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Calculating Discrepancies Between the WJ III GIA-Std Score and Selected *WJ III* *Tests of Cognitive Abilities* Clusters

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This bulletin outlines a step-by-step procedure for calculating discrepancies between the Woodcock-Johnson III (WJ III) General Intellectual Ability-Standard (GIA-Std) score and selected WJ III Tests of Cognitive Abilities clusters. It includes a reproducible worksheet for calculating these discrepancies. Tables of predicted CHC cluster scores, which were calculated based on the correlations between the measures and corrected for regression to the mean (Bloomers & Forsyth, 1977), are included. To determine the statistical significance of the discrepancy, the worksheet includes a calculation that uses the standard error of estimation (SEE) of the discrepancy score distribution, which is the appropriate standard deviation (SD) to use for this purpose.

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Calculating Discrepancies Between the WJ III GIA-Std Score and Selected *WJ III Tests of Cognitive Abilities Clusters*

The *WJ III Tests of Cognitive Abilities* (WJ III COG) (Woodcock, McGrew, & Mather, 2001) consists of 20 tests that measure general intellectual ability and several broad and narrow cognitive abilities. Interpretation guidelines from the *WJ III COG Examiner's Manual* (Mather & Woodcock, 2001) suggest use of the intra-cognitive discrepancy procedures to help identify cognitive (or information processing) strengths and weaknesses. In these procedures, each cluster score is compared to an expected score that is predicted from the average of all of the other clusters in the comparison and corrected for regression. These calculations are automated in the *WJ III Compuscore® and Profiles Program* (Schrank & Woodcock, 2003). There are two intra-cognitive discrepancy procedures. To obtain the Intra-Cognitive–Standard discrepancy scores, Tests 1 through 7 must be administered. To obtain the Intra-Cognitive–Extended discrepancy scores, Tests 1 through 7 and 11 through 17 must be administered. The Intra-Cognitive–Extended discrepancy procedure is the most useful for this purpose, because it compares seven CHC broad abilities, each measured by two qualitatively different tests. The pattern of strengths and weaknesses identified by these procedures can be used to help identify the primary cognitive processing correlates of a learning disability.

However, for some purposes, such as selective testing, examiners may wish to calculate a discrepancy between an individual's general intellectual ability (GIA-Std) score and one or a few broad CHC factor scores. This procedure is not automated in the *WJ III Compuscore and Profiles Program*. To perform this discrepancy comparison accurately, examiners will need to (1) obtain an expected score that accounts for the effect of regression to the mean, (2) calculate the difference between the obtained and expected cognitive cluster standard scores (*SS*), and (3) use the standard error of estimate (*SEE*) to evaluate the statistical significance of the resulting GIA-Std/cognitive cluster discrepancy score.

All expected scores must be estimated with a procedure that corrects for regression to the mean. Correction for regression to the mean is necessary whenever the correlation between two measures is not perfect. If the expected score is based on a procedure that does not correct for regression to the mean, the obtained discrepancy score will be inaccurate and will lead to biased predictions and inaccurate placement decisions. Discrepancy scores based on a procedure that does not account for regression to the mean will identify too many significant discrepancies for students with high GIA-Std scores and will identify too few significant discrepancies for students with low GIA-Std scores. Correcting for regression eliminates this over- and under-identification bias. Additionally, the magnitude of the underestimate will differ depending on the specific WJ III cognitive CHC cluster that is being compared to the GIA-Std score. This difference occurs because correlations vary across clusters and for the same cluster as a function of age.

The *SEE*, not the *SD* of the individual measures, must be used to determine the statistical significance of the discrepancy. Sometimes, assessment professionals calculate discrepancies between two measures using a simple point difference, such as 15 or 22 points. This practice is based on an incorrect assumption that 15- and 22-point discrepancies represent 1.0 and 1.5 standard deviations in the distribution of discrepancy scores. However, the standard deviation of the discrepancy score distribution (*SEE*) is smaller than the standard deviation of either of the individual measures (*SD*).

Table 1 presents the *SEE* values that should be used when comparing a particular WJ III CHC cluster score to the predicted score based on the GIA-Std score. These values range from 8.2 to 13.5. Note that the *SEE* values differ by cluster and age. Note also that the *SEE* values are not equal to the *SD* of the tests. For example, a one-*SEE* difference between the predicted and obtained Fluid Reasoning score for an 8-year-old is represented by 9.2 SS points.

Table 1.
*SEE Values for WJ III
Cognitive Clusters by
Age Group*

Cognitive Cluster	Age Group			
	6–8	9–13	14–19	20–29
Comprehension-Knowledge	10.0	9.7	9.4	9.2
Long-Term Retrieval	10.3	11.0	10.0	9.4
Visual-Spatial Thinking	13.5	13.2	12.2	11.6
Auditory Processing	12.3	12.3	11.6	10.4
Fluid Reasoning	9.2	9.2	8.8	8.2
Processing Speed	11.5	12.3	11.9	11.1
Short-Term Memory	10.3	10.7	10.0	10.0
Phonemic Awareness	12.1	12.2	11.3	10.3
Working Memory	9.6	10.0	9.6	9.2
Cognitive Fluency	13.2	13.5	12.8	12.2

Tables 2 to 5 present the predicted scores for each of ten selected CHC factor scores given a specific WJ III GIA-Std score. Because the correlations from which these values are obtained vary by age, there are four tables. Table 2 contains the expected scores for subjects ages 6 to 8. Table 3 contains the expected scores for subjects ages 9 to 13. Table 4 contains the expected scores for subjects ages 14 to 19. Table 5 contains the expected scores for subjects ages 20 to 39.

Table 6 provides the necessary information to evaluate the significance of a discrepancy. This table shows the relationship of *SEE* scores (*z*) to the percentage of the population that will be identified as having a significant discrepancy.

Procedures for Calculating Discrepancies between the GIA-Std and Selected WJ III COG Cluster Scores

To calculate discrepancies between the WJ III GIA-Std and selected WJ III COG cluster scores, use the worksheet provided on page 13 and follow these steps.

1. Record the WJ III GIA-Std score in the blank at the top right corner.
2. In Column 2, record the obtained standard scores for any of the WJ III COG clusters listed in Column 1.

3. Locate the Predicted Cluster Standard Score table (Table 2, 3, 4, or 5) for the subject's age.
4. Locate the WJ III GIA-Std score in the left column of the correct table. The columns to the right show the predicted WJ III COG cluster standard scores based on the obtained GIA-Std score. Record the predicted score for each cluster being compared in Column 3 Predicted Cluster Score.
5. Subtract the Predicted Cluster score(s) from the Actual Cluster score(s) and record these values, including the correct sign (+ or -) Column 4 *SS* Difference.
6. Locate the correct *SEE* value from Table 1 and record that value in Column 5 *SEE*.
7. Divide the value(s) in Column 4 *SS* Difference by the values in Column 5 *SEE*.
8. Record the resulting values in Column 6 Discrepancy *SD*. The Discrepancy *SD* is a standardized z score that expresses the discrepancy in standard deviation units such as +/- 1 or 1.5 *SD*. Use Table 6 to evaluate the significance of the discrepancy.

Table 2.

*Predicted WJ III Cognitive Cluster SS
 Given WJ III GIA-Std SS and Correction
 for Regression to the Mean—Ages 6 to 8*

GIA-Std SS	Predicted Standard Score									
	Comp-Knowledge	Long-Term Retrieval	Visual-Spatial Thinking	Auditory Processing	Fluid Reasoning	Processing Speed	Short-Term Memory	Phonemic Awareness	Working Memory	Cognitive Fluency
140	130	129	118	123	132	126	129	124	131	119
139	129	128	117	122	131	125	128	123	130	119
138	128	128	117	122	130	124	128	122	129	118
137	127	127	116	121	129	124	127	122	128	118
136	127	126	116	121	128	123	126	121	128	117
135	126	126	115	120	128	122	126	121	127	117
134	125	125	115	119	127	122	125	120	126	116
133	124	124	115	119	126	121	124	119	125	116
132	124	123	114	118	125	120	123	119	125	115
131	123	123	114	118	124	120	123	118	124	115
130	122	122	113	117	124	119	122	118	123	114
129	121	121	113	117	123	119	121	117	122	114
128	121	120	112	116	122	118	120	117	122	113
127	120	120	112	115	121	117	120	116	121	113
126	119	119	111	115	121	117	119	115	120	112
125	119	118	111	114	120	116	118	115	119	112
124	118	118	111	114	119	115	118	114	118	112
123	117	117	110	113	118	115	117	114	118	111
122	116	116	110	113	117	114	116	113	117	111
121	116	115	109	112	117	113	115	112	116	110
120	115	115	109	111	116	113	115	112	115	110
119	114	114	108	111	115	112	114	111	115	109
118	113	113	108	110	114	112	113	111	114	109
117	113	112	107	110	113	111	112	110	113	108
116	112	112	107	109	113	110	112	109	112	108
115	111	111	107	109	112	110	111	109	112	107
114	110	110	106	108	111	109	110	108	111	107
113	110	109	106	107	110	108	109	108	110	106
112	109	109	105	107	109	108	109	107	109	106
111	108	108	105	106	109	107	108	106	108	105
110	107	107	104	106	108	106	107	106	108	105
109	107	107	104	105	107	106	107	105	107	104
108	106	106	104	105	106	105	106	105	106	104
107	105	105	103	104	106	104	105	104	105	103
106	104	104	103	103	105	104	104	104	105	103
105	104	104	102	103	104	103	104	103	104	102
104	103	103	102	102	103	103	103	102	103	102
103	102	102	101	102	102	102	102	102	102	101
102	101	101	101	101	102	101	101	101	102	101
101	101	101	100	101	101	101	101	101	101	100

Table 2. (cont.)

*Predicted WJ III Cognitive Cluster SS
Given WJ III GIA-Std SS and Correction
for Regression to the Mean—Ages 6 to 8*

GIA-Std SS	Predicted Standard Score									
	Comp-Knowledge	Long-Term Retrieval	Visual-Spatial Thinking	Auditory Processing	Fluid Reasoning	Processing Speed	Short-Term Memory	Phonemic Awareness	Working Memory	Cognitive Fluency
100	100	100	100	100	100	100	100	100	100	100
99	99	99	100	99	99	99	99	99	99	100
98	99	99	99	99	98	99	99	99	98	99
97	98	98	99	98	98	98	98	98	98	99
96	97	97	98	98	97	97	97	98	97	98
95	96	96	98	97	96	97	96	97	96	98
94	96	96	97	97	95	96	96	96	95	97
93	95	95	97	96	94	96	95	96	95	97
92	94	94	96	95	94	95	94	95	94	96
91	93	93	96	95	93	94	93	95	93	96
90	93	93	96	94	92	94	93	94	92	95
89	92	92	95	94	91	93	92	94	92	95
88	91	91	95	93	91	92	91	93	91	94
87	90	91	94	93	90	92	91	92	90	94
86	90	90	94	92	89	91	90	92	89	93
85	89	89	93	91	88	90	89	91	88	93
84	88	88	93	91	87	90	88	91	88	92
83	87	88	93	90	87	89	88	90	87	92
82	87	87	92	90	86	88	87	89	86	91
81	86	86	92	89	85	88	86	89	85	91
80	85	85	91	89	84	87	85	88	85	90
79	84	85	91	88	83	87	85	88	84	90
78	84	84	90	87	83	86	84	87	83	89
77	83	83	90	87	82	85	83	86	82	89
76	82	82	89	86	81	85	82	86	82	88
75	82	82	89	86	80	84	82	85	81	88
74	81	81	89	85	79	83	81	85	80	88
73	80	80	88	85	79	83	80	84	79	87
72	79	80	88	84	78	82	80	83	78	87
71	79	79	87	83	77	81	79	83	78	86
70	78	78	87	83	76	81	78	82	77	86
69	77	77	86	82	76	80	77	82	76	85
68	76	77	86	82	75	80	77	81	75	85
67	76	76	85	81	74	79	76	81	75	84
66	75	75	85	81	73	78	75	80	74	84
65	74	74	85	80	72	78	74	79	73	83
64	73	74	84	79	72	77	74	79	72	83
63	73	73	84	79	71	76	73	78	72	82
62	72	72	83	78	70	76	72	78	71	82
61	71	72	83	78	69	75	72	77	70	81
60	70	71	82	77	68	74	71	76	69	81

Table 3.

*Predicted WJ III Cognitive Cluster SS
 Given WJ III GIA-Std SS and Correction
 for Regression to the Mean—Ages 9 to 13*

GIA-Std SS	Predicted Standard Score									
	Comp-Knowledge	Long-Term Retrieval	Visual-Spatial Thinking	Auditory Processing	Fluid Reasoning	Processing Speed	Short-Term Memory	Phonemic Awareness	Working Memory	Cognitive Fluency
140	130	127	119	123	132	123	128	123	130	117
139	130	127	118	122	131	122	127	123	129	117
138	129	126	118	122	130	122	127	122	128	116
137	128	125	117	121	129	121	126	121	127	116
136	127	124	117	121	128	121	125	121	127	115
135	127	124	116	120	128	120	125	120	126	115
134	126	123	116	119	127	119	124	120	125	115
133	125	122	116	119	126	119	123	119	124	114
132	124	122	115	118	125	118	122	119	124	114
131	124	121	115	118	124	118	122	118	123	113
130	123	120	114	117	124	117	121	117	122	113
129	122	120	114	117	123	117	120	117	121	112
128	121	119	113	116	122	116	120	116	121	112
127	121	118	113	115	121	115	119	116	120	112
126	120	118	112	115	121	115	118	115	119	111
125	119	117	112	114	120	114	118	115	119	111
124	118	116	111	114	119	114	117	114	118	110
123	117	116	111	113	118	113	116	113	117	110
122	117	115	110	113	117	113	115	113	116	109
121	116	114	110	112	117	112	115	112	116	109
120	115	114	109	111	116	111	114	112	115	109
119	114	113	109	111	115	111	113	111	114	108
118	114	112	108	110	114	110	113	110	113	108
117	113	112	108	110	113	110	112	110	113	107
116	112	111	108	109	113	109	111	109	112	107
115	111	110	107	109	112	109	111	109	111	106
114	111	110	107	108	111	108	110	108	110	106
113	110	109	106	107	110	107	109	108	110	106
112	109	108	106	107	109	107	108	107	109	105
111	108	107	105	106	109	106	108	106	108	105
110	108	107	105	106	108	106	107	106	107	104
109	107	106	104	105	107	105	106	105	107	104
108	106	105	104	105	106	105	106	105	106	103
107	105	105	103	104	106	104	105	104	105	103
106	105	104	103	103	105	103	104	103	104	103
105	104	103	102	103	104	103	104	103	104	102
104	103	103	102	102	103	102	103	102	103	102
103	102	102	101	102	102	102	102	102	102	101
102	102	101	101	101	102	101	101	101	101	101
101	101	101	100	101	101	101	101	101	101	100

Table 3. (cont.)

*Predicted WJ III Cognitive Cluster SS
 Given WJ III GIA-Std SS and Correction
 for Regression to the Mean—Ages 9 to 13*

GIA-Std SS	Predicted Standard Score									
	Comp-Knowledge	Long-Term Retrieval	Visual-Spatial Thinking	Auditory Processing	Fluid Reasoning	Processing Speed	Short-Term Memory	Phonemic Awareness	Working Memory	Cognitive Fluency
100	100	100	100	100	100	100	100	100	100	100
99	99	99	100	99	99	99	99	99	99	100
98	98	99	99	99	98	99	99	99	99	99
97	98	98	99	98	98	98	98	98	98	99
96	97	97	98	98	97	98	97	98	97	98
95	96	97	98	97	96	97	97	97	96	98
94	95	96	97	97	95	97	96	97	96	97
93	95	95	97	96	94	96	95	96	95	97
92	94	95	96	95	94	95	94	95	94	97
91	93	94	96	95	93	95	94	95	93	96
90	92	93	95	94	92	94	93	94	93	96
89	92	93	95	94	91	94	92	94	92	95
88	91	92	94	93	91	93	92	93	91	95
87	90	91	94	93	90	93	91	92	90	94
86	89	90	93	92	89	92	90	92	90	94
85	89	90	93	91	88	91	90	91	89	94
84	88	89	92	91	87	91	89	91	88	93
83	87	88	92	90	87	90	88	90	87	93
82	86	88	92	90	86	90	87	90	87	92
81	86	87	91	89	85	89	87	89	86	92
80	85	86	91	89	84	89	86	88	85	91
79	84	86	90	88	83	88	85	88	84	91
78	83	85	90	87	83	87	85	87	84	91
77	83	84	89	87	82	87	84	87	83	90
76	82	84	89	86	81	86	83	86	82	90
75	81	83	88	86	80	86	83	86	82	89
74	80	82	88	85	79	85	82	85	81	89
73	79	82	87	85	79	85	81	84	80	88
72	79	81	87	84	78	84	80	84	79	88
71	78	80	86	83	77	83	80	83	79	88
70	77	80	86	83	76	83	79	83	78	87
69	76	79	85	82	76	82	78	82	77	87
68	76	78	85	82	75	82	78	81	76	86
67	75	78	84	81	74	81	77	81	76	86
66	74	77	84	81	73	81	76	80	75	85
65	73	76	84	80	72	80	76	80	74	85
64	73	76	83	79	72	79	75	79	73	85
63	72	75	83	79	71	79	74	79	73	84
62	71	74	82	78	70	78	73	78	72	84
61	70	73	82	78	69	78	73	77	71	83
60	70	73	81	77	68	77	72	77	70	83

Table 4.

*Predicted WJ III Cognitive Cluster SS
 Given WJ III GIA-Std SS and Correction
 for Regression to the Mean—Ages 14 to 19*

GIA-Std SS	Predicted Standard Scores									
	Comp-Knowledge	Long-Term Retrieval	Visual-Spatial Thinking	Auditory Processing	Fluid Reasoning	Processing Speed	Short-Term Memory	Phonemic Awareness	Working Memory	Cognitive Fluency
140	131	130	123	125	132	124	130	126	131	121
139	130	129	123	125	132	124	129	126	130	120
138	130	128	122	124	131	123	128	125	129	120
137	129	127	121	123	130	123	127	124	128	119
136	128	127	121	123	129	122	127	124	128	119
135	127	126	120	122	128	121	126	123	127	118
134	127	125	120	121	128	121	125	122	126	118
133	126	124	119	121	127	120	124	122	125	117
132	125	124	119	120	126	120	124	121	125	117
131	124	123	118	120	125	119	123	120	124	116
130	123	122	117	119	124	118	122	120	123	116
129	123	121	117	118	123	118	121	119	122	115
128	122	121	116	118	123	117	121	118	122	115
127	121	120	116	117	122	116	120	118	121	114
126	120	119	115	116	121	116	119	117	120	114
125	120	119	115	116	120	115	119	117	119	113
124	119	118	114	115	119	115	118	116	118	112
123	118	117	113	114	119	114	117	115	118	112
122	117	116	113	114	118	113	116	115	117	111
121	116	116	112	113	117	113	116	114	116	111
120	116	115	112	113	116	112	115	113	115	110
119	115	114	111	112	115	112	114	113	115	110
118	114	113	110	111	115	111	113	112	114	109
117	113	113	110	111	114	110	113	111	113	109
116	112	112	109	110	113	110	112	111	112	108
115	112	111	109	109	112	109	111	110	112	108
114	111	110	108	109	111	109	110	109	111	107
113	110	110	108	108	111	108	110	109	110	107
112	109	109	107	108	110	107	109	108	109	106
111	109	108	106	107	109	107	108	107	108	106
110	108	107	106	106	108	106	107	107	108	105
109	107	107	105	106	107	105	107	106	107	105
108	106	106	105	105	106	105	106	105	106	104
107	105	105	104	104	106	104	105	105	105	104
106	105	104	103	104	105	104	104	104	105	103
105	104	104	103	103	104	103	104	103	104	103
104	103	103	102	103	103	102	103	103	103	102
103	102	102	102	102	102	102	102	102	102	102
102	102	101	101	101	102	101	101	101	102	101
101	101	101	101	101	101	101	101	101	101	101

Table 4. (cont.)

*Predicted WJ III Cognitive Cluster SS
Given WJ III GIA-Std SS and Correction
for Regression to the Mean—Ages 14 to 19*

GIA-Std SS	Predicted Standard Score									
	Comp-Knowledge	Long-Term Retrieval	Visual-Spatial Thinking	Auditory Processing	Fluid Reasoning	Processing Speed	Short-Term Memory	Phonemic Awareness	Working Memory	Cognitive Fluency
100	100	100	100	100	100	100	100	100	100	100
99	99	99	99	99	99	99	99	99	99	99
98	98	99	99	99	98	99	99	99	98	99
97	98	98	98	98	98	98	98	98	98	98
96	97	97	98	97	97	98	97	97	97	98
95	96	96	97	97	96	97	96	97	96	97
94	95	96	97	96	95	96	96	96	95	97
93	95	95	96	96	94	96	95	95	95	96
92	94	94	95	95	94	95	94	95	94	96
91	93	93	95	94	93	95	93	94	93	95
90	92	93	94	94	92	94	93	93	92	95
89	91	92	94	93	91	93	92	93	92	94
88	91	91	93	92	90	93	91	92	91	94
87	90	90	92	92	89	92	90	91	90	93
86	89	90	92	91	89	91	90	91	89	93
85	88	89	91	91	88	91	89	90	88	92
84	88	88	91	90	87	90	88	89	88	92
83	87	87	90	89	86	90	87	89	87	91
82	86	87	90	89	85	89	87	88	86	91
81	85	86	89	88	85	88	86	87	85	90
80	84	85	88	87	84	88	85	87	85	90
79	84	84	88	87	83	87	84	86	84	89
78	83	84	87	86	82	87	84	85	83	89
77	82	83	87	86	81	86	83	85	82	88
76	81	82	86	85	81	85	82	84	82	88
75	81	82	86	84	80	85	82	84	81	87
74	80	81	85	84	79	84	81	83	80	86
73	79	80	84	83	78	84	80	82	79	86
72	78	79	84	82	77	83	79	82	78	85
71	77	79	83	82	77	82	79	81	78	85
70	77	78	83	81	76	82	78	80	77	84
69	76	77	82	80	75	81	77	80	76	84
68	75	76	81	80	74	80	76	79	75	83
67	74	76	81	79	73	80	76	78	75	83
66	73	75	80	79	72	79	75	78	74	82
65	73	74	80	78	72	79	74	77	73	82
64	72	73	79	77	71	78	73	76	72	81
63	71	73	79	77	70	77	73	76	72	81
62	70	72	78	76	69	77	72	75	71	80
61	70	71	77	75	68	76	71	74	70	80
60	69	70	77	75	68	76	70	74	69	79

Table 5.

*Predicted WJ III Cognitive Cluster SS
 Given WJ III GIA-Std SS and Correction
 for Regression to the Mean—Ages 20 to 39*

GIA-Std SS	Predicted Standard Score									
	Comp-Knowledge	Long-Term Retrieval	Visual-Spatial Thinking	Auditory Processing	Fluid Reasoning	Processing Speed	Short-Term Memory	Phonemic Awareness	Working Memory	Cognitive Fluency
140	132	131	125	129	134	127	130	129	132	123
139	131	130	125	128	133	126	129	128	131	123
138	130	130	124	127	132	125	128	128	130	122
137	129	129	123	127	131	125	127	127	129	121
136	128	128	123	126	130	124	127	126	128	121
135	128	127	122	125	129	123	126	126	128	120
134	127	127	121	124	129	123	125	125	127	120
133	126	126	121	124	128	122	124	124	126	119
132	125	125	120	123	127	121	124	123	125	119
131	124	124	120	122	126	121	123	123	124	118
130	124	123	119	122	125	120	122	122	124	117
129	123	123	118	121	124	119	121	121	123	117
128	122	122	118	120	124	119	121	120	122	116
127	121	121	117	119	123	118	120	120	121	116
126	121	120	116	119	122	117	119	119	121	115
125	120	120	116	118	121	117	119	118	120	115
124	119	119	115	117	120	116	118	118	119	114
123	118	118	114	117	119	115	117	117	118	113
122	117	117	114	116	118	115	116	116	117	113
121	117	116	113	115	118	114	116	115	117	112
120	116	116	113	114	117	113	115	115	116	112
119	115	115	112	114	116	113	114	114	115	111
118	114	114	111	113	115	112	113	113	114	110
117	113	113	111	112	114	111	113	112	113	110
116	113	112	110	112	113	111	112	112	113	109
115	112	112	109	111	113	110	111	111	112	109
114	111	111	109	110	112	109	110	110	111	108
113	110	110	108	109	111	109	110	109	110	108
112	109	109	108	109	110	108	109	109	109	107
111	109	109	107	108	109	107	108	108	109	106
110	108	108	106	107	108	107	107	107	108	106
109	107	107	106	106	108	106	107	107	107	105
108	106	106	105	106	107	105	106	106	106	105
107	106	105	104	105	106	105	105	105	106	104
106	105	105	104	104	105	104	104	104	105	103
105	104	104	103	104	104	103	104	104	104	103
104	103	103	103	103	103	103	103	103	103	102
103	102	102	102	102	103	102	102	102	102	102
102	102	102	101	101	102	101	101	101	102	101
101	101	101	101	101	101	101	101	101	101	101

Table 5. (cont.)

Predicted WJ III Cognitive Cluster SS
 Given WJ III GIA-Std SS and Correction
 for Regression to the Mean—Ages 20 to 39

GIA-Std SS	Predicted Standard Score									
	Comp-Knowledge	Long-Term Retrieval	Visual-Spatial Thinking	Auditory Processing	Fluid Reasoning	Processing Speed	Short-Term Memory	Phonemic Awareness	Working Memory	Cognitive Fluency
100	100	100	100	100	100	100	100	100	100	100
99	99	99	99	99	99	99	99	99	99	99
98	98	98	99	99	98	99	99	99	98	99
97	98	98	98	98	97	98	98	98	98	98
96	97	97	97	97	97	97	97	97	97	98
95	96	96	97	96	96	97	96	96	96	97
94	95	95	96	96	95	96	96	96	95	97
93	94	95	96	95	94	95	95	95	94	96
92	94	94	95	94	93	95	94	94	94	95
91	93	93	94	94	92	94	93	93	93	95
90	92	92	94	93	92	93	93	93	92	94
89	91	91	93	92	91	93	92	92	91	94
88	91	91	92	91	90	92	91	91	91	93
87	90	90	92	91	89	91	90	91	90	92
86	89	89	91	90	88	91	90	90	89	92
85	88	88	91	89	87	90	89	89	88	91
84	87	88	90	88	87	89	88	88	87	91
83	87	87	89	88	86	89	87	88	87	90
82	86	86	89	87	85	88	87	87	86	90
81	85	85	88	86	84	87	86	86	85	89
80	84	84	87	86	83	87	85	85	84	88
79	83	84	87	85	82	86	84	85	83	88
78	83	83	86	84	82	85	84	84	83	87
77	82	82	86	83	81	85	83	83	82	87
76	81	81	85	83	80	84	82	82	81	86
75	80	81	84	82	79	83	82	82	80	86
74	79	80	84	81	78	83	81	81	79	85
73	79	79	83	81	77	82	80	80	79	84
72	78	78	82	80	76	81	79	80	78	84
71	77	77	82	79	76	81	79	79	77	83
70	76	77	81	78	75	80	78	78	76	83
69	76	76	80	78	74	79	77	77	76	82
68	75	75	80	77	73	79	76	77	75	81
67	74	74	79	76	72	78	76	76	74	81
66	73	73	79	76	71	77	75	75	73	80
65	72	73	78	75	71	77	74	74	72	80
64	72	72	77	74	70	76	73	74	72	79
63	71	71	77	73	69	75	73	73	71	79
62	70	70	76	73	68	75	72	72	70	78
61	69	70	75	72	67	74	71	72	69	77
60	68	69	75	71	66	73	70	71	68	77

Table 6.

*Relationship of SEE to
Statistical Significance*

SEE Units	0	-0.67	-1.04	-1.28	-1.34	-1.41	-1.48	-1.56	-1.64	-1.75	-1.88	-2.05	-2.33	<2.57
% of Population With Discrepancy	50	25	15	10	9	8	7	6	5	4	3	2	1	>1

References

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- Woodcock, R. W., McGrew, K. S., & Mather, N. (2001). *WJ III Tests of Cognitive Abilities*. Itasca, IL: Riverside Publishing.

WJ III GIA-Std/WJ III Cognitive Cluster Discrepancy Calculation Worksheet

Name _____

Age _____

WJ III GIA-Std _____

Column 1 WJ III CHC Clusters	Column 2 Actual Cluster Score	Column 3 Predicted Cluster Score (Table 2, 3, 4, or 5)	Column 4 SS Difference (+ or -)	Column 5 SEE	Column 6 Discrepancy SD (+ or -)
Comprehension-Knowledge	<input type="text"/>	- <input type="text"/>	= <input type="text"/>	÷ <input type="text"/>	= <input type="text"/>
Long-Term Retrieval	<input type="text"/>	- <input type="text"/>	= <input type="text"/>	÷ <input type="text"/>	= <input type="text"/>
Visual-Spatial Thinking	<input type="text"/>	- <input type="text"/>	= <input type="text"/>	÷ <input type="text"/>	= <input type="text"/>
Auditory Processing	<input type="text"/>	- <input type="text"/>	= <input type="text"/>	÷ <input type="text"/>	= <input type="text"/>
Fluid Reasoning	<input type="text"/>	- <input type="text"/>	= <input type="text"/>	÷ <input type="text"/>	= <input type="text"/>
Processing Speed	<input type="text"/>	- <input type="text"/>	= <input type="text"/>	÷ <input type="text"/>	= <input type="text"/>
Short-Term Memory	<input type="text"/>	- <input type="text"/>	= <input type="text"/>	÷ <input type="text"/>	= <input type="text"/>
Phonemic Awareness	<input type="text"/>	- <input type="text"/>	= <input type="text"/>	÷ <input type="text"/>	= <input type="text"/>
Working Memory	<input type="text"/>	- <input type="text"/>	= <input type="text"/>	÷ <input type="text"/>	= <input type="text"/>
Cognitive Fluency	<input type="text"/>	- <input type="text"/>	= <input type="text"/>	÷ <input type="text"/>	= <input type="text"/>



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