



Neurodiverse Condition Categories At-A-Glance

Dyslexia

Always affects reading, but can look like:

- Difficulty mastering phonetics (connecting letter and sound patterns)
- Reversing similar letters or reversing order of letters within a word

In educated adults, most likely appears as:

- Difficulty seeing (sometimes in hearing) difference between similar words
- Problems spelling (or recognizing typos that happen to be real words)
- Requiring an unusually long time to complete reading or writing tasks
- Difficulty summarizing a narrative

Executive Functions Compromised:

- Working Memory
- Self-Monitoring

Strategies:

- Normalize **processing** information vs specifically reading it:
 - Text-to-speech apps for hearing the information to take in
 - Speech-to-text apps for dictating thoughts

The key is to reduce the cognitive demands associated with research tasks.

Dysgraphia

- Usually affects handwriting, sometimes affects written expression (getting ideas into written form)
- May exist alongside dyslexia or alone

In educated adults, most likely appears as:

- Difficulty seeing (sometimes in hearing) difference between similar words
- Problems spelling (or recognizing typos that happen to be real words)
- Requiring an unusually long time to complete writing tasks
- Childlike handwriting of even advanced academic ideas

Executive Functions Compromised:

- Working Memory
- Organization (of ideas)
- Planning (tasks or projects involving writing)

Strategies:

- Normalize **producing** information vs specifically writing it:
 - Speech-to-text apps for dictating thoughts

The key is to reduce the handwriting, typing and spelling demands associated with research tasks.



ADHD

3 main types: impulsive/hyperactive, inattentive/distractable, or combined

In adults, most likely appears as:

- Difficulty getting started on a task or project
- Easily becoming distracted
- Disorganization of ideas, plan, resources

Executive Functions Compromised:

- Working Memory
- Organization
- Planning
- Initiation
- Inhibition
- Attentional Control

Strategies:

- Guide mentees in identifying most productive time of day and minimally-distracting environments available
- Establish inhibition system with timer and prompts to self-monitor

The key is to limit focus on one task, eliminate distractions, and find an external system for pausing and monitoring research tasks.

Autism Spectrum Disorder (ASD)

In adults who have completed college/graduate school, most likely appears as:

- Difficulty understanding nuance and figurative language, missing hints or indirect corrections/suggestions
- Accurate and capable, strong tolerance for repetitive tasks
- Difficulty determining needed scope of topics and tasks (can lead to deep dives/rabbit holes)

Common statements from employees, students, researchers with Autism:

- The group leader said I had disrespected another student in the group and have to change teams. I don't know what they're talking about.
- My supervisor said that I've repeatedly ignored corrections on my work and they're considering letting me go from the project, but I don't remember any corrections.
- When I start writing and realize I need consult resources, I find so much interesting content and use all of it to keep exploring the topic in my writing. It feels right but then my writing is really long and my mentor says I'm getting off-topic and going down rabbit holes.

Executive Functions Compromised:

- Organization



- Planning
- Initiation
- Inhibition
- Attentional Control
- Cognitive Flexibility/Shifting

Strategies:

- **Normalize clear, explicit feedback for all employees.**
 - Include context, time/duration, and suggested phrasing or method regarding actions. Ex. "Provide 2 or 3 points here in max 3 paragraphs" vs "too much on this, cut back"
- **Add guiding prompts:**
 - Who is the audience?
 - What does a _____ need to know about x?
 - What would they use this point (each point) for?
 - If it's only interesting, not useful, then omit.
- **Provide social guidance for teamwork, hierarchy, networking in the field**
 - Who to approach, when to approach, how (in person, email), how long to talk

Mental Health Conditions

- Depression & anxiety – most common, will encounter
- Obsessive-Compulsive Disorder – somewhat common, may encounter
- Bipolar depression & schizophrenia – less common but may encounter

In adults, most likely appears as:

- Difference in mood – sadness, irritability, anxiousness
- Difficulty coping with load and managing tasks

Executive Functions Compromised:

- Working Memory
- Organization
- Planning
- Initiation
- Self-monitoring
- Cognitive Flexibility/Shifting

Strategies:

- Guide mentees in identifying most productive time of day and minimally-distracting environments available
- Establish inhibition system with timer and prompts to self-monitor

The key is to limit focus on one task, eliminate distractions, find external system for pausing and monitoring research tasks



Traumatic Brain Injury (TBI)

Result of auto or bicycle accidents, combat injury, concussion

Executive Functions Compromised:

- Working Memory
- All other executive functions may be slower or impaired due to permanently decreased working memory

Strategies:

- Develop a timer-driven system to minimize how much information is entered for processing
- Limit time (i.e., 5 minutes) or amount (i.e., 2 paragraphs)
- Use the information immediately to keep it in working memory (summarize verbally, take notes, think of example)

The key is to determine how much is the individual's max (time and/or info) and break the task into segments that size.

Non-executive function-related issues

Dyscalculia

- Persistent, unusual difficulty keep track of numbers and performing arithmetic operations
- May excel in less arithmetic-driven math like geometry, using statistical programs, computer programming

Strategies:

- Normalize using calculators and spreadsheets
- Avoid comment if someone isn't doing math by hand that most people would

Dyspraxia

- Unusual discoordination, which may be fine or gross motor skills

Strategies:

- Avoid comment if someone performs tasks one hand at a time or very carefully
- Provide (low-key) more of items that seem to help someone be neat and effective

Sensory Processing Disorder

- Over or under-sensitivity to sensory input (light, touch/pressure, sound, smells)

Strategies:

- Allow modifications to worker's environment (dim lights, close door, etc.)
- Provide reasonable modifications to shared environment (limit scented products, reduce lights or wattage, reduce noises where possible)

Handout created by Becca Güler, EdD, for the SCOARE Program.