



Conducting Ability-Achievement Discrepancy Analyses Using WISC-IV GAI and WIAT-III

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Overview

This technical report provides the tables necessary to perform ability-achievement discrepancy analyses using the WISC-IV General Ability Index (GAI) and WIAT-III subtest and composite scores. Detailed information about the GAI is available in the WISC-IV Technical Report #4 (Raiford, Weiss, Rolhus, & Coalson, 2005; see hyperlink provided in the References section). It is recommended that practitioners read the WISC-IV Technical Report #4 before using the tables in this technical report.

Introduction

There are two primary methods for conducting an ability-achievement discrepancy (AAD) analysis: the predicted-difference method and the simple-difference method. The predicted-difference method uses the ability score to predict an achievement score, and then the predicted and observed achievement scores are compared. The simple-difference method compares the observed ability and achievement scores. In both methods, the statistical significance and the base rate of each discrepancy should be considered. The formulas for calculating the predicted-achievement and simple-difference critical values and base rates are available through several published references (e.g., Rust & Golombok, 1999).

Predicted Achievement Scores

To calculate an AAD using the predicted-difference method, use Table 1 to obtain the WIAT-III subtest and composite scores predicted from the WISC-IV GAI scores. First, locate the GAI score in the extreme left or right column, and then read across the row. For each subtest or composite, subtract the student's predicted score from the observed score to obtain the difference score.

Table 1 WIAT-III Subtest and Composite Scores Predicted From the WISC-IV GAI Scores for Students Ages 6:0-16:11

GAI Score	Subtest Standard Scores																		Composite Standard Scores								GAI Score	
	Listening Comprehension	Early Reading Skills	Reading Comprehension	Math Problem Solving	Alphabet/Writing Fluency	Sentence Composition	Word Reading	Essay Composition	Essay Composition: Grammar and Mechanics ^a	Pseudoword Decoding	Numerical Operations	Oral Expression	Oral Reading Fluency	Oral Reading Accuracy ^a	Oral Reading Rate ^a	Spelling	Math Fluency—Addition	Math Fluency—Subtraction	Math Fluency—Multiplication	Oral Language	Total Reading	Basic Reading	Reading Comprehension and Fluency	Written Expression	Mathematics	Math Fluency		Total Achievement
40	65	68	61	65	99	68	67	83	75	75	71	57	74	84	72	67	81	78	84	56	65	69	65	69	63	80	57	40
41	65	69	62	65	99	68	68	83	76	75	71	58	75	85	72	68	81	79	85	57	65	70	66	69	64	80	58	41
42	66	69	62	66	99	69	68	84	76	76	72	58	75	85	73	68	81	79	85	58	66	70	66	70	65	80	59	42
43	66	70	63	66	99	69	69	84	77	76	72	59	75	85	73	69	82	79	85	58	66	71	67	70	65	81	60	43
44	67	70	64	67	99	70	69	84	77	76	73	60	76	85	74	69	82	80	85	59	67	71	68	71	66	81	60	44
45	68	71	64	68	99	70	70	85	77	77	73	60	76	86	74	70	82	80	86	60	68	72	68	71	66	81	61	45
46	68	71	65	68	99	71	70	85	78	77	74	61	77	86	75	70	83	81	86	61	68	72	69	72	67	82	62	46
47	69	72	66	69	99	71	71	85	78	78	74	62	77	86	75	71	83	81	86	61	69	73	69	72	68	82	62	47
48	69	72	66	69	99	72	71	85	79	78	75	63	78	86	76	71	83	81	86	62	69	73	70	73	68	82	63	48
49	70	73	67	70	99	72	72	86	79	79	75	63	78	87	76	72	84	82	87	63	70	74	70	73	69	83	64	49
50	71	74	68	71	100	73	73	86	80	79	76	64	79	87	77	73	84	82	87	64	71	75	71	74	70	83	65	50
51	71	74	68	71	100	74	73	86	80	79	76	65	79	87	77	73	84	82	87	64	71	75	72	75	70	83	65	51
52	72	75	69	72	100	74	74	87	80	80	76	65	79	88	77	74	85	83	88	65	72	76	72	75	71	84	66	52
53	72	75	69	72	100	75	74	87	81	80	77	66	80	88	78	74	85	83	88	66	72	76	73	76	71	84	67	53
54	73	76	70	73	100	75	75	87	81	81	77	67	80	88	78	75	85	83	88	66	73	77	73	76	72	84	67	54
55	73	76	71	73	100	76	75	87	82	81	78	68	81	88	79	75	86	84	88	67	73	77	74	77	73	85	68	55
56	74	77	71	74	100	76	76	88	82	82	78	68	81	89	79	76	86	84	89	68	74	78	74	77	73	85	69	56
57	75	77	72	75	100	77	76	88	82	82	79	69	82	89	80	76	86	85	89	69	75	78	75	78	74	85	69	57
58	75	78	73	75	100	77	77	88	83	82	79	70	82	89	80	77	87	85	89	69	75	79	76	78	74	86	70	58
59	76	78	73	76	100	78	77	89	83	83	80	70	82	89	81	77	87	85	89	70	76	79	76	79	75	86	71	59
60	76	79	74	76	100	78	78	89	84	83	80	71	83	90	81	78	87	86	90	71	76	80	77	79	76	86	72	60
61	77	79	75	77	100	79	79	89	84	84	81	72	83	90	82	79	88	86	90	72	77	80	77	80	76	87	72	61
62	78	80	75	78	100	79	79	89	84	84	81	73	84	90	82	79	88	86	90	72	78	81	78	80	77	87	73	62
63	78	80	76	78	100	80	80	90	85	84	82	73	84	90	83	80	88	87	90	73	78	81	79	81	77	87	74	63
64	79	81	77	79	100	81	80	90	85	85	82	74	85	91	83	80	88	87	91	74	79	82	79	81	78	88	74	64
65	79	81	77	79	100	81	81	90	86	85	83	75	85	91	84	81	89	87	91	74	79	82	80	82	79	88	75	65
66	80	82	78	80	100	82	81	90	86	86	83	76	85	91	84	81	89	88	91	75	80	83	80	82	79	88	76	66
67	81	83	79	81	100	82	82	91	86	86	84	76	86	91	84	82	89	88	91	76	81	83	81	83	80	89	77	67
68	81	83	79	81	100	83	82	91	87	87	84	77	86	92	85	82	90	88	92	77	81	84	81	83	80	89	77	68
69	82	84	80	82	100	83	83	91	87	87	85	78	87	92	85	83	90	89	92	77	82	84	82	84	81	89	78	69

Note. GAI = General Ability Index. Presented in the order shown in the table, the correlations for the WIAT-III subtest scores are .59, .53, .65, .59, .01, .54, .55, .28, .41, .42, .49, .72, .43, .26, .47, .55, .32, .36, and .26, and the correlations for the WIAT-III composites are .73, .59, .51, .58, .52, .61, .34, and .71.

^aSupplemental scores.

Table 1 WIAT-III Subtest and Composite Scores Predicted From the WISC-IV GAI Scores for Students Ages 6:0-16:11 (continued)

GAI Score	Subtest Standard Scores																		Composite Standard Scores								GAI Score	
	Listening Comprehension	Early Reading Skills	Reading Comprehension	Math Problem Solving	Alphabet/Writing Fluency	Sentence Composition	Word Reading	Essay Composition	Essay Composition: Grammar and Mechanics ^a	Pseudoword Decoding	Numerical Operations	Oral Expression	Oral Reading Fluency	Oral Reading Accuracy ^a	Oral Reading Rate ^a	Spelling	Math Fluency—Addition	Math Fluency—Subtraction	Math Fluency—Multiplication	Oral Language	Total Reading	Basic Reading	Reading Comprehension and Fluency	Written Expression	Mathematics	Math Fluency		Total Achievement
70	82	84	81	82	100	84	84	92	88	87	85	78	87	92	86	84	90	89	92	78	82	85	83	84	82	90	79	70
71	83	85	81	83	100	84	84	92	88	88	86	79	88	92	86	84	91	90	92	79	83	85	83	85	82	90	79	71
72	83	85	82	83	100	85	85	92	89	88	86	80	88	93	87	85	91	90	93	80	83	86	84	85	83	90	80	72
73	84	86	82	84	100	85	85	92	89	89	87	81	88	93	87	85	91	90	93	80	84	86	84	86	84	91	81	73
74	85	86	83	85	100	86	86	93	89	89	87	81	89	93	88	86	92	91	93	81	85	87	85	86	84	91	82	74
75	85	87	84	85	100	87	86	93	90	90	88	82	89	94	88	86	92	91	94	82	85	87	86	87	85	92	82	75
76	86	87	84	86	100	87	87	93	90	90	88	83	90	94	89	87	92	91	94	82	86	88	86	88	85	92	83	76
77	86	88	85	86	100	88	87	94	91	90	89	83	90	94	89	87	93	92	94	83	86	88	87	88	86	92	84	77
78	87	88	86	87	100	88	88	94	91	91	89	84	91	94	90	88	93	92	94	84	87	89	87	89	87	93	84	78
79	88	89	86	88	100	89	88	94	91	91	90	85	91	95	90	88	93	92	95	85	88	89	88	89	87	93	85	79
80	88	89	87	88	100	89	89	94	92	92	90	86	91	95	91	89	94	93	95	85	88	90	88	90	88	93	86	80
81	89	90	88	89	100	90	90	95	92	92	91	86	92	95	91	90	94	93	95	86	89	90	89	90	88	94	87	81
82	89	90	88	89	100	90	90	95	93	92	91	87	92	95	92	90	94	94	95	87	89	91	90	91	89	94	87	82
83	90	91	89	90	100	91	91	95	93	93	92	88	93	96	92	91	95	94	96	88	90	91	90	91	90	94	88	83
84	91	92	90	91	100	91	91	96	93	93	92	88	93	96	92	91	95	94	96	88	91	92	91	92	90	95	89	84
85	91	92	90	91	100	92	92	96	94	94	93	89	94	96	93	92	95	95	96	89	91	92	91	92	91	95	89	85
86	92	93	91	92	100	92	92	96	94	94	93	90	94	96	93	92	96	95	96	90	92	93	92	93	91	95	90	86
87	92	93	92	92	100	93	93	96	95	95	94	91	94	97	94	93	96	95	97	91	92	93	92	93	92	96	91	87
88	93	94	92	93	100	94	93	97	95	95	94	91	95	97	94	93	96	96	97	91	93	94	93	94	93	96	91	88
89	94	94	93	94	100	94	94	97	95	95	95	92	95	97	95	94	96	96	97	92	94	94	94	94	93	96	92	89
90	94	95	94	94	100	95	95	97	96	96	95	93	96	97	95	95	97	96	97	93	94	95	94	95	94	97	93	90
91	95	95	94	95	100	95	95	97	96	96	96	94	96	98	96	95	97	97	98	93	95	95	95	95	95	97	94	91
92	95	96	95	95	100	96	96	98	97	97	96	94	97	98	96	96	97	97	98	94	95	96	95	96	95	97	94	92
93	96	96	95	96	100	96	96	98	97	97	97	95	97	98	97	96	98	97	98	95	96	96	96	96	96	98	95	93
94	96	97	96	96	100	97	97	98	98	97	97	96	97	98	97	97	98	98	98	96	96	97	97	97	96	98	96	94
95	97	97	97	97	100	97	97	99	98	98	98	96	98	99	98	97	98	98	99	96	97	97	97	97	97	98	96	95
96	98	98	97	98	100	98	98	99	98	98	98	97	98	99	98	98	99	99	99	97	98	98	98	98	98	99	97	96
97	98	98	98	98	100	98	98	99	99	99	99	98	99	99	99	98	99	99	99	98	98	98	98	98	98	99	98	97
98	99	99	99	99	100	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	98
99	99	99	99	99	100	99	99	100	100	100	100	99	100	100	100	99	100	100	100	99	99	99	99	99	99	100	99	99
100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

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101	101	101	101	101	100	101	101	100	100	100	101	100	100	100	101	100	100	100	101	101	101	101	101	101	101	100	101	101
102	101	101	101	101	100	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101	101
103	102	102	102	102	100	102	102	101	101	101	101	102	101	101	101	102	101	101	101	101	102	102	102	102	102	102	101	102
104	102	102	103	102	100	102	102	101	102	102	102	103	102	101	102	102	101	101	101	101	103	102	102	102	102	102	101	103
105	103	103	103	103	100	103	103	101	102	102	102	104	102	101	102	103	102	102	101	104	103	103	103	103	103	103	102	104
106	104	103	104	104	100	103	103	102	102	103	103	104	103	102	103	103	102	102	102	104	104	103	103	103	104	102	104	
107	104	104	105	104	100	104	104	102	103	103	103	105	103	102	103	104	102	103	102	105	104	104	104	104	104	102	105	
108	105	104	105	105	100	104	104	102	103	103	104	106	103	102	104	104	103	103	102	106	105	104	105	104	105	103	106	
109	105	105	106	105	100	105	105	103	104	104	104	106	104	102	104	105	103	103	102	107	105	105	105	105	105	103	106	
110	106	105	107	106	100	105	106	103	104	104	105	107	104	103	105	106	103	104	103	107	106	105	106	105	106	103	107	
111	106	106	107	106	100	106	106	103	105	105	105	108	105	103	105	106	104	104	103	108	106	106	106	106	107	104	108	
112	107	106	108	107	100	106	107	103	105	105	106	109	105	103	106	107	104	104	103	109	107	106	107	106	107	104	109	
113	108	107	108	108	100	107	107	104	105	105	106	109	106	103	106	107	104	105	103	109	108	107	108	107	108	104	109	
114	108	107	109	108	100	108	108	104	106	106	107	110	106	104	107	108	104	105	104	110	108	107	108	107	109	105	110	
115	109	108	110	109	100	108	108	104	106	106	107	111	106	104	107	108	105	105	104	111	109	108	109	108	109	105	111	
116	109	108	110	109	100	109	109	104	107	107	108	112	107	104	108	109	105	106	104	112	109	108	109	108	110	105	111	
117	110	109	111	110	100	109	109	105	107	107	108	112	107	104	108	109	105	106	104	112	110	109	110	109	110	106	112	
118	111	110	112	111	100	110	110	105	107	108	109	113	108	105	108	110	106	106	105	113	111	109	110	109	111	106	113	
119	111	110	112	111	100	110	110	105	108	108	109	114	108	105	109	110	106	107	105	114	111	110	111	110	112	106	113	
120	112	111	113	112	100	111	111	106	108	108	110	114	109	105	109	111	106	107	105	115	112	110	112	110	112	107	114	
121	112	111	114	112	100	111	112	106	109	109	110	115	109	105	110	112	107	108	105	115	112	111	112	111	113	107	115	
122	113	112	114	113	100	112	112	106	109	109	111	116	109	106	110	112	107	108	106	116	113	111	113	111	113	107	116	
123	114	112	115	114	100	112	113	106	109	110	111	117	110	106	111	113	107	108	106	117	114	112	113	112	114	108	116	
124	114	113	116	114	100	113	113	107	110	110	112	117	110	106	111	113	108	109	106	118	114	112	114	112	115	108	117	
125	115	113	116	115	100	114	114	107	110	111	112	118	111	107	112	114	108	109	107	118	115	113	115	113	115	109	118	
126	115	114	117	115	100	114	114	107	111	111	113	119	111	107	112	114	108	109	107	119	115	113	115	114	116	109	118	
127	116	114	118	116	100	115	115	108	111	111	113	119	112	107	113	115	109	110	107	120	116	114	116	114	116	109	119	
128	117	115	118	117	100	115	115	108	111	112	114	120	112	107	113	115	109	110	107	120	117	114	116	115	117	110	120	
129	117	115	119	117	100	116	116	108	112	112	114	121	112	108	114	116	109	110	108	121	117	115	117	115	118	110	121	
130	118	116	120	118	100	116	117	108	112	113	115	122	113	108	114	117	110	111	108	122	118	115	117	116	118	110	121	

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131	118	116	120	118	100	117	117	109	113	113	115	122	113	108	115	117	110	111	108	123	118	116	118	116	119	111	122	131
132	119	117	121	119	100	117	118	109	113	113	116	123	114	108	115	118	110	112	108	123	119	116	119	117	120	111	123	132
133	119	117	121	119	100	118	118	109	114	114	116	124	114	109	116	118	111	112	109	124	119	117	119	117	120	111	123	133
134	120	118	122	120	100	118	119	110	114	114	117	124	115	109	116	119	111	112	109	125	120	117	120	118	121	112	124	134
135	121	119	123	121	100	119	119	110	114	115	117	125	115	109	116	119	111	113	109	126	121	118	120	118	121	112	125	135
136	121	119	123	121	100	119	120	110	115	115	118	126	115	109	117	120	112	113	109	126	121	118	121	119	122	112	126	136
137	122	120	124	122	100	120	120	110	115	116	118	127	116	110	117	120	112	113	110	127	122	119	121	119	123	113	126	137
138	122	120	125	122	100	121	121	111	116	116	119	127	116	110	118	121	112	114	110	128	122	119	122	120	123	113	127	138
139	123	121	125	123	100	121	121	111	116	116	119	128	117	110	118	121	112	114	110	128	123	120	123	120	124	113	128	139
140	124	121	126	124	100	122	122	111	116	117	120	129	117	110	119	122	113	114	110	129	124	120	123	121	124	114	128	140
141	124	122	127	124	100	122	123	111	117	117	120	130	118	111	119	123	113	115	111	130	124	121	124	121	125	114	129	141
142	125	122	127	125	100	123	123	112	117	118	121	130	118	111	120	123	113	115	111	131	125	121	124	122	126	114	130	142
143	125	123	128	125	100	123	124	112	118	118	121	131	118	111	120	124	114	115	111	131	125	122	125	122	126	115	131	143
144	126	123	129	126	100	124	124	112	118	118	122	132	119	111	121	124	114	116	111	132	126	122	126	123	127	115	131	144
145	127	124	129	127	100	124	125	113	118	119	122	132	119	112	121	125	114	116	112	133	127	123	126	123	127	115	132	145
146	127	124	130	127	100	125	125	113	119	119	123	133	120	112	122	125	115	117	112	134	127	123	127	124	128	116	133	146
147	128	125	131	128	100	125	126	113	119	120	123	134	120	112	122	126	115	117	112	134	128	124	127	124	129	116	133	147
148	128	125	131	128	100	126	126	113	120	120	124	135	121	112	123	126	115	117	112	135	128	124	128	125	129	116	134	148
149	129	126	132	129	100	126	127	114	120	121	124	135	121	113	123	127	116	118	113	136	129	125	128	125	130	117	135	149
150	130	127	133	130	101	127	128	114	121	121	125	136	122	113	124	128	116	118	113	137	130	126	129	126	131	117	136	150
151	130	127	133	130	101	128	128	114	121	121	125	137	122	113	124	128	116	118	113	137	130	126	130	127	131	117	136	151
152	131	128	134	131	101	128	129	115	121	122	125	137	122	114	124	129	117	119	114	138	131	127	130	127	132	118	137	152
153	131	128	134	131	101	129	129	115	122	122	126	138	123	114	125	129	117	119	114	139	131	127	131	128	132	118	138	153
154	132	129	135	132	101	129	130	115	122	123	126	139	123	114	125	130	117	119	114	139	132	128	131	128	133	118	138	154
155	132	129	136	132	101	130	130	115	123	123	127	140	124	114	126	130	118	120	114	140	132	128	132	129	134	119	139	155
156	133	130	136	133	101	130	131	116	123	124	127	140	124	115	126	131	118	120	115	141	133	129	132	129	134	119	140	156
157	134	130	137	134	101	131	131	116	123	124	128	141	125	115	127	131	118	121	115	142	134	129	133	130	135	119	140	157
158	134	131	138	134	101	131	132	116	124	124	128	142	125	115	127	132	119	121	115	142	134	130	134	130	135	120	141	158
159	135	131	138	135	101	132	132	117	124	125	129	142	125	115	128	132	119	121	115	143	135	130	134	131	136	120	142	159
160	135	132	139	135	101	132	133	117	125	125	129	143	126	116	128	133	119	122	116	144	135	131	135	131	137	120	143	160

Note. GAI = General Ability Index. Presented in the order shown in the table, the correlations for the WIAT-III subtest scores are .59, .53, .65, .59, .01, .54, .55, .28, .41, .42, .49, .72, .43, .26, .47, .55, .32, .36, and .26, and the correlations for the WIAT-III composites are .73, .59, .51, .58, .52, .61, .34, and .71.

^aSupplemental scores.

Determining Significance

To determine whether each ability-achievement discrepancy is statistically significant, choose a desired level of significance (.05 or .01). Then, using Table 2 for the predicted-difference method or Table 3 for the simple-difference method, locate the difference required for significance for each subtest and composite standard score by reading across to the column for the selected level of significance. If the absolute value of the difference is greater than or equal to the critical value, then the discrepancy is statistically significant.

To determine how frequently a statistically significant difference occurred in the standardization validity sample, consult Table 2 for the predicted-difference method or Table 3 for the simple-difference method. Find the subtest or composite score being compared with GAI and read across to the base rate closest to the value of the difference. If the value of the difference is between two base rates, either report both base rates as a range, or report the base rate for the smaller of the two differences. If the value of the difference is smaller than the difference needed for a base rate of $\leq 15\%$, then report a base rate of $> 15\%$.

Table 2 WISC-IV Critical Values and Base Rates: Differences Between Predicted and Actual Achievement Subtest and Composite Standard Scores Required for Statistical Significance and Differences Obtained by Various Percentages of Students in the Validity Sample

Ages 6:0–16:11							
WIAT-III Subtests	WISC-IV Score	Critical Value <i>p</i>		Base Rate			
		.05	.01	$\leq 1\%$	$\leq 5\%$	$\leq 10\%$	$\leq 15\%$
Listening Comprehension	GAI	12.61	16.60	29	20	16	13
Early Reading Skills	GAI	11.43	15.05	30	21	17	14
Reading Comprehension	GAI	11.65	15.33	27	19	15	12
Math Problem Solving	GAI	9.48	12.48	29	20	16	13
Alphabet Writing Fluency	GAI	16.37	21.55	35	25	20	16
Sentence Composition	GAI	11.07	14.57	30	21	17	14
Word Reading	GAI	6.03	7.94	30	21	17	13
Essay Composition	GAI	10.32	13.58	34	24	19	15
Essay Composition: Grammar and Mechanics ^a	GAI	12.36	16.27	32	23	18	15
Pseudoword Decoding	GAI	5.66	7.45	32	23	18	15
Numerical Operations	GAI	8.29	10.92	31	22	17	14
Oral Expression	GAI	11.41	15.03	25	18	14	11
Oral Reading Fluency	GAI	8.18	10.77	32	23	18	15
Oral Reading Accuracy ^a	GAI	12.57	16.54	34	24	19	16
Oral Reading Rate ^a	GAI	8.25	10.87	31	22	17	14
Spelling	GAI	7.33	9.64	30	21	17	13
Math Fluency—Addition	GAI	11.54	15.19	34	24	19	15
Math Fluency—Subtraction	GAI	10.40	13.69	33	24	18	15
Math Fluency—Multiplication	GAI	9.42	12.40	34	24	19	16
WIAT-III Composites	WISC-IV Score	Critical Value <i>p</i>		Base Rate			
		.05	.01	$\leq 1\%$	$\leq 5\%$	$\leq 10\%$	$\leq 15\%$
Oral Language	GAI	9.81	12.91	24	17	14	11
Total Reading	GAI	6.16	8.11	29	20	16	13
Basic Reading	GAI	5.13	6.75	31	22	17	14
Reading Comprehension and Fluency	GAI	8.49	11.18	29	21	16	13
Written Expression	GAI	7.82	10.30	30	22	17	14
Mathematics	GAI	7.49	9.86	28	20	16	13
Math Fluency	GAI	7.47	9.84	33	24	19	15
Total Achievement	GAI	5.89	7.76	25	18	14	11

Note. GAI = General Ability Index.

^a Supplemental scores.

Table 3 WISC-IV Critical Values and Base Rates: Differences Between Ability and Achievement Subtest and Composite Standard Scores Required for Statistical Significance and Differences Obtained by Various Percentages of Students in the Validity Sample

Ages 6:0–16:11							
WIAT-III Subtests	WISC-IV Score	Critical Value <i>p</i>		Base Rate			
		.05	.01	≤1%	≤5%	≤10%	≤15%
Listening Comprehension	GAI	13.47	17.73	32	23	18	15
Early Reading Skills	GAI	12.47	16.42	34	24	19	16
Reading Comprehension	GAI	12.47	16.42	30	21	17	14
Math Problem Solving	GAI	10.60	13.95	32	23	18	15
Alphabet Writing Fluency	GAI	17.39	22.90	50	35	28	22
Sentence Composition	GAI	12.12	15.96	34	24	19	15
Word Reading	GAI	7.78	10.24	34	24	19	15
Essay Composition	GAI	11.76	15.48	42	30	24	19
Essay Composition: Grammar and Mechanics ^a	GAI	13.47	17.73	38	27	21	17
Pseudoword Decoding	GAI	7.78	10.24	38	27	21	17
Numerical Operations	GAI	9.75	12.84	36	25	20	16
Oral Expression	GAI	12.12	15.96	27	19	15	12
Oral Reading Fluency	GAI	9.75	12.84	38	27	21	17
Oral Reading Accuracy ^a	GAI	13.79	18.15	43	31	24	19
Oral Reading Rate ^a	GAI	9.75	12.84	36	26	20	17
Spelling	GAI	8.82	11.61	34	24	19	15
Math Fluency—Addition	GAI	12.82	16.87	41	29	23	19
Math Fluency—Subtraction	GAI	11.76	15.48	40	28	22	18
Math Fluency—Multiplication	GAI	11.00	14.48	43	31	24	19
WIAT-III Composites	WISC-IV Score	Critical Value <i>p</i>		Base Rate			
		.05	.01	≤1%	≤5%	≤10%	≤15%
Oral Language	GAI	10.60	13.95	26	19	15	12
Total Reading	GAI	7.78	10.24	32	23	18	15
Basic Reading	GAI	7.20	9.48	35	25	20	16
Reading Comprehension and Fluency	GAI	9.75	12.84	32	23	18	15
Written Expression	GAI	9.30	12.24	35	25	19	16
Mathematics	GAI	8.82	11.61	31	22	17	14
Math Fluency	GAI	9.30	12.24	41	29	23	18
Total Achievement	GAI	7.20	9.48	27	19	15	12

Note. GAI = General Ability Index.

^aSupplemental scores.

Correlations Between WIAT-III and WISC-IV GAI

A total of 117 students, ages 6 to 16 years, were administered the WIAT-III first and then the WISC-IV. Table 4 provides correlations between the WIAT-III subtest and composite scores and the WISC-IV GAI. The correlations between the WIAT-III composite scores and the WISC-IV GAI scores range from .34 to .73.

Table 4 Correlations Between WIAT-III Subtest and Composite Standard Scores and WISC-IV GAI

WIAT-III	WISC-IV Scores		WIAT-III	
	GAI	Mean	SD	n
Subtests				
Listening Comprehension	.59	99.04	12.96	117
Early Reading Skills	.53	100.03	10.87	35
Reading Comprehension	.65	100.46	13.34	113
Math Problem Solving	.59	100.64	14.81	117
Alphabet Writing Fluency	.01	98.63	15.13	35
Sentence Composition	.54	101.52	14.13	113
Word Reading	.55	101.16	14.10	113
Essay Composition	.28	97.02	15.52	90
Essay Composition: Grammar and Mechanics ^a	.41	97.97	15.18	90
Pseudoword Decoding	.42	99.49	14.34	113
Numerical Operations	.49	99.06	14.32	117
Oral Expression	.72	101.17	11.58	117
Oral Reading Fluency	.43	101.55	13.74	111
Oral Reading Accuracy ^a	.26	101.17	13.86	111
Oral Reading Rate ^a	.47	100.63	12.61	111
Spelling	.55	100.85	14.40	117
Math Fluency—Addition	.32	98.42	14.19	113
Math Fluency—Subtraction	.36	97.95	13.55	113
Math Fluency—Multiplication	.26	98.69	14.30	90
Composites				
Oral Language	.73	99.91	12.40	117
Total Reading	.59	100.40	14.55	112
Basic Reading	.51	100.18	14.09	113
Reading Comprehension and Fluency	.58	101.27	14.53	100
Written Expression	.52	99.83	14.67	117
Mathematics	.61	99.93	14.26	117
Math Fluency	.34	98.39	13.85	113
Total Achievement	.71	100.19	13.92	116
WISC-IV				
Mean		101.84		
SD		12.45		
n		117		

Note. GAI = General Ability Index.

^a Supplemental scores.

References

- Raiford, S., Weiss, L. G., Rolfhus, E., & Coalson, D. (2005). *General ability index* (WISC-IV Technical Report No. 4). Retrieved February 23, 2010, from <http://psychcorp.pearsonassessments.com/hai/Images/pdf/wisciv/WISCIVTechReport4.pdf>
- Rust, J., & Golombok, S. (1999). *Modern psychometrics: The science of psychological assessment* (2nd ed.). New York: Routledge.