



Using the WJ IV in ADHD and Executive Functioning Assessments

GEREMY GRANT, PH.D. NCSP & KELSEY MATUSZAK, B.A.

Learning Objectives

Attendees should be able to:

- 1 | **IDENTIFY *AT LEAST THREE* EXECUTIVE FUNCTIONING (EF) SKILLS THAT CAN BE TESTED USING THE WJ IV**
- 2 | **IDENTIFY *THREE* STRATEGIES TO USE BEFORE, AND AFTER TESTING, WHEN WORKING WITH CHILDREN SUSPECTED OF BEHAVIORAL AND/OR ATTENTIONAL DIFFICULTIES**
- 3 | **IDENTIFY *AT LEAST ONE* FEDERAL LAW THAT APPLIES TO THE EDUCATION OF CHILDREN WITH ADHD AND/OR EF CONCERNS**

Agenda

- 1 | **OVERVIEW OF ADHD & EF**
- 2 | **TWO COMMON MECHANISMS FOR IN-SCHOOL ADHD & EF SERVICE PROVISION**
- 3 | **APPLYING KNOWLEDGE OF ADHD & EF TO WJ IV TEST SELECTION**
- 4 | **Q & A**

What is Attention-Deficit/Hyperactivity Disorder?

See [Bitsko et al., 2022](#) for additional information regarding prevalence, differences by demographics, and other statistics

- **COMMONLY DIAGNOSED DISORDER IN CHILDREN**

Classified as a neurodevelopmental disorder

- **NATIONAL APPROXIMATE PREVALENCE RATE FOR CHILDREN: 9.4 TO 9.8%**

- **HIGHEST RATES BY RACE: BLACK CHILDREN**

- **HIGH RATES BY GENDER: MALES**

ADHD Symptom Table According to DSM-5-TR

See [APA \(2022\)](#) & [Koutsoklenis & Honksasilta \(2022\)](#) for additional context regarding DSM-5-TR ADHD criteria:

Inattention	Hyperactivity/Impulsivity
Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities.	Often fidgets with or taps hands or feet, or squirms in seat.
Often has trouble holding attention on tasks or play activities.	Often leaves seat in situations when remaining seated is expected.
Often does not seem to listen when spoken to directly.	Often runs about or climbs in situations where it is not appropriate (adolescents or adults may be limited to feeling restless).
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 unable to play or take part in leisure activities quietly.
Often has trouble organizing tasks and activities.	Is often “on the go” acting as if “driven by a motor”.
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 talks excessively.
Often loses things necessary for tasks and activities (e.g., school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones).	Often blurts out an answer before a question has been completed.
Is often easily distracted	Often has trouble waiting their turn.
Is often forgetful in daily activities.	Often interrupts or intrudes on others (e.g., butts into conversations or games)

Additional ADHD Criteria for *DSM-5-TR* Diagnosis

APA (2022)

- 1 | SYMPTOMS NEED TO BE APPARENT BEFORE AGE 12
- 2 | EXISTENCE OF SYMPTOMS ACROSS CONTEXTS
- 3 | CLEAR EVIDENCE OF INTERFERENCE/IMPAIRMENT IN MAJOR LIFE DOMAIN
- 4 | SYMPTOMS ARE NOT BETTER EXPLAINED BY ANOTHER MENTAL DISORDER

ADHD Presentations

APA (2022)

1 | **PREDOMINANTLY-
INATTENTIVE
PRESENTATION**

2 | **PREDOMINANTLY
HYPERACTIVE-
IMPULSIVE
PRESENTATION**

3 | **COMBINED**

What Are Frequent Correlates of ADHD?

DuPaul & Stoner (2015) note the following:

1 | **ACADEMIC
CHALLENGES/UNDERACHIEVEMENT**

2 | **NONCOMPLIANCE**

3 | **AGGRESSION**

4 | **DISRUPTIONS IN QUALITY OF PEER
RELATIONSHIPS**

Executive Functioning

Harvard University's Center on the Developing Child

- **HIGHER-LEVEL COGNITIVE FUNCTIONS RELATED TO:**

- Goal-directed behavior
- Complex problem solving

- **COMMON DOMAINS MEASURED BY PSYCHOLOGICAL INSTRUMENTS:**

- Problem-solving
- Inhibition
- Self-monitoring
- Shifting
- Emotional control
- Task initiation
- Working Memory
- Planning & Organization



Two Main Mechanisms for Services

See [Husus et al. \(2020\)](#) & [NASP \(2018\)](#) for discussion of these mechanisms

IDEIA (2004)

- Student must meet criteria for **one of 13 disability categories**
- Student must **also** demonstrate academic impairment as a result of the disability
- Other Health Impairment, Emotional Disturbance, or SLD most common classification for ADHD
- Culminates in IEP

SECTION 504 OF THE REHABILITATION ACT (1973)

- Service provision based on being a ***qualified individual with a disability***
- Schools must provide students comparable education regardless of disability status
- Children receiving services through IDEIA also would qualify for protections under Section 504
- Culminates in Section 504 Plan

Considerations for *Before* the Evaluation

Mather & Wendling (2014): WJ IV COG Examiner's Manual- Chapter 3



CONDUCT A CLASSROOM
OBSERVATION



DETERMINE THE BEST TIME TO
SCHEDULE THE EVALUATION



USE BEHAVIORAL MANAGEMENT
TECHNIQUES



REMOVAL OF DISTRACTIONS



ESTABLISH EXPECTATIONS

Using the RIOT Framework to Ensure Appropriate Data Collection

Wright (2010)



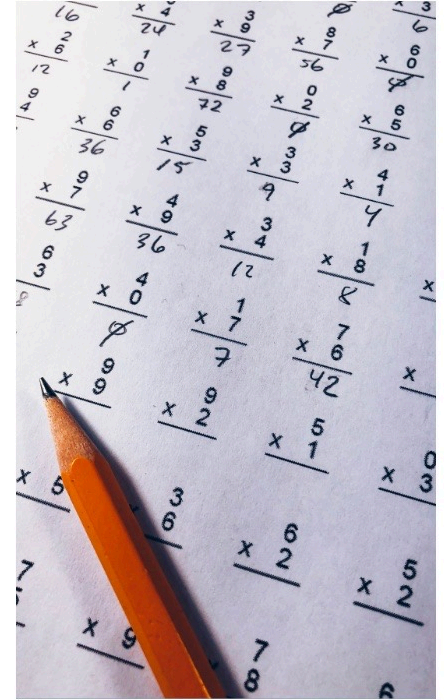
REVIEW



OBSERVATION



INTERVIEW



TESTS

Breadth of Executive Functions Assessed by the WJ IV

According to the work of [Miller \(2016\)](#):



1

COGNITIVE PROCESSES: EXECUTIVE FUNCTIONS

Demands novel problem-solving and planning

Mediated by development of lower-order skills (e.g., short-term working memory & cognitive processing speed)

2

FACILITATORS/INHIBITORS

Allocation & maintenance of attention

Short-term working memory

Performance Fluency

Acquired Knowledge Fluency

Considerations for *During* the Evaluation



**DETERMINE VALIDITY OF
OBSERVED PERFORMANCE**



**RECORD BEHAVIORAL
RESPONSES**



**ASK STUDENT FOR
FEEDBACK**



**DISCONTINUE TESTING
WHEN NECESSARY**

Executive Functions

WJ IV tasks involving problem-solving and fluid reasoning as per [Miller \(2016\)](#):



WJ IV COG

- Test 2: Number Series
- Test 9: Concept Formation
- Test 15: Analysis-Synthesis

Executive Functions

WJ IV tasks involving problem-solving and fluid reasoning as per [Miller \(2016\)](#):



WJ IV ACH

- Test 13: Number Matrices

Facilitators/Inhibitors: Allocation & Maintaining Attention

WJ IV Tests Identified by [Miller \(2016\)](#) | For additional context regarding skills see: [Stevens & Bavelier \(2012\)](#) | [Ko et al. \(2017\)](#)

- **ATTENTIONAL CAPACITY:**

WJ IV COG: Test 6- Story Recall

WJ IV COG: Test 18- Memory for Words

WJ IV OL: Test 5- Sentence Repetition

- **SELECTIVE/FOCUSED & SUSTAINED ATTENTION:**

WJ IV COG: Test 17- Pair Cancellation

Facilitators/Inhibitors: Short-Term Working Memory

WJ IV COG Tests Identified by [Miller \(2016\)](#) | Additional context for various forms of memory, including working memory:
[Cowan \(2008\)](#)

- **TEST 2: NUMBERS REVERSED**
- **TEST 3: VERBAL ATTENTION**
- **TEST 16: OBJECT-NUMBER SEQUENCING**

Speed, Fluency, & Efficiency of Processing

Broken into *performance* and *acquired knowledge fluency* | WJ IV tasks identified by [Miller \(2016\)](#):



WJ IV COG TESTS OF *PERFORMANCE FLUENCY*

Test 4: Letter-Pattern Matching

Test 11: Number-Pattern Matching

Speed, Fluency, & Efficiency of Processing

Broken into *performance* and *acquired knowledge* fluency | WJ IV tasks identified by [Miller \(2016\)](#):



WJ IV OL TESTS OF *PERFORMANCE FLUENCY*

Test 4: Rapid Picture Naming

Speed, Fluency, & Efficiency of Processing

Broken into *performance* and *acquired knowledge* fluency | WJ IV tasks identified by [Miller \(2016\)](#):



WJ IV ACH TESTS OF ACQUIRED KNOWLEDGE FLUENCY

- Test 8: Oral Reading
- Test 9: Sentence Reading Fluency
- Test 10: Math Facts Fluency
- Test 11: Sentence Writing Fluency
- Test 15: Word Reading Fluency

Additional Aspects of Executive Functioning Measured by the WJ IV COG

Aspects identified by [Decker et al. \(2018\)](#) | Definitions of skills based on [Diamond \(2014\)](#)

1 | INHIBITION

Ability to control one's attention, behavior, thoughts, and/or emotions to execute appropriate or needed functions

Review WJ IV COG Test 3: Verbal Attention

2 | COGNITIVE FLEXIBILITY

Efficiency in a student's ability to be malleable in when faced with changing conditions

Review WJ IV COG Tests:

Number Series

Phonological Processing

Concept Formation

Analysis-Synthesis

Object-Number Sequencing

Considering the GIA vs. *Gf-Gc* Cognitive Composites

GIA

1. **Derived using first seven WJ IV COG tests**
2. **Comprised of higher-order, and facilitator/inhibiting processes**
3. **May underestimate overall intelligence for children with ADHD and/or EF complications**

GF-GC

1. **Comprised solely of Gf and Gc measures**
2. **May provide more accurate depiction of overall intelligence, if notable deficits are present in the facilitating/inhibiting domains**

Keeping the WJ IV COG's *Clinical Cluster* in Mind

Cognitive Efficiency: Comprised of *Gwm* + *Gs*

- CLUSTER DERIVED FROM MEASURES OF SHORT-TERM WORKING MEMORY & COGNITIVE PROCESSING SPEED
- CAN BE COMPARED TO OTHER DOMAINS OF FUNCTIONING TO DETERMINE IF IT IS A STRENGTH OR WEAKNESS
- IMPAIRMENTS IN COGNITIVE EFFICIENCY MAY IMPACT ENGAGEMENT IN SOPHISTICATED TASKS
 - Applied Math Problem-Solving
 - Reading Comprehension
 - Written Expression

Final Considerations Outside of Testing Using the WJ IV

NASP (2018) | DuPaul & Stoner (2015)

1 | REMEMBER TO
RULE/OUT OTHER
PHYSICAL &
PSYCHIATRIC
CONDITIONS

2 | THINK ABOUT
ENVIRONMENTAL
CONTEXTS AND
SYSTEMS CHILD IS
EMBEDDED IN

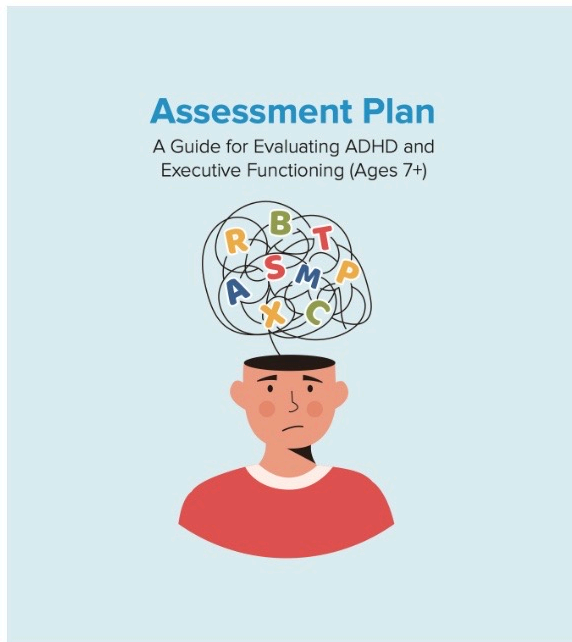
3 | CONSIDER THE
ROLE OF CULTURAL
DIFFERENCES
RELATED TO ADHD

Consider the WIIP to Facilitate Interpretation

- **ADD-ON TO WJ IV'S SCORING PLATFORM**
Includes checklists that can be incorporated into your evaluation
- **GENERATES PERSONALIZED INTERVENTIONS & ACCOMMODATIONS BASED ON WJ IV TEST RESULTS**
- **OFFERS MORE DETAILED *INTERPRETATIVE REPORTS* FOR EXAMINERS SEEKING A STARTING POINT FOR DATA ANALYSIS**

The logo for WIIP features the letters 'W', 'I', 'I', 'I', and 'P' in a dark blue, bold, sans-serif font. The first 'I' is replaced by a light blue, stylized vertical bar that is wider at the top and tapers towards the bottom, resembling a bar chart element. A small 'TM' trademark symbol is positioned to the upper right of the final 'P'.

Resources Regarding WJ IV & ADHD Assessment



**RIVERSIDE INSIGHTS TARGETED
ASSESSMENT SOLUTIONS FOR ADHD &
EXECUTIVE FUNCTIONING**

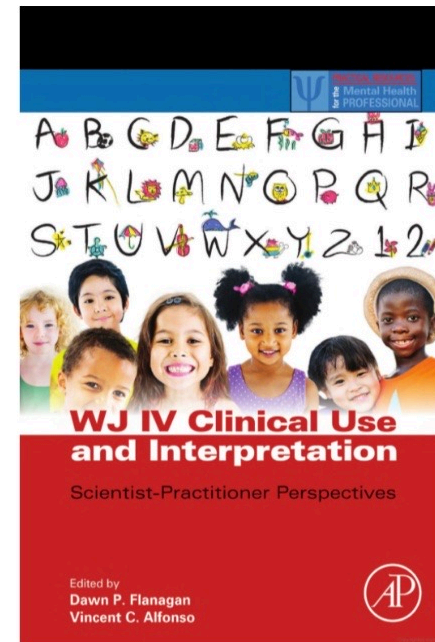


Assessment Service Bulletin Number 9

**Assessment of Executive Functions Using the
Woodcock-Johnson® IV Tests of Cognitive Abilities**

Scott L. Decker, PhD
Andrew S. Davis, PhD
Michael Eason
Rachel Bridges, BA
Laura M. Vasel, MA

**ASSESSMENT OF EXECUTIVE
FUNCTIONS USING THE WJ IV TESTS OF
COGNITIVE ABILITIES**



**WJ IV CLINICAL USE AND
INTERPRETATION**

Additional Resources to Learn More About ADHD & EF

- 1 | [NASP'S PRIMER ON ADHD FOR PARENTS & EDUCATORS](#)
- 2 | [NASP'S POSITION STATEMENT ON WORKING WITH STUDENTS DIAGNOSED WITH ADHD](#)
- 3 | [ESSENTIALS OF ADHD ASSESSMENT FOR CHILDREN & ADOLESCENTS](#)
- 4 | [BEST PRACTICES IN SCHOOL NEUROPSYCHOLOGY \(2ND ED\)](#)
- 5 | [AMERICAN PSYCHOLOGICAL ASSOCIATION: ADHD](#)
- 6 | [AMERICAN PSYCHIATRIC ASSOCIATION: ADHD](#)