

Planning for Neurodiversity: Orientation

WHAT IS NEURODIVERSITY?

Neurodivergence: the unique ways we experience, interact with, and interpret the world around us.

Neurodiversity: perceiving these differences as normal, rather than deficits, reducing stigma around learning and thinking differences.

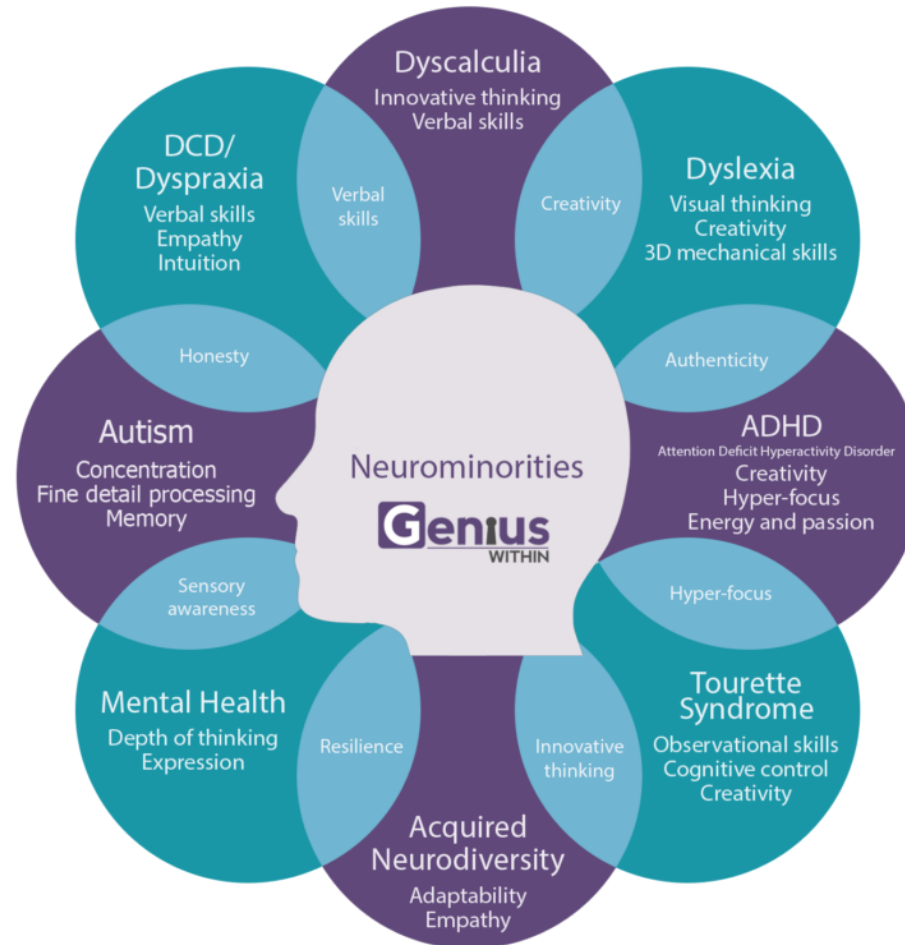


Image Source: Genius Within

Is neurodiversity new?

No. But, in the past, characteristics of neurodiversity were labeled:

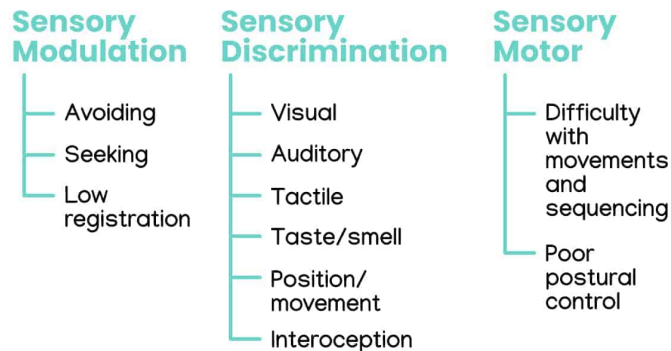
- Learning disabilities
- Mental illness
- Behavioral problems

And viewed as weaknesses, deficits, or problems to be “fixed.” An inclusive approach to neurodiversity approaches these characteristics as strengths to be celebrated.

What is the connection between neurodiversity and sensory processing (the ways we perceive and interact with the world around us)?

Many people with neurodivergent conditions experience *sensory dysregulation*. This means they process everyday sensory information such as sounds, sights and smells differently. Sensory dysregulation falls into three primary categories: sensory *modulation*, sensory *discrimination*, and sensory *motor*.

3 Categories of **Sensory Processing Disorder**



Adapted from Miller 21 et al., 2012

These differences (often imperceptible to people identifying as “neurotypical”) make certain environments challenging or impossible to endure. Environmental factors include things we see, hear, feel, taste, and smell. They also include spatial orientation, signage, visual clutter, liminal spaces, and boundaries. Considering these factors and making reasonable adjustments can dramatically improve the quality of life for people with higher sensory sensitivity.

How can planners support more inclusive environments for people who are neurodivergent?

Just like we would assess our communities and environments for physical accessibility, we can assess places for neuro- and sensory accessibility. A sensory audit helps identify potential challenges and triggers, creating more accommodating, productive, and comfortable environments for people experiencing sensory dysregulation. This includes:

- **Visual characteristics:** Light (levels, flickering), reflections, colors, and patterns.
- **Auditory characteristics:** Repetitive sounds, lack of quiet spaces, acoustics, and echoes.
- **Olfactory characteristics:** Strong or unexpected smells or odors (exhaust, perfume, food, and chemicals).
- **Tactical characteristics:** Uncomfortable or overly-textured fabrics, rigid seating, and unregulated or extreme ambient temperatures (too hot/too cold).

How can planners ensure public places and workplaces are more accommodating and comfortable for everyone?

VISUAL	
Lighting	<ul style="list-style-type: none"> ● Use LED instead of fluorescent lights ● Select lights and furnishings minimizing reflections ● If fluorescent lights are used, ensure they do not flicker ● Install light fixtures allowing people to self-select the level of light in the places they spend the most time ● Install plain window blinds to shade strong light; avoid blinds that throw patterns ● Install blinds in glass meeting rooms to minimize distractions ● Provide or allow sunglasses
Decor	<ul style="list-style-type: none"> ● Select low contrast fabric patterns and avoid strong or irritating patterns. ● Minimize or avoid strong or abrasive colors (i.e., bright colors, fluorescent, and neon colors) ● Paint in low-arousal colors, such as cream and pastel shades

Signage and Layout	<ul style="list-style-type: none"> ● Navigational and wayfinding signs must be easy to understand; use color-coding, symbols, and graphics; avoid misleading arrows and maps ● Stick with simple floor plans - clean lines, space between furniture, and no clutter. ● Provide screened off areas for quiet space and/or or designated sensory/quiet rooms
Alternative Evacuation Plans	<ul style="list-style-type: none"> ● Have an evacuation plan suitable for people with neurodiversity (i.e., evacuation support; clear, simple route signage; noise and crowd mitigation; frequent drills)
AUDITORY	
Equipment Sounds	<ul style="list-style-type: none"> ● Minimize sounds and hums from faucets, lights, electrical equipment, copiers and computers ● Move employee away from office machinery, equipment, and other background noises ● Power off when not in use
Squeaky/ Noisy Furniture	<ul style="list-style-type: none"> ● Minimize sudden/ unexpected squeaking noises and the noise of chairs on hard floors ● Use carpets where possible ● Use padded feet on hard floors
Traffic/ Environmental Noise	<ul style="list-style-type: none"> ● Upgrade windows to block outside sounds ● Provide/allow earplugs or noise-muffling headphones to help with noise sensitivity ● Provide an environmental sound machine to help mask distracting sounds
Soundproofing	<ul style="list-style-type: none"> ● Keep noise out of meeting rooms, to avoid distractions ● Soundproof meeting rooms to keep sound inside the room ● Install acoustic panels
Shared Spaces/ Crowded Areas	<ul style="list-style-type: none"> ● Provide shielded spaces in busy areas to reduce noise ● Move impacted employees to more private areas or away from high traffic areas ● Encourage coworkers to keep non-work related conversation to a minimum
Sudden Loud Noises	<ul style="list-style-type: none"> ● Install entry systems with volume control ● Give advance warning and verbal reminders of loud noises like bells, announcements, or planned fire alarms
OLFACTORY	
Bathrooms	<ul style="list-style-type: none"> ● Site toilets away from working areas ● Install ventilation fans in rest rooms

Foods	<ul style="list-style-type: none"> • Separate food preparation areas from working areas • Screen off microwaves and kitchen areas • Prohibit eating in open or shared working spaces
Paint/Cleaning	<ul style="list-style-type: none"> • Store paint and cleaning materials away from public or working areas • Conduct cleaning, painting, and maintenance during non-working hours • Use only unscented cleaning products
Fragrances	<ul style="list-style-type: none"> • Modify or create a fragrance-free policy • Maintain good indoor air quality and/or provide an air purification system; allow for fresh air breaks • Discontinue the use of fragranced products • Provide scent-free meeting rooms and restrooms
Waste Receptacles	<ul style="list-style-type: none"> • Locate any items or equipment likely to generate strong smells away from people and/or working areas
TACTILE	
Upholstery and Furnishings	<ul style="list-style-type: none"> • Consider smooth, soft materials for seating and other soft furnishings • Provide alternative seating options, like exercise balls or stand-up desks
Fabrics	<ul style="list-style-type: none"> • Avoid bright colors and distracting, busy patterns
Temperature	<ul style="list-style-type: none"> • Avoid temperature extremes • Provide cool vest or other cooling clothing / heated gloves or other heated clothing • Allow workstation fans, air-conditioners, and personal heaters • Allow work from home during hot/cold weather
POSITION/ MOVEMENT	
Alternative Work Space	<ul style="list-style-type: none"> • Create areas for alternative seating/ movement like clipboards, or clean, comfortable space on the floor (ex. carpet squares or beanbags)
SENSORY MODULATION	
Sensory Tools	<ul style="list-style-type: none"> • Make available weighted pads, vests, or blankets • Allow and/or provide handheld sensory tools to stimulate and/or calm the senses

LEARN MORE!

Did you know April is Autism Acceptance Month?



Autism TMI Virtual Reality Experience

https://youtu.be/DgDR_gYk_a8

Designing for Neurodiversity

<https://blog.pridigital.com/designing-for-neurodiversity>

Design for the Mind - A toolkit for cognitive inclusion <https://www.bbc.co.uk/gel/features/design-for-the-mind-toolkit>

Sensory Environment Checklist <https://bbc.github.io/uxd-cognitive/>

Sensory Audit for Schools and Classrooms <https://education.gov.scot/media/i3nm5bkt/sensory-audit-tool-for-environments.pdf>

“It Is a Big Spider Web of Things”: Sensory Experiences of Autistic Adults in Public Spaces <https://doi.org/10.1089/aut.2022.0024>

Senses of place: architectural design for the multisensory mind

<https://cognitiveresearchjournal.springeropen.com/articles/10.1186/s41235-020-00243-4>

Neurodiversity Hub <https://www.neurodiversityhub.org/enabling-spaces-2>

Neurodiversity and Sensory Design https://theworkingbrain.net/wp-content/uploads/2020/01/Sensory-Processing-and-Design_LR.pdf

ADHD and the Built Environment https://theworkingbrain.net/wp-content/uploads/2021/11/The-Working-Brain_Issue-02_ADHD_LR_v2.pdf

OCD and Anxiety in the Workplace https://theworkingbrain.net/wp-content/uploads/2021/09/The-Working-Brain_Issue-03_OCD_LR.pdf

Supporting a Neurodiverse Workforce A Mental Health and Well-being Resource and Training Package

[https://static1.squarespace.com/static/5a88ab00f43b552a84c3b7c9/t/6163973b9341510007724463/1633916732446/Mental+Health+Package+-+Fi
nal+Report.pdf](https://static1.squarespace.com/static/5a88ab00f43b552a84c3b7c9/t/6163973b9341510007724463/1633916732446/Mental+Health+Package+-+Final+Report.pdf)

Sensory Sensitivities

[https://static1.squarespace.com/static/5a88ab00f43b552a84c3b7c9/t/6009cb6b34e4973122cf08d8/1611254649047/Autism+%26+the+workplace+-
+Simple+adjustments.pdf](https://static1.squarespace.com/static/5a88ab00f43b552a84c3b7c9/t/6009cb6b34e4973122cf08d8/1611254649047/Autism+%26+the+workplace+-+Simple+adjustments.pdf)

Thinking Differently: Neurodiversity in the Workplace

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RT.pdf](https://static1.squarespace.com/static/5a88ab00f43b552a84c3b7c9/t/5ef7af662801f1255ced9ee0/1593290657559/NeurodiversityWorkplace_REPOR
T.pdf)