



WMS[®]-IV

WECHSLER MEMORY SCALE[®] – FOURTH EDITION

Clinical Features of the New Edition

PEARSON

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WMS-IV

- *Introduction*
- Design Goals for Revision
- Subtest Details
- Test Structure
- Normative, Validity, and Clinical Studies Information



WMS-IV

- *Design Goals for Revision*
- Overview
- Subtest Details
- Test Structure
- Normative, Validity, and Clinical Studies Information



WMS–IV

Design Goals for Revision

- *Improve Clinical Sensitivity*
- Decrease Testing Time for Older Adults
- Improve Forensic Utility of WMS–IV
- Reduce Confounding Factors
- Eliminate Subtest/Construct Overlap with WAIS
- Improve Assessment of Working Memory
- Improve Ease of Administration and Scoring



WMS-IV

Design Goals for Revision

- **Improve Clinical Sensitivity**
 - Increasing Floors for Older Subjects
 - Increase Difficulty Level and Ceiling in Younger Age Groups
 - Develop New subtests
 - Screen Normative Sample for Undiagnosed Possible MCI or Mild Alzheimer's
 - Screen Normative Sample for Possible Insufficient Effort



WMS–IV

Design Goals for Revision

- Improve Clinical Sensitivity
- ***Decrease Testing Time for Older Adults***
- Improve Forensic Utility of WMS–IV
- Reduce Confounding Factors
- Eliminate Subtest/Construct Overlap with WAIS
- Improve Assessment of Working Memory
- Improve Ease of Administration and Scoring



WMS–IV

Design Goals for Revision

- **Decrease Testing Time for Older Adults**
 - Subtests Shortened
 - Drop Subtests with Floor Problems
 - Older Adult Battery (65–90)
 - Reduced Number of Subtests
 - Content Changes Where Appropriate



WMS–IV

Design Goals for Revision

- Improve Clinical Sensitivity
- Decrease Testing Time for Older Adults
- ***Improve Forensic Utility of WMS–IV***
- Reduce Confounding Factors
- Eliminate Subtest/Construct Overlap with WAIS
- Improve Assessment of Working Memory
- Improve Ease of Administration and Scoring



WMS–IV

Design Goals for Revision

- **Improve Forensic Utility of WMS–IV**
 - External Validity Measure
 - Internal Validity Checks
 - Guessing Rate Study



WMS–IV

Design Goals for Revision

- Improve Clinical Sensitivity
- Decrease Testing Time for Older Adults
- Improve Forensic Utility of WMS–IV
- ***Reduce Confounding Factors***
- Eliminate Subtest/Construct Overlap with WAIS
- Improve Assessment of Working Memory
- Improve Ease of Administration and Scoring



WMS-IV

Design Goals for Revision

- **Reduce Confounding Factors**
 - Reduce or Eliminate motor requirements in administration or scoring where possible
 - Reduce verbal processing on visual memory subtests
 - Develop Contrast Scores to partial out confounding cognitive effects (e.g., Spatial Versus Detail; Immediate Versus Delayed)
 - Reduce language level of verbal tasks where possible



WMS–IV

Design Goals for Revision

- Improve Clinical Sensitivity
- Decrease Testing Time for Older Adults
- Improve Forensic Utility of WMS–IV
- Reduce Confounding Factors
- ***Eliminate Subtest/Construct Overlap with WAIS***
- ***Improve Assessment of Working Memory***
- Improve Ease of Administration and Scoring



WMS–IV

Design Goals for Revision

- **Eliminate Subtest/Construct Overlap with WAIS**
 - Drop subtests appearing in both subtests
 - Measure different modalities of working memory
- **Improve Assessment of Working Memory**
 - Focus on visual working memory
 - Create subtests that require mental manipulation of visual information
 - Create subtests with minimal verbalization



WMS-IV

Design Goals for Revision

- Improve Clinical Sensitivity
- Decrease Testing Time for Older Adults
- Improve Forensic Utility of WMS-IV
- Reduce Confounding Factors
- Eliminate Subtest/Construct Overlap with WAIS
- Improve Assessment of Working Memory
- ***Improve Ease of Administration and Scoring***



WMS–IV

Design Goals for Revision

- **Improve Ease of Administration and Scoring**
 - Create new scoring rules for visual reproduction that are fast, easy, and reliable
 - Eliminate subtests that require rapid changing of stimulus pages
 - Reduce the amount of rapid visual processing required of the examiner



WMS-IV

- Design Goals for Revision
- *Subtest Details*
 - Dropped
 - Revised
 - New!
- Test Structure
- Normative, Validity, and Clinical Studies Information



WMS–IV Subtest Details

Subtests Dropped from WMS–III

- Digit Span and Letter-Number Sequencing
 - **Subtests appear in WAIS–IV**
- Mental Control
 - **Incorporated into Brief Cognitive Status Exam**
- Information and Orientation
 - **Incorporated into Brief Cognitive Status Exam**
- Faces
 - **Floor and administration limitations**



WMS–IV Subtest Details

(Subtest Dropped continued)

- Family Pictures
 - To meet design goal of reducing verbalization of visual memory tasks
- Spatial Span
 - Improved measure of mental manipulation of visual information developed
 - Need to reduce processing speed and motor demands
 - Improve ease of administration
- Word List
 - Reduce length of testing and allow CVLT–II substitution of VPA



WMS–IV Subtest Details

Subtests Revised from WMS–III

- Logical Memory—slightly modified
- VPA—significantly modified
- Visual Reproduction—significantly modified



WMS–IV Subtest Details

(Subtests Revised continued)

Logical Memory

- **Ages (16–69)**
 - Anna Thompson unchanged
 - Joe Garcia–city changed due to clinician feedback (e.g., San Francisco does not experience that type of weather)
 - Joe Garcia story is not repeated since floor is not an issue in this age group
- **Age (65–90)**
 - Ruth and Paul Story–new short story more age-appropriate, less language demand is repeated
 - Anna Thompson unchanged

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WMS–IV Subtest Details

(Subtests Revised continued)

Logical Memory

- Ages (16–69)
 - Recognition (Yes/No) 0–30 points
- Age (65–90)
 - Recognition (Yes/No) 0–23 points
- Scores
 - Immediate Memory – scaled score
 - Delayed Memory – scaled score
 - Delayed Recognition – cumulative percentage
- Contrast Scores
 - Immediate Versus Delayed
 - Recognition Versus Delayed



WMS–IV Subtest Details

(Subtests Revised continued)

Verbal Paired Associates (VPA)

- Increased range of scores with inclusion of additional easy items.
- Added “free recall” condition after recognition trial



WMS–IV Subtest Details

(Subtests Revised continued)

VPA Scores

- Immediate Learning – scaled score
- Delayed – scaled score
- Delayed Recognition – cumulative percentage
- Delayed Free Recall – scaled score
- Contrast Scores
 - Immediate versus Delayed
 - Recognition versus Delayed



WMS–IV Subtest Details

(Subtests Revised continued)

VPA — CVLT–II Substitution

- CVLT–II Total Trial 1 to Trial 5 can be substituted for VPA I in the Auditory and Immediate Indexes
- CVLT–II Long Delay Free Recall can be substituted for VPA II in the Auditory and Delayed Indexes
- Substitution rules based on equating study, using equipercentile equating method



WMS–IV Subtest Details

(Subtests Revised continued)

Visual Reproduction

- Same 5 items from WMS–III VR
- Scoring rules based on work by Cullum, Lacritz, and colleagues are faster and easier to score and have similar reliability and clinical sensitivity as previous edition



WMS–IV Subtest Details

(Subtests Revised continued)

Visual Reproduction

- Reproduction Recognition now uses old visual discrimination format of seven items - examinee needs to select correct design
- Reduces guessing and is faster but has limited number of data points.
- Copy Condition to control for visual/ spatial skills



WMS–IV Subtest Details

(Subtests Revised continued)

Visual Reproduction

- **Visual Reproduction scores**
 - Immediate Recall – scaled score
 - Delayed Recall – scaled score
 - Delayed Recognition – cumulative percentage
- **Contrasts scores**
 - Immediate versus Delayed
 - Delayed Recognition versus Delayed
 - Copy versus Immediate

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WMS–IV Subtest Details

New WMS–IV Subtests

- Brief Cognitive Status Exam
- Design Memory
- Spatial Addition
- Symbol Span



WMS–IV Subtest Details

(New Subtests continued)

Brief Cognitive Status Exam

- Designed as a brief preliminary assessment for significant cognitive impairment
 - Temporal Orientation
 - Mental Control
 - Clock Drawing
 - Memory
 - Inhibitory Control
 - Verbal Productivity
- Classification Table Translates Total Scores
 - Average, Low, Moderately Low, Very Low



WMS–IV Subtest Details

(New Subtests continued)

Design Memory

- Developed to differentiate visual spatial from visual details.
- Reduce impact of motor responding on visual memory tasks
- Reduce guess rate
- Replaces Family Pictures and Faces.



WMS–IV Subtest Details

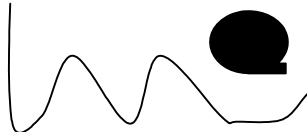
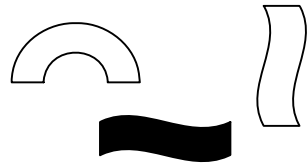
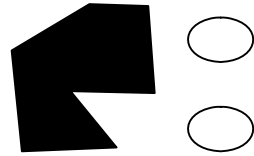
(New Subtests continued)

Design Memory

- Examinee is presented with 4 to 8 designs on a grid (1 item with 4, 2 with 6, 1 with 8)
- The examinee is handed cards with designs and asked to place the correct design in the correct location.
- The items are scored for correct location and correct detail independent from one another and a bonus is given for a correct design in the correct location.



WMS-IV Design Memory



WMS–IV Subtest Details

(New Subtests continued)

Design Memory

- There are immediate and delayed recall conditions
- A 12 item delayed recognition trial is presented after delayed recall.
 - Client is asked to pick which designs are both correct and in the proper location.



WMS–IV Subtest Details

(New Subtests continued)

- **Design Memory Scores**

- Immediate Spatial – scaled score
- Immediate Content – scaled score
- Immediate Total = Content + Spatial + bonus-scaled score
- Delayed Spatial-scaled score
- Delayed Content-scaled score
- Delayed Total = Content + Spatial + bonus scaled score
- Delayed Recognition Total – cumulative percentage



WMS–IV Subtest Details

(New Subtests continued)

Design Memory Scores

Contrast Scores

- Immediate Spatial versus Immediate Content
- Delayed Content versus Delayed Spatial
- Immediate Total versus Delayed Total
- Recognition versus Delayed Total



WMS–IV Subtest Details

(New Subtests continued)

Spatial Addition

- Developed as a measure of spatial working memory requiring both storage and manipulation of visual spatial information.
 - Developed to replace Spatial Span
- 24 items with a discontinue rule of 3
- Spatial Span Score – Total scaled score



WMS–IV Subtest Details



(New Subtests continued)

Spatial Addition

- Examinee is shown a grid with blue dots, red dots, or both for 5 seconds. Examinee is shown a second grid with additional dots.
- Examinee must add the spatial locations of the blue dots and ignore any red dots.
- Examinee subtracts the location of blue dots that spatially overlap.
- Examinee responds by placing blue or white cards in a grid (blue for location of blue, white for subtracting 2 blues in the same location).





Spatial Addition 1st Stimulus

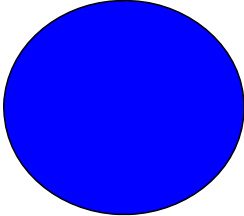
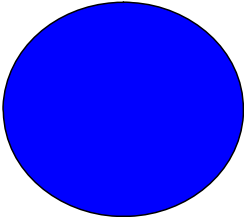
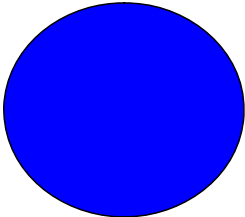


Spatial Addition 2nd Stimulus

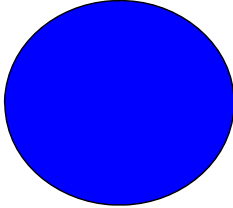
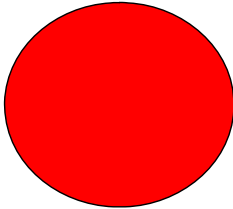
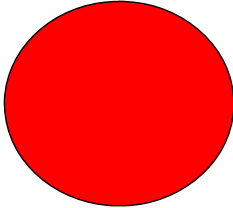
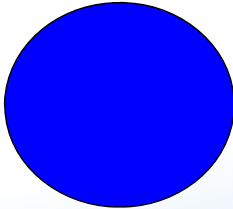


Spatial Addition Correct Response

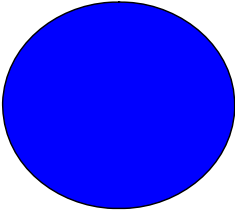
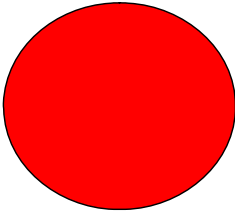
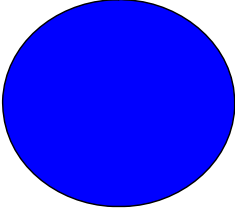
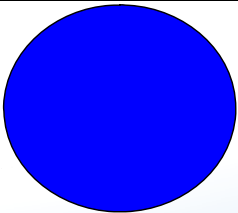


Spatial Addition 1st Stimulus

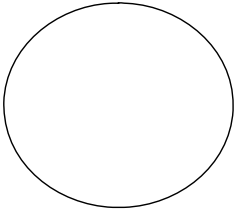
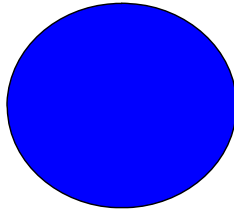
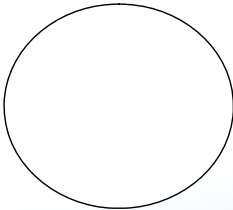


Spatial Addition 2nd Stimulus



Spatial Addition Correct Answer



WMS–IV Subtest Details

(New Subtests continued)

Symbol Span

- Developed as a visual analog to Digit Span
- Reliability .85–.89
- Total Score



Symbol Span Stimulus





Symbol Span Response



A



B



C



D

Correct response is A,D



WMS–IV Subtest Details

(New Subtests continued)

Symbol Span

- Symbols that are visualized rather than read verbally from the page
- Examinee sees stimulus for 5 seconds
- Examinee must choose correct designs in the correct order.
- Examinee gets 2 points for correct designs and order; 1 point for correct designs, not in order.
- There is a forward condition only.



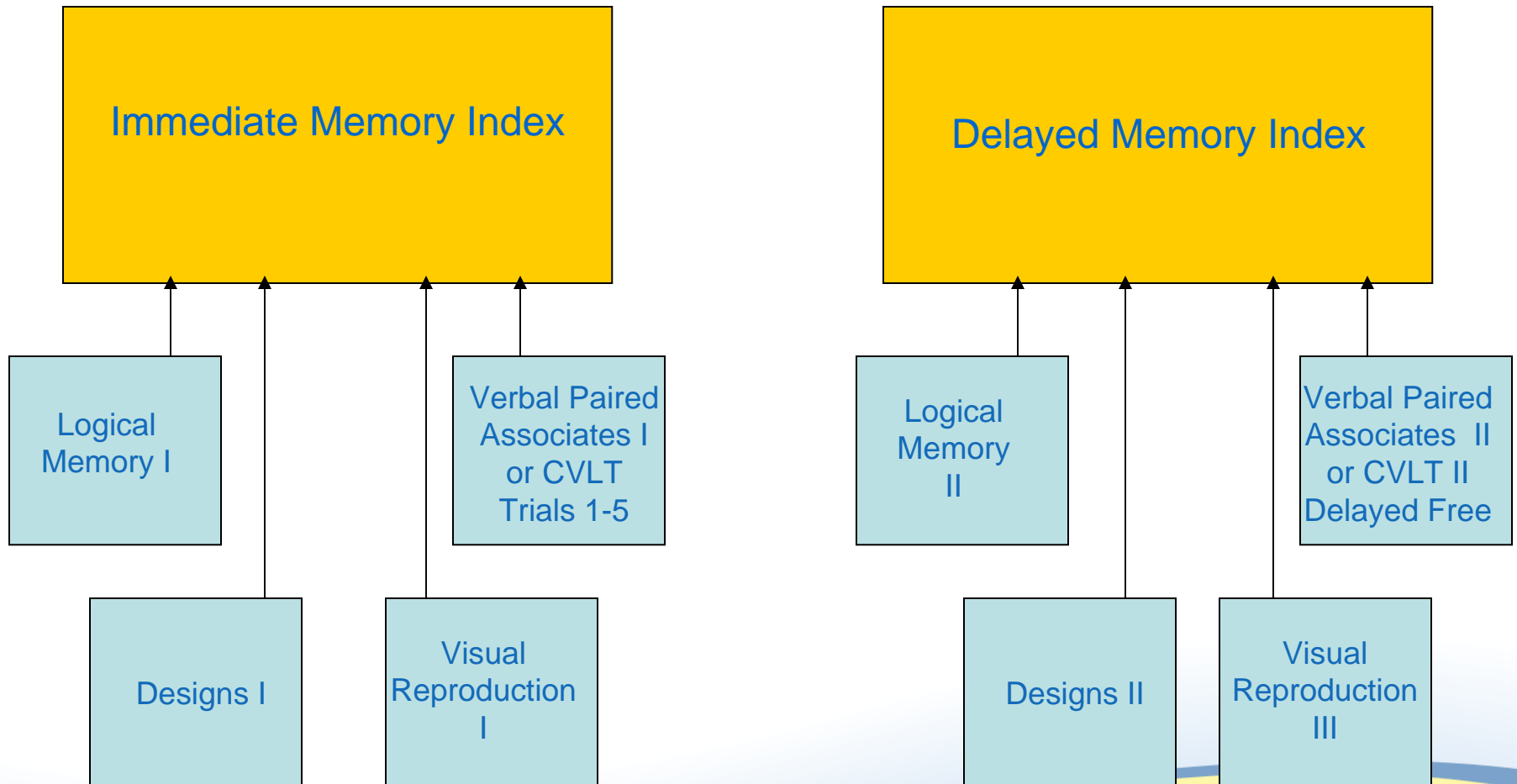
WMS-IV

Overview

- Introduction
- Revision Goals
- Subtest Details
- ***Test Structure***
 - *Index Structures*
 - *Scores*
- Normative and Clinical Information

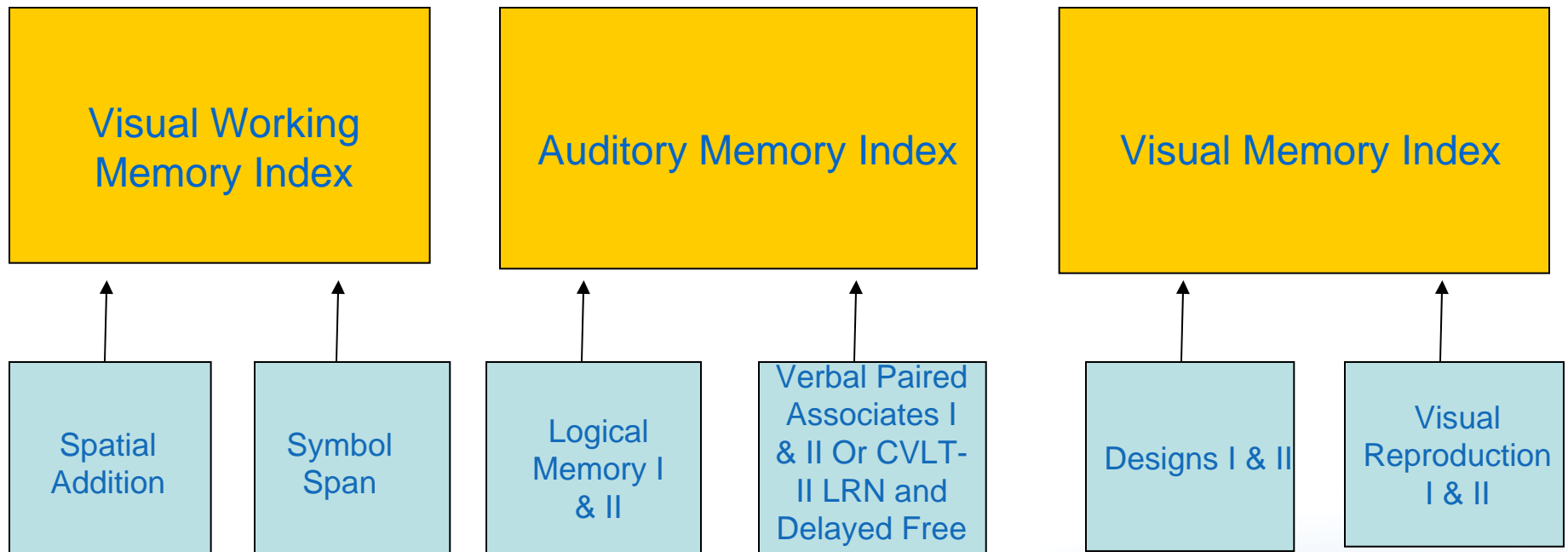


WMS-IV Index Structures





WMS-IV Index Structures



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WMS–IV Scores

Index Level Contrast Scores

- Immediate Versus Delayed
- Auditory Memory Versus Visual Memory
- Visual Working Memory Versus WAIS–IV Working Memory
- Auditory Memory Versus WAIS–IV Working Memory



WAIS–IV Versus WMS–IV

- Simple and Predicted Difference Methods
- WAIS–IV General Ability Index
 - Vs. Immediate Memory
 - Vs. Delayed Memory
 - Vs. Auditory Memory
 - Vs. Visual Memory
 - Vs. Visual Working Memory



WAIS–IV Versus WMS–IV

- WAIS–IV Verbal Comprehension Index
 - Vs. Auditory Memory
- WAIS–V Perceptual Reasoning Index
 - Vs. Visual Memory
 - Vs. Visual Working Memory



WMS-IV

- Introduction
- Design Goals for Revision
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- ***Normative, Validity, and Clinical Studies Information***



WMS–IV Normative Sample

- Ages 16–90
- Normative sample: $N = 1,400$
 - 100 examinees per age band for ages 16–69
 - 100 examinees per age band for ages 65–90
- National sample stratification
 - Sex
 - Education Level
 - Ethnicity
 - Region



WMS–IV Validity Studies

- WAIS–IV Co-Norming Study (2008 pub)
- WMS–III Correlational Study (16:0–89:11)
- CMS Correlational Study (16:0–16:11)



WMS–IV Clinical Studies

Intellectual Disability: Mild Severity

**Intellectual Disability: Moderate
Severity**

Borderline Intellectual Functioning

Gifted Intellectual Functioning

Autistic Disorder

Asperger's Disorder

Learning Disability: Reading

Learning Disability: Math

ADHD

TBI

Mild Cognitive Impairment

Dementia of the Alzheimer's Type

Depression

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WAIS/WMS-IV ISBNs and Pricing

ISBN	Description	Pre-Pub Price (Effective until 8/1/08)	Post-Pub Price (Effective from 8/2/08 – 12/31/08)
015-8980-808	WAIS IV Basic Kit	\$939.00	\$1035.00
015-8980-816	WAIS IV Hard Case Kit	\$989.00	\$1085.00
015-8980-824	WAIS IV Soft Case Kit	\$989.00	\$1085.00
015-8895-800	WMS IV Basic Kit	\$625.00	\$675.00
015-8896-009	WMS IV Soft Case Kit	\$675.00	\$725.00
015-8980-948	WAIS IV Scoring Assistant	\$225.00	\$225.00
015-8896-017	WMS IV Scoring Assistant	\$225.00	\$225.00
015-8980-956	Upgrade from WAIS IV SA to WAIS IV Report Writer	\$150.00	\$150.00
015-8980-964	WAIS IV Report Writer	\$375.00	\$375.00
015-8896-025	WAIS IV/WMS IV Scoring Assistant Combo	\$350.00	\$350.00
015-8896-173	WAIS IV Basic Kit + WAIS IV Scoring Assistant	\$1,164.00	\$1260.00
015-8896-181	WAIS IV Hard Kit + WAIS IV Scoring Assistant	\$1,214.00	\$1310.00
015-8896-19X	WAIS IV Soft Kit + WAIS IV Scoring Assistant	\$1,214.00	\$1310.00
015-8895-878	WAIS IV/ WMS IV Combo – Basic/Basic Kit	\$1,450.00	\$1,540.00
015-8895-886	WAIS IV/ WMS IV Combo – Hard/Basic Kit	\$1,500.00	\$1590.00
015-8895-894	WAIS IV/ WMS IV Combo – Soft/Basic Kit	\$1,500.00	\$1590.00
015-8896-084	WAIS IV/ WMS IV Combo – Basic/Soft Kit	\$1500.00	\$1590.00
015-8896-041	WAIS IV/ WMS IV Combo – Hard/Soft Kit	\$1545.00	\$1685.00
015-8896-033	WAIS IV/ WMS IV Combo – Soft/Soft Kit	\$1545.00	\$1685.00