

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- <i>g</i>	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 (Grw/Gs)	.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
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_{HS} = 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				

<i>H</i>	.96	.38	.37	.37	.50
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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.