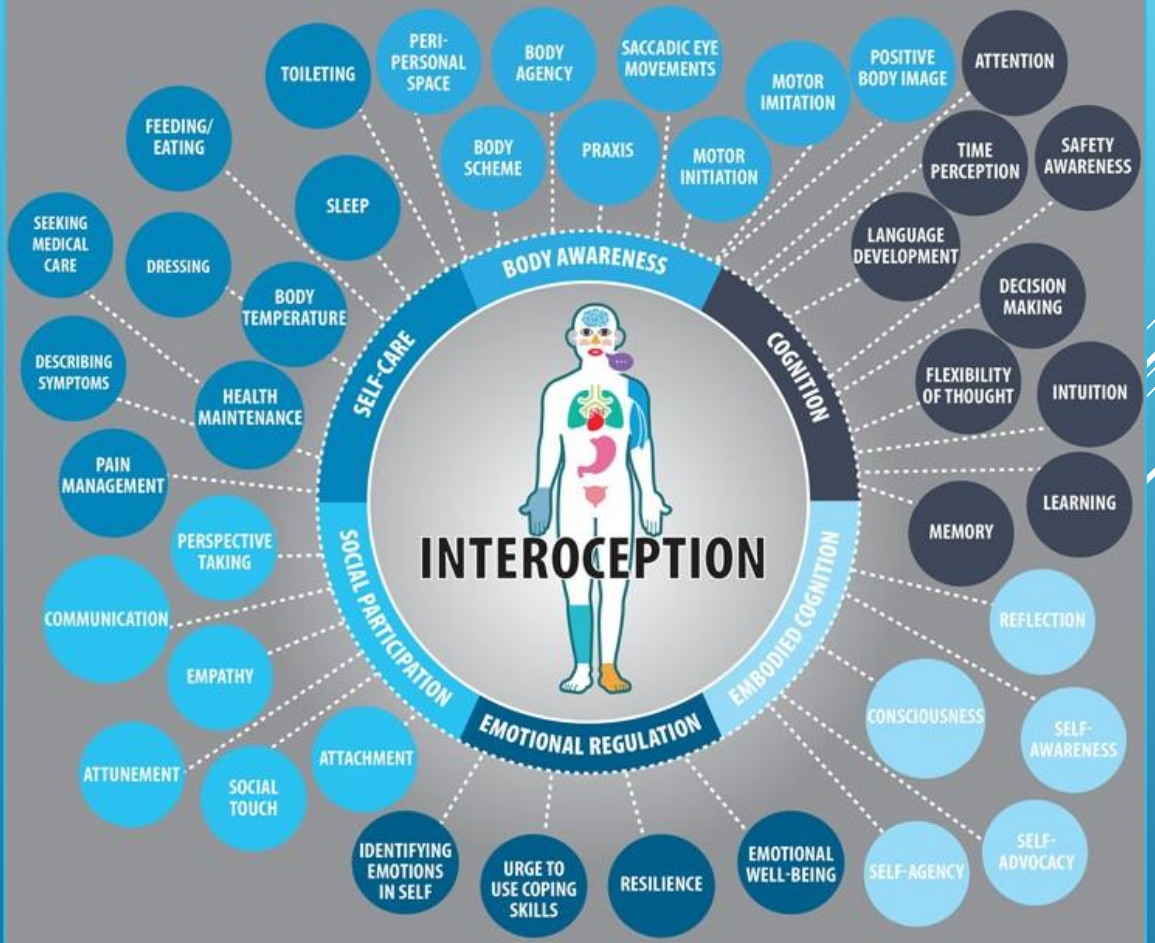
For even more free information join the Facebook Group **Interoception: The Eighth Sensory System**

https://www.Kelly-Mahler.com

THE VAST INFLUENCE OF INTEROCEPTION

Interoception is a sense that connects us with our internal body sensations such as heart rate, and muscle tension.

Research shows that interoception has a far-reaching influence on many different aspects of life.



If you don't know about interoception, it is time to learn more.

www.kelly-mahler.com

MISERICORDIA UNIVERSITY

Ellen McLaughin Ed.D., OTR/L, FAOTA & Kelly Mahler MS, OTR/L

Spiral foundation
Sensory Processing Institute for Research and Learning

This guidebook was developed to provide an overview of sensory integration dysfunction, assessment and intervention.

Maybe you are an adult who has become socially isolated because the slightest touch feels threatening.

What is Sensory Integration?

Maybe you are a teenager who struggles with sleeping and eating and is irritable much of the day. Your parents say it is only a stage, but that doesn't make it any easier to deal with.

Every day we experience and interpret sensory information from our environment. This information comes from the senses: sight, hearing, touch, taste, and smell, as well as balance and movement (vestibular sense) and muscle and joint senses (proprioception). Our balance and movement sense allows us to know where we are in space and where our head is in relation to gravity. Our muscle and joint sense allows us to know about how much force we use and where our extremities are in relation to our body. All of these senses provide us with information about our body and the environment around us. The process by which the brain organizes and interprets this information from our senses is called ***Sensory Integration***.

For most people, sensory integration develops through typical childhood experiences. Through these experiences, children acquire the ability to interpret, adjust and respond appropriately to incoming sensations. For example, children gain knowledge of their body in space through movement activities such as running, swinging and rolling. This knowledge allows them to navigate their world safely such as being able to safely time crossing a busy street. However, for some people, the ability to integrate everyday sensory information does not develop as well as it should. It can result in long-term difficulties with everyday activities such as work, dressing, eating and self-regulation. When this occurs, the individual has a problem with sensory integration.

Maybe you are a young adult working your first job who is determined to work hard, but can't seem to stay organized or focused at your desk.

This problem is frequently referred to as a Sensory Integration or Sensory Processing Disorder (SPD).

Maybe you are a college student whose ears fill with pain whenever the fire alarm rings in your dorm building. While everyone else goes outside, all you can do is curl up in your bed with your hands and pillows over your ears.

THE VAST INFLUENCE OF INTEROCEPTION

(Think about how powerful our own emotions can be as non-ASD adults – i.e., the power of what we feel on the inside, both emotionally and physically. Magnify this power for teens, and 10x magnify its power for ASD adolescents!)

For all human beings, **emotions are like smoke alarms**. Either your emotion is accurately responding to a real threat or other stimulus, or, it is a false alarm that is inaccurately responding to an imagined threat or other stimulus. Let's look at some examples in the life of the **typical teenager vs. a teenager with ASD**:

Situation (non-ASD)	Emotion(s) = Alarms	Analysis
A kid at school threatens to beat me up right after school	Fear, anxiety about being physically harmed or even killed	I can use my fear and anxiety to come up with a viable safety plan
Mom said no about buying me a $200 pair of Nike Air Jordans	Anger, frustration, anxiety about feeling rejected by my peer group	I need to realize my feelings are lying to me about a perceived danger that isn't real

Spiral foundation — Sensory Processing Institute for Research and Learning

Now, let's look at similar situations being experienced by an ASD adolescent:

Situation (ASD)	Emotion(s) = Alarms	ASD Interference	Analysis
A kid at school threatens to beat me up right after school	Fear, anxiety about being physically harmed or even killed	I feel this threat like fire shooting down my legs. I perseverate on this sensation, preventing me from thinking clearly at all	I need help from a trusted adult to protect me and help me to safety plan with them vs. shutting down, acting-out, etc.
Mom said no about buying me a $200 pair of Nike Air Jordans	Anger, frustration, anxiety about feeling rejected by my peer group	I don't understand, socially, that my online friends aren't real friends or that they won't see my feet	I need lots of help with understanding friendships, relationships, and the nuances of acceptance and rejection

From a Webinar by Dr. Wes Dotson entitled, ***What Criminal Justice Professionals Need to Understand About ASD*** (provided through Justice Clearinghouse):

From *The Out of Sync Child* (book): **Sensory Processing Disorder (SPD)** can be mistaken for:

- AD/HD
- Learning Disability
- Emotional Disturbance

I would also add to the above list:

- Schizophrenia or Schizoaffective Disorder
- Bipolar Disorder
- Intermittent Explosive Disorder
- Disruptive Mood Dysregulation Disorder (DMDD)

It's only logical, then, that we also conclude that **ASD kiddos can also be easily misdiagnosed, as well**, and for similar reasons: Odd behaviors, dysregulated and inappropriate emotional reactions, and the false assumption that a child reacting to internal stimuli must mean that those stimuli are of a psychotic nature (vs. irritating sensations associated with poor sensory integration and processing).

WHAT TO DO IF THEY'RE ESCALATED? (57:31)

- If possible, ignore the repetitive behaviors
  - Let them do that because that's often a coping mechanism.
  - Attempting to block or stop that repetitive behavior is going to escalate the situation
    - They're not going to respond well to that
  - If they're doing it in an unsafe place or you can't ignore it
  - Define for them a space, a safe place to do it
  - Redirect them to an empty part of a room, or a safe open space
- Simplify their environment as much as possible
  - Turn off sirens and lights
  - Have fewer people around
  - Ideally, bring in someone they know
    - The most direct way to help someone with autism
    - Having someone who knows them and their specific sensory sensitivities, language processing difficulties
    - Can often help simplify their environment to have a person with whom they do have routines and rules
- Give them silence unless they request an interaction
  - That's going to help calm them
- Talk and touch usually make it worse at the moment
  - The more we touch when someone with autism who is upset, the worse it's going to be in a moment because we're hitting them with language and sensory input at a time that they're already overwhelmed
- If you must talk –keep it simple and literal with time to process between remarks
  - One remark every 10 to 15 seconds to give them time to process especially when they're overwhelmed.
- Tell them WHAT to do vs. what NOT to do
- Even better –SHOW THEM what you want
  - Model, draw a picture, point, etc.
  - Because they may not hear language well
- Give advance notice when something is about to happen
  - Minimize surprises
  - Tell them as much as possible in advance
    - E.g., "Paramedics will come," "The police officer is going to be here in five minutes and he's going to do this"

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism*, by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller:

Overstimulation + My Brain =

I think in pictures and when I am overstimulated the pictures in my head start to develop holes, like swiss cheese. My ability to translate those pictures into words diminishes and sometimes that means I can no longer speak.

Kimberly Clairy OT: These are her official DSM 5 diagnoses:

- Attention Deficit Hyperactivity Disorder
- Post Traumatic Stress Disorder
- Sensory Processing Disorder
- Autism Spectrum Disorder
- Anorexia Nervosa

Thinks in pictures

↓

Becomes easily overstimulated due to sensory sensitivities & trauma

↓

Starts to lose her ability to keep the thought-pictures in her head intact

↓

Loses her ability to share the content of her visually-oriented thoughts in a verbal manner

- - - - - - - - - - - - - - -

Incorrectly diagnosed with Conduct Disorder as a child

Language, Communication, and Social Cognition

Those with ASD have difficulty using and interpreting language in a flexible, rational, and goal-oriented manner…in an ever-changing environment.

And regarding social cognition-those with ASD have difficulty

1. Collecting the most relevant information
2. Analyzing the information
3. Making a judgement about what to say or do
4. Executing the response

These can then yield an unsuccessful response or a "social mistake"

Research: Linguisting and pragmatic language skills in adults with ASD: a pilot study (March 2008) Lewis & Woodyatt

Consider how difficult communication can be between non-ASD children and/or adults:

- Making assumptions
- Unspoken expectations
- Not asking the right question(s)
- Giving of incomplete information
- Contradictory non-verbal body language
- Black and White thinking/ jumping to extremes
- Intense emotion
- Jumping to conclusions
- Going to extremes
- Etc.
- … now, consider how all of these impact ASD individuals in addition to their natural barriers.

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism,* by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller.

The Face-Heart Connection:

- At birth mammals have bidirectional neural communication between the face and the heart (suck-swallow-breathe-vocalize), which forms the core of a Social Engagement System.
- Metabolic demands, perceived danger, life threat, and illness retract the Social Engagement System resulting in a face that is not "social" and a physiological state (removal of the vagal brake on the heart) that promotes defensive behaviors.
- The face and voice reflect autonomic state.
- Early features of children on spectrum?

The Neuroscience of Safety:

The Transformative Impact of the Polyvagal Theory on Supporting Children on the Autism Spectrum

Stephen W. Porges, PhD
Distinguished University Scientist, Kinsey Institute, Indiana University
Professor Psychiatry, University of North Carolina

From Dr. Prizant's doctoral dissertation:

Our Research on Echolalia -An Early Example of Neurodiversity in Action

(Prizant, 1978; Prizant & Duchan, 1981; Prizant & Rydell, 1984)

Echolalia should NOT be seen as being "pathological," but instead:

- as serving different communicative functions
- as reflecting a different strategy for acquiring language (gestalt strategy)
- based on presumed neurological differences

"The people who were writing about language and autism for the most part at this time [back in the 1960s and into the 1970s] were **behavioral psychologists** ... [people] who didn't know a thing about language development in children. So [to them], if language looked different, it was called **pathological**, **psychotic speech**, or **meaningless parroting**. [They **presumed** that] we need to **extinguish** the echolalia ... and this coming, [again] from people who knew squat about language development and two or three decades of language development research." Dr. Prizant came to realize that "People were [applying] a **'deficit checklist'** [framework] not only to language, but then we extended it to autism in general."

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Notice how a **"Deficit Checklist"** mentality that began in the early days of psychoanalysis (Sigmund Freud, et al.) still carries over and **continues to have a negative impact on people's lives today**! If you ever read the Gary Paulson book, *Hatchet*, you'll recall that early in the boy's flight in a 2-seater plane over the Canadian wilderness the pilot has a fatal heart attack, during which his foot barely bumps one of the steering pedals, sending the plane slightly off course. But after a few *hundred* miles - the boy flying the plane until the gas would run out - the plane ends up being **hundreds of miles off course**! It only takes one little bump to send an entire field of study – or a life - off in the wrong direction! (Greg Handleton MA, LPCC-S, TRCC)

*"It's not about what's **wrong** with you, but about what happened to you" –*

Eleanor Longden

(abuse survivor and founder of the Hearing Voices Network, 2012)

When trying to **invite** an Autistic person to **learn a new skill**, remember to remind them that the **reason** for the training is **NOT** because you're trying to **"fix"** something that's **wrong with** them, rather, it's about **believing in them** enough to work **with** them to help them to **overcome the negative impacts** of things that have **happened to** them.

From: Kimberly Clairy MS, OT – an Autistic adult:

Thinking & Processing

I cannot be rushed; I need time to process.

I have a VERY hard time with change and the unexpected.

It's difficult to process & organize multiple steps - I need one direction at a time & visuals for things that are auditory.

Sometimes I repeat actions, thoughts, and words because I am stuck in a loop. When this happens, I need help stopping.

I may not be responding because I just need a little help starting or stopping a task.

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism,* by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller (this slide and the next three):

Sudden Changes in Routine:

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism,* by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller (this slide and the next three):

William: Changes in routine can create a real problem for the individual with autism. Early on in our relationship, Kim and I had a routine every certain day of the week. I would come home with tacos from work and then we would have date night. One time me and the guys at work had gotten tacos for lunch and so I didn't want tacos again for dinner. So, I got a salad for myself. Then, I went to the same restaurant, got some tacos for Kim, went home, and then, when Kim looked in the bag …

Kim: I got very upset. I thought that now we can't have date night because there's only one set of tacos. I'm supposed to have tacos and you're supposed to have tacos. This went on for 45 minutes. Finally, I said we can't have date night because there's only one set of tacos. William realized I was thinking that that change of only having one set of tacos and him having a salad ***meant*** that we weren't having date night.

William: So, I validated her feelings, and then I gently and very calmly explained to Kim that I already had tacos earlier, and so I didn't want tacos for dinner as well. I explained that we're still going to eat, and we're still going to have date night; there's just this ***one small part*** about our routine that has changed. And so, this is something important to remember. If one small part of the routine is going to change, the neurotypical person needs to give that individual with Autism a ***heads-up*** to let them know in advance. That way they don't have to be triggered by an unexpected change that really was fully avoidable; that way they've got time to mentally and emotionally prepare for that change.

Reality Check: In some households, especially with ASD children, I think that some parents purposefully neglect to inform their child of a known, upcoming change in routine. Why?: Not because they're wanting to hurt their child, but simply because they so desperately want their child to "learn" to accept changes ***on the fly***. Good News: They ***can*** learn, but it just has to be handled differently. For parents who need to feel powerful and "in control," ask yourself, "Is it worth it?" The fact is, surprising an ASD person with change or with new information will almost always backfire and cause things to spiral ***out of control***.

Best Day Ever?

Word definitions

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism,* by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller (this slide and the next three):

Kimberly Clairy MS, OT: When driving off after their wedding, Kim's husband William asked, "Was this the best day ever?" to which she replied, "No." So, she admits she then "had to do some damage control because I could see that I'd just hurt his feelings." She saved the conversation by explaining that it wasn't the best day only because she had to sit still for a long period of time while her hair was being done, etc.!

Notice how Kim's explanation highlights how, in her own unique experience of Autism, it's the **sensory challenges** she deals with that dominate her thinking.

Perseveration: The problem of getting stuck on a task – i.e., hyper-focusing on something, doing it over and over again, and not being able to get out of that pattern on one's own:

Some people with ASD struggle with perseveration, either sometimes, often, or frequently, depending on the person. Here's what **Kim Clairy**, an adult Occupational Therapist with ASD, has to say about how she and her husband William handle her perseveration in their marriage:

Kim: "I can do a behavior or activity over and over and over. Sometimes it's because I like it, sometimes it's because I get stuck in an action. If it's something that I like, like arranging flowers, it's important for William or another person to **acknowledge the importance of that activity for me**. It's important for William to **say**, "I know that arranging flowers is important to you. At the same time [don't say "But"] we agreed to meet Tom and Ginger at the theater in 30 minutes. So, can you put that on **pause**? And when we get back from having fun with our friends at the theater, you can arrange the flowers **again**." That's very helpful for me because, first, it's showing that he respects what I like, what's important to me. It also gives me a time where I can return to it. Because a lot of times for people with Autism, we might not know that, and our mind is not thinking, "Oh, I'll be able to pause for now and then come back it to again later." It's like, my natural tendency is to automatically think that I have to finish it now or just keep doing it now, or I'm never going to be able to do it again."

William: "You're inviting and asking the Autistic person to press the pause button; you're not telling them to stop the activity permanently, in most cases. If you're telling them to stop, they think, "I'll never get to do this again."

Kim: "Other tools that help are timers, First/Next/Then cards; plus I use a lot of pictures. You see this is my First/Next/Then card for my day today. I trampolined, then I ate lunch, and now I'm doing my talk [for this online seminar]. Plus I use Change In Routine cards."

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism,* by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller (this slide and the next three):

7 Types of Thinking

There are seven most common types of thinking:

1. Creative thinking
2. Analytical thinking
3. Critical thinking
4. Concrete thinking
5. Abstract thinking
6. Divergent thinking
7. Convergent thinking

(… of course, people are unique and will most often engage in a blending of different kinds of thinking in different situations).

"The way one approaches problems and solutions relies more on how the brain manages and processes information than on the facts presented."

ASD people are capable of "having" any one or more of these types of thinking that will come naturally to them, just like anyone else. It might just be more difficult to find out which types they "have."

From: https://blog.mindvalley.com/types-of-thinking/

This approach was developed by Mark Bonchek and Elisa Steele. According to them, people tend to have a typical area of *focus* on **ideas**, **processes**, **actions**, or **relationships**, with an *orientation* of looking towards the **big picture** or the **details**.

There are also three types of information processing:

- Verbal *(this is what most classrooms are based on)*
- Visual/Spatial
- Kinesthetic

… and let's not forget that people have their own unique sense of humor. With severely ASD people it will usually be very difficult to find out what their sense of humor is like, but in theory, it's still there.

The 12 Types of Intelligence – by Dr. Howard Gardner (1983)

And let's not forget the Five Love Languages (Dr. Gary Chapman):

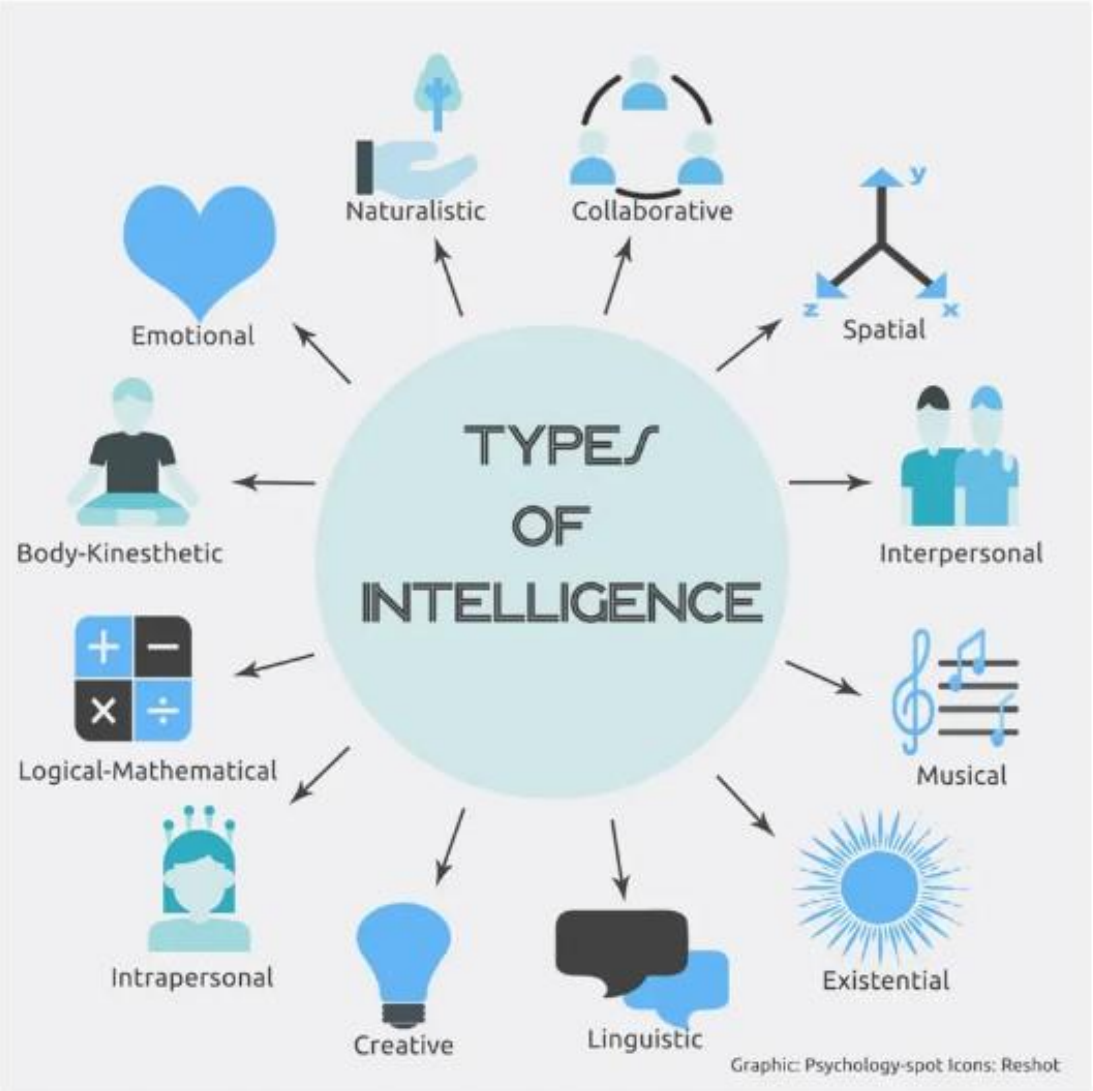
- Gifts
- Quality Time
- Words of Affirmation
- Acts of Service
- Physical Touch

And let's not forget a person's Core Motive (Dr. Taylor Hartman):

- Red - power
- Yellow – fun
- Blue - connection
- White - peace

"We need all of the different kinds of minds, because they have different skills that are complementary" – Dr. Temple Grandin (autistic adult)

The different types of intelligence that we can develop

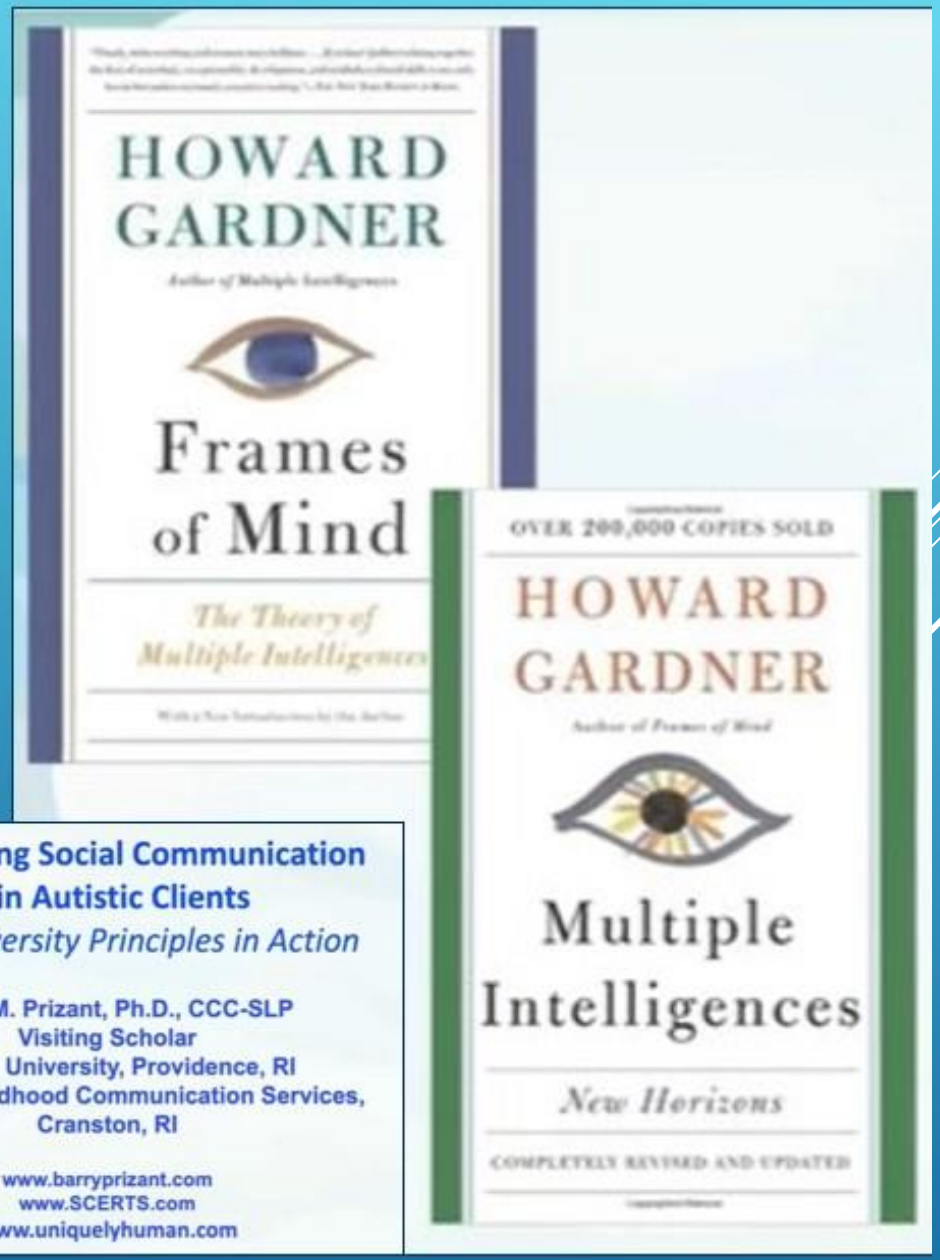


At first, Gardner proposed the existence of 7 types of intelligence, but later he included two additional intelligences and with the passage of time other constructs have been added that expand our vision of intelligence.

Dr. Gardner's work on the different types of intelligence predates the coining of the term "Neurodiversity" but essentially was about the same thing:

~~Gardner's work in terms of the theories of multiple intelligences~~. So many years, actually close to 20 years before the term neurodiversity was coined, In a sense, Howard Gardner was talking about that,because he was talking about different patterns of strengths, of relative strengths in some cases that all human beings have across so many areas of ability, language abilities, interpersonal abilities and intrapersonal, visual-spatial, bodily kinesthetic, logical mathematical musical, and one that has added more recently, naturalist intelligence. And also people talk about spiritual intelligence. So eight or nine different kinds of intelligences, and probably everybody who's listening could think about what they are good at and what they are less good at. But Gardner, way before we had precise imaging research was saying, this is probably due to neurological differences. And one of his famous quotes is, it's not how smart you are that matters, What really counts is how you are smart. And there are still programs in schools that are built upon theories of multiple intelligences and that's one of the areas I tapped into early in my career as far as helping me understand the peaks and the valleys that we see in people on the spectrum. ~~So I also got a lesson from a youngster who at the time had a diagnosis of~~

"It's not how smart you are that matters. What really counts is how you are smart." – Dr. Howard Gardner



Improving Social Communication in Autistic Clients

Neurodiversity Principles in Action

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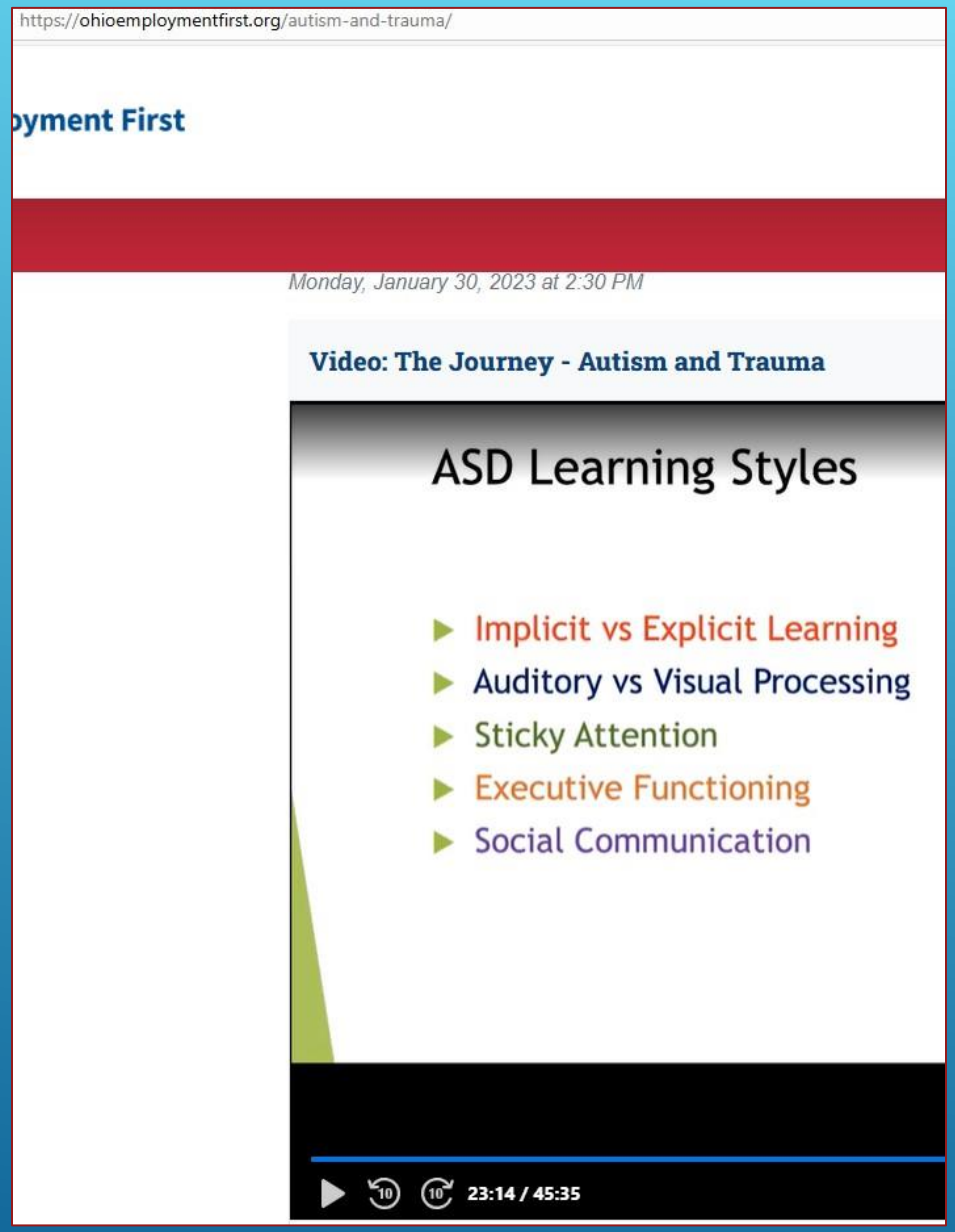


Implicit vs. Explicit: Most people learn a lot of things Implicitly from their environment – we "pick up on things" just through observation and by just being in an environment; however, ASD people learn Explicitly. They are so busy trying to tune the environment out that they simply will not pick up on things naturally. Things have to be spelled out, be concrete, and be shown to them … which is why clear, visual cues are so important.

Auditory vs. Visual Processing: ASD folks also have a strong bent towards visual processing vs. auditory processing. It's amazing how many adults will, themselves, be highly visual learners, but then they expect all kids to learn by simply being told, being lectured at, or being given a list of verbal instructions that "should" be remembered without being written down! What's especially hard is when an ASD child lives with verbal adults, they themselves (child) are highly visual, but then they also lack the verbal skills to ask for help, ask for clarification, express exactly where they feel stuck, communicate their own ideas, etc.

Sticky Attention: Also, "sticky attention" is different from defiance, ignoring, or not caring about what an adult has said. The more severe the ASD, the harder it is for that person to disengage from something they are extremely focused on or "stuck to" in the moment.

Executive Functioning: ASD folks also have trouble taking one piece of information, holding onto it in their mind, and then combining it with another piece of information, such as when being asked to problem-solve. Non-ASD people do this every day without thinking, but ASD folks generally have to work hard at achieving this same type of processing.

Social Communication: It's true - ASD folks absolutely *do* want social connections (for years it was thought that they don't). We have to find ways to help: Sign language, keyboarding, pointing at pictures, etc.

Everyone with ASD is Truly Unique – Here are More Traits/Characteristics That are Possible:

- Thinking in pictures – being an object visualizer. "Everything I think about is a picture."
- Being able to hold a picture of something in your mind and being able to turn it around in 3D to see if from all angles.
- High levels of anxiety: Dr. Temple Grandin found via an MRI that her Amygdalae were three times larger than normal: "My nervous system was amped-up in a constant state of fear … over absolutely nothing. One reason I think kids are getting so addicted to video games is because the games make their fear go down."
- From the book, *The Out of Sync Child*, by Carol Stock Kranowitz (in talking about Sensory Processing Disorder, which overlaps with ASD in several ways): "They may look fine and have superior intelligence, but may be awkward and clumsy, fearful and withdrawn, or hostile and aggressive. SPD (Sensory Processing Disorder) will affect not only how they move and learn, but also how they behave, how they play and make friends, and especially how they feel about themselves."
- Kim Clairy, OT, an ASD adult, explains how, as an adult at work, she'd go out to her car at lunchtime "to rock" and then she'd have to do that again for about 30-45 minutes after work "to calm myself down in order to be able to drive." She would then drive to the gym "where I would run for hours and hours just to regulate my system" (related to both her ASD and her Eating Disorder). At home, then, she only had energy to walk her dog, then she'd have to sleep. By her mid-twenties, she had 2 years' worth of unopened mail "because I literally didn't know how to check my mail and figure out what was important and what wasn't important" – i.e., junk mail might look important while important mail might look very plain and not very attention-grabbing. She also didn't clean her apartment "because I couldn't figure out the steps needed to organize my space" … yet, she'd earned a Masters by this time.

My World, Your World – a poem by Kimberly Clairy OT (an adult with Autism):

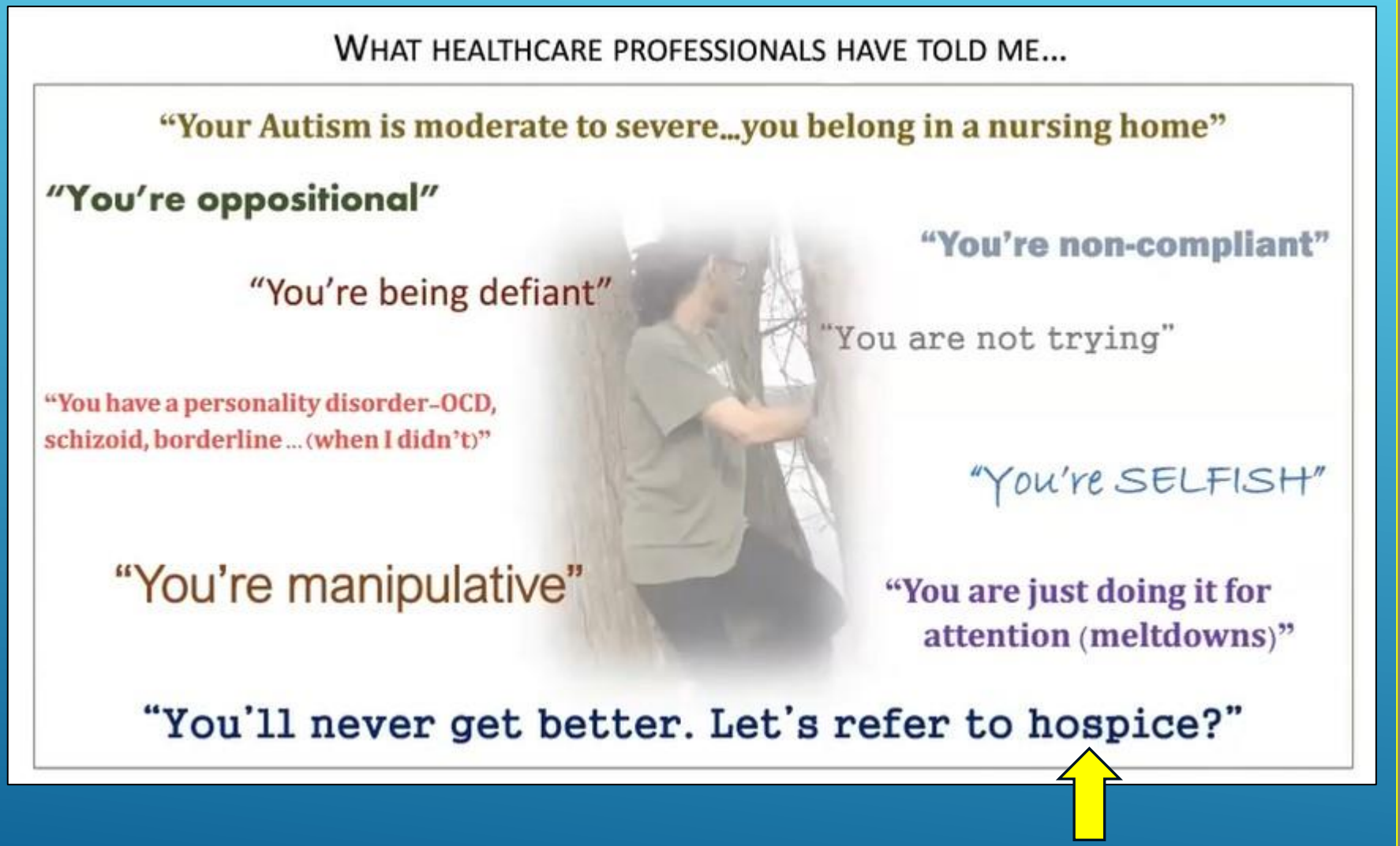
I have eyes, ears, nose, a mouth, just like you. I can even blend in and act like you. But I am not you, I am me. I am different, yet forced to be indifferent to the ways of this world, a world that is befuddling to me. Hidden agendas lurk around every corner. Rush hour really lasts 24 hours. Assumptions equal facts. Nobody *really* cares how you are. How do you live in a room with beeps, slamming, everyone talking at once, yet no one is listening, content is lacking, irrelevant. Sadly, these words wasted. Time taken. Discoveries stolen by these wasted words. Are you really listening? Well, the contaminated ears are clogged, and the mouth spits out meaningless words. Your eyes are blind. Not in the literal sense. But they don't see. They don't see me. They don't see you. They don't see themselves. Your eyes are distracted by blues, greens, grays, reds, oranges, all different colors, colors of various shapes and sizes and sounds, blurred together, oscillating, moving colors, camouflaged. Your colors are seen by blind eyes, and they create false pretenses. Colors are meant to be felt, not seen. Just like ears are meant to see, and the mouth listen. Your world is backwards, confusing, yet I must live in it and learn your ways, or I am labeled as aloof, cold, uncaring, odd, not normal. Assumptions are made that I am unfulfilled or sad because I don't always find pleasure in the emotional and objective pleasantries of this world. It is wonderful, beautiful, really amazing. And I want to say, "Come with me." I want to show you. But my words are fragmented, and my mouth unable to speak. Too many things around me. I want to take your hand and show you what I can see with my ears and hear with my eyes. But I'm paralyzed. I cannot move. There are too many things around me.

One Entry from Kim Clairy's Journal from her mid-20s while living and working on her own:

"My head is constantly pinging around and it doesn't focus for long. And when it does, it's fixated. My body is tense like there's cement in my joints. Any auditory information is painful. Verbal information is too difficult to process and leaves me confused. I spoke with my mom about this and she tried to help, but I became frustrated. I feel like she doesn't see it like me. She said I need to find balance and do something enjoyable like a new hobby or read a self-help book to help me think different. I became frustrated because it's not a matter of my thinking or of me finding work-life balance. These problems I can easily solve. ***It is rather an issue of my system being so overwhelmed.*** Thinking differently or taking time for a hobby isn't going to change how I take in and process the world around me. ***It is so difficult to organize myself internally.*** I wish others understood how I feel – and I don't mean emotionally, but ***physiologically***" … and neurologically.

From: Dr. Wenn Lawson (Autistic): "When you've got five lanes of traffic all being narrowed down to one, the traffic might not just slow down; instead, it might just stop altogether." This is a great analogy for sensory overwhelm and how parents and teachers often expect an overwhelmed child or overwhelmed Autistic child to "keep moving," so to speak, even when the child's nervous system has shut down on them completely.

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism*, by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller:



Related to her eating disorder, in 2015 she was told she needed Hospice care!

Unfortunately, **misdiagnosis** happens in the Mental Health field quite a bit. Take one client, let 10 different clinicians diagnose them, and you'll often see 4-8 different primary diagnoses being given.

At the same time, when great strides *are* made, it's almost always in connection with a good therapist who has built a good foundation of trust with that client. The fact is, **few people with Autism get better without professional help of some kind**. The key is to keep trying until you find a **good fit** for yourself or your child.

Kim Clairy MS, OT:

EMOTIONS

Those with Autism:

May not have a language or the words to communicate emotions , **due to being very concrete and literal.**

May assign typical emotion words to a concrete situation

Often go from a 1 to a 10.

- without really being aware of the specific emotion, or they might not even be aware that they're experiencing a strong emotion in the first place.

Can struggle with interoceptive awareness

- i.e., they often lack awareness of what's going on inside of themselves emotionally and/or physically (internal sensations, etc.).

Kim:

"I noticed that neurotypical people seem to experience emotions verbally, but I experience them more through **motor agitation**. I myself **experience emotions through colors, shapes, and textures**."

Kim would analyze situations in [various] environments, which would help her piece together her [own] internal emotional experiences that would later become categories that others refer to with emotion words.

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism,* by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller.

Kimberly Clairy MS, OT – autistic adult:

"There's a real misconception about autism, that individuals with autism lack compassion or empathy. Which is wrong! I believe that people with autism feel so much compassion for others, but they do not always know how or when to express that compassion. I also believe that sometimes when we try to express it, it's done differently than what others are used to, which may come across as uncaring, rude, or inappropriate. Also, a lot of people with autism, we relate through our own experiences. And so, if we have not had a similar experience, it may be difficult to actually outwardly express a concern. However, that does not mean that the concern or empathy is lacking. It just means that it's hard for the other person, for you, to note it because we are expressing it in more subtle ways than how you're used to."

From Greg Handleton MA, LPCC-S, TRCC:

A lack of empathy, however, can be real. Some ASD folks are very lost in their own internal worlds; plus, an ASD person might be in chronic anger if their interests are constantly thwarted, if they're being mistreated, if they've gone for years without being able to communicate, etc.

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism,* by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller.

STOP!

Open your eyes

I am not who you say I am

Plainly I am just Kim

I am not a diagnosis code in a book

Take a step back and look

Stop. Pause, give me time to process what is said

Too much too fast is not good for my head

I just need a few minutes to hear what you say

Please be patient with me OK?

Q: How many non-ASD kids/teens lack the ability to express what Kim expresses here? – how many ASD kids/teens?

Kim wrote this in her journal in 2015: "I was in a meeting with [my treatment team] and was told I would not be able to live on my own, and I needed to look into assisted living facilities. They said my autism was moderate to severe. They would not allow me to communicate in the meeting. I kept trying to help them understand, but they told me not to talk."

"I had decades of experience learning how to look normal so I could survive within society. It took me years of hard work, self-exploration, and the patience of many people to undo the harm of hiding from myself and the harm the world caused me. For me, the foundation to discovering me was becoming self-aware. I needed to understand my neurology – understand the whys - discover my strengths, learn to problem-solve and cope, acknowledge my weaknesses, develop self-compassion, and embrace my differences. One of the first things I had to learn was that I do process the world differently and that that is okay. Differently isn't wrong. It's just different."

I refused to accept what they thought about my future ...

PERMANENT POSSIBILITIES

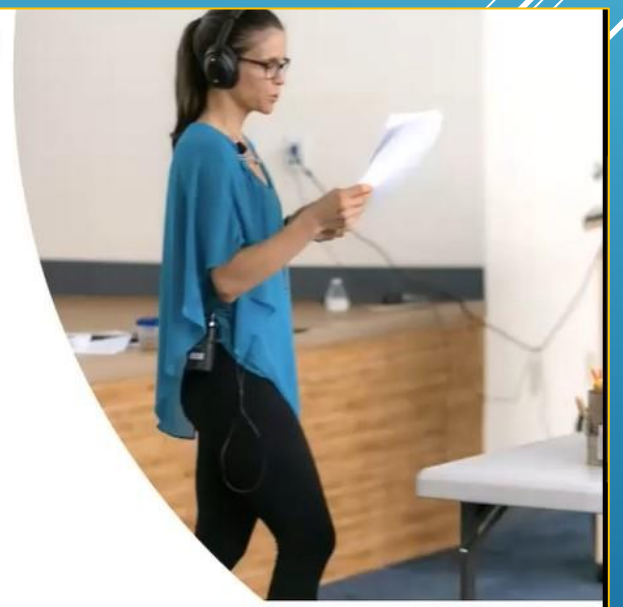
Permanent possibilities

Peeping through

You say it is only a dream

Well, dreams can come true

Permanent possibilities peeping through



A few years later-here I am!

Feelings Log:

INTERNALLY DISORGANIZED

What it feels like/how it affects me	• My atoms are scattered • Jumping and fragmented thoughts	• Urges to throw-up • Shooting energy	
What it may look like- but is often not	• Mania • panicked	• Defiance • Not listening	• Confusion • Anxious
How others can tell	• Difficulty starting a goal oriented task • Laying on the ground/bed for a long time • Unable to carry out simple directions • Difficulty verbalizing thoughts sequentially	• Fragmented speech • Refusal to eat, • Nervous energy • Unfocused activity	• Pacing • Impulsive • Unable to focus • Waving hands
What others can do to help	• Give me deep pressure • Suggest inverted positions • Give me a simple task to complete that is repetitious but give me a time limit	• Lead me to a quieter location • Give a structured schedule- make it visual	

"I don't mean to be mean … It's just hard to figure out others *and* respond accurately when I'm dysregulated."

From: A lecture entitled, *Not Just Surviving, But Thriving With Autism,* by Kimberly Clairy O.T. (autistic adult) and her husband, William Miller.

https://www.youtube.com/watch?v=1CNY6BbtgS8

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EMPOWER
BEHAVIORAL HEALTH & INTERVENTION

BOYS VS GIRLS

Autism "looks" different in girls

- Girls are good at masking
- Girls are socially savvy
- Integrate scripted language well
- Girls tend to be overlooked unless they have significant behavior difficulties, cognitive deficits, or have other conditions that may be disruptive to their environment.

WHAT IS MASKING?

Masking is a strategy used by some autistic people, consciously or unconsciously, to appear non-autistic in order to blend in and be more accepted in society.

Research suggests autistic people learn how to mask by observing, analysing and mirroring the behaviours of others – in real life or on TV, in films, books, etc.

Hyper-vigilance for and constant adaptation to the preferences and expectations (whether expressed, implied or anticipated) of the people around you

Tightly controlling and adjusting how you express yourself

EMPOWER

Anyone who has seen the family-friendly TV smash, *The Middle* (starring Patricia Heaton) may remember Brick's tall girlfriend, Cindy … who never showed any facial expression, always wore the hat pictured above, who liked to only eat shrimp, who didn't understand other people's body language or facial expressions, and who treated her boyfriend, Brick, more like a prop than as a person. In other words, girls *CAN* be equally as Autistic as boys in regard to the visible challenges and deficits … and not just because a TV show character says so! What's funny, though, is that Cindy's parents ask Brick's parents if they can borrow $1,000 the first time they meet them! – pretty Autistic!

COMORBIDITIES

AUTISM AND...

- ADHD/ADD
- Anxiety Disorders
- Depression
- Gastrointestinal Disorders
- Sleep Disorders
- Seizure Disorders
- Neurological Disorders (CP)
- Motor Dysfunction (apraxia)
- Oppositional Defiant Disorder
- Conduct Disorder
- Schizophrenia

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PLEASE REMEMBER...

In general, individuals on the spectrum are:

- Honest
- Loyal
- Ethical
- Altruistic
- Straightforward
- Not susceptible to peer pressure

EMPOWER
BEHAVIORAL HEALTH & INTERVENTION

cultural differences. So there are now some self-advocates who are talking about understanding communication in autism as a cultural difference. And I can relate to that partially. I grew up in Brooklyn, very, very direct New York City kid. I've spoken now to a number of people on the spectrum who moved to New York City, and they said, except for the sensory craziness, actually Julia Bascom said this, they're more comfortable talking to people in New York because of the directness and not the nuance and not the dancing around the subject. So now people on the spectrum are saying, well, wait a second, there's something about our communication that you might see as deficient or as undesirable, but it's our culture. This is the way we talk to each other. We are direct. We're going to give you our opinion. I'm sorry if it sounds rude, but it's not.

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