Supplemental Table 1. Comparison of Criterion Validity Between the General Cognitive Performance Factor and its Constituent Cognitive Tests: Results from ADAMS (N=856)

	CIND		Dementia	
	Area under the curve	P-value compared to the general factor	Area under the curve	P-value compared to the general factor
General cognitive performance	0.84		0.97	
Trails A	0.75	<0.001	0.81	<0.001
Trails B	0.77	<0.001	0.86	<0.001
Digit Span Forwards	0.68	<0.001	0.79	<0.001
Digit Span Backwards	0.69	<0.001	0.83	<0.001
Semantic Fluency	0.72	<0.001	0.94	<0.001
Phonemic Fluency	0.68	<0.001	0.86	<0.001
Boston Naming Test - 15 items	0.73	<0.001	0.88	<0.001
Symbol Digit Modalities	0.82	<0.001	0.92	<0.001
CERAD word recall - immediate	0.79	<0.001	0.99	<0.001
CERAD word recall - delayed	0.70	<0.001	0.91	<0.001

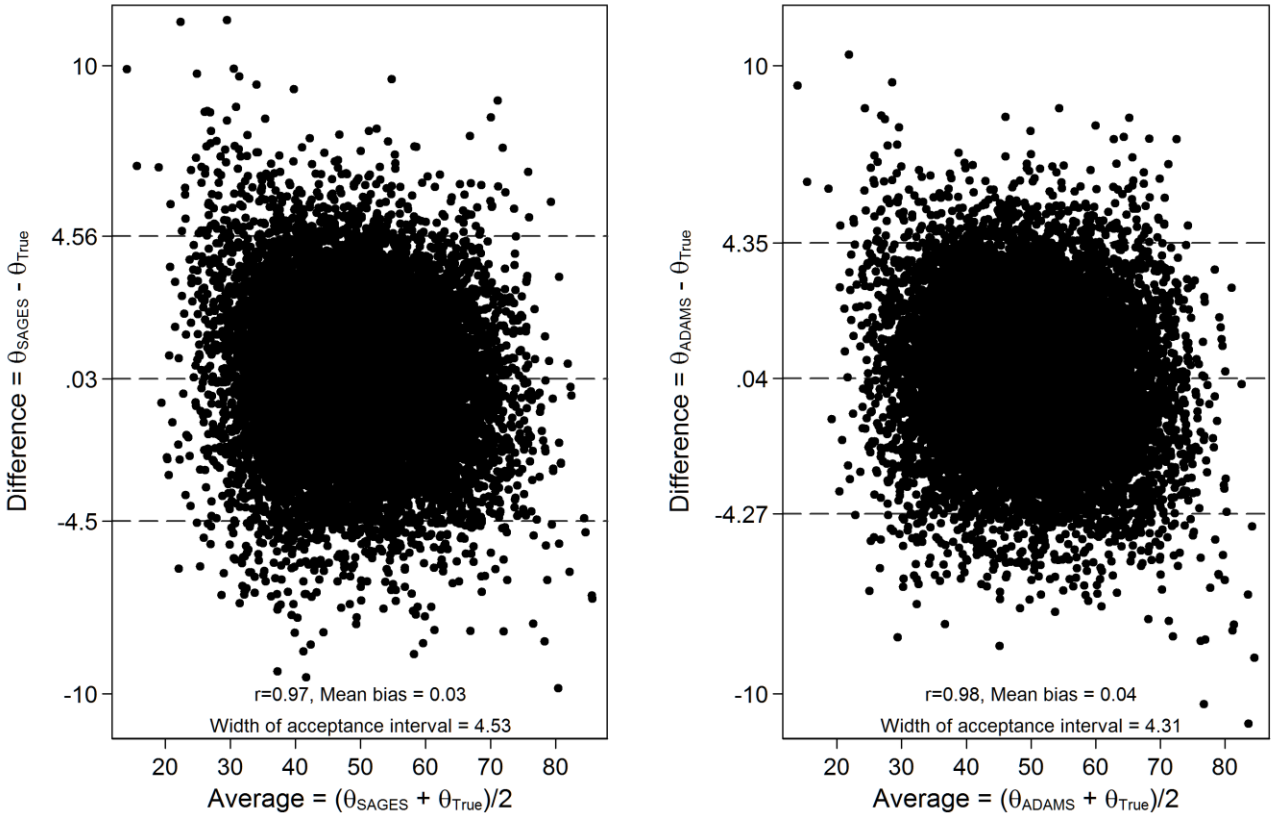
Legend. Test scores were validated against reference standard clinical diagnoses of either dementia or CIND. Areas under the curve were compared to the general cognitive performance factor.

CERAD: Consortium to Establish a Registry for Alzheimer's Disease; CIND: Cognitive impairment without dementia

Supplemental Table 2. Cutoffs for bins of cognitive tests.

Cognitive test	Number of categories	Interval of original test score units									
		Bin1	Bin2	Bin3	Bin4	Bin5	Bin6	Bin7	Bin8	Bin9	Bin10
Trails A (Time to complete, seconds)	10	144, 150	129, 143	115, 128	100, 114	86, 99	72, 85	57, 71	43, 56	29, 42	16, 28
Trails B (Time to complete, seconds)	10	287, 300	256, 281	226, 254	196, 225	166, 195	136, 165	106, 135	76, 105	46, 75	28, 45
Digit Span Forwards (Total number of digits)	9	0, 0	1, 2	3, 4	5, 6	7, 8	9, 9	10, 11	12, 13	14, 16	
Digit Span Backwards (Total number of digits)	10	0, 0	1, 2	3, 3	4, 5	6, 6	7, 7	8, 9	10, 10	11, 12	13, 13
Semantic Fluency (Number of items)	9	0, 1	2, 5	6, 9	10, 12	13, 16	17, 20	21, 23	24, 27	28, 33	
Phonemic Fluency (Number of items)	9	0, 3	4, 11	12, 18	19, 25	26, 33	34, 40	41, 47	48, 55	56, 66	
Boston Naming Test - 15 items (Number of items)	10	0, 0	1, 2	3, 4	5, 5	6, 7	8, 9	10, 10	11, 12	13, 14	15, 15
Symbol Digit Modalities (Total number of correct numbers)	9	0, 3	4, 10	11, 17	18, 24	25, 31	32, 38	39, 45	46, 50	54, 63	
Digit Symbol Substitution (Total number of correct symbols)	8	5, 20	21, 26	27, 32	33, 39	40, 45	46, 51	52, 57	58, 61		
CERAD word recall – immediate (Number of words)	9	0, 1	2, 4	5, 8	9, 11	12, 14	15, 17	18, 20	21, 24	25, 29	
HVLT sum of recall – immediate (Number of words)	8	5, 13	14, 16	17, 19	20, 22	23, 25	26, 29	30, 31	33, 34		
CERAD word recall – delayed (Number of words recalled)	9	0, 11	12, 33	37, 55	57, 77	80, 100	111, 120	125, 140	150, 150	200, 200	
HVLT sum of recall – delayed (Number of words)	7	0, 0	25, 50	55, 66	70, 83	85, 91	100, 116	120, 150			
Visual Search and Attention (Number of targets)	8	20, 27	28, 32	33, 37	38, 42	43, 46	47, 51	52, 56	57, 64		

Supplemental Figure 1. Bland-Altman Plot of General Cognitive Performance Factors in Simulated Data (N=100,001)



Legend. This plot is used to examine systematic bias in the general cognitive performance measures in SAGES and in ADAMS compared with a true score known in simulated data. The Y axis of each panel shows the difference between a factor score using test items from SAGES (left panel) or ADAMS (right panel) and a true factor score using all items in simulated data. The X axis shows the mean of the scores. Horizontal dotted lines depict the mean difference, or bias, with 95% confidence bounds between the two scores. The high correlation (r=0.97 in SAGES; r=0.98 in SAGES), small amount of bias (in SAGES, 0.03 points, or a 0.0003 standard deviation difference), and lack of systematic deviation over the range of cognitive functioning suggests the general cognitive performance scores in SAGES and ADAMS are the same.