Supplemental Tables

The Woodcock-Johnson IV Tests of Achievement Provides Too Many Scores for Clinical Interpretation

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Table A1

Exploratory Bifactor Analysis Variance Apportionment of the Woodcock-Johnson Tests of Achievement-Fourth Edition (Ages 9-13) Five Factor Solution

Test	Factor					h^2	u^2	e^2	s^2
	ACH-*g*	Ga	Gq	Gs	Gc				
Letter Word Identification (Grw)	.86	**.24**	-.07	-.02	-.01	.81	.19	.06	.13
Applied Problems (Gq/Gf)	.71	-.04	**.31**	.00	**.23**	.66	.34	.08	.26
Spelling (Grw)	.82	**.24**	.01	.17	.07	.77	.23	.08	.15
Passage Comprehension (Grw)	.83	-.03	-.11	-.13	-.07	.72	.28	.11	.17
Calculation (Gq)	.77	-.06	**.51**	-.02	-.02	.85	.15	.07	.08
Writing Samples (Grw)	.67	.09	.03	-.15	-.17	.50	.50	.10	.40
Word Attack (Grw/Ga)	.69	**.49**	-.12	-.13	-.03	.75	.25	.10	.15
Oral Reading (Grw)	.74	.14	-.19	.15	-.02	.62	.38	.04	.34
Sentence Reading Fluency (GrwGs)	.76	.01	-.01	**.46**	-.07	.80	.21	.06	.15
Math Fact Fluency (Gq/Gs)	.66	.03	**.34**	**.44**	-.01	.74	.26	.04	.22
Sentence Writing Fluency	.73	-.04	.06	**.36**	-.11	.68	.33	.20	.13
Reading Recall (Grw/Glr)	.69	-.10	.02	-.09	-.22	.54	.46	.08	.38
Number Matrices (Gf)	.55	-.02	**.27**	.10	**.27**	.45	.55	.08	.47
Editing (Grw)	.80	.05	-.09	.10	.14	.68	.32	.09	.23
Word Reading Fluency (Grw/Gs)	.64	.-.06	-.01	**.53**	-.01	.69	.31	.08	.23
Spelling of Sounds (Grw/Ga)	.59	**.43**	.06	.05	.01	.54	.46	.12	.34
Reading Vocabulary (Grw/Gc)	.82	-.11	-.19	.00	**.27**	.79	.21	.12	.09
Science (Gc)	.57	.00	-.04	-.23	**.51**	.64	.36	.16	.20
Social Studies (Gc)	.60	.03	.03	-.08	**.51**	.63	.37	.13	.24
Humanities (Gc)	.53	-.01	-.02	-.03	**.61**	.65	.35	.13	.22
Common Variance (ECV %)	.74	.05	.05	.07	.09		.90	.10	.23

	ACH-*g*	Grw	Gq	Gc	Gs	h^2	u^2
Total Variance (%)	.50	.03	.03	.05	.06	.68	.32
ω_H / ω_{HS}	.92	.18	.36	.38	.17		
H	.96	.40	.35	.51	.58		

Note. ACH-*g* = general achievement, Grw = Reading/Writing, Gq = Quantitative Reasoning, Gc = Academic Knowledge/Crystallized Ability, Gs = Academic Fluency/Processing Speed. Ga=Auditory Processing. h^2 = communality; u^2 = uniqueness; e^2 =error (1-reliability); Reliability estimates from McGrew, LaForte, & Schrank (2014); s^2 = subtest specific variance (u^2-error); ω_H= omega hierarchical; ω_{HSh} = omega-hierarchical subscale. H= Index of construct replicability.

Table A2

Exploratory Bifactor Analysis Variance Apportionment of the Woodcock-Johnson Tests of Achievement-Fourth Edition (Ages 14-19) Five Factor Solution

Test	Factor					h^2	u^2	e^2	s^2
	ACH-*g*	Ga	Gq	Gs	Gc				
Letter-Word Identification (Grw)	.85	**.31**	-.08	.00	-.02	.81	.19	.06	.13
Applied Problems (Gq/Gf)	.76	-.08	**.36**	.00	.23	.66	.34	.08	.26
Spelling (Grw)	.81	**.31**	.02	.17	.11	.77	.23	.08	.15
Passage Comprehension (Grw)	.86	-.02	-.09	-.12	-.11	.72	.28	.11	.17
Calculation (Gq)	.79	-.06	**.51**	-.02	.05	.85	.15	.07	.08
Writing Samples (Grw)	.69	.07	.01	-.17	-.19	.50	.50	.10	.40
Word Attack (Grw/Ga)	.70	**.44**	-.06	-.20	-.04	.75	.25	.10	.15
Oral Reading (Grw)	.75	**.18**	-.11	.13	-.04	.62	.38	.04	.34
Sentence Reading Fluency (Grw/Gs)	.74	-.01	-.05	**.47**	-.08	.80	.21	.06	.15
Math Fact Fluency (Gq/Gs)	.61	.02	**.41**	**.43**	-.01	.74	.26	.04	.22
Sentence Writing Fluency (Grw/Gs)	.70	.00	.04	**.37**	-.11	.68	.33	.20	.13
Reading Recall (Grw/Glr)	.63	-.10	-.01	.01	-.28	.54	.46	.08	.38
Number Matrices (Gf)	.59	.02	**.29**	.06	.29	.45	.55	.08	.47
Editing (Grw)	.80	.12	-.02	.09	.15	.68	.32	.09	.23
Word Reading Fluency (Grw/Gs)	.60	-.04	.00	**.57**	.00	.69	.31	.08	.23
Spelling of Sounds (Grw/Ga)	.66	**.32**	.10	.00	-.05	.54	.46	.12	.34
Reading Vocabulary (Grw/Gc)	.85	-.05	-.15	.01	.25	.79	.21	.12	.09
Science (Gc)	.68	-.06	.03	-.21	.44	.64	.36	.16	.20
Social Studies (Gc)	.68	.02	.06	-.09	.45	.63	.37	.13	.24
Humanities (Gc)	.62	.00	-.01	-.03	.56	.65	.35	.13	.22
Explained Common Variance (ECV %)	.77	.04	.05	.08	.08				
Explained Total Variance (ETV %)	.52	.03	.04	.05	.05	.68	.32	.10	.23
ω_H / ω_{HS}	.93	.15	.30	.23	.25				

H	.96	.38	.37	.37	.50

Note. ACH-*g* = general achievement, Grw = Reading/Writing, Gq = Quantitative Reasoning, Gc = Academic Knowledge/Crystallized Ability, Gs = Academic Fluency/Processing Speed. Ga=Auditory Processing. h^2 = communality; u^2 = uniqueness; e^2 =error (1-reliability); Reliability estimates from McGrew, LaForte, & Schrank (2014); s^2 = subtest specific variance (u^2-error); ω_H = omega hierarchical; ω_{HSh} = omega-hierarchical subscale. H= Index of construct replicability.