



Autism spectrum disorder (ASD) and attention-deficit/hyperactivity disorder (ADHD) are two types of neurodivergence, both of which can cause developmental differences and delays. When you're evaluating a patient, client, or student, it's important to be able to distinguish between the two conditions so you can plan effective interventions and supports. But because ASD and ADHD can affect the same capabilities, it takes some skill to determine which condition is behind a behavior, deficit, or strength.

For example, around 62% of those with autism experience attention and hyperactivity problems, even if the symptoms are not severe enough to reach the threshold for an ADHD diagnosis. It's also possible for an individual with ADHD to have developmental differences in social communication or repetitive behaviors but not to reach the clinical threshold for autism. Autism and ADHD can also co-occur.

Current clinical research indicates that autism and ADHD co-occur between 30% and 78% of the time. When community studies and clinical studies are combined, the rate of co-occurrence hovers around 21%. These aren't just statistics or data points. When people experience ASD + ADHD, the characteristics of both conditions can be more intense and have larger life impacts. With ASD + ADHD, a clear diagnosis and early intervention are that much more important to each person's overall well-being.

As assessment publishers, we know that the language we use to talk about autism matters. In response to a growing body of neurodiversity research, WPS uses identity- rst rather than person-rst language in our autism communications.

Where Is the Overlap Between Autism and ADHD?

Established and emerging evidence shows that autism and ADHD share quite a lot of territory. Here's a brief overview of their commonalities:

Genetics

<u>Autism</u> and <u>ADHD</u> are associated with mutations, deletions, and duplications on many of the same genes. For example, some genes in people with ADHD have single-letter changes in DNA that create an incomplete version of a specific protein. Those changes are known as *protein truncating variants* or *truncating mutations*. The same type of mutation on the same set of genes is often found in the DNA of autistic people.

Another example: Researchers have also found that differences in the *SHANK* genes are associated with both ASD and ADHD. *SHANK* genes are responsible for encoding certain proteins needed for neuron synapses to work properly. Those proteins are known to play a role in emotional well-being, social behavior, memory, and executive functioning—all of which are affected in autism and ADHD.

DNA can also contain extra copies of some genes. These are called *copy number variants* (*CNVs*). Autism and ADHD have variants in the same regions of DNA, which increases the likelihood that ASD or ADHD will develop.

These examples point to some of the many genetic connections between autism and ADHD. They may help to explain why the conditions alter many of the same functional abilities. It isn't yet clear how different conditions develop from the same genetic origins, so more research is needed to understand the factors that influence these complex developmental pathways. It's also important to note that just 19% of the samples in genome association studies include people of non-European ancestry, so less is known about the genetic associations in those populations.

Heritability

Given the shared genetics, it's not surprising that ASD and ADHD both run in families. Autistic people and their family members are more likely to develop ADHD than the general population. For example, studies show that children whose birthing parent has ADHD are 2.5 times more likely to be autistic. Siblings of autistic individuals are 3.7 times more likely to develop ADHD.

It's important for clinicians and educators to be aware of the high heritability of autism and ADHD. As you review medical records and interview family members, you can look for evidence that other relatives may have experienced similar outcomes and symptoms, whether or not there is an official diagnosis in the family.

Brain Structures and Connectivity

Brain imaging studies can provide some insight into the biomarkers associated with autism and ADHD, but such studies are not typically used to identify either condition. Nevertheless, they can shed light on the neural mechanisms behind developmental differences.

Brain imaging studies illustrate that both ASD and ADHD are associated with differences in the volume of gray matter in different parts of the brain. Both conditions are also associated with differences in signaling networks that connect parts of the brain. These regions of the brain are related to core behavioral, emotional, and functional differences in autistic people and those with ADHD.

It's important to point out that while both autism and ADHD are associated with structural differences in the brain, the differences don't necessarily occur *in the same parts* of the brain. For example, autism is linked to a higher volume of gray matter in the frontotemporal region, and ADHD is linked to lower gray matter volume in the orbitofrontal region. Overall, imaging studies show brain volume in autistic individuals is increased, while brain volume in people with ADHD is often decreased.

When looking at brain imaging studies, researchers also found that certain signaling networks were either more or less active than the same networks in people with typical development—but the specific networks were varied between ASD and ADHD. For example, one study showed that autistic boys had greater functional connectivity in the limbic region of the brain. Boys with ADHD, on the other hand, had greater functional connectivity in the frontal and temporal regions of the brain.

Both ASD and ADHD are also associated with differences in the *corpus callosum*, the central tract largely responsible for connecting the brain's hemispheres. The *corpus callosum* is involved with the ability to function socially, to coordinate motion, to pay attention, and to carry out executive functions such as planning and task switching. Brain imaging studies show that there is lower connectivity of the *corpus callosum* with autism than with ADHD, leading researchers to suggest that analyzing connectivity in that structure could help to distinguish between the two.

Overlapping Symptoms

Both ASD and ADHD can cause developmental differences in children. Signs may be noticeable as early as infancy, but it's more common for these conditions to be identified during the toddler, preschool, or school years.

Autism is associated with developmental delays or differences in three core areas: social communication and interaction; focused interests; and repetitive behaviors. Some autistic children also have delays in the development of language, movement, and learning skills, as well as atypical eating or sleeping patterns.

If the family has access to regular pediatric health care, developmental checklists and autism screening can help to identify developmental delays or differences as early as the infant years.

The Centers for Disease Control and Prevention describes ADHD as "a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development." It can be harder to identify ADHD in very young children because the symptoms can look like typical toddler behavior.

Even so, babies and toddlers who are later diagnosed with ADHD sometimes experience early signs such as trouble eating, sleeping, and being overstimulated. In at least one study, parents expressed concerns about ADHD-related temperamental issues as early as 24 months, and some evaluators identified them as early as 18 months. In addition, a few studies reported delays in gross motor development in infants who were later diagnosed with ADHD. One example is not being able to sit up straight when held on someone's lap at 6 months of age.

Download the infographic on early childhood developmental stages.

Because the diagnostic criteria for ADHD state that the symptoms should be apparent in two or more settings, many children with ADHD aren't diagnosed until the school years. The American Academy of Pediatrics (AAP) recommends that children 4–18 years old be evaluated for ADHD if they're showing problematic inattention, impulsivity, or hyperactivity. In children younger than 4 years old, the AAP recommends parent training in behavior management.

As you review your client's developmental history, you may spot characteristics that could indicate either ASD or ADHD. Some of the traits and behaviors associated with both conditions are:

- attention-switching difficulties
- eating and sleeping difficulties
- repetitive behaviors
- atypical sensory sensitivities
- communication difficulties, especially with pragmatic language

ASD and ADHD are heterogeneous: They can look and feel different from person to person. Because there is overlap among some—but not all—traits and behaviors, researchers think that as you respond to a client's needs, it's a good idea to look at individual traits, rather than considering only diagnostic criteria.

Mental Health

Autistic people and those with ADHD are more likely to experience anxiety and depression than people with typical development. Researchers report that around 25% of those with ADHD also have an anxiety disorder. And some studies show that the risk of depression in the first year following an ADHD diagnosis grows 6.5-fold.

A similar risk of anxiety and depression exists for autistic individuals. Researchers report that 19.8% have diagnosed depression and that the risk is higher for those without intellectual disability. The rate of anxiety among autistic people is similar: 20.1%, compared to roughly 8.7% in people with typical development.

Learn more about why it's critical to assess mental wellbeing in autistic children and teens.

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Domains Affected With a Dual Diagnosis of ASD + ADHD

When autism and ADHD co-occur, the characteristics of both conditions tend to be more pronounced, and people are more likely to have the combined type of ADHD. Some researchers have suggested that the teen years are when ASD + ADHD constellations may peak—largely because of the social demands placed on teens as they move toward adulthood.

As you evaluate children and teens for these conditions, be aware that studies show parents and caregivers of children with ASD + ADHD tend to view their child's ADHD symptoms as more severe than parents and caregivers whose children have ADHD alone.

The domains most affected by ASD + ADHD include:

Socialization Adaptive Skills

People with ASD + ADHD have more difficulty with <u>adaptive behaviors</u> than people with typical development or people with ADHD only. Adaptive behaviors are the skills used in daily functioning at home, work, and school. Researchers note that toddlers with ASD + ADHD seem to have the most trouble with these tasks.

Autistic people with ADHD often have more trouble with the adaptive skills related to socialization. These skills include natural, spontaneous actions like these:

- joint attention skills, which is intentionally aligning your attention to focus on the same thing as someone else
- reciprocity in communication, which refers to typical back-and-forth conversation
- social flexibility, which is the capacity to adapt to changing situations
- imitation, which refers to duplicating the movements, expressions, or vocalizations of others

Sensory Processing

ASD and ADHD affect the way people process and respond to sensory information from their environments. When researchers assessed sensory profiles, they found that people with ASD + ADHD had greater differences than people with either condition on its own. Researchers noted that ADHD on its own has strong effects on how people process what they see, while ASD has strong effects on how people process what they hear. In the classroom context, ASD + ADHD seems to have an additive effect, so that sound is even more disturbing to individuals with both conditions.

Researchers recommend that intervention plans for people with ASD + ADHD include relaxation techniques to help them "create a space or response delay between thoughts and actions." In that space, it is hoped, autistic individuals with ADHD can manage their responses more effectively over time.

To learn more about creating sensory-friendly learning spaces, download the infographic.

Cognitive Processing

Having ASD + ADHD can affect how people perform on assessments that involve cognitive tasks. For example, in one study, autistic people with more severe ADHD symptoms had trouble with tests that:

- measured sustained attention
- asked people to match familiar figures (immediate memory)
- asked people to stop doing something they have begun (response inhibition)

Executive Function

Executive function refers to a group of skills that includes abilities like these:

- inhibition, or the ability to control impulses and carry out goal-directed actions
- working memory, which is the ability to hold task-related information in your mind as you're completing the task
- set-shifting abilities, sometimes called task shifting, which is the ability to refocus your attention between different tasks as needed

Studies suggest that autistic people with ADHD have more trouble with inhibition and working memory than autistic people who don't have ADHD. The ability to shift attention is different: Having more severe ADHD symptoms does not appear to worsen the ability to shift attention.

Here's why we recommend assessing executive function with ADHD.

Emotion Regulation

Emotion regulation is the skill set that helps people identify, modify, and express their feelings. A growing body of evidence suggests that emotion regulation is one of the skill sets affected by neurodevelopmental conditions like autism and ADHD. How people manage their emotions can impact the development of other psychological conditions, such as anxiety and depression, as well.

One facet of emotion regulation is emotion recognition—the ability to identify what someone else is feeling. Studies have found that autistic people and people with ADHD have difficulty with this skill and that the difficulty can lead to problems in social relationships. Researchers suggest that interventions for people with ASD + ADHD include training in emotion recognition and regulation to help with social functioning.

Motor Control

Autism and ADHD both affect the development of motor skills. Both conditions involve atypical movement patterns—repetitive motions with ASD, fidgeting and restlessness with ADHD. But these conditions can also affect posture, motor coordination, and gross or fine motor skills.

ASD + ADHD can affect underlying motor skills such as motor prediction, planning, and preparation. Those skills enable the brain to carry out movements efficiently, which lowers the demand on working memory during a task. In brain imaging studies of autistic people, people with ADHD, and people with ASD + ADHD, problems with fine motor skills were also associated with differences in social skills.

Researchers recommend that autism and ADHD evaluations assess motor skills, because a high percentage of those with both disorders also have developmental coordination disorder.

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Identifying ASD + ADHD

ASD and ADHD share a great deal of functional, biological, and causal territory. Still, their diagnostic criteria are different. Arriving at a clear diagnosis when characteristics of both conditions are present can take time and careful analysis—especially because there is no single assessment designed to tell the difference between ASD and ADHD.

Is a Yes-No Category Enough?

The International Classification of Diseases 11th Revision (ICD-11) defines autism this way: "Autism spectrum disorder is characterised by persistent deficits in the ability to initiate and to sustain reciprocal social interaction and social communication, and by a range of restricted, repetitive, and inflexible patterns of behaviour, interests or activities that are clearly atypical or excessive for the individual's age and sociocultural context."

The *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition Text Revision* (DSM-5-TR) uses this definition: "Autism spectrum disorder (ASD) is a complex developmental condition involving persistent challenges with social communication, restricted interests, and repetitive

behavior."

The ICD-11 describes ADHD as "a persistent pattern (at least 6 months) of inattention and/or hyperactivity-impulsivity that has a direct negative impact on academic, occupational, or social functioning. There is evidence of significant inattention and/or hyperactivity-impulsivity symptoms prior to age 12, typically by early to mid-childhood, though some individuals may first come to clinical attention later."

The DSM-5-TR supplies this definition of ADHD: "A persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development."

The clarity of these definitions can make it seem that diagnosis is a simple yes-or-no decision. In practice, both conditions range across a continuum that includes typical development, so autism and ADHD can look very different from person to person. For that reason, some researchers have suggested that evaluators take a transdiagnostic approach—reaching beyond a yes-no diagnostic categorization to consider each person's unique constellation of characteristics, strengths, and needs.

That approach may be especially useful when dealing with ASD + ADHD. It could allow an evaluator to identify and prioritize the behaviors and symptoms most important at the time, no matter which condition causes them. Taking a broader view, health experts say, can also make it more likely that you'll identify any other co-occurring conditions.

Comprehensive Evaluation

Screening for autism often begins in infancy, when pediatricians and parents discuss any developmental delays at 9-, 18-, 24-, or 30-month health visits. Autism-specific screenings often take place during 18- and 24-month pediatric visits. If developmental delays are present in core areas affected by ASD, a more comprehensive evaluation could follow.

By contrast, ADHD usually isn't diagnosed until the school years, when the demands of the school day make attention and behavioral issues more obvious. When ADHD is diagnosed before ASD, this diagnosis can often delay the identification of ASD by as much 1.5–2.6 years. Delays in diagnosis tend to be longer for girls than for boys.

ASD + ADHD cannot be identified using a single assessment. Because rates of co-occurrence are so high, it's a good idea to look for one when the other is present. An ASD + ADHD evaluation should include:

- thorough family and medical history to identify any factors that could raise or reduce the chances of either condition
- developmental history to establish when different characteristics, behaviors, and needs emerged
- information gathered from multiple sources using different measures, including gold-standard assessments, behavior-based observations, performance tools, interviews, and rating scales

- assessment of medical comorbidities such as sleep, eating, and gastrointestinal problems
- assessment of intellectual ability and learning disorders
- assessment of adaptive behaviors and skills, which can provide information about how a student or client functions in different practical settings
- assessment of psychological and behavioral conditions that often occur alongside ASD + ADHD
- assessment of speech and language, which can clarify how much a student or client can communicate and understand, and whether adaptive or alternative communication devices are helpful
- assessment of motor development

Every student or client won't necessarily need every assessment. Still, gathering information from all stakeholders, using a variety of instruments, and in different settings can help you create the fullest possible picture of the individual.

Read more about why it's so important to know when autism and ADHD co-occur.

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Who Can Diagnose or Identify ASD + ADHD?

Because of the complexities involved, evaluations for ASD + ADHD should be performed by trained professionals. Evaluations are often carried out by multidisciplinary teams that include:

- speech-language pathologists
- occupational therapists
- pediatricians

- physicians
- neurologists
- psychiatrists
- educational psychologists
- school psychologists
- clinical psychologists
- physical therapists
- classroom teachers
- reading specialists
- special education professionals

Autistic individuals, caregivers, and parents are also key participants in autism evaluations. Their lived experience provides a basis for understanding how autism and ADHD look and feel to those at the heart of the evaluation.

Challenges in Diagnosing ASD + ADHD

Identifying ADHD in an autistic person or autism in a person with ADHD takes considerable skill, largely because it can be hard to tell whether a specific behavior or need stems from autism or from ADHD. Researchers have identified several challenges in the evaluation process. As you plan and conduct your evaluation, you may want to keep these factors in mind:

- Overlapping symptoms can result in "double counting" a symptom or behavior toward both diagnostic categories.
- When you're evaluating an adult, you may not have access to developmental histories. Without that information, it's harder to accurately diagnose the conditions because symptoms often begin during childhood.
- Psychiatric conditions such as anxiety and depression can cause symptoms like those associated with autism and ADHD. When similar-looking conditions exist, one condition can "mask" another.
- Similar-looking behaviors can arise for different reasons, depending on which disorder is causing them.
 For example, inattention and distraction are core symptoms of ADHD. An autistic person may also be less attentive or more distracted, but the motivation is different. With autism, people may have a harder time focusing on things other than their specific interests.
- Trauma can affect behavior. It can also cause behaviors and symptoms similar to those associated with autism and ADHD. Characteristics such as not showing emotion, engaging in repetitive play, having

emotional outbursts, and having trouble sleeping are common to trauma, ASD, and ADHD.

- Autistic individuals and people with ADHD learn effective ways to camouflage or compensate for their needs, making it less likely their needs will be noticed.
- Both autism and ADHD can look different in people who were assigned female at birth. Most of the research involves samples with more boys than girls, so less is known about how these two conditions show up in females. Consequently, <u>far fewer girls and women are diagnosed with autism</u> than boys and men.
- Systemic barriers such as lack of access to health care, lack of specialized physician knowledge, high costs, limited family knowledge, and stigma make it less likely that people in some groups will be diagnosed early. Black, Latinx, Indigenous, and Asian people; people whose primary language is not English; people living in rural areas; and people with limited financial resources are diagnosed later and less often.

Research and Resources:

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Screening and Diagnostic Tools

Early screening for autism often takes place in the context of pediatric well-child visits. If a parent has concerns about delayed or missed developmental milestones, or if a pediatric health care provider notes a delay when using a developmental milestones checklist, a full autism evaluation often follows.

Need Help Finding a Product?

Our qualified Assessment Consultants are standing by to help you find the best products for your clients.



Some of the most common early screening tools are:

Contact Us

- Ages & Stages Questionnaires, Third Edition (ASQ-3)
- Autism Screening Instrument for Educational Planning (ASIEP-3)
- Communication and Symbolic Behavior Scales (CSBS)
- Modified Checklist for Autism in Toddlers (M-CHAT)
- Parents' Evaluation of Developmental Status (PEDS)
- Screening Tool for Autism in Toddlers and Young Children (STAT)
- Social Communication Questionnaire (SCQ[™])

A comprehensive ASD + ADHD evaluation is informed by autism- and ADHD-specific diagnostic tools. To create as full and clear a picture as possible, evaluation teams frequently assess language, adaptive skills, behavior, executive function, sensory processing, anxiety, and depression.

WPS <u>Assessment Consultants</u> are available to help you select the assessment tools that are appropriate for your client's particular needs.

Observational Tools

- Autism Diagnostic Observation Schedule, Second Edition (ADOS®-2).
- Monteiro Interview Guidelines for Diagnosing the Autism Spectrum, Second Edition (MIGDAS[™]-2)
- Psychoeducational Profile, Third Edition (PEP-3).

Rating Scales

- Attention-Deficit/Hyperactivity Disorder Test, Second Edition (ADHDT2)
- Behavior Rating Inventory of Executive Function, Second Edition (BRIEF2)
- <u>Behavior Rating Inventory of Executive Function-Preschool (BRIEF-P)</u>
- Conners, Third Edition[™] (Conners 3[®])
- Conners' Adult ADHD Rating Scales (CAARS)
- <u>Conners Comprehensive Behavior Rating Scales (Conners CBRS)</u>
- Childhood Autism Rating Scale, Second Edition (CARS[™]2-ST and CARS[™]2-HF)
- Social Responsiveness Scale, Second Edition (SRS[™]-2)
- Autism Spectrum Rating Scales (ASRS)
- <u>Gilliam Autism Rating Scale, Third Edition (GARS-3)</u>
- Behavior Assessment System for Children, Third Edition (BASC-3)
- Sensory Processing Measure, Second Edition and SPM-2 Quick Tips (SPM[™]-2)
- ADHD Rating Scale IV (ADHD-RS-IV) With Adult Prompts
- Adult ADHD Clinical Diagnostic Scale (ACDS) v1.2
- Adult ADHD Investigator Rating Scale (AISRS)
- Adult ADHD Self-Report Scale (ASRS) v1.1
- Barkley Adult ADHD Rating Scale—IV (BAARS-IV)
- Adult ADHD Self-Report Screening Scale for DSM-5 (ASRS DSM-5) Screener
- Adult ASRS Symptom Checklist v1.1

- Diagnostic Interview for ADHD in Adults, Second Edition (DIVA 2)
- Brown Attention-Deficit Disorder Symptom Assessment Scale (BADDS) for Adults
- Clinical Global Impression (CGI)
- Wender Utah Rating Scale (WURS)
- Vanderbilt ADHD Diagnostic Rating Scale (VADRS)



Executive Function Measures

- Comprehensive Executive Function Inventory[™]-Adult (CEFI® Adult)
- Delis-Kaplan Executive Function System (D-KEFS)
- Developmental Neuropsychological Assessment (NEPSY II)
- Executive Functions Test-Elementary: Normative Update (EFT-E: NU)

Interview Tools

- Autism Diagnostic Interview-Revised (ADI®-R)
- Diagnostic Interview for ADHD in Adults, Second Edition (DIVA 2)

Additional Measures

- Adaptive Behavior Assessment System, Third Edition (ABAS®-3)
- Adult ADHD Quality of Life Measure (AAQoL)2
- Children's Depression Inventory, Second Edition[™] (CDI 2®)
- Revised Children's Manifest Anxiety Scale, Second Edition (RCMASTM-2)
- Driving Behavior Survey (DBS) 3
- Work Productivity and Activity Impairment Questionnaire General Health V2.0 (WPAI:GH)
- Clinical Assessment of Pragmatics (CAPs[™])
- Test of Pragmatic Language, Second Edition (TOPL-2)
- Comprehensive Assessment of Spoken Language, Second Edition (CASL®-2)

Best Practices for Diagnosing ASD, ADHD, and ASD + ADHD

Best practices for diagnosing ASD, ADHD, and ASD + ADHD are research based. That means they change from time to time. As we build knowledge, we update assessments and align our practices with science. The guidelines below are based on current research and the most recent recommendations from professional organizations such as the American Psychological Association, the American Occupational Therapy Association, and the National Association of Speech Pathologists.

Conduct a Comprehensive Evaluation.

A clear and accurate diagnosis isn't based on the results of a single test, no matter how thorough the assessment is. Instead, a diagnosis should be informed by:

- a wide range of trusted, validated assessments aligned with diagnostic criteria
- insights provided by parents, teachers, school psychologists, and health professionals who know your client
- observations in multiple natural settings in addition to testing environments
- detailed developmental, medical, and educational histories

- the lived experience of your client, including their background, risk and protective factors, strengths, values, and interests
- your own professional judgment

Because ASD + ADHD touches so many areas of functioning, evaluators may also include assessments that measure these areas (and possibly others, depending on the client's needs and risk factors):

- neuropsychological skills such as executive function and memory
- behavioral patterns
- adaptive functioning
- social functioning
- mental health
- cognitive abilities
- motor development
- language, learning, and <u>reading skills</u>
- sensory processing

As you plan interventions, it's a good idea to consider the supports and barriers that exist in your client's environment.

Screen for Co-occurring Conditions.

It's important to look for co-occurring conditions for two reasons. First, it can help you rule out other explanations for your client's symptoms, behaviors, and characteristics.

Second, it helps to identify any other conditions that may need to be treated. ASD + ADHD commonly occurs alongside other medical, psychological, and behavioral conditions. Understanding the full scope will help you plan and integrate interventions to address each condition. It will also help you prioritize. Some researchers suggest, for example, that ADHD symptoms be addressed early to improve overall functioning.

These conditions can overlap with ASD + ADHD:

- intellectual disability
- specific learning disorders
- developmental coordination disorder

- social anxiety disorder
- generalized anxiety disorder bipolar
- disorder
- oppositional defiant disorder
- sensory processing disorder
- depression

Certain non-neurological medical conditions also occur more often with ASD or with ADHD. Many of them may also need to be addressed, including:

- asthma
- allergic rhinitis
- atopic dermatitis
- gastrointestinal conditions
- herpes virus infection
- psoriasis
- hypospadias (a difference in the urethra in a penis)

A pediatrician or family doctor will likely treat these conditions, but you may want to provide caregivers with some information on possible comorbidities as part of your evaluation.

Be Aware of the Non-diagnostic Factors That Can Influence Assessments.

Culture, gender, trauma, poverty, health conditions, disabilities, and language can affect the way people perform on assessments. It's especially important to be aware that the effects are likely to be greater when people are living at the intersections of multiple marginalized identities.

Here are a few examples:

A person's culture can affect eye contact, one indicator that evaluators sometimes use when looking for signs of autism. In some cultures, being able to establish and maintain eye contact is a sign of typical development. In others, it is considered disrespectful, especially with an older person or a person in a position of power. It's important to learn as much as possible about an individual's culture so you can describe any potential cultural impacts in your assessment report.

- Engaging in play with an adult evaluator is another frequently used assessment technique in autism evaluations. But in some families and communities, children have been taught to avoid contact with unknown adults—many have been taught to fear adults that approach them and want to play. One possible way to overcome such an issue is to spend extra time with the child to increase calm and comfort before and during an evaluation.
- Children who are living with food insecurity and hunger show higher rates of inattention, hyperactivity, self-control problems, and impulsivity—all of which are key indicators of ADHD.
- Researchers have found that linguistic skills have a big impact on how people perform on cognitive and psychological assessments, especially when people are English-language learners. When people don't understand test instructions or test items, the results of the assessment are less likely to be valid, so it's important to select an assessment validated for use in the client's primary language.
- Experiencing trauma in childhood, including abuse, is associated with attention problems in adulthood. Childhood trauma is also associated with adult diagnosis of ADHD, studies show. Since many people don't disclose abuse and other forms of trauma, you may find it useful to screen for trauma and abuse as part of your overall assessment.

Provide Appropriate Accommodations or Modifications to People With Disabilities.

Not every person with a disability will need accommodations during assessments. To ensure that everyone can participate fully in the diagnostic process and that test conditions are optimized, talk with students and clients before they're tested. Ask about accommodations they may have used in the past and whether these were effective.

It's important to consider whether the accommodations a student needs will align with the test's standardization. If they don't, you will need to discuss those possible effects in your assessment report.

It's also important to discuss disability-related factors that could affect assessment outcomes. For example, people with some disabilities may experience issues such as:

- fatigue
- medication side effects
- problems with attention or processing speed
- behavioral problems
- communication differences
- pain
- physiological needs related to bathroom habits

Evaluators will need to clarify whether effects like these are related to a disability, another health condition, or ASD + ADHD. You may be able to limit or avoid the effects of disability-related symptoms by scheduling assessments at the best time for your client; providing assistive devices; or making sure lighting, temperature, bathroom access, and other environmental factors are considered.

Learn how to make evaluations equitable for people with disabilities.

Build Your Experience and Expertise.

Assessment tools, technologies, and best practices evolve over time. To sharpen your skills and stay on top of updates, it's important to seek regular training on assessments and the technologies used to deliver them.

WPS is pleased to offer individual and group <u>training opportunities</u> to help you build your assessment expertise.

Research and Resources:

American Occupational Therapy Association. (2020). Occupational therapy practice framework: Domain and process (4th ed.). *American Journal of Occupational Therapy*, 74(Suppl. 2), 7412410010. <u>https://doi.org/10.5014/ajot.2020.74S2001</u>

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Reduce Ableism and Bias in the Diagnostic Process

For many people, autism and ADHD aren't disabilities; they're differences in how people interact with the world around them. In medical and legal settings, however, both autism and ADHD are considered developmental disabilities. ASD + ADHD can also co-exist with mild-to-significant intellectual and medical disabilities. It's important to be aware of the full range of lived experiences, as well as any disability that could affect the outcome of an assessment or evaluation.

The American Psychological Association recommends taking several actions to reduce the chances that unconscious bias will unfairly affect the diagnostic process. Here's a look at their recommendations for reducing the effects of ableism on autism and ADHD evaluations:

- Understand as much as possible about the specific disability that affects your client. Knowing about the
 effects of a disability can help you plan appropriate accommodations and modifications so that test
 results are accurate and not skewed by the effects of a health condition.
- Examine your personal reactions to different disabilities and identify any biases or assumptions you may have unknowingly held. It takes time and conscious effort to replace beliefs, practices, and perceptions that may be unfairly affecting ASD + ADHD evaluations. Self-awareness is a good starting place.
- When possible, select assessments with norms that include people with disabilities. While it may not be possible to find samples that include a specific disability, you may be able to avoid tests with documented biases or tests deemed problematic for people with certain disabilities.
- Use your professional judgment about a diagnosis *after* you've conducted and analyzed a comprehensive evaluation. Avoid making recommendations, designing interventions, or deciding on a diagnosis before your full evaluation is complete.

Address both strengths and needs in your report. Emphasizing possibilities and capabilities can help you
create an evaluation experience that is positive and empowering for clients and students.

Other types of bias can also affect assessment outcomes and how they're interpreted. To learn more, you may find it helpful to consult the <u>APA Best Practices for Psychological Assessment and</u> <u>Evaluation (2020)</u>.

Research and Resources:

American Psychological Association. (2020). *Guidelines for psychological assessment and evaluation*. <u>https://www.apa.org/about/policy/guidelines-psychological-assessment-evaluation.pdf</u>

American Psychological Association. (2022). *Guidelines for assessment and intervention with persons with disabilities*. <u>https://www.apa.org/about/policy/guidelines-assessment-intervention-disabilities.pdf</u>

Non-pharmacological, Research-Based Interventions for ASD + ADHD

Medication is considered a frontline treatment for ADHD, and autistic people may also take medications to manage symptoms. Even so, research has identified other treatments that can be used along with medication to increase functioning and minimize problematic symptoms for people with a dual diagnosis.

Individual and Family Education

Psychoeducation is a valuable part of most intervention plans. It's important that psychoeducation be a lifelong process since most people's needs will change over time. Intervention team members often offer information on:

- common stress triggers
- symptoms and difficulties
- other health conditions that occur alongside ASD + ADHD
- resources and support services in the community
- treatment options

Educational and Occupational Supports

When people are evaluated and diagnosed during the school years, an intervention team can implement interventions aimed at improving the way people with ASD + ADHD function in an educational environment. These supports often include:

- interventions to address developmental delays, learning disabilities, and communication disorders, often with allied health professionals such as speech–language pathologists or occupational therapists based in schools
- supports to reduce anxiety, which can keep some students from participating in school
- adjustments to classroom environments to help students cope with stimuli
- health education aimed at preventing pregnancy, STIs, and substance use issues for adolescents
- Individual Education Plans (IEPs) and Education, Health, and Care Plans (EHCPs) that identify a student's accommodations and health needs
- explicit teaching of adaptive skills
- small-group learning environments and visual supports (such as graphic organizers and visual timetables)
- positive behavior reinforcement, reward, and support

Special attention needs to be given to transition periods, such as from one level of education to another or from adolescence to adulthood. Adults with ASD + ADHD may benefit from:

- working with career educators and occupational therapists to prepare for and adapt to work demands
- college- and university-level educational support
- assistance with job applications, interviews, and onboarding processes
- education in self-advocacy in a work environment, including development of job-related skills such as
 organization, time management, and workplace dispute resolution
- financial coaching

Mental Health Supports

Studies have shown that autistic people with ADHD symptoms experience anxiety twice as often as autistic people who don't have ADHD symptoms. Intervention plans often include:

 Cognitive Behavioral Therapy (CBT). CBT helps people to recognize thoughts that aren't accurate or healthy and to replace them with more realistic and helpful thought patterns. There's considerable evidence that autistic people and people with ADHD benefit from this type of therapy. mindfulness-based interventions. Some evidence suggests that mindfulness therapies can help to improve emotion regulation, including awareness of emotion. These therapies have also been shown to reduce anxiety and depression in autistic people.

Sleep Therapies

Both ASD and ADHD can lead to disrupted sleep patterns. Those, in turn, can worsen anxiety and depression. Addressing sleep problems with behavioral interventions may improve anxiety and depression symptoms, too.

Resources for Parents and Families

Primary caregivers of autistic children with ADHD often experience extra stress, anxiety, and depression that affect their overall health. Addressing caregivers' mental health needs can improve the effectiveness of the intervention plan and the quality of life for the autistic individual and for caregivers.

Research shows that the most effective mental health interventions for families and caregivers include:

- social support networks that reduce isolation and provide validation by peers
- stress management studies
- problem-solving skills
- anger management strategies
- behavior management training
- psychoeducation about ASD + ADHD
- information about advocacy resources, including treatment programs

Learn more about how to communicate with families to build trust, connection, and engagement.

Research and Resources:

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WPS Research and Training Opportunities

WPS offers a wide range of <u>training</u> and <u>continuing education</u> opportunities for individuals, schools, and practices. They are available both in-person and online to make it easier to develop your assessment expertise.

WPS is collecting data as we standardize and revise assessments. If you and your team are interested in participating in test administration data collection, we'd like to partner with you. Assisting with data collection is a good way to earn money or materials for your team. If you'd like to speak with us about this opportunity, contact research@wpspublish.com or visit our Data Collection page.

