Mass General Brigham
Mass General for Children

Autism: A Strengths Based Approach

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Aspire

Disclosures

Neither I nor my spouse/partner has a relevant financial relationship with a commercial interest to disclose.

Objectives

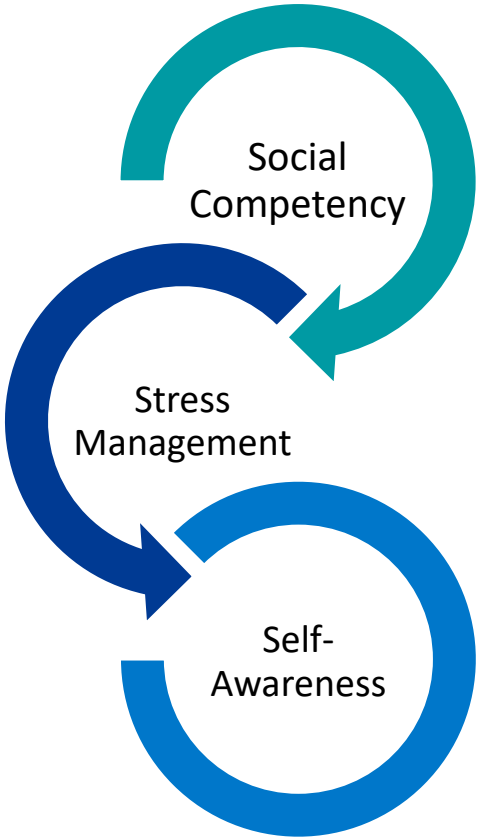
- Describe the **neurodiversity framework** and differentiate challenges, differences, and strengths using clinical examples drawn from autistic cognitive, social, and sensory profiles
- Explain the theory of autism as a **disorder of prediction** and analyze how prediction errors contribute to sensory overload, social difficulties, and the need for routine
- Compare the major **autistic cognitive profiles** (e.g., high verbal, concrete, spiky profiles) and assess how these profiles impact communication, learning, and behavior in school-based settings
- Demonstrate the application of **neurodiversity-affirming interventions**—such as precision-based communication, visual supports, EF scaffolding, and routine-based predictability—to support autistic students across educational environments

Helping children, teens and adults on the autism spectrum achieve success

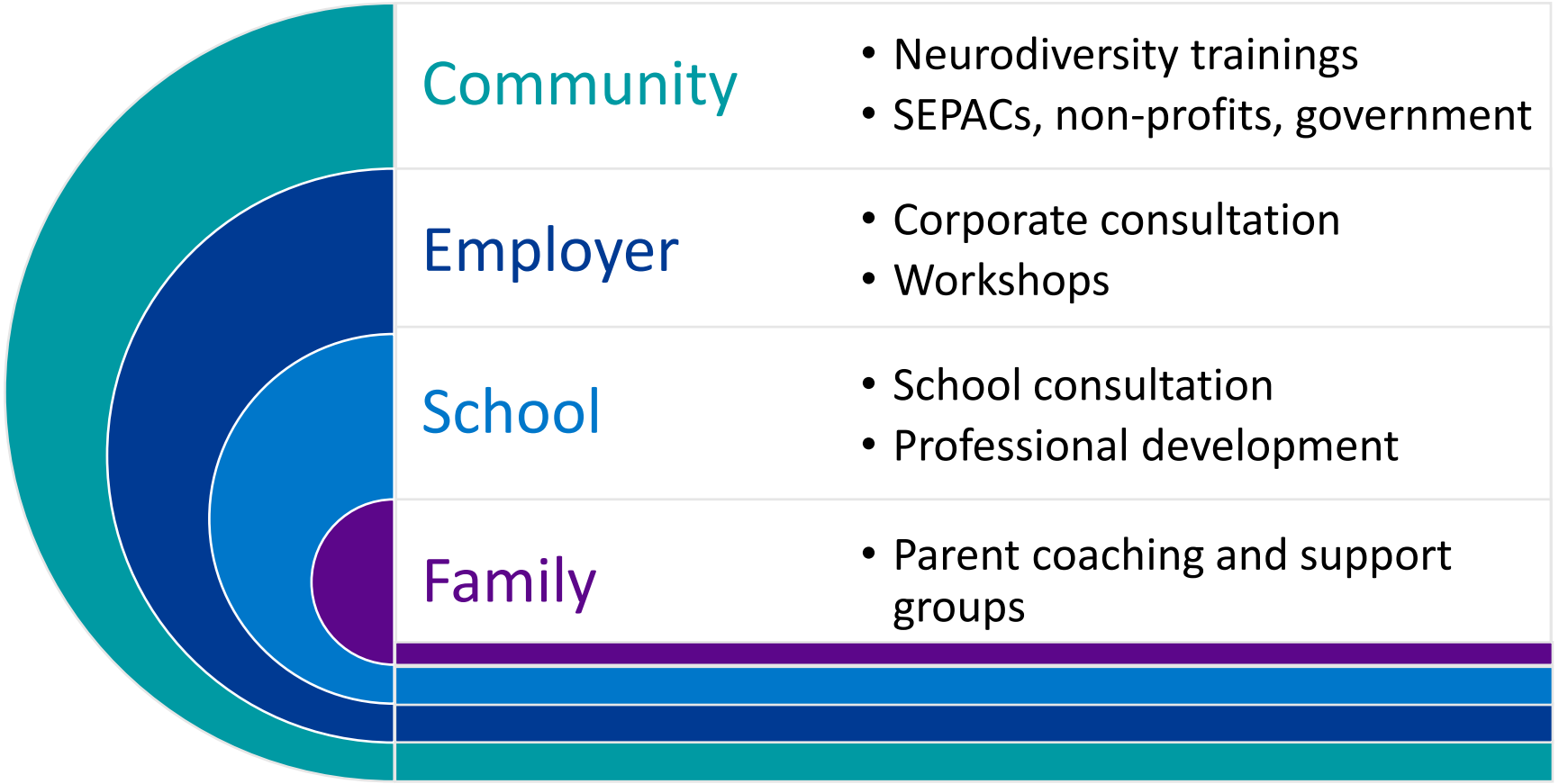
Aspire services across the lifespan

Child → Teen → Adult

- MassGeneral Brigham
- Multi-disciplinary approach in small, well-matched peer groups
- Academic-year and summer programming for all ages
- College, career and relationship coaching
- Aspire Works Employment internship program
- Supported employment program for neurodiverse adults

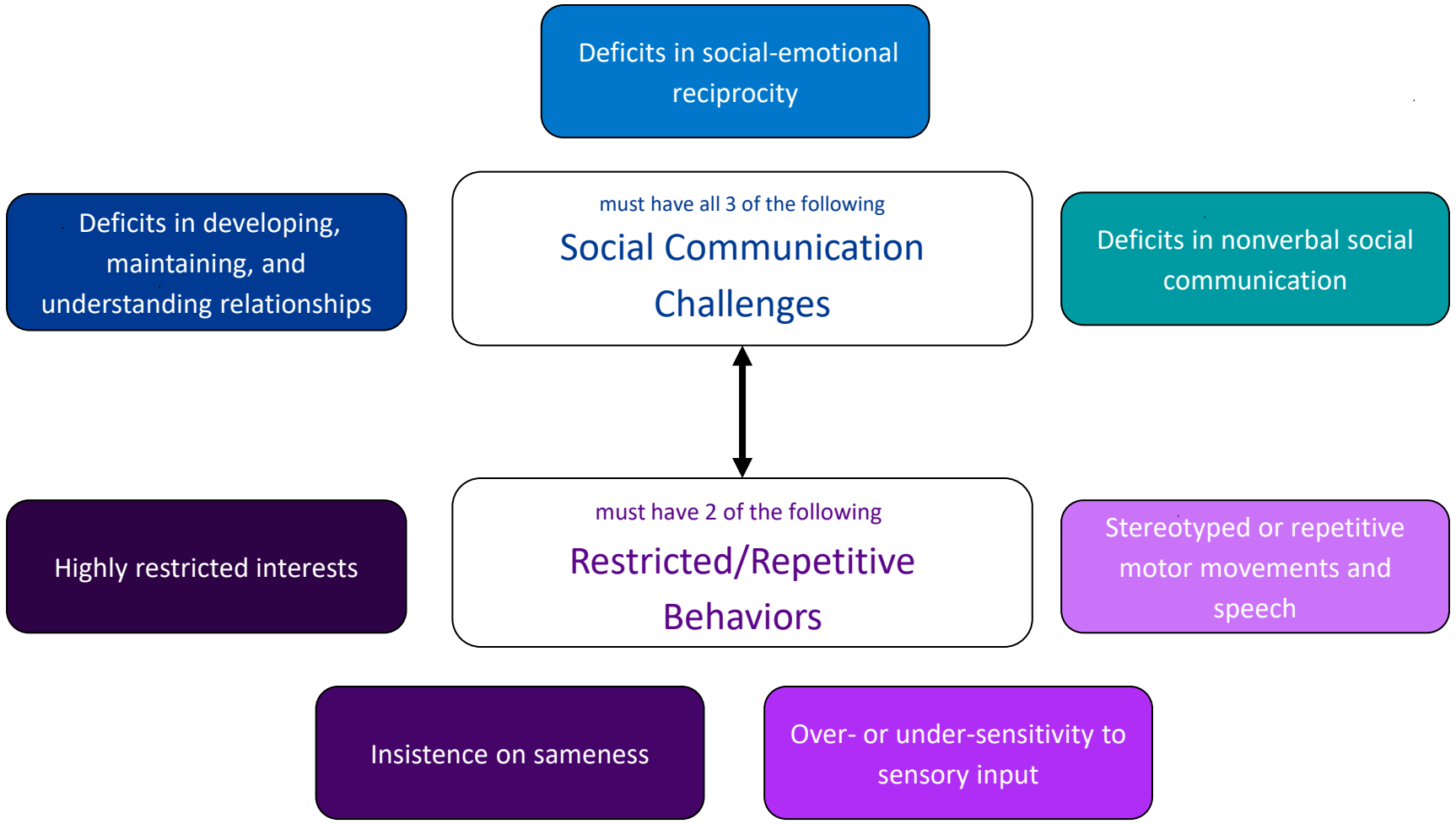


Aspire: promoting neurodiversity across settings



Autism, Levels and Neurodiversity

Autism Spectrum Disorder (ASD)



Autism: Severity Levels

1: Requiring support	2: Requiring substantial support	3: Requiring very substantial support
• **Deficits** in social communication cause impairment **without supports** in place • **Difficulty initiating** social interactions • May appear to have **decreased interest** in social interactions • Inflexibility causes interference; difficulty switching between activities; problems of organization and planning hamper independence	• **Marked deficits** in verbal and nonverbal social communication • **Limited initiation** of social interactions • **Reduced or abnormal responses** to social overtures • Social impairments **present with supports** in place • Inflexibility; difficulty with change; RRB's frequent and interfere with functioning; distress changing focus	• **Severe deficits** in verbal and nonverbal social communication • **Very limited** initiation of social interactions • **Minimal response** to social overtures • Inflexibility; extreme difficulty with change; RRB's causing interference in all spheres; great distress changing focus or action

Neurodiversity Perspective

An Inclusive Culture Includes Diverse Minds

Neurodiversity Perspective

Challenge

A challenge or barrier, as a result of the disability, that impedes performance*

Difference

A way of thinking, feeling, or behaving, as a result of the disability, that does not inherently impede or promote success

Analogous to culture

Strength

Unique assets, that reside in a person as a result of their neurodivergent profile, that enhances performance*

*How an environment or group of people perceive and respond to a difference can make it a deficit or a strength

Challenge, Difference or Strength

Highly restricted interests

Neurodiversity Perspective of Highly Restricted Interests

Challenge

Inflexibility; extreme difficulty with change; restricted interest can cause interference in all spheres of life; great distress changing focus or action

Difference

A way of developing authentic connections with other neurodivergent peers

An alignment of a “highly restricted interest” can rapidly build rapport with peers. Individuals connecting in this way report feeling seen. Relationships can expand to other interests

Can be used as a vehicle to develop therapeutic rapport with clients

Strength

Not just that the person has a depth of knowledge about a given topic

The person has the **cognitive capacity** to develop content expertise in a subject area. Leads to an enhanced capacity to focus for long periods of time and make meaningful connections between concepts and ideas

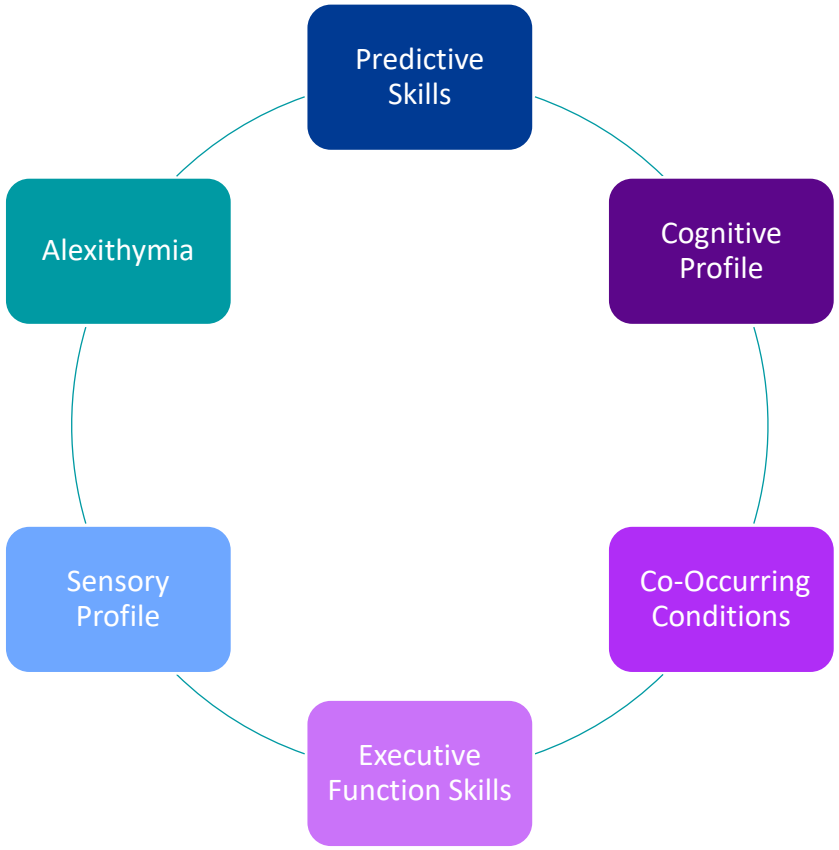
Heterogeneity of Autism

Autism and Heterogeneity

"If you have met one person with autism, you have met one person with autism."

--Dr. Stephen Shore

Differentiating Factors of Autism



A Unifying Theory: Autism as a Disorder of Prediction

Neurotypical Brain

Functions as a prediction machine. It constantly makes predictions about what will happen next (sights, sounds, social rules). This saves enormous cognitive energy.

Neurodivergent Autistic Brain

Can be seen as a “prediction error" machine. It struggles to build accurate predictions, meaning the world is a constant stream of "surprises," leading to cognitive overload.

The Predictive Brain in Autism (The Prediction Error)

Hypothesis:

For many people with autism, the brain struggles to build accurate, precise, and contextual predictions about the world. This is often called a "disorder of precision."

The Result:

Since the internal prediction is weak or wrong, the actual sensory input (what they see, hear, or feel) can come as a surprise.

Impact of Prediction Errors

Sensory Overload

The brain can't predict and filter out irrelevant noise. A flickering light or background chat feels amplified because it's always an "error" or "surprise."

Social Overload

Difficulty predicting how a person will react or what social rules apply. Social cues are not intuitive and must be manually, consciously learned.

Need for Routine

Routines are not just "comforting." They are essential tools that create a predictable world, reducing cognitive load and lowering anxiety.

Autism and Cognitive Profile

The general consensus, on autism and cognitive profile, points toward a pattern often described as a **"spiky" cognitive profile**.

A "spiky" profile refers to significant discrepancies, or wide variations, with pronounced **areas of strength** alongside pronounced **areas of weakness**.

Autism Cognitive Profiles: High Verbal Profile

This individual can sound like a "little professor," using advanced vocabulary, but struggles to apply it in real-time

High Verbal Skills

The "What I Know" library is large.

Low Processing Speed

The "Mental-Motor Speed" is slow.

Implication

Their **knowledge** is high, but their **real-time application** is slow. They struggle with fast-paced conversation

Autism Cognitive Profiles: Concrete Profile

This individual may be non-verbal or struggle with language, but can be skilled with hands-on, visual tasks.

Low Working Memory Skills

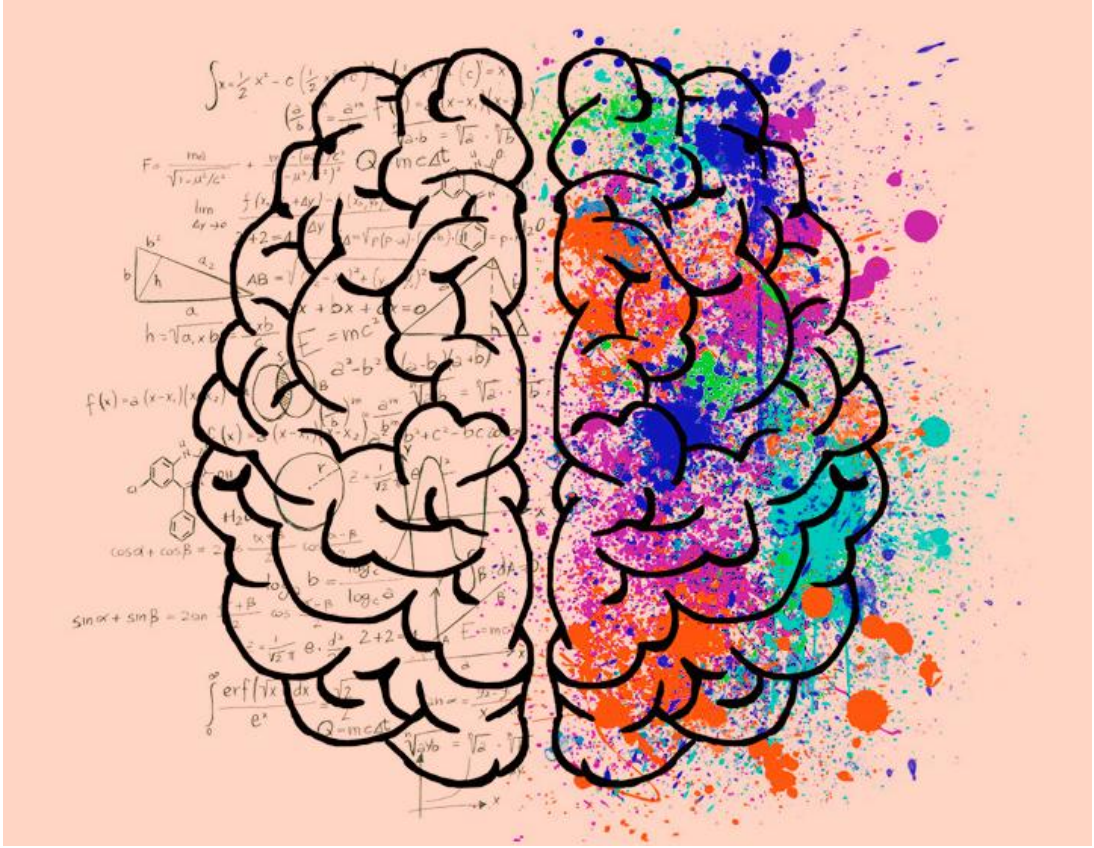
The "Mental Post-it Note" is small; spoken words disappear quickly.

Low Concrete Verbal Skills

Language is understood literally, if at all.

Implication

Spoken language is not a reliable way to communicate. Clients require **visual** and **concrete support** to understand.



Co-Occurring Psychiatric Conditions

- Major Depression: 70-77% (Lugnegârd et al. 2011; Joshi et al. 2013)
- ADHD: 68% (Joshi et al. 2013)
- Anxiety Disorders: 53-59% (Joshi et al. 2013; Buck et al. 2014)
- Most common anxiety disorders (Joshi et al. 2013):
  - -Social phobia (59%)
  - -Agoraphobia (35%)
  - -Generalized anxiety disorder (34%)
- Oppositional Defiant Disorder: 53% (Joshi et al. 2013)
- Bipolar I: 25% (Joshi et al. 2013)

EF Challenges in Autism

EF is the CEO of the Brain

It is the set of mental skills required to get things done. It allows us to plan, organize, manage time, and control our impulses and emotions.

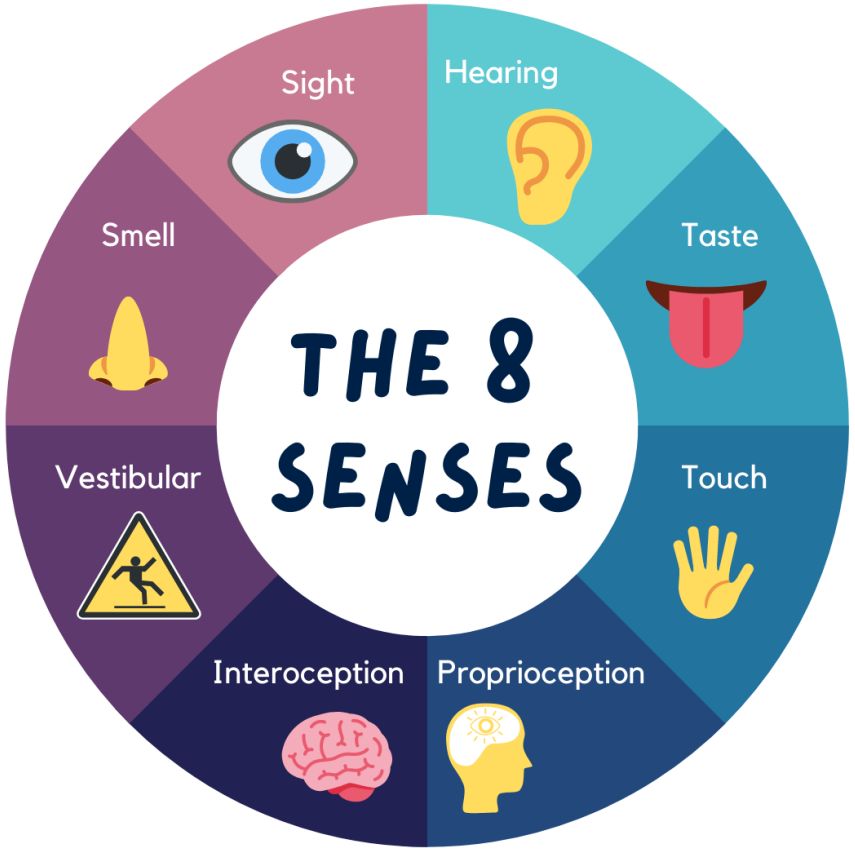
ASD Challenge

For many individuals with autism, this system is under-developed or functions inconsistently. Think of it not as a lack of ability, but a delay in deployment.

Key Takeaway

EF difficulties are not laziness or poor motivation; they are genuine neurobiological challenges that require external support (structure) rather than just internal pressure ("try harder").

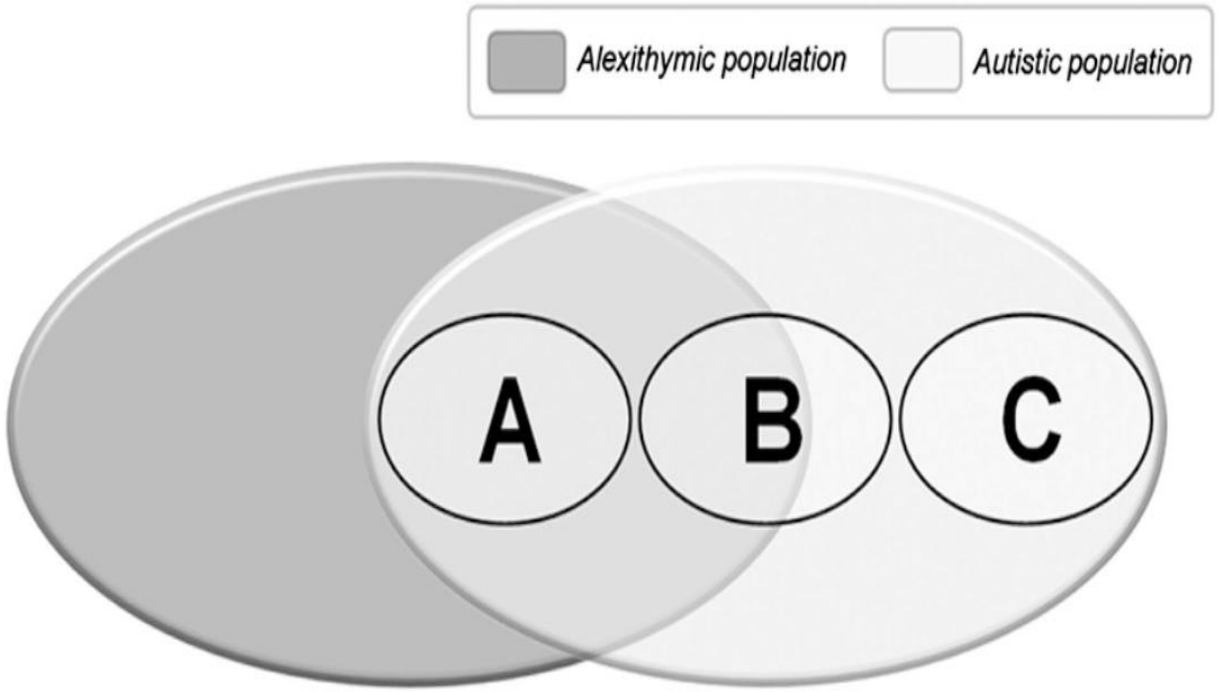
Sensory Profile



Sensory Seeking vs. Avoiding

- A person's neurodiversity involves **differences** with their sensory and perceptual experiences
- Sensory experiences can be **distressing** and **overstimulating;** leading the person to **avoid** situations with the trigger
- Sensory experiences can be **pleasurable** and **joyful**; leading the person to **seek out** situations with the stimulation
- **Anxiety** is a moderating variable
- **Assess differences** in all sensory domains

Autism and Alexithymia



- Alexithymia involves difficulties identifying and describing one's own emotional state (Bird & Cook, 2013)
- Prevalent in a significant portion of individuals with autism, ranging from 50% to 85% (Bird & Cook, 2013; Brewer, W. J., et al., 2015)
- May contribute to the social and emotional challenges often experienced by autistic individuals (Bird & Cook, 2013)

Neurodiversity Affirming Therapeutic Interventions

Affirming Autistic Identities

Identity:

- Some students see their neurodiversity and disability (i.e., autism, ADHD) as a central part of their identity
- Analogous to a student's race, ethnicity, sexual orientation and gender identity

Language:

- Students that see their disability as a central part of their identity may prefer to use identity first language (i.e., "autistic person")
- Students that do not see their disability as a central part of their identity may prefer to use person first language (i.e., "person with autism")
- Importance is on valuing the student's way of identifying

Affirming Autistic Communication Styles

- Autistic students have a **unique interaction style**
- **More efficient with information transfer** between other neurodivergent peers
- Can rapidly build rapport along **shared interests**
- Relationships **can expand** to other subjects and interests
- Attentional style is **detail focused** and
- Providers, school systems and workplaces are learning how to **better understand autistic communication styles** and support **more inclusive environments**

Interventions Through the Prediction Lens

The Role of Routine

Routines aren't just for comfort; they are building blocks for predictive models. The brain learns, "If I follow steps A, B, C, then I will get result D."

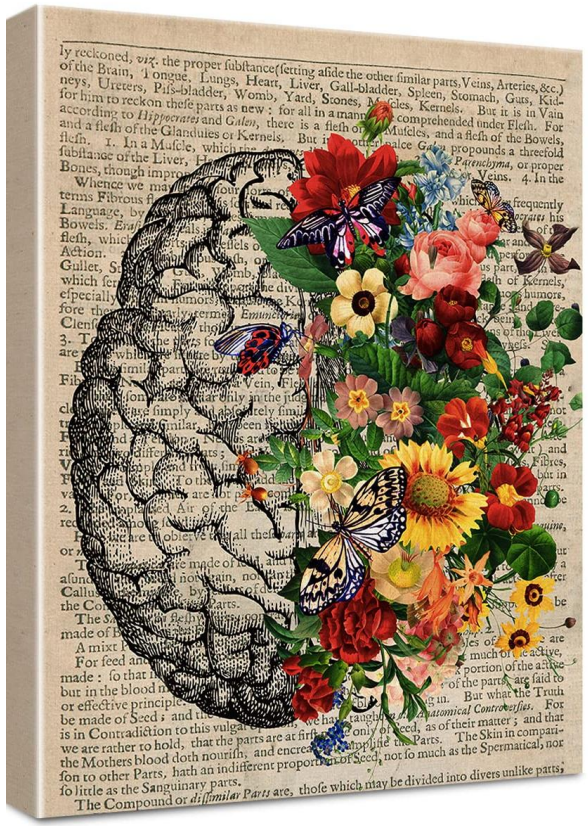
The Role of Visuals

Visual schedules and social stories provide external, precise predictions for what will happen, thus lowering anxiety and cognitive load.

The Role of Honesty

Never promise something you can't deliver. Broken promises destroy the foundation of trust needed to build accurate predictive models.

Interventions for Autistic Cognitive Profiles



Be Precise and Literal (High Verbal)

- Wait (in some cases 10 seconds) after speaking
- **This is the #1 accommodation**
- It gives the low PSI/WMI time to retrieve and formulate a response
- Fight the urge to rephrase

The 10 Second Rule (ALL)

- They will take you at your word.
- Avoid sarcasm, idioms ("it's raining cats and dogs"), and vague requests ("clean up")
- Clients may **know** the dictionary definition but **miss** the implied social meaning

Interventions for Autistic Cognitive Profiles

Chunk and Sequence (ALL)

- **Show, Don't Tell**
- Use written lists, flow charts, pictures, or "First-Then" boards
- This bypasses low verbal and working memory skills
- Spoken words are temporary
- Visuals are more permanent and reliable

Use Explicit Visuals (Concrete)

- Break down tasks
- Don't say "Go get ready"
- Say

  "1. Put on your shoes. (wait)

  2. Get your backpack. (wait)

  3. Stand by the door."
- This supports low working memory skills and executive function challenges

Interventions for EF Challenges in Autism

Checklists

Break large, vague tasks ("Clean your room") into small, concrete micro-steps
"1. Put clothes in hamper.
2. Put books on shelf..."

Visual Timers and Schedules

Timers: Make the abstract concept of "time" concrete and visible. This helps with transitions and task initiation

Schedules: Provides a clear, external prediction of "what happens next," reducing anxiety and the cognitive load of planning

”First-Then” Boards

A simple tool to structure transitions and build motivation (e.g., "First work, Then break")

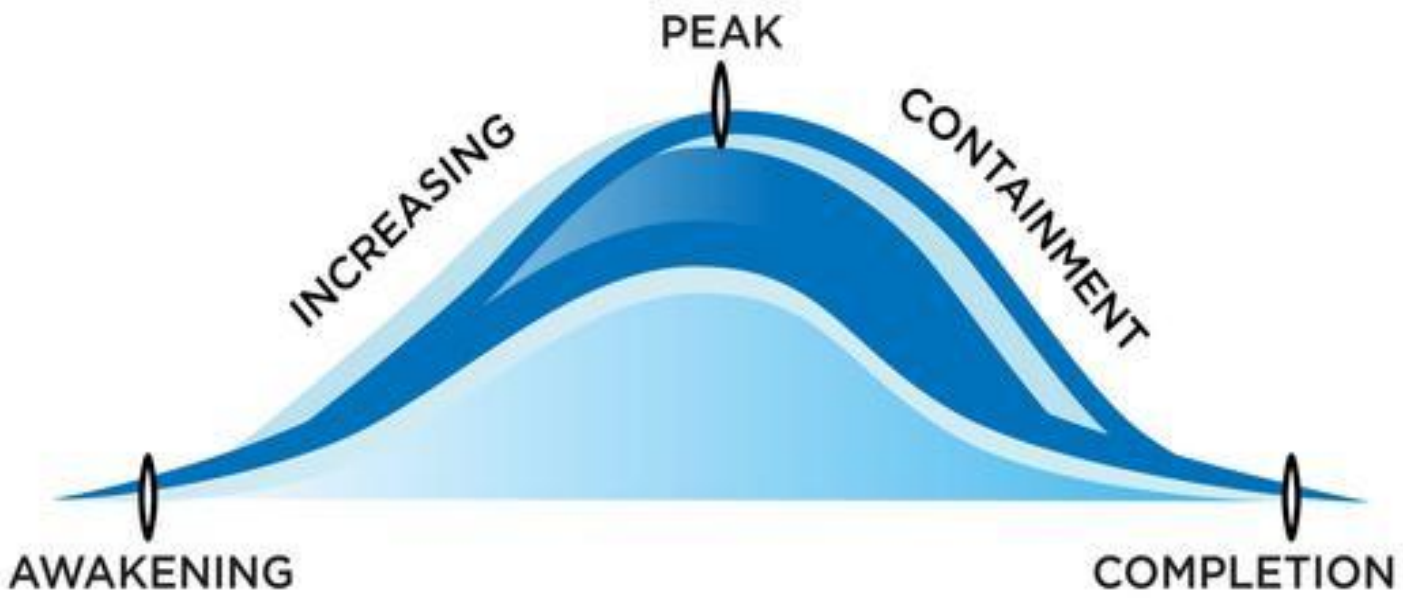
Coping Skills: Riding the Breath

This practice cultivates mindful breath awareness, a tool for identifying heightened stress responses (fight, flight, or freeze) and regulating the nervous system

- Notice the breath without judgement
- Notice the breath on the inhale
- Notice the point in between the inhale and before the exhale
- Notice the breath exhaling from your body
- Notice the space before the next inhale

Coping Skills: Emotions as Waves

Practice for developing mindful awareness of the energetic states of emotions and develops skills to manage emotions, such as anger

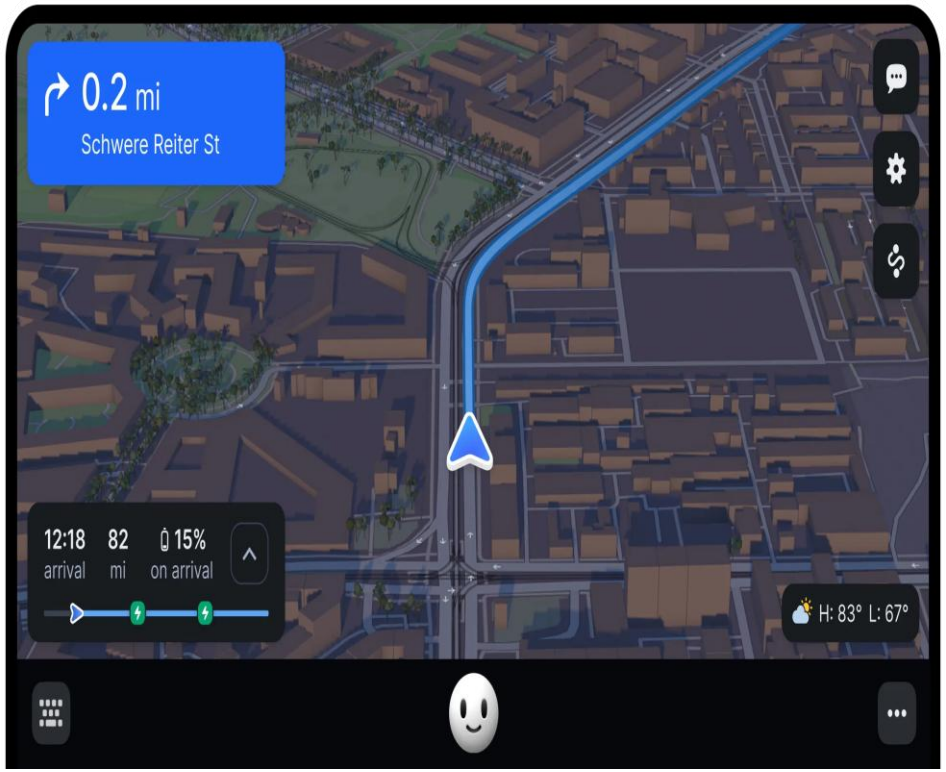


- Notice the surge of energy that is the emotion (e.g., anger)
- Try to label the energy as a feeling in your body
- Let the feeling <u>give you information</u> (i.e., about yourself, your body, your surroundings, others)
- *Let go of the story* you begin constructing about the feeling
- *Let the feeling go*

Coping Skills: Adapting to Change

This practice aims to mindfully validate and enhance adaptation to change

1. Notice *thoughts* about the present being different from what was predicted
2. Notice the surge of *emotional energy* about the present being different from what was predicted
3. Validate your experience by saying "**Change is hard, change is hard**"
4. Take five deep belly breaths
5. Say the mantra 5-10xs "**I am safe. I will adjust**"
6. Take five deep belly breaths



Coping Skills: Enhancing Flexible Thinking

This practice aims to develop mindful awareness of *either/or* and *all or nothing* thinking and practice flexible thinking

- Notice thoughts without judgment
- Label thoughts as *either/or* or *all or nothing* without judgment
- Take five deep belly breaths
- Validate your experience by saying "**Both things can be true**" or "**Something is better than nothing**"
- Take five deep belly breaths

Questions?

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