

Table 1
 Studies Included in CHC Cognitive-Achievement Relations Research Synthesis: School-age Studies

Study category, number, authors, date	Type of sample ^a	Age (A) or grade (G) range	Sample n's (# samples analyzed)	Cog. batteries and CHC IVs ^b	CHC IVs strata included	Ach DV domains ^c	Type of Ach. DV ^d	Analysis method ^e
Manifest variables-no g (full scale IQ)								
1. McGrew (1993)	National norm	A 5-19	59-325 (15)	WJ-R	Broad narrow	BRS RC	WJ-R C	MR
2. McGrew & Hessler (1995)	National norm	A 5-19	113-325 (15)	WJ-R	Broad narrow	MCS, MR	WJ-R C	MR
3. Evans, Floyd & McGrew (2002)	National norm	A 6-19	96-431 (14)	WJ III	Broad narrow	BRS RC	WJ III C	MR
4. Floyd, Evans & McGrew (2003)	National norm	A 6-19	131-468 (14)	WJ III	Broad narrow	MCS MR	WJ III C	MR ^h
5. McGrew (2007)	National norm	A 6-19	892-1742 (3)	WJ III	Narrow	BRS RC BMS MR	WJ III T	MR
6. Miller (2000) ^f	Middle school RD	A 11-14	30 (1)	WJ-R/DAS/ SB-IV/WISC-III	Broad narrow	BRS RC	WJ III T	MR
7. Ganci (2004) ^f	Elem. RD/NRD	A 6-12	25 / 25 (2)	WISC-III/NEPSY	Broad	BRS RC	RD/NRD G	MANCOVA/DFA
8. Proctor, Floyd & Shaver (2005)	Low/Av BMS/MR	A 6-18	52-68 (4)	WJ III	Broad	BMS MR	WJ III C	ANOVA
9. Floyd, Bergeron & Alfonso (2006)	Low RC/Low Ach/Av Ach	G 2-12	28-50 (3)	WJ III	Broad narrow	RC	WJ III C	ANOVA
10. Hale, Fiorello, Dumont, Willis, Rackley & Elliott (2008) ^f	Linking MLD & normals	A 6-17	371 / 42 (2)	DAS-II	Broad narrow	BMS MR	WIAT-II T	RCA
Latent variables -g included								
11. McGrew, Keith, Flanagan & Vanderwood (1997) ^g	National norm	G 1-12	222-255 (10)	WJ-R	g broad narrow	BRS RC MR	WJ-R T	SEM(1)
12. Keith (1999) ^f	National norm	G 1-12	100-846 (9)	WJ-R	g broad narrow	BRS RC BMS MR	WJ-R T	SEM(1)
13. Flanagan (2000)	Elem. normals	G 3-4	166 (1)	WISC-R/WJ-R	g broad narrow	BRS RC	WJ-R T	SEM(1)
14. Vanderwood, McGrew, Flanagan & Keith (2002) ^g	National norm	G 1-12	222-255 (10)	WJ-R	g broad narrow	BRS RC	WJ-R T	SEM(1)
15. Floyd, Keith, Taub & McGrew (2007)	National norm	A 5-19	110-1007 (8)	WJ III	g broad narrow	BRS	WJ III C	SEM(2)
16. Taub, Floyd, Keith & McGrew (2008)	National norm	A 5-19	110-1007 (8)	WJ III	g broad	BM	WJ III C	SEM(2)
17. McGrew (2008)	Elem normals	G 3-5	148 (1)	WISC-III/WJ III	g broad	BRS RC BMS MR	WJ III C	SEM(1,2)
18. Benson (2008)	National norm	G K-12	269-275 (6)	WJ III	g broad narrow	BRS RC RF	WJ III C	SEM(3)
19. Bensen & Moseley (2009)	National norm	A 5-19	245-1105 (8)	WJ III	g broad	BMS MR	WJ III C	SEM(3)

Table 1 continued next page

Table 1 (continued)

Note. Studies are organized into two broad categories as a function of the type of variables analyzed; studies that analyzed manifest or measured variables (MV) and did not include a full-scale (*g*-type) IQ score and studies that analyzed latent variables (LV) and included a *g*-factor (see Keith, 2006).

Note. Studies 1, 2, 11, 12 and 14 all used the WJ-R standardization data and are thus not independent samples. They either focused on different Ach DVs (Rdg vs Math) or employed different data analytic methods or IV-->DV models. A similar situation exists for WJ III studies 3-5, 15, 16, 18, and 19.

Note. IV = independent (predictor) variable; DV = dependent (criterion) variable.

^a RD = reading disabled; NRD = non-reading disabled. National norm are samples comprised of subjects from test battery standardization samples. Hale et al. (2008) two samples (normal and math LD-MLD) were drawn from DAS-II/WIAT-II special linking sample.

^b WJ-R = Woodcock Johnson--Revised; WJ III = Woodcock Johnson III; DAS = Differential Abilities Scales; SB-IV = Stanford-Binet Fourth Edition; WISC-III = Wechsler Intelligence Scale for Children—Third Edition; WISC-R = Wechsler Intelligence Scale for Children—Revised; DAS-II = Differential Abilities Scales--Second Edition; CB = Cross-battery assessment.

^c BRS = Basic reading skills; RC = Reading comprehension; RF = Reading fluency; MCS = Math calculation skills; MR = Math Reasoning.

^d C = composite or cluster; T = individual test; G = group membership.

^e MR = Simultaneous or standard multiple regression; MANCOVA = multivariate analysis of covariance; DFA = discriminant function analysis; ANOVA = analysis of variance; RCA = regression commonality analysis; SEM = structural equation modeling. A more detailed discussion of these methods, including visual-graphic representations of each approach are available at: <http://tinyurl.com/nhjr23>

^f All studies, except four, included indicators from seven CHC cognitive domains (Gf, Gc, Glr, Ga, Gv, Gsm, Gs). Miller (2000) did not include Gv; Ganci (2004) did not include Gv, Gf; Hale et al. (2008) did not include Ga; Keith (1999) did not include Gv, Glr.

^g McGrew et al. (1997; study # 11) presented summary results of separate reading and math analyses. The detailed reading results were later published in Vanderwood et al. (2001; study # 14) and are coded for study # 14 and not study #11. The detailed math results were never published—these results are coded for study # 11.

^h Step-wise (backward stepping) multiple regression.