Cognitive Assessment System Second Edition

- A complete set of tools for use across multiple settings

CAS2 Symposium Schedule

- 8:00–8:20 (20 minutes)
  - Description of the CAS2, CAS2 Brief and CAS2 Rating Scales Jack Naglieri
- 8:20–8:35 (20 minutes)
  - High lights of Validity (Confirmatory FA, etc.) Beth Allen
- 8:35–8:55 (20 minutes)
  - A case study illustrating SLD (with Discrepancy / Consistency model) Sam Goldstein
- 8:55 –9:10 (20 minutes)
  - CAS2 and assessment of Hispanic Students Tulio Otero
- *Note: questions within each 20 minute segment*

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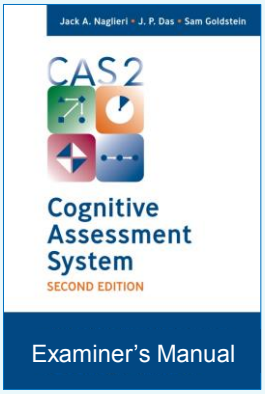
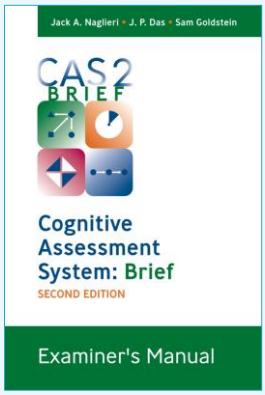
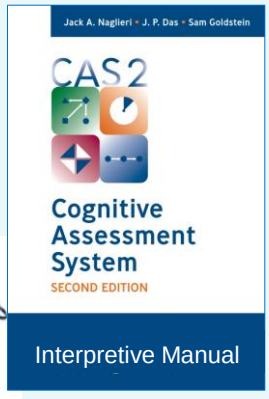
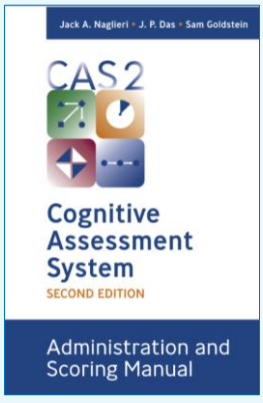
CAS2 (Naglieri, Das & Goldstein, 2014)

CAS2 (12 subtests)	CAS2 Brief (4 subtests)	CAS2 Rating Scale
		

CAS2 (Ages 5–18 yrs.)



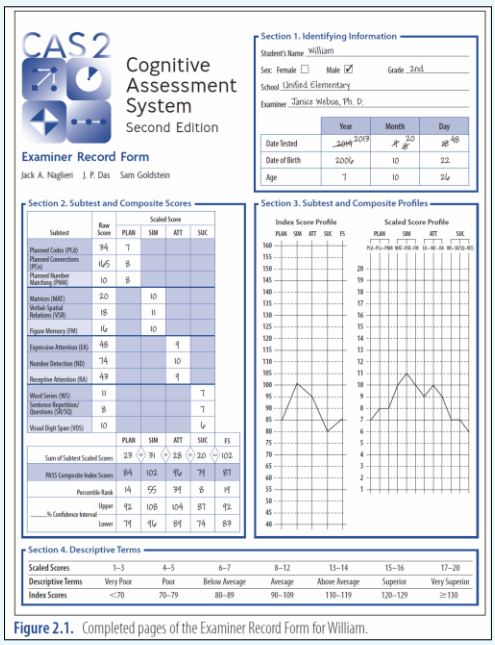


CAS2 Development Goals

- CAS2
  - New norms
  - Strengthen reliability of the scales by modifying subtest formats
  - Improve factor structure
  - Add/delete items
  - Add a visual Successive subtest
  - Add new scales beyond PASS

CAS2

- Same 8 (40 minutes) or 12 (60 minutes) subtest versions
- PASS and Full Scales provided (100 & 15) subtests (10 and 3)


CAS2
Cognitive Assessment System
Second Edition
Examiner Record Form
Jack A. Naglieri J. P. Das Sam Goldstein

Section 1. Identifying Information
Student's Name William
Sex: Female ☐ Male ☑ Grade 2nd
School Unified Elementary
Examiner Janice Webus, Ph. D.

	Year	Month	Day
Date Tested	2014 2013	4 10	18
Date of Birth	2006	10	22
Age	7	10	24

Section 2. Subtest and Composite Scores

Subtest	Raw Score	Scaled Score PLAN	SIM	ATT	SUC
Planned Codes (PCd)	34	7			
Planned Connections (PCn)	105	8			
Planned Number Matching (PNM)	10	8			
Matrices (MAT)	20		10		
Verbal-Spatial Relations (VSR)	18		11		
Figure Memory (FM)	14		10		
Expressive Attention (EA)	48			9	
Number Detection (ND)	74			10	
Receptive Attention (RA)	49			9	
Word Series (WS)	11				7
Sentence Repetition/ Questions (SR/SQ)	8				7
Visual-Digit Span (VDS)	10				6

	PLAN	SIM	ATT	SUC	FS
Sum of Subtest Scaled Scores	23	31	28	20	102
PASS Composite Index Scores	84	102	96	79	97
Percentile Rank	14	55	39	8	19
95% Confidence Interval Upper	92	108	104	87	92
95% Confidence Interval Lower	79	96	89	74	89

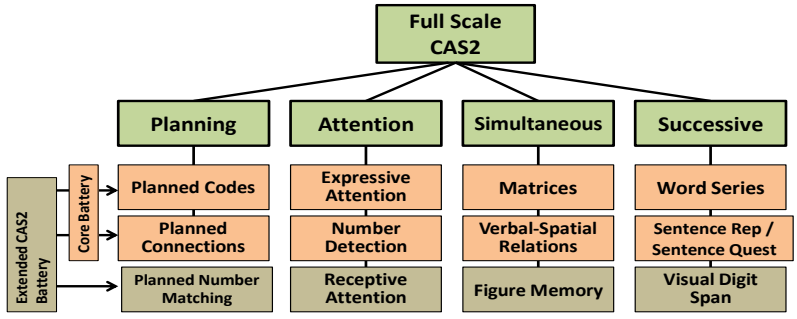
Section 3. Subtest and Composite Profiles
Index Score Profile
Scaled Score Profile

Section 4. Descriptive Terms

Scaled Scores	1–3	4–5	6–7	8–12	13–14	15–16	17–20
Descriptive Terms	Very Poor	Poor	Below Average	Average	Above Average	Superior	Very Superior
Index Scores	<70	70–79	80–89	90–109	110–119	120–129	≥130

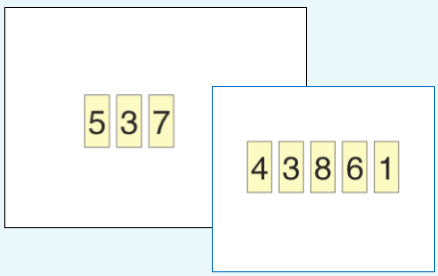
Figure 2.1. Completed pages of the Examiner Record Form for William.

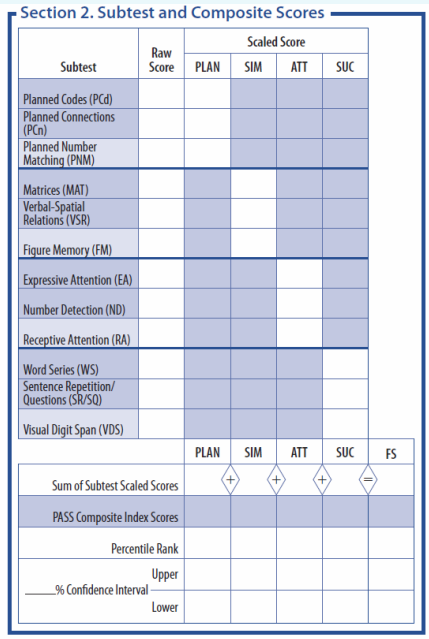
CAS2 Scale and Subtest Structure



CAS2

- Planning subtests have more items
- All subtests modified
- New: Visual Digit





Section 2. Subtest and Composite Scores

Subtest	Raw Score	Scaled Score PLAN	SIM	ATT	SUC
Planned Codes (PCd)					
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Verbal-Spatial Relations (VSR)					
Figure Memory (FM)					
Expressive Attention (EA)					
Number Detection (ND)					
Receptive Attention (RA)					
Word Series (WS)					
Sentence Repetition/ Questions (SR/SQ)					
Visual Digit Span (VDS)					

	PLAN	SIM	ATT	SUC	FS
Sum of Subtest Scaled Scores		+	+	+	=
PASS Composite Index Scores					
Percentile Rank					
% Confidence Interval Upper					
% Confidence Interval Lower					

CAS2

- Supplementary Scales are now provided to measure Executive Function, Working Memory, Verbal, Nonverbal and Visual/Auditory

Visual–Auditory Comparison

	Scaled Score
Word Series	_____
Visual Digit Span	_____
Difference (ignore sign)	_____
Circle one: .05 .10 NS	

Supplemental Composite Scores

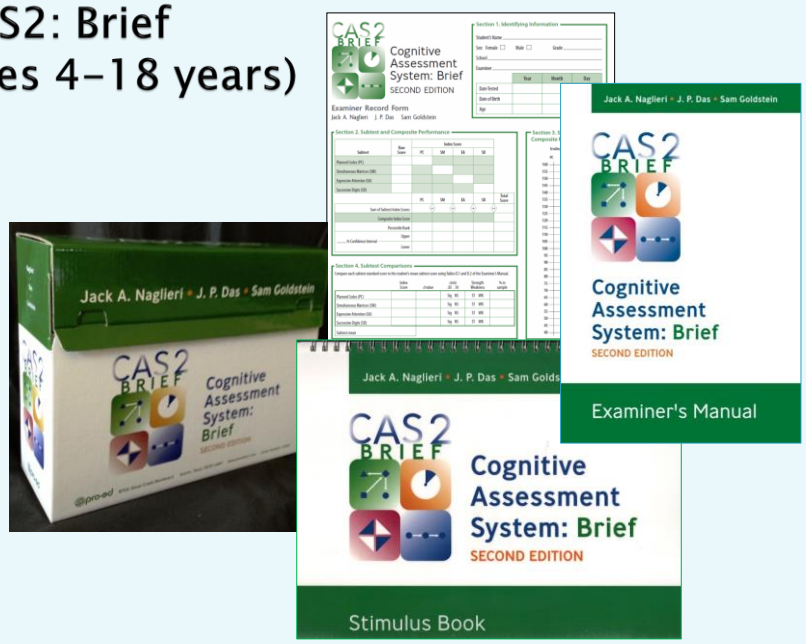
Subtest	Scaled Score				
	EF w/o WM	EF w/ WM	WM	VC	NvC
Planned Codes					
Planned Connections					
Matrices					
Verbal-Spatial Relations					
Figure Memory					
Expressive Attention					
Receptive Attention					
Sentence Repetition/Questions					
	EF w/o WM	EF w/ WM	WM	VC	NvC
Sum of Subtest Scaled Scores					
Composite Index Scores					
Percentile Rank					
Upper					
_____% Confidence Interval					
Lower					

Note: EF w/o WM = Executive Function without Working Memory; EF w/WM = Executive Function with Working Memory; WM = Working Memory; VC = Verbal Content; NvC = Nonverbal Content.

CAS2 Development Goals

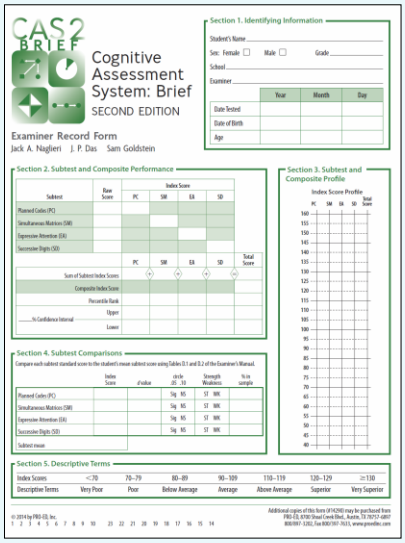
- **Create two more measures of PASS**
  - Create a brief version of CAS2 (20 minutes) for ages 4 years 0 months to 18 years 11 months
  - Add a PASS rating scale by teachers
- **All three measures** carefully normed on national samples representative of the U.S. population

CAS2: Brief
Ages 4–18 years)



CAS2: Brief

- 20 minute admin time
- Yields PASS and Total standard scores (Mn 100, SD 15)
- Planned Codes
- Simultaneous Matrices
- Expressive Attention
- Successive Digits



CAS2: Brief Matrices

Simultaneous Matrices

Administration:
Age-based entry points; apply ceiling (ceiling of 4; basal of 2, if needed)

Materials:
CAS2: Brief Stimulus Book (pp. 1–90); #2 pencils

Objective:
Examinees should select the option that best completes the matrix.

Entry Points and Basals: If an examinee age 12–18 fails the first item, administer previous items in reverse order until two consecutive correct answers have been obtained (basal). Record the response in the appropriate column, and then score the response (1 = *correct*, 0 = *incorrect*) for each item.

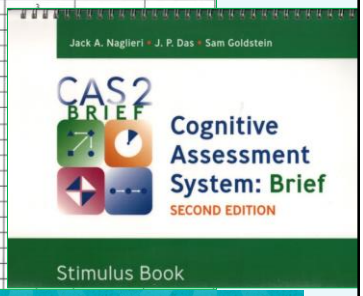
Discontinue Rule: Discontinue subtest if examinee receives four consecutive incorrect responses.

Directions for All Examinees:
Show example in the CAS2: Brief Stimulus Book (p. 1), and say, Look at this page. There is a piece missing here (point to the question mark). Which one of these (point to the five options in a sweeping motion) goes here? (Point to the question mark.) If the response is correct, say, Yes, that's the right one because it's all yellow. If incorrect, point to Option 3 and say, This is the right one because it's all yellow. (If necessary, provide a brief explanation.) Continue with directions for the appropriate age group.

Directions for Examinees Ages 4–11:
Show item 1 and say, Look at this page. There is a piece missing here.

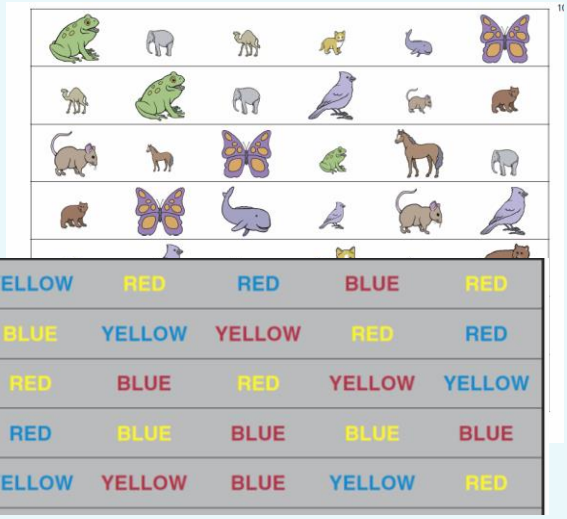
Directions for the Remaining Items:
For each item, say as needed, There is a piece missing here (point to the question mark). Which one of these (point to the options in a sweeping motion) goes here? (Point to the question mark.) When the question is no longer necessary, say, Now do this one. (Provide no additional help.) If the examinee does not respond after about 60 seconds, encourage him or her to choose one of the options. If the examinee still does not respond, say, Let's try the next one. (Show the next item.)

	Item	Correct Response	Examinee's Response	Score (1 or 0)
All Ages	Example	3		
4–11 Years	1.	2		
	2.			
	3.			
	4.			
	5.			
	6.			
	7.			
	8.			
	9.			
	10.			
12–18 Years	11.			
	12.			
	13.			
	14.			
	15.			
	16.			
	17.			
	18.			
	19.			



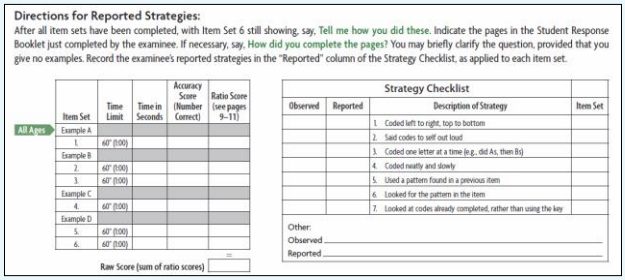
CAS2: Brief Scale

- Expressive Attention (Stroop) used
- Big/Little animals (ages 4–7 years)
- Color Words (ages 8–18)



CAS2: Brief Planned Codes & Successive Digits

- Planned Codes has 8 items using numbers not letters different orientation of the pages



Directions for Reported Strategies:
After all item sets have been completed, with Item Set 6 still showing, say, Tell me how you did these. Indicate the pages in the Student Response Booklet just completed by the examinee. If necessary, say, How did you complete the pages? You may briefly clarify the question, provided that you give no examples. Record the examinee's reported strategies in the "Reported" column of the Strategy Checklist, as applied to each item set.

	Item Set	Time Limit	Time in Seconds	Accuracy Score (Number Correct)	Ratio Score (see pages 9–11)
All Ages	Example A				
	1.	60" (100)			
	Example B				
	2.	60" (100)			
	3.	60" (100)			
	Example C				
	4.	60" (100)			
	Example D				
	5.	60" (100)			
	6.	60" (100)			
	Raw Score (sum of ratio scores)				

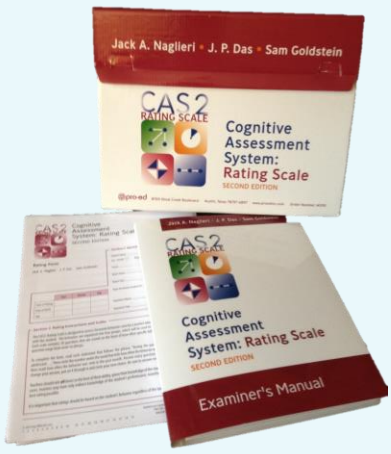
Strategy Checklist			
Observed	Reported	Description of Strategy	Item Set
		1. Coded left to right, top to bottom	
		2. Said codes to self out loud	
		3. Coded one letter at a time (e.g., did As, then Bs)	
		4. Coded neatly and slowly	
		5. Used a pattern found in a previous item	
		6. Looked for the pattern in the item	
		7. Looked at codes already completed, rather than using the key	

Other:
Observed
Reported

- Successive Digits
  - Forward only

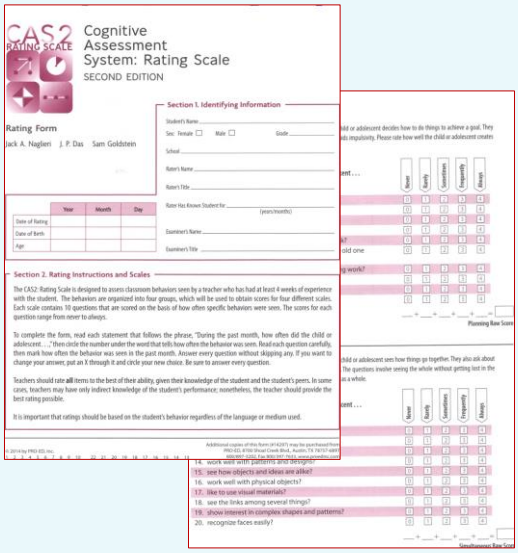
CAS2 Rating Scales (Ages 4–18 yrs.)

- The CAS2: Rating measures behaviors associated with PASS constructs
- Normed on a nationally representative sample of 1,383 students rated by teachers



CAS2 Rating Scales

- The CAS2: Rating form contains 40 items
- 10 items for each PASS scale
- PASS and Total scales are set to have a mean of 100 and standard deviation of 15



CAS2 Rating Scales

- The CAS2: Rating Scale scores can be used as part of a larger comprehensive evaluation or for instructional planning

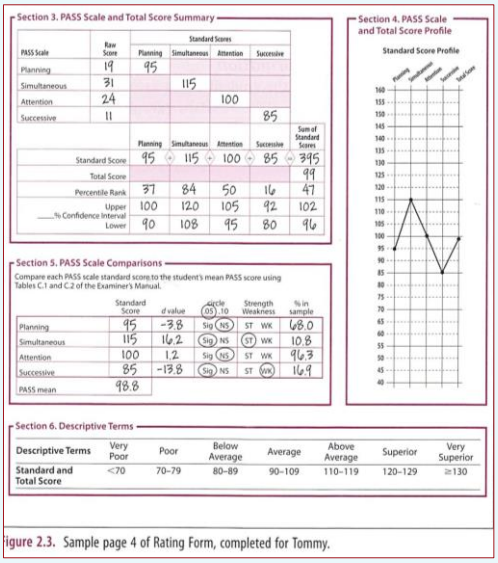
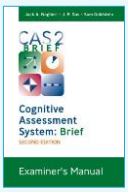


Figure 2.3. Sample page 4 of Rating Form, completed for Tommy.

PASS Comprehensive System

(Naglieri, Das, & Goldstein, 2014)

CAS2 Rating Scale (4 subtests)	**CAS2 Brief** (4 subtests)	**CAS2 Core** (8 subtests)	**CAS2 Extended** (12 subtests)
Full Scale Planning Simultaneous Attention Successive	Full Scale Planning Simultaneous Attention Successive	Full Scale Planning Simultaneous Attention Successive	Full Scale Planning Simultaneous Attention Successive Supplemental Scales Executive Function Working Memory Verbal / Nonverbal Rapid Automatic Naming Visual / Auditory



PASS Comprehensive System

- At Tier 1 his teacher could have completed the CAS2: Rating Scale and depending upon those results…
- At Tier 2 the CAS2: Brief scale could have given to inform instruction
- At Tier 3 the CAS2: Extended Battery could have been given for full evaluation of his neurocognitive abilities
- This PASS Comprehensive System provides three ways to learn about a student's learning strengths and weaknesses

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- *Note: questions within each 20 minute segment*

Summary: CAS2 Validity

- Elizabeth A. Allen, PhD
- PRO-ED

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CAS2 Fit Indexes By Age

Model	Fit Indexes					
Ages 5-7	**Chi Sq.**	**DF**	**Chi Sq./DF**	**TLI**	**CFI**	**RMSEA**
One Factor	303.47	54	5.62	0.775	0.816	0.123
(PA) (SS)	186.93	53	3.527	0.877	0.901	0.091
(PA) SS	178.76	51	3.505	0.878	0.906	0.091
P A S S	152	48	3.17	0.89	0.92	0.084

Ages 8-10	**Chi Sq.**	**DF**	**Chi Sq./DF**	**TLI**	**CFI**	**RMSEA**
One Factor	335.46	54	6.212	0.771	0.812	0.123
(PA) (SS)	150.13	53	2.833	0.919	0.935	0.073
(PA) SS	111.02	51	2.177	0.948	0.96	0.058
P A S S	100.96	48	2.1	0.951	0.965	0.057

Ages 11-13	**Chi Sq.**	**DF**	**Chi Sq./DF**	**TLI**	**CFI**	**RMSEA**
One Factor	429.59	54	7.955	0.642	0.707	0.153
(PA) (SS)	204.74	53	3.863	0.853	0.882	0.098
(PA) SS	161.16	51	3.16	0.889	0.914	0.085
P A S S	131.74	48	2.745	0.91	0.935	0.077

Ages 14-18	**Chi Sq.**	**DF**	**Chi Sq./DF**	**TLI**	**CFI**	**RMSEA**
One Factor	557.34	54	10.321	0.644	0.709	0.154
(PA) (SS)	315.5	53	5.953	0.811	0.848	0.112
(PA) SS	291.68	51	5.719	0.82	0.861	0.11
P A S S	244.14	48	5.086	0.844	0.887	0.102

CAS2: Brief Fit Indexes by Age

Model	Fit Indexes					
Ages 4-7	**Chi Sq.**	**DF**	**Chi Sq./DF**	**TLI**	**CFI**	**RMSEA**
One Factor	2095.59	65	32.24	0.366	0.547	0.292
(PA) (SS)	1326.52	64	20.73	0.600	0.718	0.232
(PA) SS	510.43	62	8.23	0.853	0.900	0.140
P A S S	65.23	59	1.11	0.998	0.999	0.017

Ages 8-10	**Chi Sq.**	**DF**	**Chi Sq./DF**	**TLI**	**CFI**	**RMSEA**
One Factor	1670.37	65	25.70	0.322	0.516	0.264
(PA) (SS)	872.85	64	13.64	0.653	0.756	0.189
(PA) SS	245.17	62	3.95	0.919	0.945	0.091
P A S S	69.72	59	1.18	0.995	0.997	0.023

Ages 11-13	**Chi Sq.**	**DF**	**Chi Sq./DF**	**TLI**	**CFI**	**RMSEA**
One Factor	1448.55	65	22.29	0.229	0.449	0.271
(PA) (SS)	935.01	64	14.61	0.507	0.653	0.217
(PA) SS	333.54	62	5.38	0.841	0.892	0.123
P A S S	78.14	59	1.32	0.988	0.992	0.033

Ages 14-18	**Chi Sq.**	**DF**	**Chi Sq./DF**	**TLI**	**CFI**	**RMSEA**
One Factor	2133.05	65	32.82	0.235	0.453	0.281
(PA) (SS)	1318.03	64	20.59	0.529	0.669	0.221
(PA) SS	617.82	62	9.96	0.784	0.853	0.149
P A S S	94.11	59	1.60	0.986	0.991	0.038

CAS2: Rating Scale Fit Indexes

Ages 4-7	Chi Sq.	DF	Chi Sq./DF	TLI	CFI	RMSEA
One Factor	6270.89	740	8.47	0.505	0.530	0.147
(PA) (SS)	5485.93	739	7.42	0.575	0.597	0.136
(PA) SS	4415.10	737	5.99	0.669	0.688	0.120
P A S S	2950.09	734	4.02	0.800	0.812	0.093

Ages 8-10	Chi Sq.	DF	Chi Sq./DF	TLI	CFI	RMSEA
One Factor	4522.97	740	6.11	0.606	0.626	0.141
(PA) (SS)	3603.22	739	4.88	0.701	0.717	0.123
(PA) SS	3045.86	737	4.13	0.758	0.772	0.111
P A S S	2154.15	734	2.93	0.851	0.860	0.087

Ages 11-13	Chi Sq.	DF	Chi Sq./DF	TLI	CFI	RMSEA
One Factor	4202.29	740	5.68	0.668	0.685	0.138
(PA) (SS)	3443.30	739	4.66	0.740	0.754	0.122
(PA) SS	2965.39	737	4.02	0.785	0.797	0.111
P A S S	1960.00	734	2.67	0.881	0.888	0.083

Ages 14-18	Chi Sq.	DF	Chi Sq./DF	TLI	CFI	RMSEA
One Factor	12543.77	740	16.95	0.419	0.517	0.173
(PA) (SS)	9696.12	739	13.12	0.613	0.634	0.151
(PA) SS	6628.39	737	8.99	0.745	0.759	0.123
P A S S	3410.38	734	4.35	0.884	0.890	0.083

CAS2 Correlations With CAS2: Brief

	CAS2: Brief (N = 281)					
	Planning	Simultaneous	Attention	Successive	Full Scale	CAS2
CAS2 Scores	r_c	r_c	r_c	r_c	r_c	*M* (*SD*)
Core Battery						
Planning	**.57**	.34	.49	.21	.61	102 (14)
Simultaneous	.42	**.61**	.45	.40	.68	99 (13)
Attention	.47	.28	**.54**	.23	.54	101 (13)
Successive	.10	.38	.17	**.81**	.57	97 (14)
Full Scale	.56	.49	.55	.57	**.78**	100 (13)
Magnitude	Large	Moderate	Large	Large	Very Large	
Extended Battery						
Planning	**.64**	.33	.52	.22	.62	101 (15)
Simultaneous	.43	**.62**	.46	.41	.69	98 (13)
Attention	.48	.33	**.57**	.28	.58	99 (13)
Successive	.24	.43	.29	**.80**	.66	98 (14)
Full Scale	.58	.56	.59	.55	**.80**	98 (14)
Magnitude	Large	Large	Large	Large	Very Large	
Supplemental Composites						
Executive Function w/o Working Memory	.46	.37	.58	.24	.58	102 (13)
Executive Function w/ Working Memory	.47	.53	.57	.51	.73	99 (13)
Working Memory	.32	.52	.40	.61	.67	97 (13)
Verbal Content	.41	.53	.53	.58	.72	97 (13)
Nonverbal Content	.62	.55	.50	.33	.72	101 (14)
CAS2:Brief *M* (*SD*)	100 (14)	100 (15)	104 (11)	98 (13)	100 (13)	

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CAS2 Correlations With WISC IV

	WISC-IV					
CAS2 Scores	Verbal Comprehension	Perceptual Reasoning	Working Memory	Processing Speed	Full Scale	CAS2
	r_c	r_c	r_c	r_c	r_c	*M* (*SD*)
Core Battery						
Full Scale	.42	.71	.63	.76	.77	91 (15)
Magnitude[a]	Moderate	Very Large	Large	Very Large	Very Large	
Extended Battery						
Full Scale	.41	.71	.65	.82	.77	89 (15)
Magnitude[a]	Moderate	Very Large	Large	Very Large	Very Large	
WISC-IV *M* (*SD*)	103 (17)	105 (13)	98 (12)	91 (12)	100 (15)	

CAS2 Correlations With CTONI-2 and PTONI-2

	CTONI-2 (n = 110)		PTONI (n = 53)	
CAS2 Scores	r_c	CAS2 *M* (*SD*)	r_c	CAS2 *M* (*SD*)
Core Battery				
Planning	.47	105 (15)	.45	104 (15)
Simultaneous	.69	102 (14)	.55	104 (12)
Attention	.49	102 (15)	.23	104 (13)
Successive	.41	100 (13)	.33	102 (13)
Full Scale	.68	102 (14)	.53	104 (13)
Magnitude[a]	Large		Large	
Extended Battery				
Planning	.49	102 (16)	.43	102 (16)
Simultaneous	.74	99 (14)	.59	102 (11)
Attention	.56	100 (15)	.33	104 (13)
Successive	.42	99 (12)	.51	101 (13)
Full Scale	.69	100 (15)	.57	103 (14)
Magnitude[a]	Large		Large	
Supplemental Composites				
Executive Function w/o Working Memory	.58	104 (13)	.31	105 (14)
Executive Function w/ Working Memory	.61	101 (13)	.46	103 (13)
Working Memory	.53	97 (12)	.54	100 (11)
Verbal Content	.67	97 (13)	.64	101 (11)
Nonverbal Content	.73	101 (15)	.58	102 (14)
	CTONI-2 *M* (*SD*)	94 (14)	PTONI *M* (*SD*)	100 (18)

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CAS2 Correlations With WJ III Tests of Achievement

	WJ-III					
CAS2 Scores	Broad Reading r_c	Oral Language r_c	Broad Math r_c	Broad Written Expression r_c	Total Achievement r_c	CAS2 *M* (*SD*)
Core Battery						
Full Scale	.65	.71	.72	.46	.64	93 (15)
Magnitude[a]	Large	Very Large	Very Large	Moderate	Large	
Extended Battery						
Full Scale	.63	.73	.71	.46	.60	91 (15)
Magnitude[a]	Large	Very Large	Very Large	Moderate	Large	
WJ-III *M* (*SD*)	101 (16)	99 (11)	98 (13)	95 (16)	96 (15)	

CAS2 Correlations with Reading

	TOSCRF-2 (N = 110)		GORT-5 (N = 51)	
CAS2 Score	r_c	CAS2 *M* (*SD*)	r_c	CAS2 *M* (*SD*)
Core Battery				
Full Scale	.73	105 (14)	.53	100 (12)
Magnitude[a]	Very Large		Large	
Extended Battery				
Full Scale	.69	103 (15)	.67	100 (12)
Magnitude[a]	Large		Large	
	TOSCRF *M* (*SD*)	102 (13)	GORT-5 *M* (*SD*)	104 (14)

CAS2 Correlations With Math

	CMAT (N = 46)		WRAT-4 (N = 53)	
	Basic Calculation		Math Computation	
CAS2 Score	r_c	CAS2 *M* (*SD*)	r_c	CAS2 *M* (*SD*)
Core Battery				
Full Scale	.74	107 (12)	.76	107 (11)
Magnitude	Very Large		Very Large	
Extended Battery				
Full Scale	.72	105 (13)	.78	105 (12)
Magnitude	Very Large		Very Large	
	CMAT M (SD)	97 (14)	WRAT-4 M (SD)	104 (13)

CAS2 and Race

- African Americans and non-African Americans mean scores were compared while controlling for demographic characteristics the difference was
  - 4.5 on the Extended
  - 4.9 on the Core Battery
- These findings, which are similar to those found for the CAS, suggest that race has a small relationship to scores obtained on the CAS2.

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CAS2 and Ethnicity

- Hispanics and non-Hispanics were compared while controlling for demographic characteristics the difference was
  - 1.8 on the Extended Battery
  - 2.3 on the Core Battery
- These findings suggest that Hispanic origin has only a small relationship to scores obtained on the CAS2, as was found for the CAS.

CAS2 Symposium Schedule

- 8:00-8:20 (20 minutes)
  - Description of the CAS2, CAS2 Brief and CAS2 Rating Scales Jack Naglieri
- 8:20-8:35 (20 minutes)
  - High lights of Validity (Confirmatory FA, etc.) Beth Allen
- 8:35-8:55 (20 minutes)
  - A case study illustrating SLD (with Discrepancy / Consistency model) Sam Goldstein
- 8:55 -9:10 (20 minutes)
  - CAS2 and assessment of Hispanic Students Tulio Otero
- *Note: questions within each 20 minute segment*

CAS 2
Case Studies

- Sam Goldstein, Ph.D.
- Assistant Clinical Professor
- University of Utah
- School of Medicine
- www.samgoldstein.com

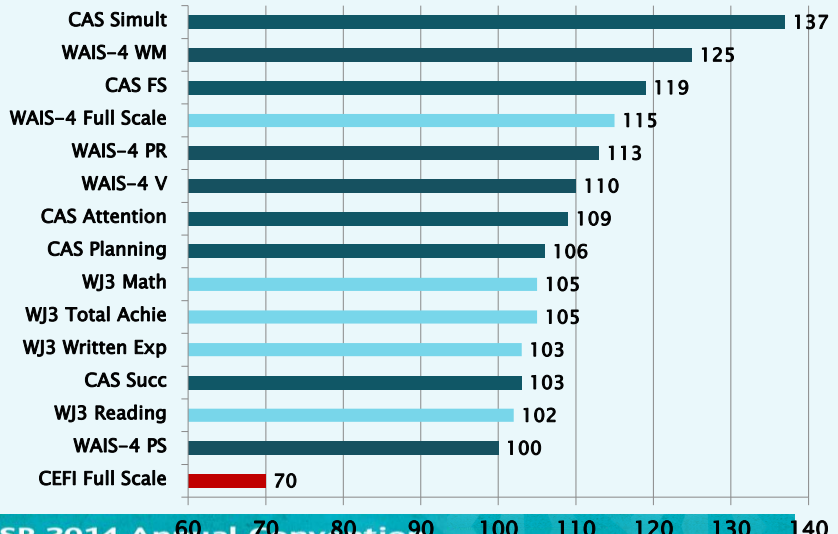
Barry

- Barry is a 17-year-old, 11th grader with a long standing history of good academic, social and behavioral functioning.
- 5 years ago Barry's parents divorced; his mother remarried. His relationship with his mother is good but inconsistent with his father.
- Over the past year, he became increasingly depressed and socially isolated. School work has declined.
- This past fall he took a number of advanced placement classes, he was also a starter on his high school football team.
- As the season ended his school work declined precipitously and a long standing relationship with a girlfriend ended.

Barry

- Barry's self-report: Revised Children's Manifest Anxiety Scale = 99th percentile.
- His self-report: Reynolds Adolescent Depression Scale = 96th percentile.
- His Millon profile was characteristic of a youth feeling vulnerable, anxious, misunderstood, unappreciated, angry, depressed and disconnected from others.

Barry's CEFI, Ability, Achievement



Barry

Full Scale			
Standard Score	90% Confidence Interval	Percentile Rank	Classification
70	68-73	2	Below Average

CEFI Scales

Scale	Standard Score	90% Confidence Interval	Percentile Rank	Classification	Difference from Youth's Average (72.4)	Statistically Significant? (p < .10)	Executive Function Strength/ Weakness
Attention	72	68-80	3	Below Average	-0.4	No	-
Emotion Regulation	78	73-88	7	Below Average	5.6	No	-
Flexibility	75	70-87	5	Below Average	2.6	No	-
Inhibitory Control	82	76-91	12	Low Average	9.6	Yes	-
Initiation	68	64-79	2	Well Below Average	-4.4	No	-
Organization	76	71-85	5	Below Average	3.6	No	-
Planning	62	58-71	1	Well Below Average	-10.4	Yes	Weakness
Self-Monitoring	62	59-74	1	Well Below Average	-10.4	Yes	Weakness
Working Memory	77	72-87	6	Below Average	4.6	No	-

Barry

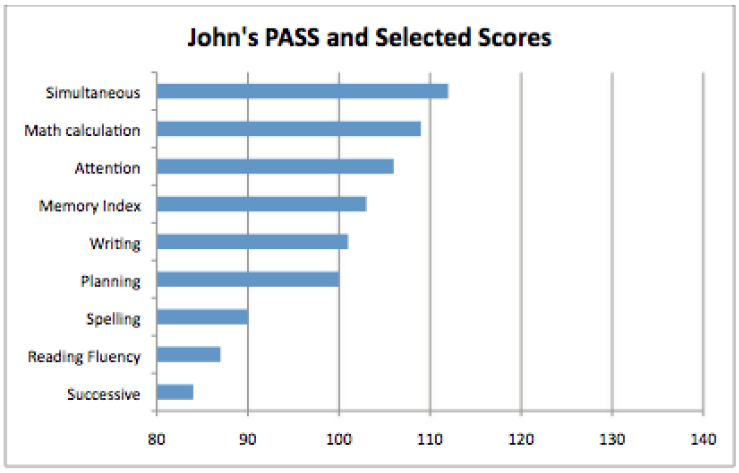
Scores	
Consistency Index	Standard Score = 110 Inconsistent response style is not indicated.
Negative Impression Scale	Standard Score = 72 Negative impression response style is indicated.
Positive Impression Scale	Standard Score = 128 Positive impression response style is not indicated.
Number of Omitted Items	Number of Items Omitted = 0 None of the items were omitted.

Barry – Conclusions

- Barry's depression has a significant influence on what he does and how he performs on a daily basis
- Barry is intellectually capable (WAIS and CAS) and good in Planning and Attention on the CAS, but his behavior reflects poor application of those neurocognitive abilities

John's Trouble with Successive Ability

- John enjoys learning and has a good relationship with his teachers at school.
- Since transferring to his elementary school three years ago he has become popular among his peers and has always fit in socially.
- He is midway through his fifth grade year and finds it difficult to keep up with his peers.
- Despite his best efforts and turning most of his assignments in on time he is receiving below average grades.
- His parents see that he is getting more and more frustrated with his work load.



John's Trouble with Successive Ability

- Many of John's academic difficulties are not due to a lack of effort, but associated with inefficiency.
- His teacher gives the class assignments without providing a handout or outline with instructions.
- He and his class are expected to take simple notes and complete the assignment.
- When he revisits his written notes they are unorganized and out of order, making the assignment difficult to complete.
- He can complete parts of the assignment but fails to understand its purpose.
- He sometimes disregards the entire assignment if he is unable to piece together what he was asked to do by the teacher.

John's Trouble with Successive Ability

- During one assignment, the class was given time to search online for ten plants and then create a poster to organize each plant into its appropriate classification and geographic region.
- John spent time on the poster before even searching for specific plants. His poster was organized with three countries he had chosen and all the classification information he thought he would find.
- As John began to search for plants, he found it difficult to find species that fit into his predetermined classifications and geographic regions.
- When time was up, he found only a few plants that he could use on his completed

John's Trouble with Successive Ability

- Other areas he finds difficult relate to reading fluency. He understands short passages, but struggles with comprehending long and complex paragraphs.
- He will become interested in books based on their covers or recommendations, but quickly become discouraged after he is a few chapters in and can only remember what he recently read or specific sections in the story.
- If someone asks what the book is about he has trouble recalling the sequence of the story or the role of the characters.
- He also finds it difficult to spell, even words he is familiar with he will misspell. He and his mother practice spelling lists until they are memorized. Come the day of the spelling test he simply writes out the entire list without much consideration.
- Time passes and he begins to spell each word out of sequence again.

John's Trouble with Successive Ability

- John's difficulties are affecting his functioning outside of school as well.
- He recently began playing in a junior basketball league. He has always been naturally athletic. After a couple of practices, he was asked to play the forward position on the team.
- John was excited about the opportunity. At practice, the coach gives a series of steps for designed plays. John understands the directions given and is able to perform well, but struggles to organize the sequence of actions. This is especially true when required to execute the play quickly.
- This results in John being in the wrong place at the wrong time and receiving criticism from his coach.

John's Trouble with Successive Ability

- His parents have noticed a lack of efficiency in his approach to most problems. This includes everyday situations and tasks that others might perceive as simple.
- Among household chores, John is responsible for keeping his room clean. Whenever he is asked to complete this chore it seems to take two to three times longer than his siblings.
- His mother observes him crisscrossing the room to put things away. He holds as much as he can carry in one arm while putting things away with the other.
- The room gets clean; however, John's approach is illogical and inefficient. His mother noticed the inefficiency and made him a "Chore Checklist."
- This aids in providing a system for John to follow to complete repetitive tasks in a sequential order.

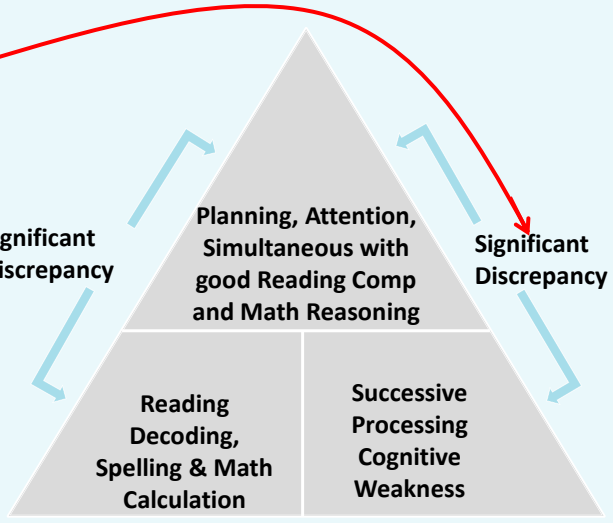
John's Trouble with Successive Ability

- John's education team, including his teachers and school psychologist, met with his parents.
- Given his reported difficulties it was suspected that he had trouble related to Successive processing.
- The school psychologist utilized the Cognitive Assessment System 2 (CAS2), a memory screening and an achievement measure to further assess John's functioning.
- It was determined that John did in fact have a cognitive weakness in Successive processing. This is important in determining the best interventions to remedy difficulties on a cognitive functioning level.

Discrepancy Consistency Model for John

- **Discrepancy** between high and low processing scores
- **Discrepancy** between high processing and low achievement
- **Consistency** between low processing and low achievement

Significant Discrepancy

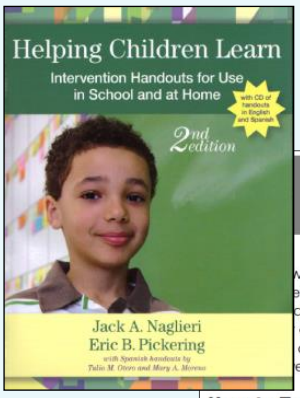


Strategies For John

- His parents and teachers have been encouraged to teach John alternate strategies for tasks that require understanding the specific order of items.
- He has difficulty working with serial information and instruction that is designed to be presented in sequence will likely be unsuccessful.
- Recommended cognitive strategies provided him with tools to approach tasks in ways that either reduce the serial demands of a task or help him break the serial task into more manageable units.
- John has difficulty with spelling, which requires Successive processing. He was taught to break the sequence of letters in to smaller, more manageable units and emphasized certain rules of spelling rather than memorization to help improve John's spelling achievement.

Helping Children Learn 2nd Edition

- Naglieri & Pickering (2010)



Chunking for Reading/Decoding

Reading/decoding requires the student to look at the sequence of the letters in words and understand the organization of specific sounds in order. Some students have difficulty with long sequences of letters and may benefit from instruction that helps them break the word into smaller, more manageable units, called *chunks*. Sometimes the order of the sounds in a word is more easily organized if the entire word is broken into these units. These chunks can be combined into units for accurate decoding. Chunking for reading/decoding is a strategy designed to do that.

How to Teach Chunking for Reading/Decoding

Teachers should first teach the children what it means to chunk or group information so that it can be remembered more easily. Use number sequences and letters for illustration (e.g., how telephone numbers are grouped). Then introduce

Segmenting Words for Reading/Decoding and Spelling

written word requires the person to make sense out of printed letters and words and etter sequences into sounds. This demands understanding the sounds that letters d how letters work together to make sounds. Sometimes words can be segmented easier and faster reading. The word *into* is a good example because it contains two child may already know: *in* and *to*. Segmenting words can be a helpful strategy for ell as spelling.

How to Teach Segmenting Words

Segmenting words is an effective strategy to help students read and spell. By dividing the words into groups, students also learn about how words are constructed and how the parts are related

Strategies For John

- To address John's struggles with reading fluency, his parents and teachers were recommended to use a program that focused on teaching the decoding of letters and words.
- John was taught to segment words into parts for easier and faster reading. Phonemic awareness was emphasized by John practicing skills related to organizing sounds of letters in the correct sequence or order.
- The program was set up so that skills were taught sequentially and build on one another.
- To help increase John's reading fluency, his parents and teachers also allowed him opportunities to read with a fluent model reader and to re-read passages.
- John's fluency progress was monitored by taking timed measures of the number of words read correctly in one minute.

CAS2 Symposium Schedule

- 8:00-8:20 (20 minutes)
  - Description of the CAS2, CAS2 Brief and CAS2 Rating Scales Jack Naglieri
- 8:20-8:35 (20 minutes)
  - High lights of Validity (Confirmatory FA, etc.) Beth Allen
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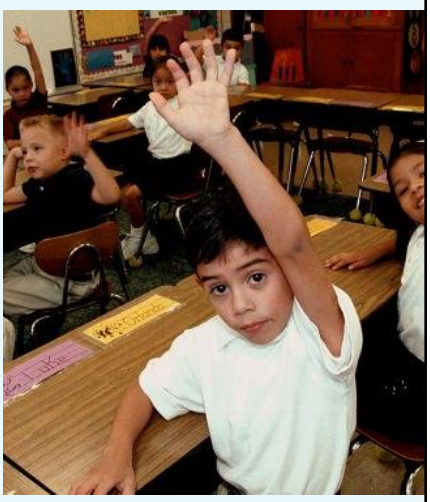
- *Note: questions within each 20 minute segment*

Cognitive Assessment System

- With English Language Learners

English Language Learner (ELL)

- English Language Learner– " Students who are not native English Speakers and are not reclassified as fluent in English"



English Language Learner

Although current tests are psychometrically sophisticated, their use with Hispanic children is plagued by assumptions that have some form of discriminatory impact.

English Language Learners

- Bias is a function of differences in experience between an individual and the norm group.
- By virtue of their emerging bilingualism and blended cultural backgrounds, Hispanic ELL children are generally not represented adequately by **any** existing norm sample.

English Language Learners

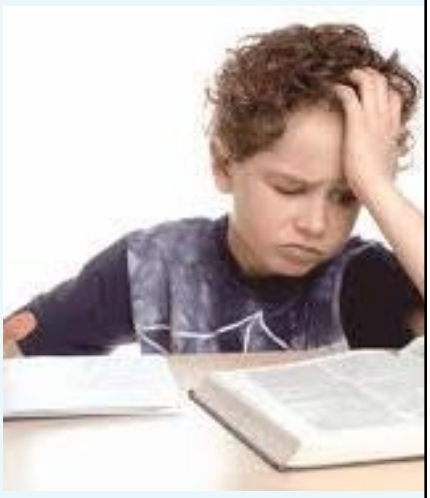
Emergent bilinguals will likely have differing rates of language acquisition.

Emergent bilinguals tend to use words in both languages less then monolinguals do.

Having more than one lexicon to draw from may hinder their speed of language processing and language retrieval.

Emergent ELL's and the CAS

Thus, tests that require a greater level of language encoding, processing, and retrieval may have discriminatory impact.



English Language Learner & CAS-2

- The CAS certainly has very little linguistic demands. Thus, reducing the cognitive burden on ELL students.

The CAS permits the examiner, after standard administration of instructions, to use another language and other means to insure the student understands what is required.

For the most part, the tasks on the CAS 2 are similes of other tasks most students have by exposure to many accepted education practices.

CAS subtest Examples and Relevance

Matching Numbers- A child must choose answers on a multiple choice test (Read question, read all answers, refer back to question, eliminate answers; reflects self-monitoring)

Verbal-Spatial Relations- A child is asked a question about a story that is being read to them while looking at the book (auditory/visual)

Expressive Attention- A child must ignore a distraction in the environment to sustain attention for the task at hand (i.e. continuing working on a timed math test when a disruption occurs in the hallway)

Word Series- A child must listen to the teacher present three instructions that must be completed sequentially (i.e. get out your book, turn to pg. 79, answer the questions at the end of the page)

Hispanic ELL Students with Reading Problems

Bilingual Hispanic Children's Performance on the English and Spanish Versions of the Cognitive Assessment System

Jack A. Naglieri
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Columbia College, Elgin Campus
Brianna DeLauder
George Mason University
Holly Matto
Virginia Commonwealth University

School Psychology Quarterly
2007, Vol. 22, No. 3, 432–448

This study compared the performance of referred bilingual Hispanic children on the Planning, Attention, Simultaneous, Successive (PASS) theory as measured by English and Spanish versions of the Cognitive Assessment System (CAS; Naglieri & Das, 1997a). The results suggest that students scored similarly on both English and Spanish versions of the CAS. Within each version of the CAS, the bilingual children earned their lowest scores in Successive processing regardless of the language used during test administration. Small mean differences were noted between the means of the English and Spanish versions for the Simultaneous and Successive processing scales; however, mean Full Scale scores were similar. Specific subtests within the Simultaneous and Successive scales were found to contribute to the differences between the English and Spanish versions of the CAS. Comparisons of the children's profiles of cognitive weakness on both versions of the CAS showed that these children performed consistently despite the language difference.

English Spanish CAS

Means, *SDs*, *d*-ratios, Obtained and Correction Correlations Between the English a

Spanish Version of the CAS (*N* = 55).

	CAS English		CAS Spanish		*d*-ratio	Correlations	
	Mean	*SD*	Mean	*SD*	*d*	Obtained	Corrected
Planning	92.6	13.1	92.6	13.4	.00	.96	.97
Simultaneous	89.0	12.8	93.0	13.7	-.30	.90	.93
Attention	94.8	13.9	95.1	13.9	-.02	.98	.98
Successive	78.0	13.1	83.1	12.6	-.40	.82	.89
Full Scale	84.6	13.6	87.6	13.8	-.22	.96	.97

English/Spanish CAS Summary

- The PASS cognitive weakness profiles on both the Spanish and English versions of the CAS were studied
- The percentage of children who had a cognitive weakness on the English AND Spanish versions of the CAS:
  - Planning 92.7%
  - Simultaneous 89.1%
  - Attention 100%
  - Successive 78.2%

Otero, Gonzales, Naglieri (2012)

- SLD and PASS scores

APPLIED NEUROPSYCHOLOGY: CHILD, 0: 1–9, 2012
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Psychology Press
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The Neurocognitive Assessment of Hispanic English-Language Learners With Reading Failure

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This study examined the performance of referred Hispanic English-language learners ($N = 40$) on the English and Spanish versions of the *Cognitive Assessment System* (CAS; Naglieri & Das, 1997). The CAS measures basic neuropsychological processes based on the Planning, Attention, Simultaneous, and Successive (PASS) theory (Naglieri & Das, 1997; Naglieri & Otero, 2011c). Full Scale (FS) scores as well as PASS processing scale scores were compared, and no significant differences were found in FS scores or in any of the PASS processes. The CAS FS scores on the English ($M = 86.4$, $SD = 8.73$) and Spanish ($M = 87.1$, $SD = 7.94$) versions correlated .94 (uncorrected) and .99 (corrected for range restriction). Students earned their lowest scores in Successive processing regardless of the language in which the test was administered. PASS cognitive profiles were similar on English and Spanish versions of the PASS scales. These findings suggest that students scored similarly on both versions of the CAS and that the CAS may be a useful measure of these four abilities for Hispanic children with underdeveloped English-language proficiency.

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Otero, Gonzales, Naglieri (2012)

- "Fagan (2000) as well as Suzuki and Valencia (1997) suggested that a cognitive processing approach like that used in the CAS would avoid the knowledge base required to answer verbal and quantitative questions found on most traditional IQ tests and would be more appropriate for culturally and linguistically diverse populations. The results of this study support the assertion (p. 8)."

TABLE 2
Means, Standard Deviations, *d* Ratios, and Correlations Between the English and Spanish Versions of the Cognitive Assessment System ($N = 40$)

	CAS English		*CAS Spanish*			*Correlations*	
CAS Subtests and Scales	*M*	*SD*	*M*	*SD*	*d ratio*	*Obtained*	*Corrected*
Scales							
Planning	94.60	8.78	94.98	8.59	–0.04	.978	.997
Simultaneous	92.58	11.34	93.63	12.06	–0.09	.886	.953
Attention	94.08	8.48	94.78	8.23	–0.08	.973	.997
Successive	78.65	10.29	78.25	10.08	0.04	.943	.987
Full Scale	86.40	8.73	87.10	7.94	–0.08	.936	.993

Naglieri, Rojahn, Matto (2007)

Hispanic White difference on CAS Full Scale of 4.8 standard score points (matched)

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Intelligence 35 (2007) 568–579
INTELLIGENCE

Hispanic and non-Hispanic children's performance on PASS cognitive processes and achievement☆

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[b] Virginia Commonwealth, United States

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Available online 8 January 2007

Abstract

Hispanics have become the largest minority group in the United States. Hispanic children typically come from working class homes with parents who have limited English language skills and educational training. This presents challenges to psychologists who assess these children using traditional IQ tests because of the considerable verbal and academic (e.g., quantitative) content. Some researchers have suggested that intelligence conceptualized on the basis of psychological processes may have utility for assessment of children from culturally and linguistically diverse populations because verbal and quantitative skills are not included. This study examined Hispanic children's performance on the Cognitive Assessment System (CAS; [Naglieri, J.A., and Das, J.P. (1997). Cognitive Assessment System. Itasca, IL: Riverside.]) which is based on the Planning, Attention, Simultaneous, and Successive (PASS) theory of intelligence. The scores of Hispanic (N=244) and White (N=1956) children on the four PASS processes were obtained and the respective correlations between PASS and achievement compared. Three complementary sampling methodologies and data analysis strategies were chosen to compare the Ethnic groups. Sample size was maximized using nationally representative groups and demographic group differences were minimized using smaller matched samples. Small differences between Hispanic and non-Hispanic children were found when ability was measured with tests of basic PASS processes. In addition, the correlation between the PASS constructs and achievement were substantial for both Hispanic and non-Hispanic children and were not significantly different between the groups.
Published by Elsevier Inc.

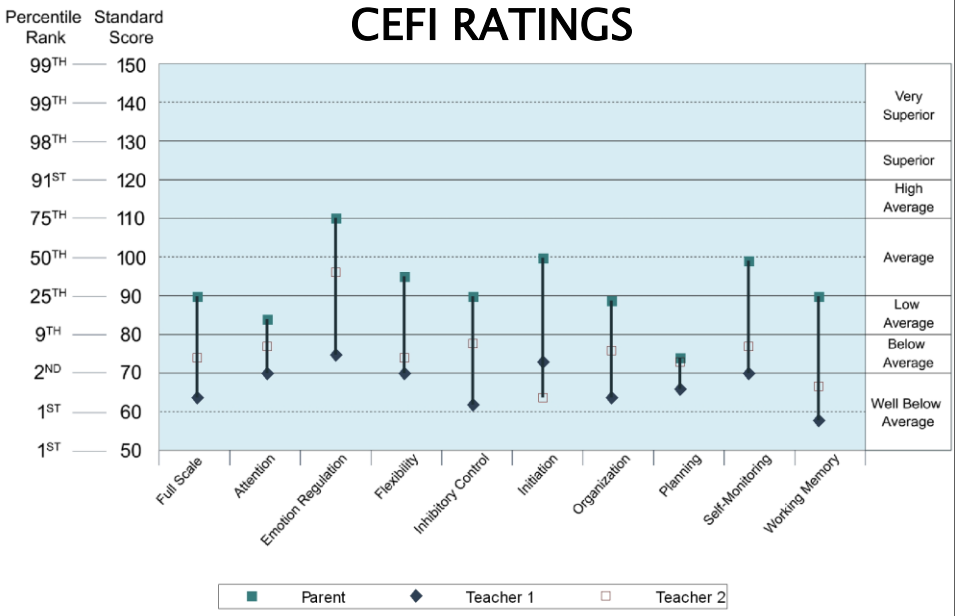
CASE STUDY: ALEJANDRO

C.A. 7-0 GRADE 1

REASON FOR REFERRAL

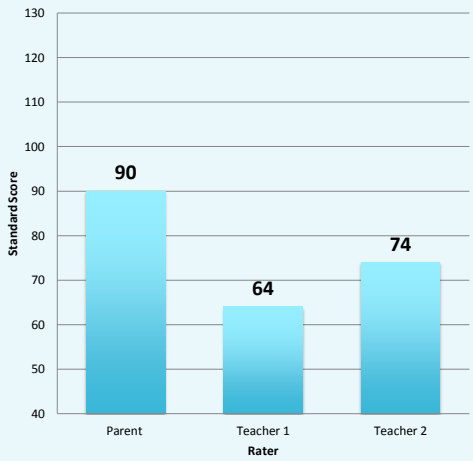
- Academic:
  - Could not identify letters/sounds
  - October 2013: Could only count to 39
  - All ACCESS scores of 1
- Behavior:
  - Difficulty following directions
  - Attention concerns
  - Refusal/defiance

CEFI RATINGS



CEFI

TOTAL SCORE



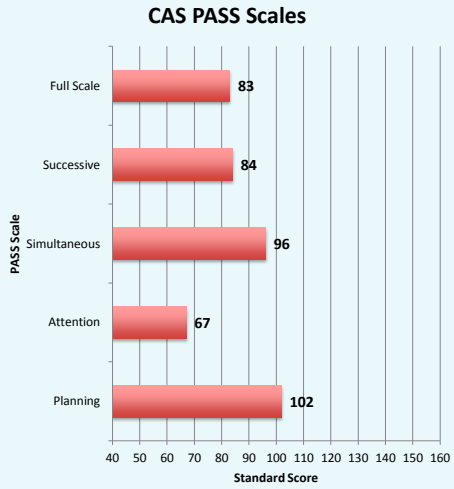
WEAKNESSES

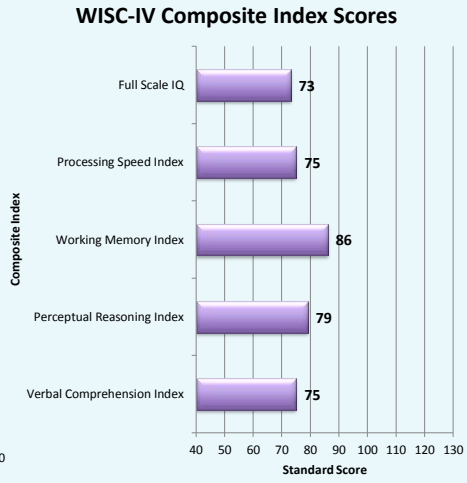
- Initiation (T2)
- Planning (P)
- Working Memory (T1,T2)

STRENGTHS

- Emotion Regulation (P)

COGNITIVE ASSESSMENT





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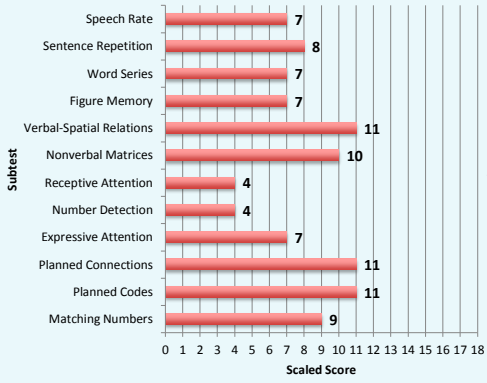
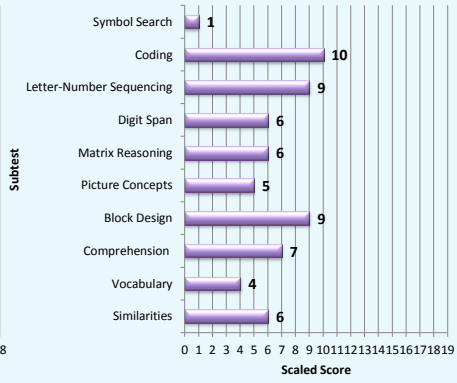
COGNITIVE SUBTESTS

CAS



WISC-IV



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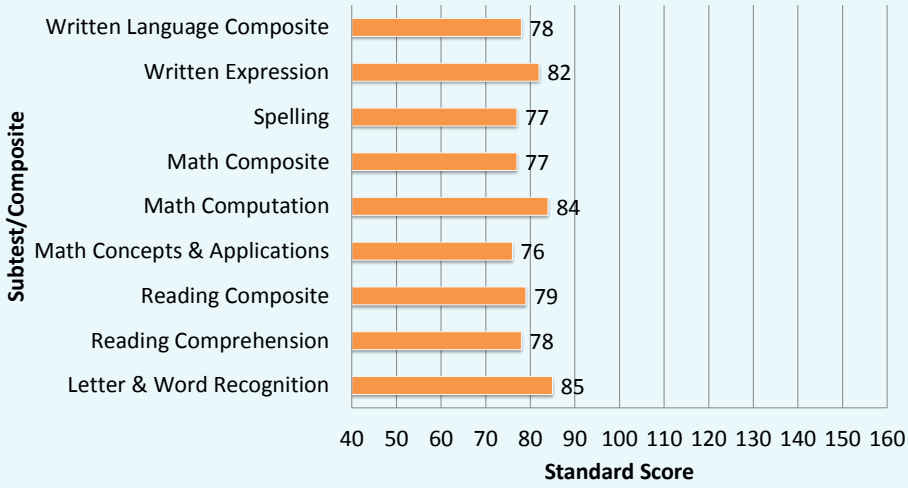
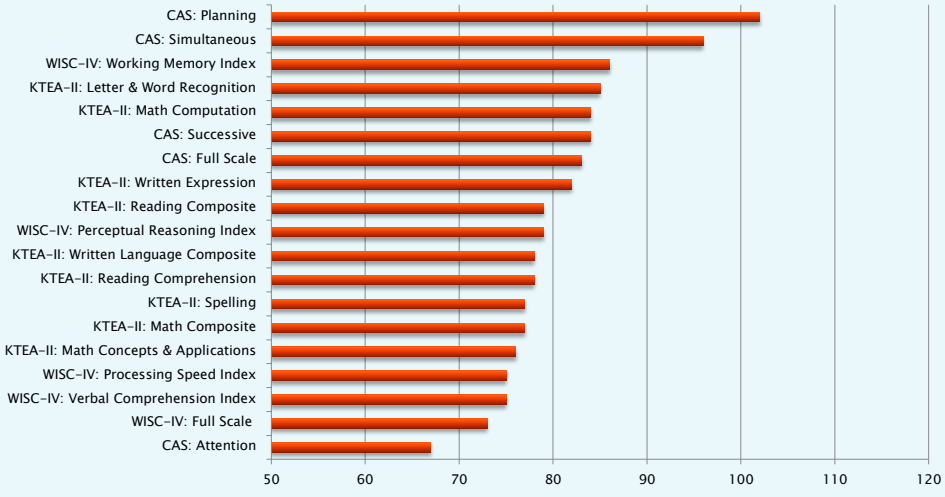
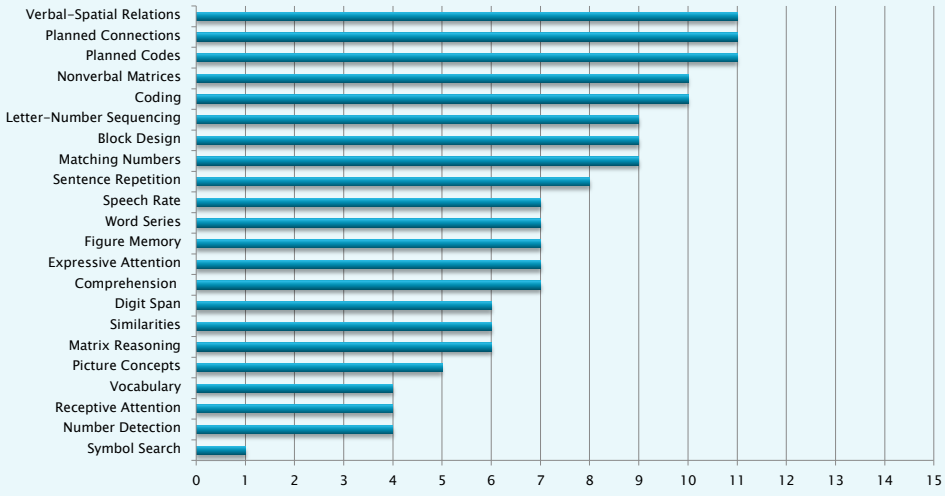
KTEA-II



COMPARISON: STANDARD SCORES



COMPARISON: SCALED SCORES



THANK YOU for attending

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