# Understanding Psychological Evaluations: How Psychological Testing Provides the Detailed Diagnosis and Treatment Recommendations Needed to Begin a Comprehensive Treatment Plan for Children and Adults with ADHD and Co-occurring Conditions

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# Learning Objectives

- Overview of ADHD- Diagnosis and Symptoms
- Overview of Common Co-occurring Conditions
- What is a Psychological Evaluation? Why are they Important?
- What Does a Psychological Testing Contain?
- Common Tests and How to Interpret their Results
- Detailed Diagnosis and Personalized Treatment Recommendations
- Clinical Examples

# Attention-Deficit/Hyperactivity Disorder (ADHD)

- ADHD is a neurodevelopmental disorder characterized by inattention, hyperactivity, and impulsivity.
- ADHD is diagnosed in about 10% of school-aged children.
  - More than 75% of children with ADHD have significant symptoms in adulthood.
- The DSM-5 (Diagnostic Manual) notes 3 types of ADHD
  - ADHD Predominately Inattentive Presentation
  - ADHD Predominately Hyperactive-Impulsive Presentation
  - ADHD Combined Presentation
  - Severity designations of Mild, Moderate, or Severe

# **ADHD: Signs of Inattention**

- Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities.
- Often has trouble holding attention on tasks or play activities.
- Often does not seem to listen when spoken to directly.
- Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., loses focus, side-tracked).
- Often has trouble organizing tasks and activities.
- Often avoids, dislikes, or is reluctant to do tasks that require mental effort over a long period of time (such as schoolwork or homework).
- Often loses things necessary for tasks and activities (e.g. school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, cell phones).
- Is often easily distracted.
- Is often forgetful in daily activities.

# ADHD: Signs of Hyperactivity and Impulsivity

- Often fidgets with or taps hands or feet, or squirms in seat.
- Often leaves seat in situations when remaining seated is expected.
- Often runs about or climbs in situations where it is not appropriate (adolescents or adults may be limited to feeling restless).
- Often unable to play or take part in leisure activities quietly.
- Is often "on the go" acting as if "driven by a motor".
- Often talks excessively.
- Often blurts out an answer before a question has been completed.
- Often has trouble waiting their turn.
- Often interrupts or intrudes on others (e.g., butts into conversations or games).

# **ADHD Diagnostic Criteria**

- Symptoms have been present for at least 6 months, and they are inappropriate for developmental level.
- Several inattentive or hyperactive-impulsive symptoms were present before age 12 years.
- Several symptoms are present in two or more settings, (such as at home, school, or work; with friends or relatives; in other activities).
- There is clear evidence that the symptoms interfere with, or reduce the quality of, social, school, or work functioning.
- The symptoms are not better explained by another mental disorder (such as a mood disorder, anxiety disorder, dissociative disorder, psychosis, or a personality disorder).

- More than two-thirds of individuals with ADHD have at least one other coexisting condition.
- Any disorder can coexist with ADHD, but certain disorders tend to occur more commonly including:
  - Learning Disabilities
  - Disruptive Behavior Disorders
    - Oppositional Defiant Disorder and Conduct Disorder
  - Mood Disorders
    - Depression and Bipolar Disorder
  - Anxiety Disorders
  - Tic Disorders and Tourette Syndrome
  - Autism Spectrum Disorder
  - Substance Abuse

# Co-occurring Disorders in Children

Coexisting Disorder	Children with ADHD	Children without ADHD
Learning Disability	45%	5%
Oppositional Defiant Disorder (ODD)	41%	5%
Conduct Disorder	27%	2%
Anxiety	32%	7%
Depression	17%	3%
Autism Spectrum Disorder (ASD)	13.7%	1.7%
Tourette Syndrome	1.2%	0.6%

# **Co-occurring Disorders in Adults**

Coexisting Disorder	Adults with ADHD	Adults without ADHD
Mood Disorders	38.3%	11.1%
Major Depressive Disorder	18.6%	7.8%
Dysthymia (Mild, Chronic Depression)	12.3%	1.9%
Bipolar Disorder	19.4%	3.1%
Anxiety Disorders	47.1%	19.5%
Substance Abuse Disorder	15.2%	5.6%
Intermittent Explosive Disorder	19.6%	6.1%

- Oppositional Defiant Disorder (ODD): Pattern of arguing; losing one's temper; refusing to follow rules; blaming others; deliberately annoying others; and being angry, resentful, spiteful and vindictive.
- Conduct Disorder: Ongoing pattern of aggression to people or animals; serious violations of rules and social norms at home, in school, and with peers. These rule violations may involve breaking the law and result in arrest. Lying, stealing, or damaging other people's property on purpose.
- Mood Disorders: Characterized by extreme changes in mood.
  - Children may seem to be in a bad mood often. They may cry daily or be frequently irritable with others for no apparent reason.
  - In adults with ADHD and Depression, they typically present with ADHD as children and increased depressive symptoms in adulthood.
  - Bipolar Disorder is a severe condition involving periods of mania, abnormally elevated mood and energy, contrasted by episodes of clinical depression.

- Anxiety Disorders: Pattern of often worrying excessively about several things (school, work, etc.) and may feel edgy, stressed out, tired, tense, and have difficulty sleeping.
- Tics and Tourette Syndrome
  - Tics involve sudden, rapid, recurrent, involuntary movements or vocalizations.
  - Tourette Syndrome is a much rarer, and more severe, tic disorder with almost daily tics for years.
- Autism Spectrum Disorder (ASD): Neurodevelopmental disorder characterized by persistent and pervasive deficits in development of reciprocal social interaction and patterns of stereotyped behaviors and activities.
- Substance Abuse: Youth with ADHD are at increased risk for very early cigarette use, followed by alcohol and then drug abuse. Youth with ADHD are twice as likely to become addicted to nicotine as individuals without ADHD.

- Learning Disabilities: Neurologically-based difficulties learning and using academic skills (reading, writing, and/or math) despite the provision of interventions that target those difficulties. Affected academic skills are significantly below those expected based on age and intellectual abilities. Difficult to diagnose accurately prior to 3<sup>rd</sup> grade.
  - Specific Learning Disorder, with Impairment in Reading
    - Word reading accuracy; Reading rate or fluency; Reading comprehension
  - Specific Learning Disorder, with Impairment in Written Expression
    - Spelling accuracy; Grammar and punctuation accuracy; Clarity or organization of written expression
  - Specific Learning Disorder, with Impairment in Mathematics
    - Number sense; Memorization of arithmetic facts; Accurate or fluent calculation; Accurate math reasoning

# Diagnosis and Impact on Treatment

- Part of the diagnostic process for ADHD is determining whether there are any other conditions affecting the individual that could be responsible for presenting symptoms.
- Symptoms of ADHD and other disorders and overlap.
- The challenge for the health care professional is to figure out whether a symptoms belongs to ADHD, to a different disorder, or to multiple disorders at the same time.
- Diagnoses can change throughout a person's life.
- Accurate diagnosis is necessary to form treatment interventions!!!

# What is a Psychological Evaluation?

- Where a Clinical Psychologist uses a variety of psychological testing measures to determine an accurate diagnosis with a detailed understanding of the person's personal areas of strength and weakness.
- Testing report will contain:
  - Comprehensive history including previous and current interventions and symptoms.
  - Results of each testing measure.
  - Accurate and detailed diagnosis with thorough description of person's strengths and weaknesses.
  - Individualized recommendations for a multimodal treatment plan.

# Why are Psychological Evaluations Important?

- A thorough and accurate diagnosis, and an understanding of the individual's strengths and weaknesses, are essential to forming an effective comprehensive treatment plan.
- Recent testing is often required for eligibility for accommodations.
  - (Extra time on SATs, IEP Services, Developmental Disability services, etc.)
- Can conduct parts of testing with and without stimulant medication to see differences.
- Repeated testing can provide information about efficacy of treatment interventions and needed changes to the treatment plan.

# Cognitive/Intellectual (IQ) Testing

- In-Person Testing administered individually to children and adults to provide a comprehensive clinical instrument for assessing intelligence.
- Common testing batteries include WISC-V, WAIS, and SB-V.
- Each provides a Full-Scale IQ (FSIQ) composite score that represents the general ability to reason, solve problems, and adapt to the cognitive demands of the environment.
- Also provides detailed information about functioning in various intellectual areas for personal strengths and weaknesses.
- Results include scores for each subtest, ranges for each intellectual area, and percentiles.

# Cognitive/Intellectual (IQ) Testing

### WPPSI, WISC, WAIS, SB-V Intellectual Scales

- **Visual Spatial** assesses the ability to understand visual details and relationships in order to solve puzzles and construct geometric designs.
- **Fluid Reasoning** assesses the ability to detect relationships among visual objects and to use reasoning to identify and apply rules.
- **Working Memory** assesses the ability to register, maintain, and manipulate visual and auditory information in conscious awareness, which requires attention and concentration, as well as visual and auditory discrimination. Weakness in working memory skills is associated with attentional impairments in ADHD.
- **Processing Speed** assesses the speed and accuracy of visual identification, decision making, and decision implementation.
- **Verbal Comprehension/Knowledge** measures the ability to access and apply acquired word knowledge. Reflects the ability to verbalize meaningful concepts, think about verbal information, and verbally express themselves. These abilities are associated with long-term memory and educational success.
- **Quantitative Reasoning** assesses how well the individual can use mathematical principles to solve problems.

# **Academic/Achievement Testing**

- In-person testing administered individually to measure academic skills.
- Common testing batteries include WJ-IV & WRAT
- Academic skills are developed through schooling, exposure to information, and studying.
- The tests are scored like IQ tests and results are expected to be consistent between IQ and academic skills. When there is a large deficit (statistically significant difference) between someone's IQ ability and their level of academic skill they meet criteria for a learning disability.
- Have subtests that look at areas of reading, mathematics, and written language in timed and untimed scenarios.

# **Executive Functioning/Neuropsychological Testing**

- Focuses on specific areas of executive functioning, which is particularly important with ADHD.
- In-person testing measures such as the TEC, TEA-CH-2, CPT, and NAB look in detail at areas of visual and auditory attention and concentration, impulsivity, and processing speed. Provides detailed information about what specific areas of executive functioning are impaired.
- Self, parent, teacher, and observer-report rating measures provide information about personal areas of strength and weakness in executive functioning in different areas of daily life. Common measures include the BRIEF-2 and Conners' 3, which are normed based on age and gender to monitor for an at-risk or clinically significant level of symptoms of ADHD and impaired executive functioning.

# **Executive Functioning/Neuropsychological Testing**

### **BRIEF-2**

- The BRIEF-2 examines three factors of executive functioning. Children and adults with ADHD and co-occurring conditions often have a Clinically Significant level of impairment in one or more areas.
- Behavior Regulation Index
  - <u>Inhibit</u>- Control impulses; appropriately stop own behavior at the proper time.
  - <u>Self-Monitor</u>- Keep track of the effect of own behavior on others.
- Emotion Regulation Index
  - <u>Shift</u>-Move freely from one situation, activity, or aspect of a problem to another as the situation demands; transition; solve problems flexibly.
  - Emotional Control- Modulate emotional responses appropriately.

# **Executive Functioning/Neuropsychological Testing**

### **BRIEF-2** Cont.

- Cognitive Regulation Index
  - <u>Initiate</u>- Begin a task or activity; independently generate ideas.
  - <u>Task Completion</u>- Complete schoolwork or chores in a timely fashion; finish tests within time limits; work at a satisfactory pace.
  - Working Memory- Hold information in mind for the purpose of completing a task; stay with, or stick to, an activity.
  - <u>Plan/Organize</u>- Anticipate future events; set goals; develop appropriate steps ahead of time to carry out an associated task or action; carry out tasks in a systematic manner; understand and communicate main ideas or key concepts.
  - <u>Task-Monitor-</u> Check work; assess performance during or after finishing a task to ensure attainment of goal.
  - <u>Organization of Materials</u>- Keep workspace, play areas, and materials in an orderly manner.

- Assesses adaptive-behavior and related skills to determine if there are areas
  of weakness in daily living skills compared to same-aged peers.
- Developmental deficits are present with developmental disabilities including Autism Spectrum Disorder (ASD) and Intellectual Disabilities. Testing results showing deficits are often required for eligibility for services.
- Delays in skills also common with ADHD and co-occurring conditions.
- Common testing measures include:
  - ADOS-2: In-person testing for ASD.
  - ADI-R: An extensive parent/caregiver interview for ASD.
  - ABAS-3 and Vineland: Parent and Observer report measures describe general adaptive behavior and functioning in various adaptive skill areas.

### **ADOS-2**

- Looks in-depth at the individual's communication skills, reciprocal social interactions, imagination and creativity, and stereotyped behaviors and restricted interests.
- Determines if criteria are met for a diagnoses if ASD and if current symptoms are mild, moderate, or severe.
- Communication- Use stereotyped/idiosyncratic use of words or phrases, conversation skills, use of gestures.
- Reciprocal Social Interaction- Eye contact, facial expressions directed towards others, understanding of emotions and empathy, responsibility, social overtures, social responses, and amount of reciprocal social communication.
- Stereotyped Behaviors and Restricted Interests- Unusual sensory interests, motor tics, excessive interest in highly specific topics, repetitive behaviors, and compulsions or rituals.

### **ABAS-3 Scales**

- <u>Communication</u>- Speech, language, listening, conversation, and nonverbal communication skills.
- <u>Community Use</u>- Behaving appropriately in the community, knowing where things are and how to get around in public places.
- Functional Academics- Basic reading, writing, and arithmetic skills.
- <u>Home/School Living</u>- Cleaning up and helping around the house/classroom.
- <u>Health and Safety-</u> Following safety rules, showing caution when needed, staying out of danger, and knowing when to get help.
- Self-Care- Eating, dressing, bathing, toileting, grooming, and hygiene.

### **ABAS-3 Scales Cont.**

- <u>Self-Direction</u>- Self-Control, making choices, starting and completing tasks, following a routine, and following directions.
- <u>Social</u>- Getting along with others, expressing affection, making friends, and showing and recognizing emotions.
- <u>Motor</u>- Sitting, pulling to a stand, walking, throwing, kicking, and fine motor skills such as writing and using scissors.
- <u>Work</u>- Completing work tasks, working with supervisors, and following a schedule.

- Testing measures are used to provide detailed information about the person's social-skills, emotional functioning and coping tendencies, and personality tendencies.
- Used to diagnose many co-occurring conditions including mood disorders, anxiety disorders, behavior disorders, personality disorders, and substance abuse disorders.
- Common testing measures:
  - In-Person testing measures including the Rorschach, CAT/TAT/Roberts story creating measures, sentence completion tasks, and projective drawings.
  - Self-Report measures including the MMPI, PAI, NEO-PI-3, SASSI
  - Parent, teacher, and observer-report measures including BASC-2 and CAB provide information about whether there is an "At-Risk" or "Clinically Significant" level of symptoms or impairment.

- MMPI-2 used to diagnose mental illness in adults.
- Clinical Scales
  - 1 Hypochondriasis (Hs)
  - 2 Depression (D)
  - 3 Hysteria (Hy)
  - 4 Psychopathic Deviate (Pd)
  - 5 Masculinity--Femininity (Mf)
  - 6 Paranoia (Pa)
  - 7 Psychasthenia (Pt)
  - 8 Schizophrenia (Sc)
  - 9 Hypomania (Ma)
  - 0 Social Introversion (Si)

- NEO-PI-3 provides information about personality tendencies in teens and adults.
- 5 Personality Factor Scales
  - <u>Neuroticism</u>- Anxiety, Angry Hostility, Depression, Self-Consciousness, Impulsiveness, Vulnerability
  - <u>Extraversion</u>- Warmth, Gregariousness, Assertiveness, Activity, Excitement-Seeking, Positive Emotions
  - Openness to Experience- Fantasy, Aesthetics, Feelings, Actions, Ideas, Values
  - <u>Agreeableness</u>- Trust, Straightforwardness, Altruism, Compliance, Modesty, Tender-Mindedness
  - <u>Conscientiousness</u>- Competence, Order, Dutifulness, Achievement Striving, Self-Discipline, Deliberation

### **BASC-2 Scales**

- Hyperactivity
- Aggression
- Conduct Problems
- Anxiety
- Depression
- Somatization
- Internalizing Problems
- Attention Problems
- Learning Problems
- School Problems
- Atypicality
- Withdrawal
- Behavioral Symptoms Index
- Adaptability
- Social Skills

- Leadership
- Study Skills
- Functional Communication
- Adaptive Skills
- Activities of Daily Living
- Attitude to School
- Attitude to Teachers
- Locus of Control
- Social Stress
- Sense of Inadequacy
- Relations with Parents
- Interpersonal Relations
- Self-Esteem
- Self-Reliance
- Personal Adjustment

- The Substance Abuse Subtle Screening Inventory (SASSI) instruments are self-report screening instruments designed to accurately identify adolescents and adults with high probability of having a substance use disorder (SUD).
  - Distinguish SUD from other psychological disorders.
  - Identify the probability of substance abuse among adolescents and get insight into clinical issues teens face (e.g., emotional pain, level of acknowledgement of the substance abuse, social system impact).
  - Detect substance use disorders in clients who are unwilling or unable to acknowledge substance misuse and symptoms associated with it.
  - New Prescription Drug scale helps identify individuals who are likely to be abusing prescriptions medicines.

# Summary and Differential Diagnosis

- Summary of Individual's
  - History
  - Current Symptoms
  - Testing Results
  - Strengths and Weaknesses
- Differential Diagnosis
  - Accurate and detailed diagnosis noting all co-occurring conditions and severity of symptoms. Necessary to form treatment interventions!!!
  - Description of changes to past diagnoses
  - Subclinical conditions to monitor

- <u>Medication</u>- Can improve the symptoms of ADHD and co-occurring conditions so that people can focus more on the things they enjoy and improve the quality of their life. Effective medications can improve attention span, ability to deal with frustration, and social interactions. Medications can target co-occurring conditions such as antidepressant and antianxiety medications.
  - Testing can be used to demonstrate effectiveness of stimulant medication on attention and impulse control by testing on and off medication.
  - Testing results can inform selection of medication and reduce risk of taking a medication that could worsen symptoms.
  - Repeated testing can be used to demonstrate effectiveness of intervention on targeted symptoms.

- Therapy/Counseling Services:
  - Individual, Group, and/or Family Therapy
  - Parental-Guidance- Sessions for parents to learn interventions for home.
  - A mental health professional can help provide therapeutic intervention for ADHD and any co-occurring disorders. Psychological testing results provide the detailed information needed to form a comprehensive treatment plan focused on the individual's diagnoses and personal strengths and weaknesses.
  - Work on identified areas of weakness in various settings to improve adaptive skills, frustration tolerance, self-esteem, coping skills, and social skills. Interventions also focus on decreasing disruptive behaviors and impulsivity.
  - Group therapy services can help children, adolescents, and adults with ADHD with or without co-occurring conditions to build social and coping skills needed to reach therapeutic goals in a setting where they can feel they are not alone in their difficulties.

- Educational Interventions and Supports:
  - Testing in children and adolescents helps with eligibility and intervention planning for 504 and IEP plans in elementary through high school.
  - Can recommend specific interventions based on individual's personal areas of intellectual, achievement, and executive functioning strengths and weaknesses. Common accommodations include modified homework assignments; modified testing conditions; use of helpful tools (calculator, computer, spell-check); a behavioral plan; social skills training; tutors and increased one-on-one with teacher; sitting near teacher; using a wobble stool, yoga ball seat, or standing at desk; times and ways to release energy; and increasing parent-teacher collaboration.
  - Recent (within last 3 years) testing results often needed for eligibility for ADHD and LD support services on standardized testing, college admissions testing, and college support services.

- Other Common Recommendations Include:
  - ADHD Coaching- Often work on scheduling, goal setting, confidence building, organizing, focusing, prioritizing and persisting at tasks.
  - Elimination Diets- Determine if the individual is sensitive to certain food ingredients. Diet changes in food-sensitive individuals can decrease ADHD symptoms.
  - Extracurricular Activities- Participation in sports, theatre, art, and other activities can help the individual build executive functioning skills and social skills.
  - Occupational Therapy Assessment- Can decrease hyperactivity, help with abnormal responses to sensory stimulation, improve fine and gross motor skills, and improve executive functioning.
  - Future Testing- To see how individual is responding to treatment interventions and for updated understanding of diagnoses and personal strengths and weaknesses which can change over time.

# Clinical Example: Anna

- Anna is a 5-year-old kindergartener who was referred for a psychological evaluation due to her history of inattention, distractibility, hyperactivity, temper tantrums, low frustration tolerance, difficulty with transitions, social difficulties, academic difficulties, oppositionality, and selfinjurious and compulsive behaviors.
- Anna had some speech delays, with notable improvement immediately after tubes were placed in her ears. She met other developmental milestones on time.
- Appetite and energy levels reported as very high since she was a toddler.
- Family history of Depression, Bipolar Disorder, Anxiety, and Substance Abuse.
- Parents became concerned due to severe temper tantrums beginning at 2y.o. Tantrums occur at home and school and include throwing herself on the floor, crying and screaming, throwing things, hitting others, and banging her head to the point of bruising.
- At school she presents with academic delays, distractibility, talking loudly and being disruptive, not following directions, and refusing to participate in lessons.
- Difficulty with transitions and tendency to be shy with new situations and people. Once over her shyness can be very friendly and playful. Will isolate herself from peers in classroom and not attend extracurricular activities without her parents present. When not occupied will rock and suck her thumb.

### **Procedures Administered**

- Stanford Binet Intelligence Scales- 5<sup>th</sup> Edition (SB-V)
- Tasks of Executive Control (TEC)
- Wide Range Assessment of Visual Motor Abilities (WRAVMA)
- Autism Diagnostic Observation Schedule- 2<sup>nd</sup> Edition (ADOS-2)
- Children's Apperception Test (CAT)
- Children's Sentence Completion Test (CSCT)
- Free Play Observation (Free Play)
- Guess Why? Sentence Completion Test (GW)
- Projective Drawings (PD)
- Adaptive Behavior Assessment System- Second Edition (ABAS-II)
- Behavior Assessment System for Children, Second Edition (BASC-2)
- Behavior Rating Inventory of Executive Function (BRIEF)

## **Intellectual Functioning SB-V Results**

	Standard Score	Percentile Rank	Range
Full Scale IQ	90	25 <sup>th</sup>	Average
Non-Verbal IQ	90	25 <sup>th</sup>	Average
Verbal IQ	91	27 <sup>th</sup>	Average
Fluid Reasoning	88	21 <sup>st</sup>	Below Average
Knowledge	94	34 <sup>th</sup>	Average
Quantitative Reasoning	92	$30^{\mathrm{th}}$	Average
Visual-Spatial Processing	106	66 <sup>th</sup>	Average
Working Memory	77	6 <sup>th</sup>	Borderline

• TEC Results: Administered to measure Anna's cognitive response to increasing working memory load and inhibitory control demand. Anna had difficulty understanding the directions and completing practice items so administration was ceased as results would not be considered valid.

#### WRAVMA Results:

Subtest	Standard Score	Percentile	Range
Visual-Motor (Drawing)	87	19 <sup>th</sup>	Low Average
Visual-Spatial (Matching)	97	42 <sup>nd</sup>	Average
Fine Motor (Pegboard)	82	12 <sup>th</sup>	Low Average

### **BRIEF Results**

Scale	Parent T-Score	Teacher T-Score
Inhibit	63	103*
Shift	76*	101*
Emotional Control	80*	120*
Initiate	43	87*
Working Memory	55	86*
Plan/Organize	54	72*
Organization of Materials	63	94*
Monitor	73*	82*
Global Executive Composite	67*	95*

### **ABAS-II Results**

Composite Area	Parent Score	Parent Qualitative Range	Teacher Score	Teacher Qualitative Range
General Adaptive Composite (GAC)	81	Below Average	53	Extremely Low
Conceptual (Communications, Functional Academics, Self-Direction)	78	Borderline	57	Extremely Low
Social (Leisure, Social)	81	Below Average	57	Extremely Low
<b>Practical</b> (Community Use, Home/School Living, Health & Safety, Self-Care)	84	Below Average	55	Extremely Low

- ADOS-2 Results: Anna fell just above the cutoff point for an Autism Spectrum Disorder (ASD).
  - Strengths: Anna demonstrated the ability to share enjoyment with others, spontaneously speak about herself and her experiences, establish and maintain eye contact, and engage in imaginative play.
  - Weaknesses/ASD Symptoms:
    - Speech abnormalities including a tendency towards loud volume, rapid pace, and periods of high-pitched screaming.
    - She used off words and phrases on numerous occasions.
    - Her overall communication skills were poor for her age.
    - Her affect tended to be either flat or extreme. She labeled emotions during free play activities but was unable to answer basic questions about her own or others' emotional states.
    - She lacked insight into typical social situations and relationships.
    - She presented with repeated mouthing and biting sensory behaviors.
    - Tendency towards perseverative thought patterns, compulsive behaviors, and hyperactivity.
    - Low frustration tolerance and tendency to respond to task demands with oppositional and defiant behaviors.

### **BASC-2 Results**

Scale	Parent T-Score	Teacher T-Score
Hyperactivity	68*	75**
Aggression	52	68*
Externalizing Problems	61*	72**
Anxiety	64*	78**
Depression	70**	80**
Somatization	48	50
Internalizing Problems	64*	74**
Atypicality	46	78**
Withdrawal	75**	78**
Attention Problems	69*	66*
Adaptability	36*	32*
Social Skills	58	30**
Functional Communication	66	
Adaptive Skills	47	36*
Activities of Daily Living	52	30**

- Diagnostic Impression
  - ADHD, Combined Presentation
  - Autism Spectrum Disorder, Associated with Another Neurodevelopmental Disorder
- Anna presents with severe executive functioning impairment meeting criteria for ADHD and a deficit in her adaptive skills meeting criteria for ASD. Since symptoms can overlap in young children a future psychological evaluation after a year or two of services is recommended to further diagnostic clarity. Though Anna presents with severe adaptive delays and currently meets criteria for ASD, it is possible that these symptoms are related to her executive functioning impairment solely or in combination with a mood disorder, which runs in the family history.

#### Recommendations

- Intensive outpatient therapeutic services for children with ASD. Work on cultivating coping skills for stressors of everyday life, build social skills, improve executive functioning, build frustration tolerance, build adaptive skills, and learn to understand and work through daily stressors and troublesome emotions.
- Parental-Guidance therapy sessions to help develop home interventions including a consistent/highly structured home environment and ways to increase Anna's self-help and adaptive skills.
- Social Skills Group at school or at outpatient therapy practice to build needed social skills, learn to express her emotions and work through problems with peers at an age-appropriate level, and feel less isolated in her difficulties.
- Medication Consultation with a psychiatrist who has experience treating children with neuro-developmental and executive functioning disorders. Psychotropic medication can help to decrease inattention, hyperactivity, impulsivity, irritability, and mood lability.

#### Recommendations

- Consult with physician about trying an elimination diet to determine if food additives are triggering some of Anna's symptoms.
- Occupational Therapy Assessment given Anna's history of abnormal response to sensory stimulation, stemming behaviors, fine motor skills delays, and executive functioning impairment.
- Work with Anna's therapist, parents, and teachers to form a comprehensive behavioral plan to provide the high level of consistency and structure Anna's needs in her environment to minimize becoming overwhelmed and acting out behaviorally. Include ways Anna can earn rewards when she verbalizes her feelings, interacts appropriately with others, when she demonstrates more age-appropriate adaptive skills.
- Extracurricular Activities should continue so she can build interpersonal relationships and learn to work through interpersonal difficulties in a structured setting.
- Future psychological evaluation following a year or more of intervention services for further diagnostic clarity to provide an updated view of Anna's strengths, weaknesses, and treatment needs.

- Educational Recommendations
  - Establish an IEP based on her developmental and mental health needs.
  - Specialized Educational Services in a classroom for young children with ASD. Reduced student-teacher ratio and smaller class size. Sit close to the teacher. She needs a high level of individualized and intensive interventions.
  - Anna has significant intellectual strength in visual-spatial processing so supplementing verbal learning material with visual aids will be useful.
  - Frequent praise and encouragement when she engages is positive behaviors. Work with treatment team on behavioral plan implementation at school.
  - Limit the length of time Anna is asked to sit in seat and focus. Frequent breaks out of her seat, standing at her desk, use of wobble stool or yoga ball seat.
  - Present new information in small amounts and repeatedly.
  - Use hands-on learning materials to decrease distractibility and hyperactivity during tasks.
  - Anna may benefit from use of a stress ball, Velcro strip under her desk, or other sensory materials to decrease hyperactive behaviors and improve her ability to focus in the classroom.

- 22-year-old man referred for an updated evaluation to qualify for continued educational support services in college.
- Multiple previous psychological evaluations with prior diagnoses of ADHD, Predominately Inattentive Presentation; ASD; Mixed Receptive-Expressive Language Disorder; Reading Disorder; and Disorder of Written Expression.
- Family history of ASD, Learning Disabilities, and Anxiety.
- Took stimulants as a young child, no current medication or therapy.
- Earned an Associate's Degree with accommodations including extra time on tests and assignments, ability to take tests in a lower stimulus setting, and receiving copies of lectures.
- Previously worked at a grocery store. No current work or school. Accepted into a bachelor's program.
- His social interactions since high school are limited to family and online interactions with friends during video games.

#### **Procedures Administered**

- Clinical Interview with Client
- Interview with Client's Mother
- Review of School and Testing Records
- Stanford Binet Intelligence Scales- 5<sup>th</sup> Edition (SB-V)
- Neuropsychological Assessment Battery- Attention Module (NAB)
- Woodcock Johnson Tests of Achievement- 4<sup>th</sup> Edition (WJ-IV)
- Behavior Rating Inventory of Executive Function- Adult Version (BRIEF-A)
- Autism Diagnostic Observation Schedule- 2<sup>nd</sup> Edition (ADOS-2)
- NEO Personality Inventory- 3<sup>rd</sup> Edition (NEO-3)
- Personality Assessment Inventory (PAI)

### **Intellectual Functioning SB-V Results**

	Standard Score	Percentile Rank	Range
Full Scale IQ	100	50 <sup>th</sup>	Average
Non-Verbal IQ	104	61 <sup>st</sup>	Average
Verbal IQ	96	39 <sup>th</sup>	Average
Fluid Reasoning	106	66 <sup>th</sup>	Average
Knowledge	94	34 <sup>th</sup>	Average
Quantitative Reasoning	108	70 <sup>th</sup>	Average
Visual-Spatial Processing	103	58 <sup>th</sup>	Average
Working Memory	89	23 <sup>rd</sup>	Low Average

- NAB Attention Module Results: Tests are designed to provide a marker of Mr. Jones's attentional capacity, working memory, psychomotor speed, selective attention, divided attention, and information processing speed.
  - Overall Attention Index was found to be 60, at the 0.38<sup>th</sup> percentile and within the Moderately-to-Severely Impaired Range.
  - He presented with deficits in each attentional and processing speed area.
  - Given this level of deficit he will need substantial educational interventions in order to perform to his full capacity in college.

### **BRIEF-A Executive Functioning Results**

Scale	Self-Report T-Score	Parent T-Score
Inhibit	48	48
Shift	60	61
Emotional Control	49	50
Self-Monitor	42	54
Initiate	63	54
Working Memory	73*	58
Plan/Organize	54	56
Task Monitor	45	53
Organization of Materials	42	39
Global Executive Composite	53	53

## **Achievement Functioning WJ-IV Results**

Cluster/Test	Standard Score	Age Equivalent	Range
Broad Achievement	87	13-0	Low Average
Academic Fluency	86	12-4	Low Average
Broad Reading	81	11-8	Low Average
Basic Reading Skills	93	14-10	Average
Oral Reading	76	9-10	Borderline
Sentence Reading Fluency	78	10-8	Borderline
Broad Mathematics	87	12-7	Low Average
Broad Written Language	100	21	Average
Writing Samples	107	>30	Average
Sentence Writing Fluency	89	12-5	Low Average

- ADOS-2 Results: Mr. Jones exceeded the cutoff point for a diagnosis of ASD.
  - Notable ASD Symptoms:
    - Difficulty with reciprocal communication skills.
    - Speech Abnormalities associated with ASD.
    - Limited emphatic gestures, eye contact, and facial expressions.
    - Difficulty expressing and understanding emotions.
    - Poor understanding of social situations and social norms.

### **Emotional and Personality Testing- PAI and NEO3 Results**

- Presents with marked anxiety and tension, impairs his ability to relax, attend and concentrate, and causes notable fatigue.
- Tendency towards hypervigilance, where he places excessive resources into vigilantly monitoring his environment for stressors and attempting to avoid them.
- Hypervigilance and slow processing speed leaves him particularly vulnerable to executive functioning difficulties.
- Maladaptive coping skills used to control anxiety including his strong tendency to be socially withdrawn and being prone to feeling uneasy and ruminative about interpersonal relationships. He is very uncomfortable and passive in social situations, tending to be submissive and unassertive. This makes it difficult for Mr. Jones to be proactive in seeking assistance when needed.
- His feelings and emotional reactions are muted and unimportant to him.

- Diagnostic Impression
  - Autism Spectrum Disorder, without Intellectual Impairment, with Accompanying Language Impairment, Requiring Support
  - ADHD, Predominately Inattentive Presentation
  - Specific Learning Disorder, with Impairment in Reading Rate and Fluency, Moderate

#### Recommendations

- Medication consultation to determine if psychotropic intervention would be useful in controlling his ADHD and anxiety symptoms to improve his overall functioning.
- Outpatient therapy services to build coping, social, executive functioning, and adaptive skills. Focus on reducing his anxiety, forming short-term and long-term goals, and helping him transition back into college and towards independent living would be useful.
- Group therapy may be a useful tool for helping Mr. Jones build social skills, learn to express his thoughts and feelings to others, learn to work through social stressors, and to help him feel less isolated in his difficulties.
- It will be important for Mr. Jones to have a large amount of structure in his schedule both for managing his stress and to improve his executive functioning. His schedule should include regular in-person activities outside of his family to increase his social skills and decrease his withdrawal tendencies.
- Mr. Jones and his parents should consider beginning the process of eligibility for services for adults with developmental disabilities (e.g. Medicaid). These services can help Mr. Jones become eligible for treatment interventions and other programs to provide needed assistance for Mr. Jones.

#### **Educational Recommendations**

- Mr. Jones would benefit from small class sizes and a low student teacher ratio whenever possible, particularly for his core academic classes.
- Sitting close to the teacher so he can receive assistance as needed and so they can monitor his distractibility.
- Break down tasks into component parts.
- Highlighting key information that must be integrated in some way to arrive at a solution to the problem.
- Provide new information to Mr. Jones in short chunks and repeatedly to improve his rate of retention.
- Allow Mr. Jones to tape lectures and/or provide Mr. Jones with handout materials so he can review content as needed. Avoid making Mr. Jones rely on note taking since this will be difficult for him due to his processing speed and working memory impairment.
- Have an appointed note taker for Mr. Jones in each class.
- Extra time on tests and assignments is essential for Mr. Jones to do his best. Slow processing speeds limit how quickly he can adequately complete his work. His best efforts will not be represented under time constraints.

### **Educational Recommendations**

- Since Mr. Jones's written language skills far exceed his oral language skills, oral examinations should be avoided. Mr. Jones will struggle to demonstrate his knowledge by oral academic demands.
- Mr. Jones may benefit from meeting regularly with a tutor or a peer mentor to help compensate for areas of weakness and because ADHD and ASD students often learn best in one-on-one situations.
- Schedule harder classes in the morning hours when Mr. Jones is more likely to be fresher and more attentive.
- Mr. Jones will need a distraction-free environment for completing assignments, studying, and taking tests.
- Attend after-class help sessions whenever available.
- Schedule faculty review meetings often, such as every three weeks, to help Mr. Jones stay on-top of assignments.

## References and Resources

- National Alliance on Mental Illness (NAMI): <u>www.nami.org</u>
- CHADD: <a href="https://chadd.org">https://chadd.org</a>
- Learning Disabilities Association of America (LDA): <u>https://ldaamerica.org</u>
- Pearson Assessments: <u>www.pearsonassessments.com</u>
- Psychological Assessment Resources (PAR): <a href="www.parinc.com">www.parinc.com</a>
- Western Psychological Services (WPS): <u>www.wpspublish.com</u>