

“Neurodivergence: A review of current themes, societal impacts, and impacts in healthcare.”

Created and Presented by:

Jason Rechtman, MA, MBA, LPC, NADD-DDS

PerformCARE[®]

Delivering
High-Quality
Service and Support

Objectives and purpose

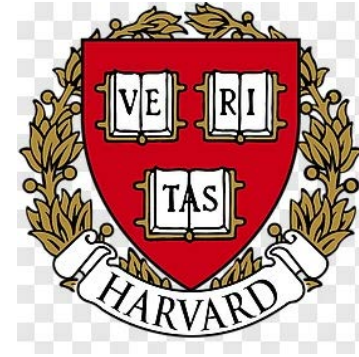
- Explore neurodiversity definitions and nomenclature
- Discuss the various diagnoses and other behaviors that fall under the umbrella of Neurodiversity.
- Learn about abilities, needs, potential accommodations in society
- Recognize common observable behaviors.
- Understand stances of symbology/terminology
- Develop insight into neuroinclusive therapeutic approaches/techniques.
- Walking away with the understanding that Neurodivergence does not equal pathology nor diagnosis



Words Matter- per Harvard and others ^{1, 2, 3}

- Neurological diversity of all people, but it is often used in the context of autism spectrum disorder (ASD), as well as other neurological or developmental conditions such as ADHD or learning disabilities.
- Describes people whose brain differences affect how their brain works. That means they have different strengths and challenges from people whose brains don't have those differences.
- People experience the world in many ways, with no one "right" way of thinking, learning, and behaving, and differences are not deficits.

PerformCARE®



**Cleveland
Clinic**

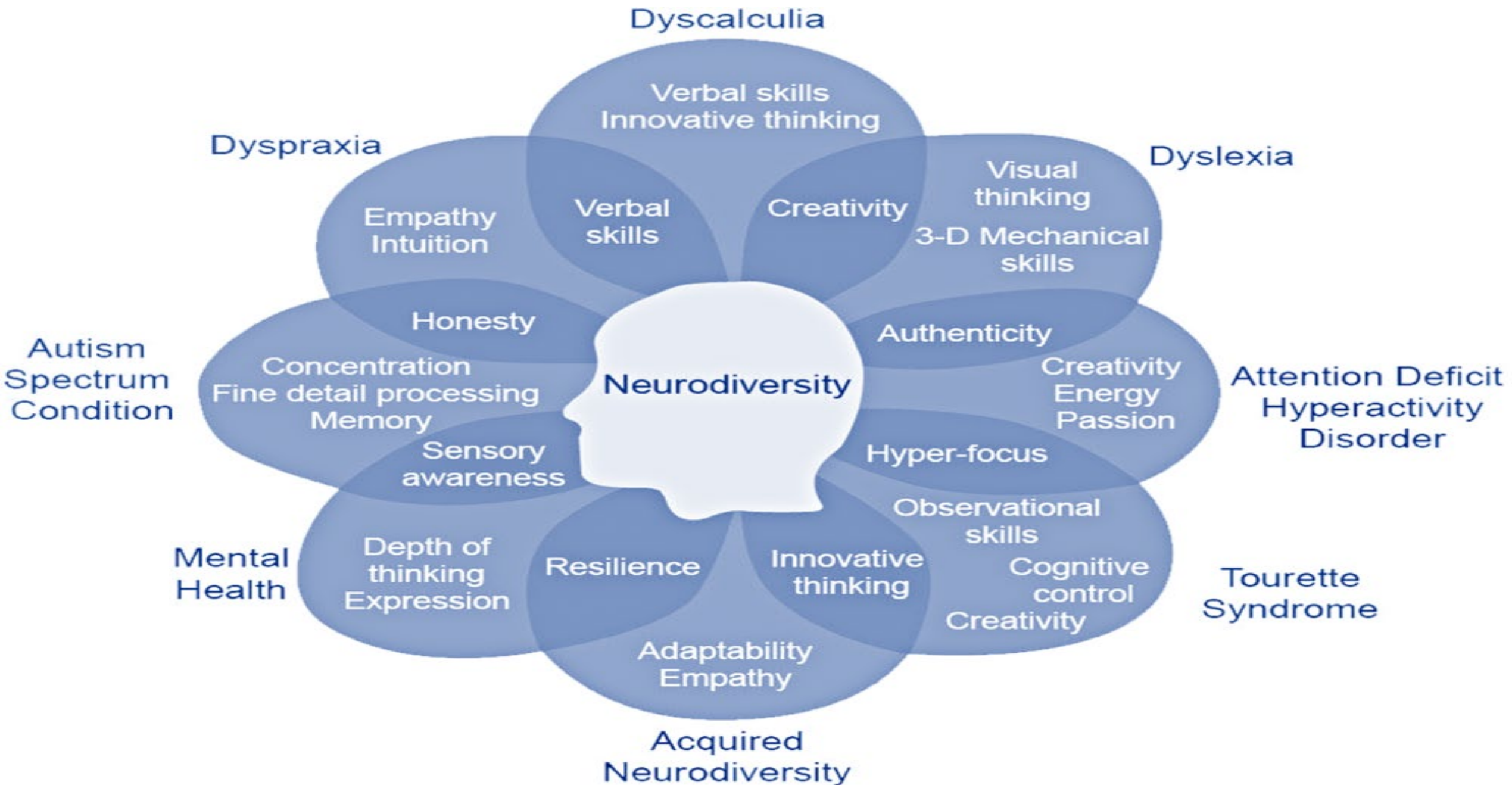


Defining terminology and history of the concept ^{4, 5, 6}

- “We conclude neurological diversity or neurodiversity, and the body of theory surrounding it, should be understood as having been collectively developed by neurodivergent people.”
- -1990s- Judith Singer- Australian Sociologist.
 - Recent uncovering of the use of the word prior in other works- all meaning and wanting to move away from pathology
 - “Autistic Savant/Schizophrenic artist”
 - Daniel Tammet-math, memory, and synesthesia
 - Definition is not homogenous, nor is the social movement
- **Neurospicy, neurodistinct, neurowonderful, neurosparkly, neurodefiant, neurotypical v neuroatypical**

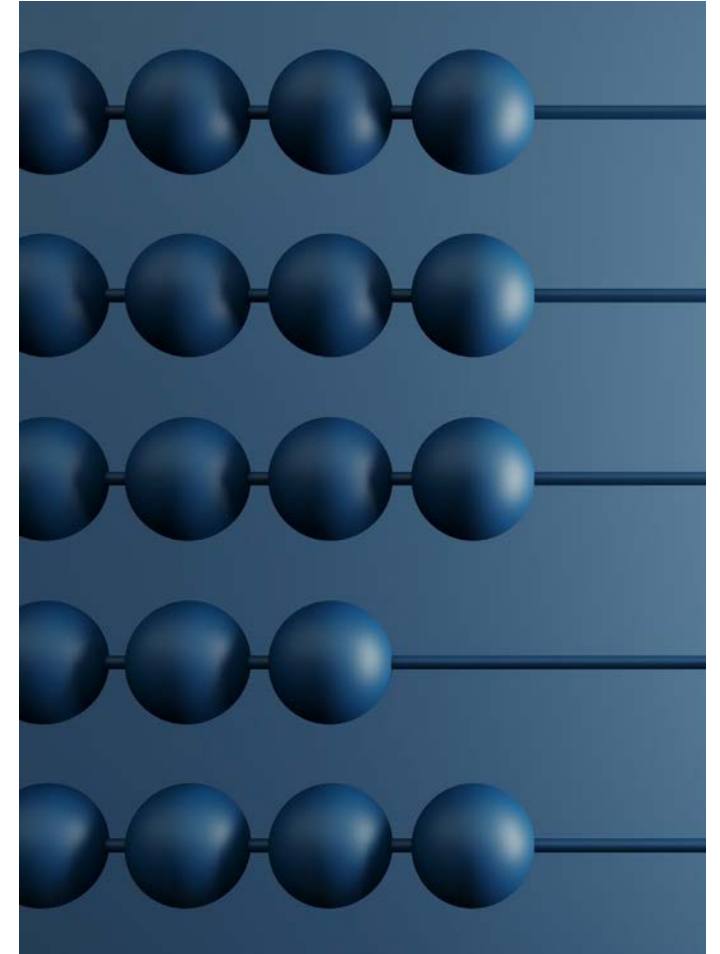


Neurodivergence and pathology ⁷



Diagnoses listed and defined ²⁸

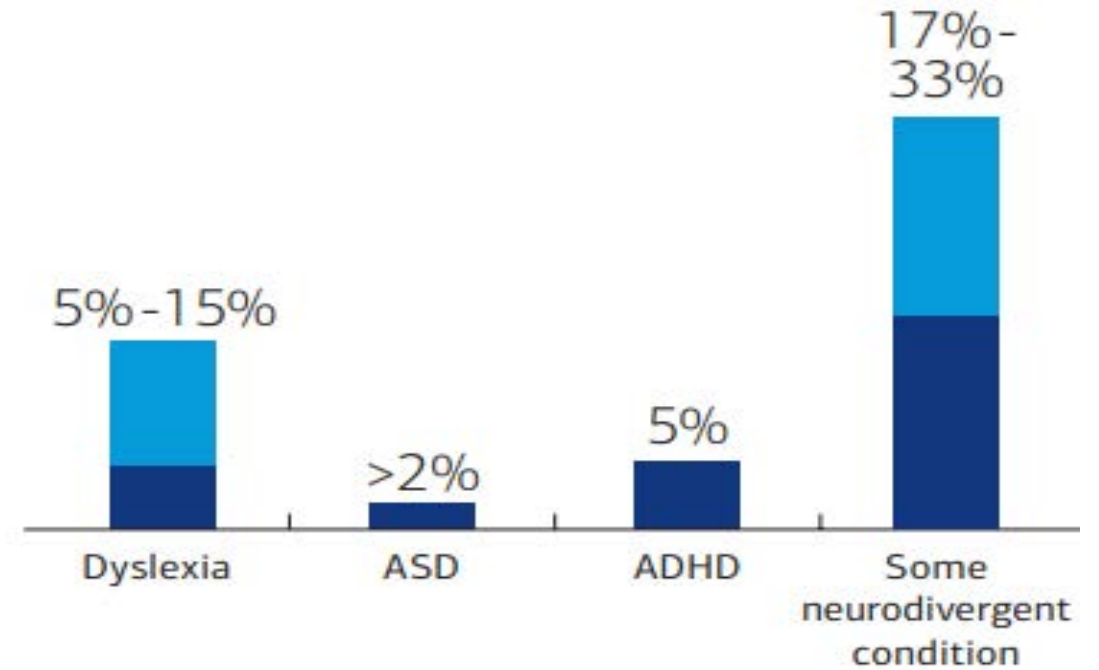
- Dyspraxia-(**developmental coordination disorder**) begins in childhood that makes it difficult to perform motor skills; causes issues with coordination. Occupational therapy can help children learn ways to overcome challenges.
- Dyslexia-learning disability that disrupts how your brain processes written language. People with dyslexia have trouble with reading and related skills.
- Dyscalculia-learning disorder that affects the ability to do math, affecting brain areas that handle math- and number-related skills and understanding.
- Dysgraphia-neurological condition in which someone has difficulty with writing **for their age level**. This can range from issues with the physical act of writing to issues with translating thoughts into written words
- Tourette Syndrome-causes uncontrollable movements and vocal sounds called tics. It often shows up in early childhood and improves in adulthood.
- Acquired neurodivergence- TBI
- Mental health- growing list of diagnoses



The US neurodiverse population ¹⁵

Disorders	Example diagnoses
Learning	<ul style="list-style-type: none">• Dyslexia• Dyspraxia• Dysgraphia
Mental health	<ul style="list-style-type: none">• PTSD• Anxiety disorders• Depression• OCD
Developmental	<ul style="list-style-type: none">• Autism spectrum disorder• ADHD

Estimated prevalence of neurodiversity among American adults^{2, 3}

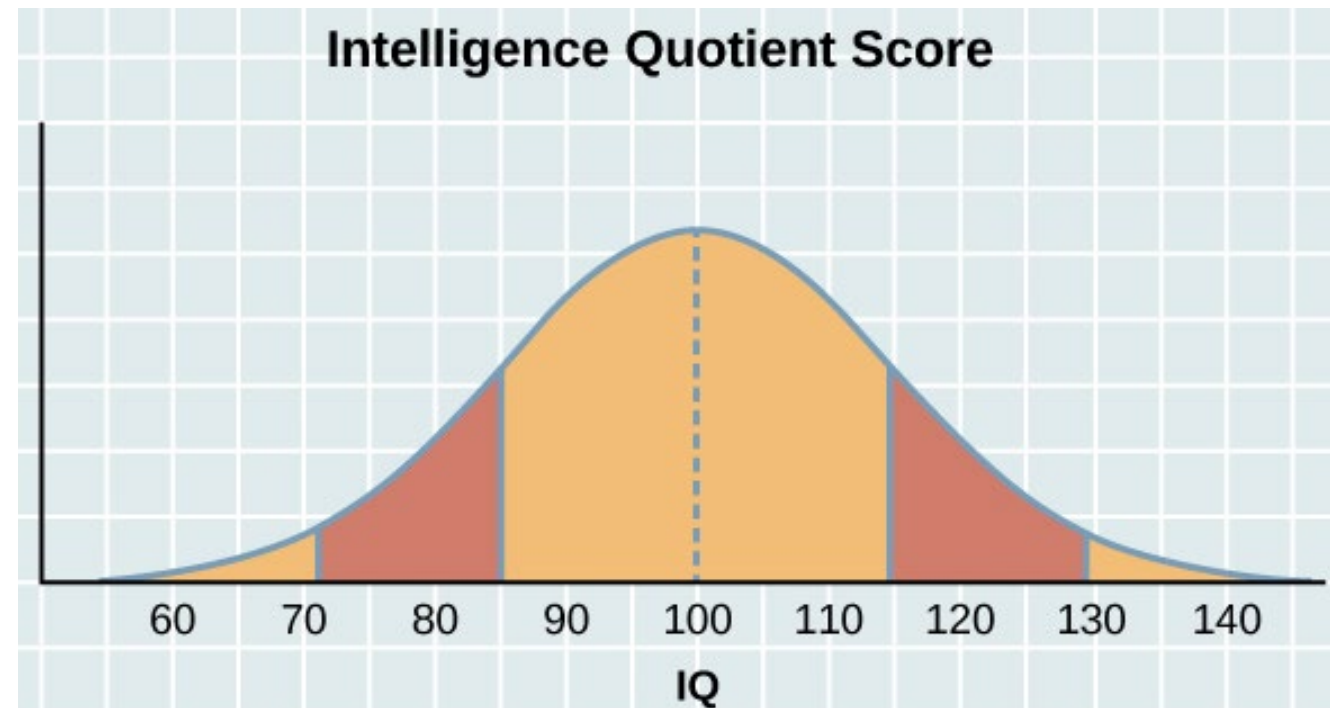
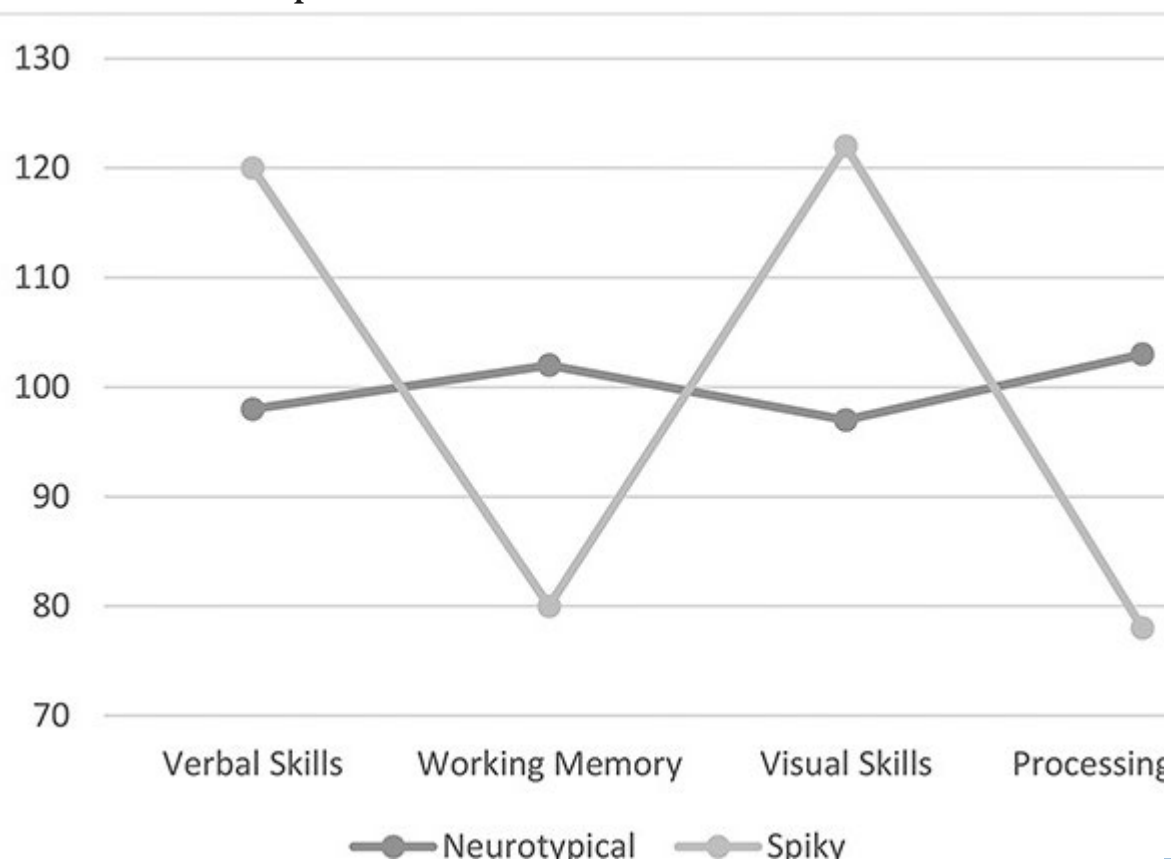


Dark blue: Low end of range
Light blue: High end of range

- Dyscalculia ranges 3-5%
- Dyspraxia ranges 1.8%-5%
- Autism Spectrum Disorder: 3–4%.
- Mental health overall prevalence- 23%
- **20–65% of neurodivergent people are both autistic and ADHD**
- Co-occurrence of autism and ADHD was not formally recognized until 2013 (DSM-5).
 - Created uncertainty practitioners when working with autistic and ADHD individuals.
- Questions remain- which diagnoses specifically count? Mental health is listed in general in some, not listed by others, and cherry picked elsewhere.
- Leaving pathology behind and moving into social construct
 - Self-identification takes over

Bio-Psycho-Social Model through testing ^{12, 13}

- Neurodiversity advocates adapted this principle to argue that society would benefit from recognizing and developing the strengths of autism for example
- “Spiky profile”
- Genetic patterns



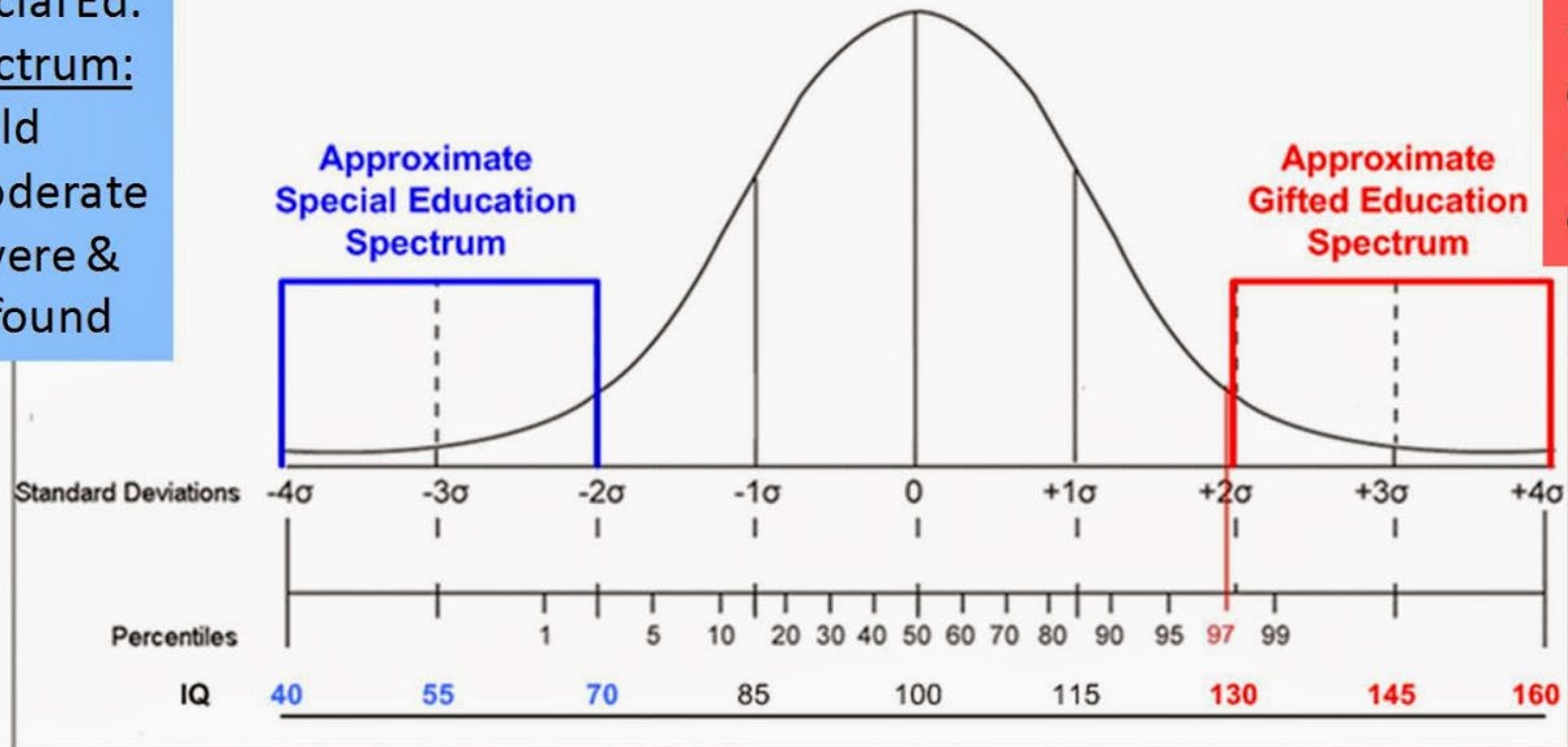
Twice Exceptional ²⁷

To more appropriately meet the needs of exceptional learners, neither end of the spectrum can have a “one-size fits all” approach.

BELL CURVE OF EXCEPTIONAL LEARNERS

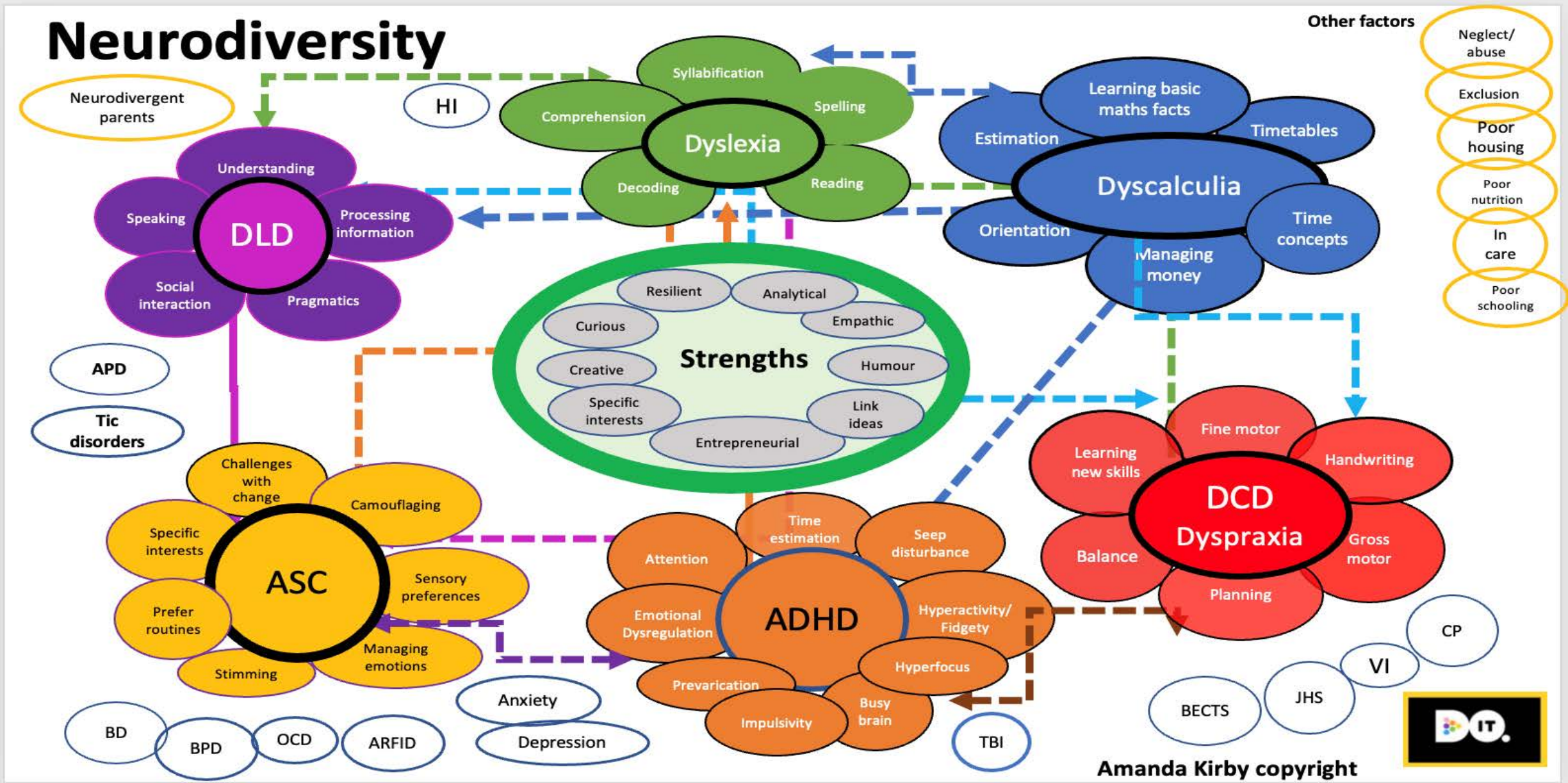
Special Ed. Spectrum:

- Mild
- Moderate
- Severe & Profound



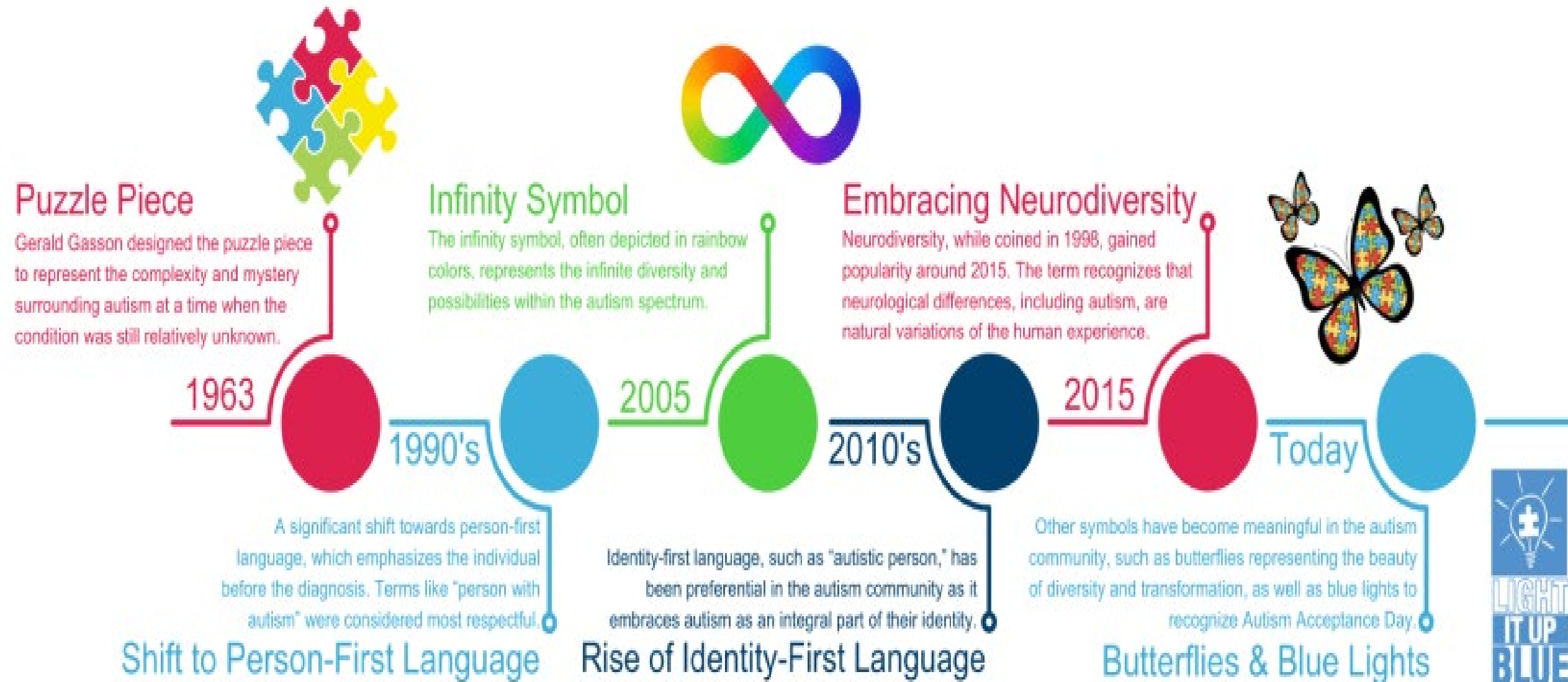
Gifted Ed. Spectrum:

- Gifted
- Highly Gifted
- Profoundly Gifted



Where does the Label come from? ²

- Any perceived diagnosis
- Adult self-identification on the rise- without a diagnosis
 - Barriers to diagnosis- cost, waiting lists, lack of qualified providers
 - Increased sense of self-understanding
 - Access to helpful information
 - Direct them toward social opportunities.
 - Cathartic resolution for those who have felt different from neurotypical peers since
 - lacked a framework for understanding and navigating those differences.
- Question for discussion- As clinicians and/or mental health professionals,



Light it up Red ¹⁷

- Movement that opposes light it up blue
 - Movement started by Autism Speaks
 - Part of their mission was to cure ASD
 - Blue represents pathology that needs fixing
 - Red represents acceptance



PerformCARE®



Healthcare environment approach ^{18, 19}

- Offer the patient the opportunity to listen/watch to their favorite song or movie
- Provide noise-canceling headphones.
- Be mindful when leaving Foley, NG tubes and surgical drains, and remove as soon as possible.
- Reduce use of non-absorbable sutures.
- Provide comfortable seating or positioning options
- Offer appropriate choices to promote control
- Lower volume on alarms
- Offer the option to watch IV insertion or be distracted by favorite video or song
- Visual aids, such as pain scales or pictorial representations
- Provide weighted blankets, offering access to preferred sensory stimuli



How else can the FACES pain rating scale be used?

- “Sensory Pathway” developed at children’s hospital to:
 - improve patient care for those with sensory barriers via staff training
 - provision of sensory toolkits
 - early integration of families throughout the hospital stay
 - Survey following inpatient
 - Training focused on identification of a patient with sensory processing difficulties
 - effective communication strategies, use of toolkits and storyboards
 - de-escalation techniques during a sensory crisis
- Sensory Specific Tools:
 - noise cancelling headphones
 - iPad/tablet
 - fidget items
 - weighted blanket/lap pad
 - music
 - Balls/toys



Observable Behavior and Approaches ^{18, 20}

- Difficulty with social interactions
- Clumsiness
- Heightened anxiety
- Difficulty with focusing or staying still
- Sensitivity to light, sound, touch and smells
- Repetitive behaviors or routines
- Not understanding sarcasm, figurative language
- Aim to create an environment that accommodates, not one that requires conformity
- Techniques
 - Distraction-“helped him count the butterflies”,
 - Listening
 - Explaining the reason for the visit
 - Making the feel patient comfortable
 - Use of a separate waiting room, speaking directly to the patient
 - Reassure the patient



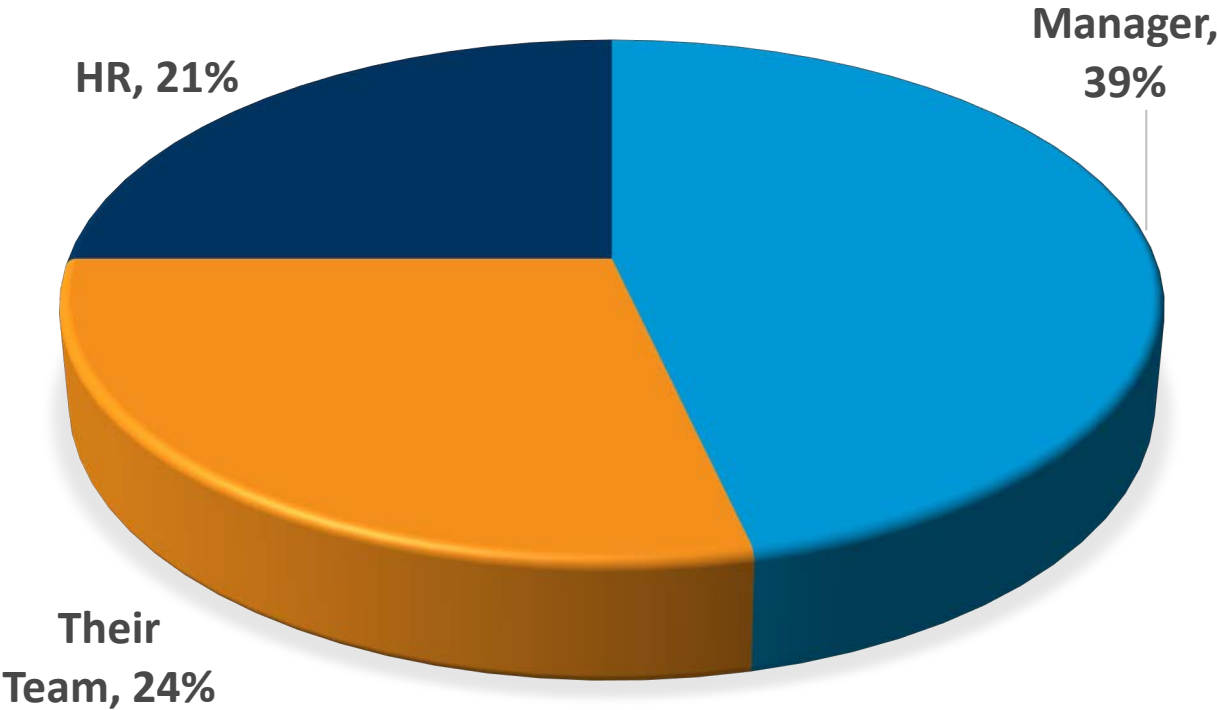
- **Listen.** People who are neurodivergent may feel misunderstood or left out. Be willing to listen to them. Let them know you hear them and respect them and their choices.
- **Communicate in ways that help them.** Sometimes, people who are neurodivergent prefer written communication such as instant messaging, texting or emails over a phone call or face-to-face conversation. Give them the time and tools they need to communicate.
- **Avoid value-based labels.** Experts recommend against using the terms “high-functioning” and “low-functioning” to describe conditions like autism. They often assume a person’s level of function based on how much they behave like someone who’s neurotypical.
- **No two neurodivergent people are the same.** The personalities and preferences of neurodivergent people can be widely different, even when they have the same underlying condition.
- **Don’t assume that anyone is incapable or unintelligent.** People who are neurodivergent often have conditions or preferences that make them stand out or appear different.
- **Treat everyone with respect.** You can “normalize” and provide others with accommodations in a way that honors their human dignity.

Mental Status Exam and Neurological Influence^{21, 22}

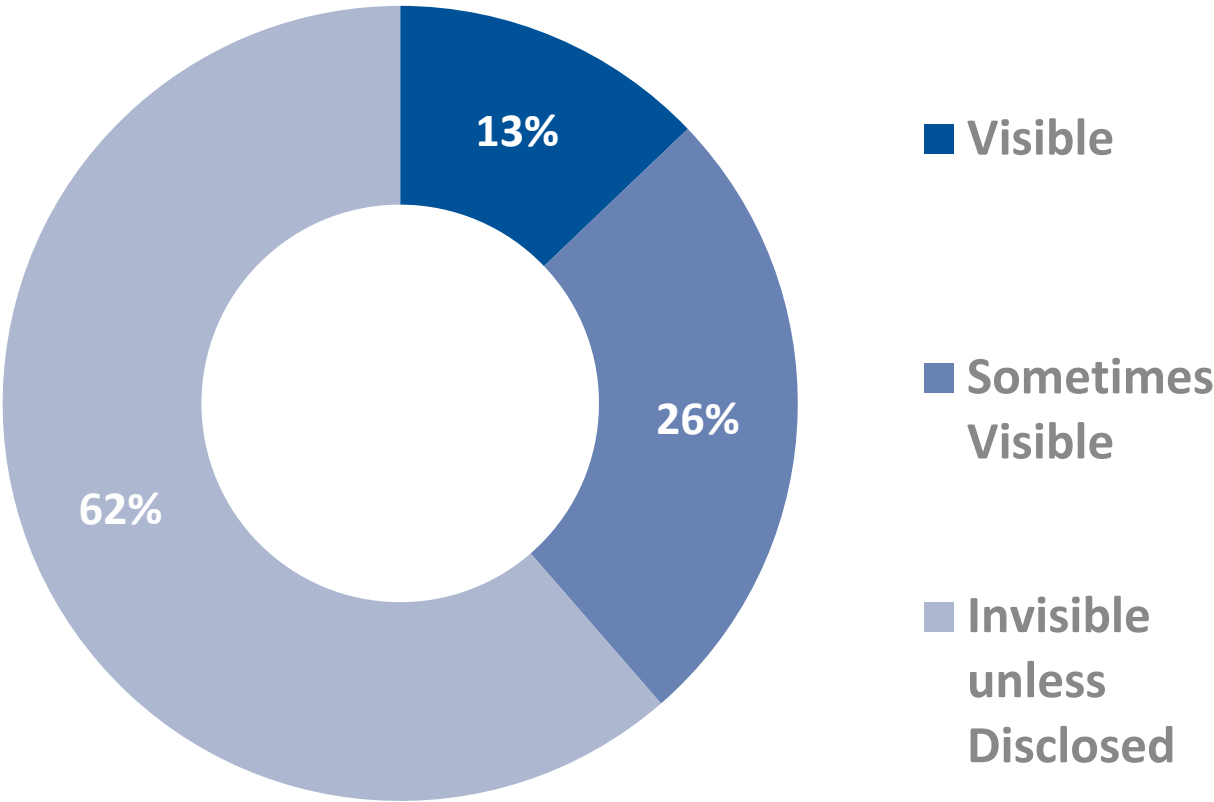
- When motor adjustments were needed, those with ASD exhibited pronounced deficits.
- The researchers suggests that people with ASD may rely more heavily on slower feedback processes than neurotypical individuals do.
- “When you reach out to grab a cup of coffee,-you don’t think about it
- The brain initiates this movement based on the many times you reached for the coffee before
- Feedback systems are responsible for monitoring to see if any adjustments needed to be made to that plan—it is further or heavier than expected
- The systems work together to make precise movements to pick up coffee without spilling it
- Concrete process
- Stilted language/speech
- Mild tic
- subtle poor coordination
- Poor eye contact
- Tends to look past you or look at your mouth
- Flat Affect
- Impulsive response when frustrated
- Psychomotor agitation
- Hearing voices- ask the right question
 - Internal dialogue v voices

Neurodivergence at Work and Society ²²

EMPLOYEE WITH DISABILITY DISCLOSURE

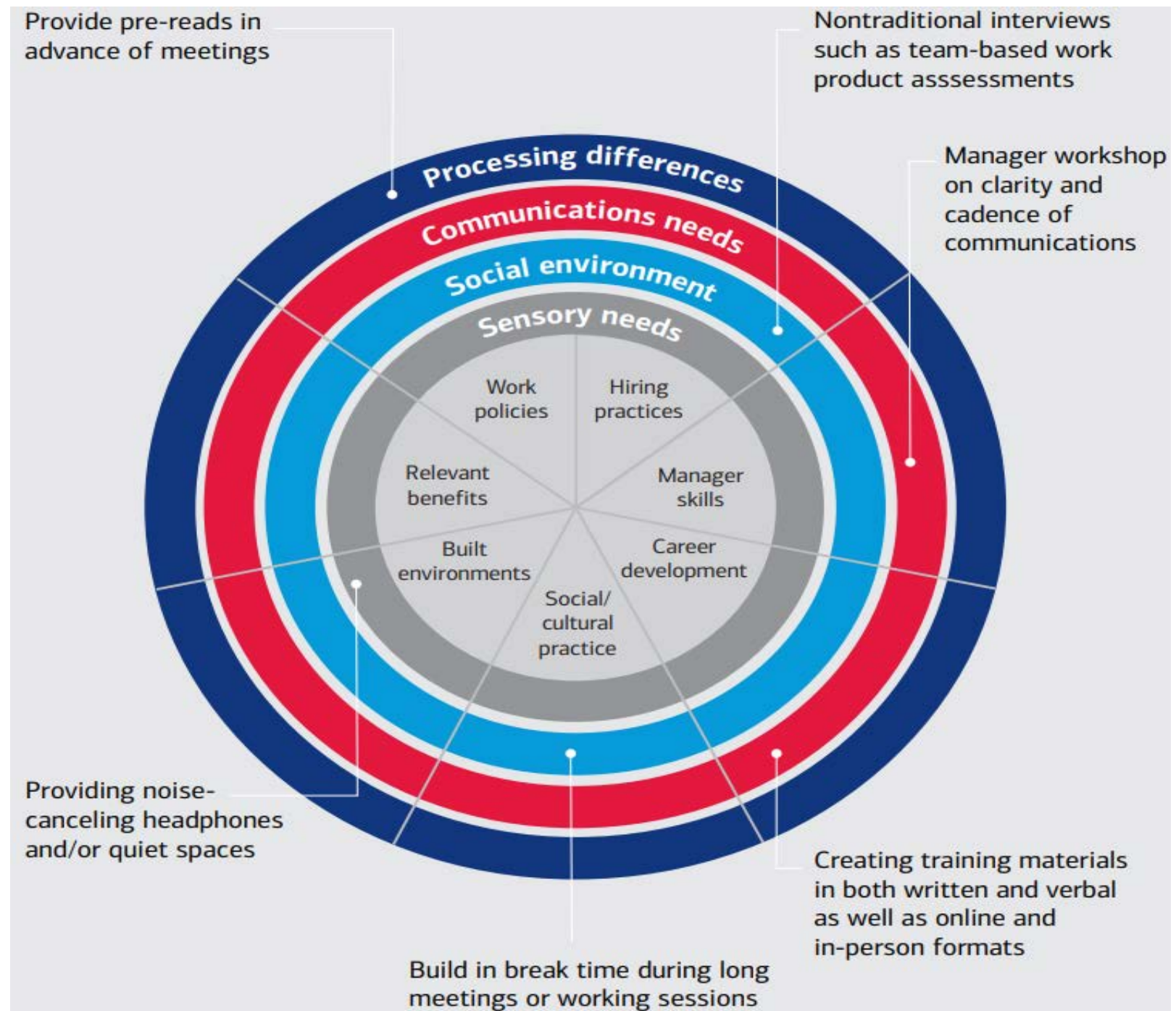


Employee with Disability Classification



Tangible Inclusion ²³

- Model for Multidimensional approach



How to Achieve Neuro-Inclusivity ²³

Redesigning hiring
practices to select
for talent

Neuro-
inclusive/Smart
management-

Ensuring Pathways
for Career
Development-

Implementing
Supportive and
Flexible Policy

Specific Neuro-
inclusive Benefits

Designing Inclusive
Physical
Environments

Inclusive Social
and Cultural
Practice



Healthcare Companies Embracing Neuro-Inclusivity



Tangible Changes That Can Be Made Tomorrow ²⁴

Noise Canceling
headphones

Desk Placement
of Choice

Traffic Patterns
Surrounding
Workspaces

Replace Harsh
Lighting

Stoplight
Indicators on a
Desk

Rear-view
Mirrors

Talk and Listen-
Managerial
Training

Closed-
captioning
During Meetings

Record
Meetings

Use an Agenda

Clinical Approaches^{25, 26}

- Neurodivergent affirming care- Does not seek normalization
- Fails to adapt common treatment methods to neurodivergent individuals and their mental health needs.
- Studies have found that the wellbeing of neurodivergent [and ASD] individuals depends mostly on perceived levels of support and acceptance from peers and family members
- The reduction of neurodivergent symptoms directly is not of concern
- Adapt modalities around affirming identity of neurodiverse should there be clinical reasoning
- Referring to ABA “...pathologizing approach reinforced societal biases that prioritized conformity over individuality, further marginalizing Autistic people by invalidating their natural ways of being.”
 - “#ABAisAbuse- critique of traditional ABA methodologies, driven by Autistic self-advocates and allies.”
 - Reinforces *Nothing about us, without us*.
 - Suggests ABA combines with affirming care alongside trauma-informed training for BCBAs.
 - Social media movements have caused erroneous self-diagnosis
- Caregivers should be educated about **what is and is not within their child’s control**

Affirming Care Study ²⁵

- Clients who identified as being ADHD without the affirming ADHD diagnosis had significantly worse depression scores at intake compared to ADHD affirmed clients and neurotypical clients
- All ADHD clients regardless of affirming diagnosis had significantly worse anxiety scores than neurotypical clients.
- Non-affirmed autistic clients had significantly worse depression and anxiety scores compared to both neurotypical clients and fully-affirmed autistic clients
- All autistic clients regardless of diagnosis reported more days of self harm than neurotypical clients.
- Clients who identified as neurodivergent without an affirming diagnosis had similar rates of improvement as those with an affirming diagnosis, likely due to:
 - Participating in mental healthcare that provided affirmation to their perceived lived experience
 - Validation of personal experiences
 - Provision of accommodations
 - Exploring identity without a formal diagnosis
 - Strong outcomes post-study
 - Acknowledges the high likelihood of co-occurring disorders while citing the difficulty in research due to non-diagnosis and barriers to true data collection and synthesis.

Citations

- 1- Baumer, N., & Frueh, J. (2021, November 23). *What is neurodiversity?*. Harvard Health. <https://www.health.harvard.edu/blog/what-is-neurodiversity-202111232645>
- 2-Cleveland Clinic medical. (2022, June 2). *Neurodivergent: What it is, symptoms & types*. Cleveland Clinic. <https://my.clevelandclinic.org/health/symptoms/23154-neurodivergent>
- 3-U.S. Department of Health and Human Services. (2025, March 4). *Autism*. National Institutes of Health. <https://www.nih.gov/nih-style-guide/autism#neurodiversity>. Style guide
- 4- Botha, Monique & Chapman, Robert & Giwa Onaiwu, Morénike & Kapp, Steven & Ashley, Abs & Walker, Nick. (2024). The neurodiversity concept was developed collectively: An overdue correction on the origins of neurodiversity theory. *Autism*. 28. 1591-1594. 10.1177/13623613241237871.
- 5-[Neurodiversity: A Brief History - Neurodiversity @ Caltech](#)
- 6- <https://abcnews.go.com/2020/autistic-savant-daniel-tammet-solves-problems-blink-eye/story?id=10759598#:~:text=He%20is%20a%20mathematical%20genius,in%20an%20exceptionally%20vivid%20way>.
- 7- <https://imagine.jhu.edu/blog/2022/10/05/neurodivergence-at-a-glance/>
- 8- Yang, L., Li, C., Li, X., Zhai, M., An, Q., Zhang, Y., Zhao, J., & Weng, X. (2022). Prevalence of Developmental Dyslexia in Primary School Children: A Systematic Review and Meta-Analysis. *Brain sciences*, 12(2), 240. <https://doi.org/10.3390/brainsci12020240>
- 9- Haberstroh, S., & Schulte-Körne, G. (2019). The Diagnosis and Treatment of Dyscalculia. *Deutsches Arzteblatt*
- 10- Castellucci G, Singla R. Developmental Coordination Disorder (Dyspraxia) [Updated 2024 Feb 24]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK603724/>
- 11- Kroll, E., Lederman, M., Kohlmeier, J., Kumar, K., Ballard, J., Zant, I., & Fenkel, C. (2024). The positive impact of identity-affirming mental health treatment for neurodivergent individuals. *Frontiers in psychology*, 15, 1403129. <https://doi.org/10.3389/fpsyg.2024.1403129>

- 12- Doyle N. (2020). Neurodiversity at work: a biopsychosocial model and the impact on working adults. *British medical bulletin*, 135(1), 108–125. <https://doi.org/10.1093/bmb/ldaa021>
- 13- [Psychology, Thinking and Intelligence, Measures of Intelligence | OpenEd CUNY](#)
- 14- <https://www.nimh.nih.gov/health/statistics/mental-illness>
- 15- https://business.bofa.com/content/dam/flagship/workplace-benefits/id20_0905/documents/neurodiversity.pdf
- 16- <https://autismlearningpartners.com/symbols-for-autism/>
- 17- <https://learnfromautistics.com/wear-redinstead-on-autism-acceptance-day/>
- 18- Moreno-Duarte, I., Brandsen, S., Dawson, G., Einhorn, L. M., & Swaminathan, M. (2024). Integrating tailored approaches in perioperative care strategies for neurodivergent individuals. *EClinicalMedicine*, 76, 102846. <https://doi.org/10.1016/j.eclinm.2024.102846>
- 19- [Home - Wong-Baker FACES Foundation](#)
- 20- [Understanding Neurodiversity | Northwestern Medicine](#)
- 21- [Feedback loop impairments detected in ASD- Autism Research Institute](#)
- 22- https://www.talentinnovation.org/_private/assets/DisabilitiesInclusion_KeyFindings-CTI.pdf
- 23- https://business.bofa.com/content/dam/flagship/workplace-benefits/id20_0905/documents/neurodiversity.pdf
- 24- <https://www.inc.com/suzanne-lucas/disabilities-act-employees-inclusivity.html>
- 25- Kroll Elizabeth , Lederman Megan , Kohlmeier Jonathan , Kumar Komal , Ballard Jaime , Zant Izabella , Fenkel Caroline. The positive impact of identity-affirming mental health treatment for neurodivergent individuals. *Frontiers in Psychology*, 15(2024). <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2024.1403129DOI=10.3389/fpsyg.2024.1403129ISSN1664-1078>
- 26- Johnson, J. F. (2025). From Harm to Healing: Building the Future of ABA with Autistic Voices. *Societies*, 15(3), 72. <https://doi.org/10.3390/soc15030072>
- 27- [Gilbert Supporters of the Gifted: Asynchronous Development](#)
- 28- [Neurodiversity Co-occurrence Map](#)