

Comparing the WJIII-COG, NEPSY, and D-KEFS Scores of Memory in a Mixed Clinical Group Sample

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These data were drawn from a archival sample of 316 case studies that were conducted by students in the School Neuropsychology Post-Graduate Certification Program (2001 - 2007). There were 216 males (68%) and 98 females (31%) and 2 not identified (.6%) in the sample. There were 72 Caucasians (22.8%), 8 African-Americans (2.5%), 24 Hispanic/Latino Americans (7.6%), 2 Asian-Americans (.6%), 3 biracial (.9%), 1 foreign-national (.3%), and 206 with ethnicity not identified (65.2%). The range of the ages of the sample was 3.4 to 18.7 years.

School Neuropsychology Conceptual Model (Miller, 2007)

	N	Mean (SD)
Verbal Immediate Memory		
• WJIII-COG Numbers Reversed	194	88.45 (14.10)
• WJIII-COG Memory for Words	153	90.47 (15.04)
Visual Immediate Memory		
• WJIII-COG Picture Recognition	164	101.01 (11.89)
• NEPSY Memory for Faces	137	10.40 (3.37)
Associative Learning		
• WJIII-COG Visual Auditory Learning	181	87.41 (17.03)
• NEPSY Memory for Names	138	7.81 (3.49)
Verbal Long Term Memory		
• WJIII-COG Retrieval Fluency	176	89.18 (14.56)
• NEPSY Narrative Memory	140	8.19 (3.42)
Visual Long Term Memory		
• NEPSY Memory for Faces	137	10.40 (3.37)
Associative Memory (Delayed)		
• WJIII-COG Visual Auditory Learning - Delayed	29	83.66 (25.25)
• NEPSY Memory for Names	138	7.81 (3.49)
Working Memory		
• WJIII-COG Numbers Reversed	194	88.45 (14.10)
• WJIII-COG - Auditory Working Memory	193	95.51 (14.83)

Exploratory Factor Analyses

Factor Analysis Variables: All variables

Factor	Eigenvalue	% of variance	Cumulative Variance
1	3.56	35.63%	35.63%
2	2.44	24.44%	60.06%
3	1.63	16.33%	76.39%
4	1.03	10.33%	86.72%

Factor Loadings:

	Factor 1	Factor 2	Factor 3	Factor 4
WJIII-COG Scores				
-Numbers Reversed	.22	-.64	.04	.64
-Memory for Words	.54	-.47	-.53	.09
-Picture Recognition	-.15	.65	.47	.13
-Visual Auditory Learning	.53	.59	-.17	.56
-Retrieval Fluency	-.61	-.63	.08	.22
-Visual Auditory Learning - Delayed	.53	.59	-.17	.56
-Auditory Working Memory	.59	-.33	.69	.13
NEPSY Scores				
-Memory for Faces	-.43	.63	.13	.35
-Memory for Names	.95	.11	.15	.04
-Narrative Memory	.74	-.13	.54	-.29

Factor Labels: Verbal Memory Visual Memory Semantic Memory ?????

	WJIII COG Measures								NEPSY Measures		
		WJNR	WJMW	WJPR	WJVAL	WJRF	WJVAD	WJAWM	MF	MN	NM
WJIII COG Measures	WJNR	-----	.51 (<.001)	.12 (.13)	.23 (.002)	.38 (<.001)	.37 (.06)	.43 (<.001)	.17 (.11)	.25 (.01)	-.26 (.01)
	WJMW	-----	-----	.01 (.96)	.18 (.03)	.25 (.002)	.46 (.04)	.40 (<.001)	-.002 (.99)	.25 (.03)	.40 (<.001)
	WJPR	-----	-----	-----	.24 (.003)	.25 (.002)	-.04 (.87)	.31 (<.001)	.21 (.04)	.19 (.08)	.30 (.005)
	WJVAL	-----	-----	-----	-----	.12 (.14)	.77 (<.001)	.32 (<.001)	.21 (.051)	.41 (<.001)	.21 (.053)
	WJRF	-----	-----	-----	-----	-----	-.15 (.49)	.32 (<.001)	.11 (.31)	.27 (.009)	.19 (.07)
	WJVAD	-----	-----	-----	-----	-----	-----	.35 (.06)	-.08 (.80)	.65 (.02)	-.003 (.99)
	WJAWM	-----	-----	-----	-----	-----	-----	-----	.10 (.35)	.36 (<.001)	.43 (<.001)
	NEPSY Measures	MF	-----	-----	-----	-----	-----	-----	-----	.42 (<.001)	.11 (.24)
	MN	-----	-----	-----	-----	-----	-----	-----	-----	.31 (<.001)	
	NM	-----	-----	-----	-----	-----	-----	-----	-----	-----	

Implications:

- The WJIII COG Memory and Learning tests seem to measure broader aspects of memory and learning due to the high number of intercorrelations.
- The NEPSY Memory and Learning tests seem to be clearly measuring specific components of memory (e.g. visual memory (MF), verbal-visual associative memory (MN), and verbal memory (NM)).
- The broad constructs of verbal and visual memory may be supported based on these data; however, separating the tests into narrower categories may not be supported based on the selected measures.
- The factor analysis yielded three factors which could be labeled as verbal memory, visual memory, and tasks that require an increased semantic memory. The reasons for the fourth factor are unclear.