

WIAT-III A&NZ
Frequently Asked Questions

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**Why choose the
WIAT-III A&NZ?**

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What is academic achievement?

- An individual's performance on a range of tasks and skills typically related to educational or institutional goals
- Can be modified by various clinical disorders, motivation, attendance/truancy, etc.
- Not IQ/cognitive ability



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We can use the WIAT-III A&NZ to...

- identify the academic strengths and weaknesses of a student,
- inform decisions regarding eligibility for educational services, educational placement, or a diagnosis of a specific learning disability (SLD); and,
- design instructional objectives and plan interventions through item-level skills analysis.

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New Zealand Psychologists Board

- Guidelines on the Use of Psychometric Tests (*updated March 2015*):
<http://www.psychologistsboard.org.nz/best-practice-documents-and-guidelines2>

(Direct Link:
http://www.psychologistsboard.org.nz/cms_show_download.php?id=463)

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**Standardisation &
Cultural Issues**

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The Standardisation Process

- Primary objective was to provide Australian and New Zealand norms based on a census-matched sample of children aged 4:0-19:11
- Additional aims of the project included:
 - Language and cultural changes to items
 - Refinement of item order
 - Making final item decisions for subtests where additional items had been added
 - Providing reliability and validity evidence for the final scale
- NB: When testing adults aged 20 years and over, US norms are available*

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WIAT-III A&NZ Normative Sample

- Stratified sample of 1132 children based on Australian 2011 census (*Australian Bureau of Statistics*) and NZ 2013 census (*Statistics New Zealand*)
- Three (3) norm samples were generated
 - Age (4:0-19:11)
 - Term 1-2
 - Term 3-4
- Can be used in conjunction with other assessments to better understand the cognitive or neurodevelopmental processes that contribute to an individual's underachievement

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Normative Sample

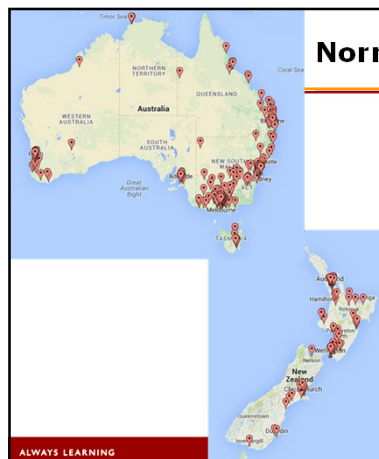
Australian	New Zealand
Preschool (PS)	Year 0
Foundation (F)*	Year 1
Year 1	Year 2
Year 2	Year 3
Year 3	Year 4
Year 4	Year 5
Year 5	Year 6
Year 6	Year 7
Year 7	Year 8
Year 8	Year 9
Year 9	Year 10
Year 10	Year 11
Year 11	Year 12
Year 12	Year 13

- The Ministry of Education New Zealand Curriculum was used
- ~2% of known ID and IG students used for full range of abilities
- Gender:** 52% female and 48% male
- Parental education level:** 4 levels based on number of years of schooling

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Normative Sample



- Geographic location:** matched distribution of population
- Urbanicity:** urban and rural, with a very slight under-representation of the latter

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Normative Sample

- Ancestry, Ethnicity and Indigenous status:** similar percentages to census data
- 5% of Aust. sample identified as Aboriginal/TSI**
- ~21% of NZ sample identified as New Zealand Māori**

Percentage by Year and Ethnicity (Term 1-2)			
	Stratified Sample		Census
	N	%	%
New Zealand			
New Zealand European	94	85.45	62.92
Māori	29	26.50	22.00
Samoan	3	2.73	5.66
Cook Island Maori	1	0.91	2.52
Other	12	10.91	14.43

Percentage by Year and Ethnicity (Term 3-4)			
	Stratified Sample		Census
	N	%	%
New Zealand			
New Zealand European	88	88.89	62.92
Māori	24	24.24	22.00
Samoan	5	5.05	5.66
Cook Island Maori	0	0.00	2.52
Tongan	3	3.03	2.53
Other	8	8.08	14.43

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NZPsS Bicultural Resources

- List of articles published in NZPsS publications with bicultural content: <http://www.psychology.org.nz/nga-kete/nzpps-bicultural-resources/?#.Wuae8S5ubiw>

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What insights can the WISC-V A&NZ provide?

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Evidence of Validity

Correlations with the WISC-V A&NZ

- See Examiners Manual pages 105-107
- Administered to 403 children aged 6–16 yrs
- Correlation between the **WISC-V A&NZ FSIQ** and **WIAT-III A&NZ Total Achievement (TA)** score is **.79**
 - FSIQ vs WIAT Composites = .63-.79
 - TA most strongly related to VCI (.74) followed by WMI (.67) & FRI (.61)

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Evidence of Validity

WISC-V A&NZ Primary Index Scores:

- **Oral Language** has the highest correlation with VCI (.78), as does **Total Reading** (.63) & **Reading Comprehension and Fluency** (.62)
- **Basic Reading** has the highest correlation with WMI (.60)
- **Written Expression** shares equal correlations with VCI & WMI (.63)
- **Mathematics** has the highest correlation with VCI (.68) & FRI (.66)
- **Maths Fluency** has the highest correlation with PSI (.57)

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Evidence of Validity

WISC-V A&NZ Ancillary Index scores:

- **GAI** produces correlations similar to FSIQ, albeit *slightly* lower (.58-.76); **NVI** correlations are lower again (.55-.72; except for **Maths Fluency** which was .03 higher)
- Provides evidence of the **importance of verbal comprehension** to the relationship between general intellectual ability and achievement
- **QRI (maths-related ability)** correlates most highly with Mathematics (.75) and TA (.69)
- **AWMI** correlates (.57-.68) similar but slightly higher than WMI (.54-.67)

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Evidence of Validity

Correlations with the WISC-V A&NZ

- Simple difference and predictive difference tables are available for conducting formal ability-achievement discrepancy analysis
- Linking tables are also available for **WIAT-III A&NZ** and **WPPSI-IV A&NZ**

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ABILITY-ACHIEVEMENT DISCREPANCY ANALYSIS

Ability Score Type: WISC-V FSIQ

Ability Score: 97

Predicted Difference Method

	Predicted WIAT-III Score	Actual WIAT-III Score	Difference	Critical Value #1	Significant Difference Y/N	Base Rate	Standard Deviation Discrepancy ≥ 1.0 SD
WIAT-III Subtest							
Listening Comprehension	98	96	2	17.00	N	>25%	N
Early Reading Skills	98	90	8	15.00	N	<=25%	N
Reading Comprehension	98	97	1	15.00	N	>25%	N
Math Problem Solving	98	104	-6	13.00	N	N/A	N/A
Sentence Composition	98	88	10	15.00	N	<=25%	N
Word Reading	98	90	8	8.00	Y	<=25%	N
Pseudoword Decoding	98	79	19	8.00	Y	<=10%	Y
Numerical Operations	98	116	-18	11.00	Y*	N/A	N/A
Oral Expression	98	88	10	15.00	N	<=25%	N
Oral Reading Fluency	99	96	3	11.00	N	>25%	N
Spelling	98	88	10	10.00	Y	<=25%	N
WIAT-III Composite							
Oral Language	98	90	8	13.00	N	<=25%	N
Total Reading	98	87	11	9.00	Y	<=15%	N
Basic Reading	98	84	14	7.00	Y	<=15%	N
Reading Comprehension and Fluency	98	95	3	11.00	N	>25%	N
Written Expression	98	91	7	11.00	N	<=25%	N
Mathematics	98	111	-13	10.00	Y*	N/A	N/A
Math Fluency	98	102	-4	10.00	N	N/A	N/A
Total Achievement	98	93	5	8.00	N	>25%	N

Note: Base rates and standard deviation discrepancies are not reported when the achievement score equals or exceeds the ability score.
*Indicates that the achievement score exceeds the ability score.

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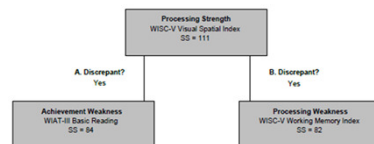
Pattern of Strengths and Weaknesses

Area of Achievement/Weakness	WIAT-III	Basic Reading: 84
Area of Processing Strengths	WISC-V	WMI: 82
Area of Processing Weakness	WISC-V	VSI: 111

Comparisons	Relative Strength Score	Relative Weakness Score	Difference	Critical Value (d)	Significant Difference Y/N	Supports SLD hypothesis? Yes/No
A Processing Strength/Achievement Weakness	111	84	27	12.00	Y	Yes
B Processing Strength/Processing Weakness	111	82	29	15.00	Y	Yes

The PSW model is intended to help practitioners generate hypotheses regarding clinical diagnoses. The analysis should always be used within a comprehensive evaluation that incorporates multiple sources of information.

Pattern of Strengths and Weaknesses Model



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Special Clinical Group Studies

- Children Identified as Intellectually Gifted (IG)
- Children with Mild or Moderate Intellectual Disability (ID)
- Children with Specific Learning Disorder (SLD) — Reading and/or Written Expression
- Children with Attention-Deficit/Hyperactivity Disorder (ADHD)
- Children with Autism Spectrum Disorder (ASD) with accompanying Language Impairment

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Do these effects vary with age?

- The younger the child at first testing the worse the prediction (i.e. not stable):
e.g. 2-5=.32 5-8=.70 9-12=.85
- The longer the time interval, the greater the fluctuation (i.e. limited predictive power):
e.g. 4-5=.72 4-6=.62 4-18=.42
- IQ is increased by years of schooling, as well as motivation, personality/mental health, SES, cultural background, maternal education, etc.
 - Inverse correlation with irregular attendance, delayed entry and drop out
- **Remember:** Correlation ≠ Causation

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What about older adults?

- N=329; 50–79 years old
- Age, IQ, gender, working memory, psychosocial factors, and common brain gene polymorphisms linked to brain function, plasticity and degeneration did **not** influence academic performance
- Ageing does not impede academic achievement; discrete cognitive skills as well as lifetime engagement in cognitively stimulating activities can promote academic success in older adults.
- *Age is no barrier: predictors of academic success in older learners, Imlach et al (2017). NPJ Science of Learning, 2(13).*

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What additional information can be derived from the WIAT-III A&NZ?

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Skills Analysis and Intervention Planning

- Item-Level Skills Analysis
- Within-Item Level Skills Analysis
- Intervention Goal Statements

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WIAT-III Skills Analysis Report				
Word Reading				
Feature	Skill	Total Errors by Skill	Max. Errors by Skill	% Correct By Feature
Morphology Types	Common Prefixes/Word Beginnings	-	-	-
	Common Suffixes/Word Endings	-	-	-
	VCE Syllables	0	1	100%
	Irregular Vowels	0	2	100%
Vowel Types	Single Short Vowels	0	3	100%
	Single Long Vowels	1	1	0%
	Schwa Vowel Sounds	1	1	0%
	Vowel Digraphs	0	2	100%
	Diphthongs	0	1	100%
	R-Controlled Vowels	1	1	0%
	Silent Vowels	-	-	-
	Consonant Digraphs	2	4	50%
Consonant Types	Single Consonants	1	10	90%
	Double Consonants	-	-	-
	S as /s/ or /z/	-	-	-
	T as /t/ or /d/	-	-	-
	C as /s/	-	-	-
	R-Family Blends	-	-	-
	L-Family Blends	-	-	-
	S-Family Blends	0	1	100%
	Consonant Blends/Clusters	1	1	0%
	Silent Consonants	-	-	-
Other	Insertions	0	-	-
	Mis-Sequence of Sounds	0	-	-
	Whole Word Error	4	-	-

WIAT-III Intervention Goal Statements Report	
Word Reading	
Consonant Digraphs	
Items with Errors: 9, 10	
Annual Goal	
<ul style="list-style-type: none">Given a list of ____ words containing (circle/enter) initial/medial/final position consonant digraphs, the student will identify the digraphs and read the list aloud with no more than ____ consonant digraph errors.	
Consonant digraphs will include the following (circle/enter): ch, sh, th, wh, ng, dg, gh, ____.	
Short-Term Objectives	
<ul style="list-style-type: none">The student will watch the teacher use letter cards to form ____ one-syllable words/nonwords containing consonant digraphs (forming one word at a time and creating a new word by placing a different letter card on top of one of the cards), and the student will read the words with no more than ____ errors.	
Consonant digraphs will include the following (circle/enter): ch, sh, th, wh, ng, dg, gh, ____.	
Card examples: [ch] [o] [p], [sh] [o] [p], [p] [o] [sh]	
Note: To encourage reading with comprehension, the student may also be challenged to orally use each word in a sentence after reading each word aloud; if words and nonwords are formed, the teacher may ask, <i>Is this a word?</i> after the student reads each one.	



Thank You!



WIAT-III
WECHSLER INDIVIDUAL ACHIEVEMENT TEST™, THIRD EDITION



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