

ASSESSMENT OF STUDENTS WITH CO-MORBID DISORDERS AND MULTIPLE ELIGIBILITIES UNDER IDEIA/ADA (1.0)

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Disclosure

- My expenses for this talk are supported by Multi-Health Systems.
- I have developed tests marketed by Multi-Health Systems, Pro-Ed and Western Psychological Services.
- I have authored books marketed by Springer, Wiley, Guilford, Double Day, McGraw Hill, Brookes, Kluwer and Specialty Press.
- I am Editor in Chief of the Journal of Attention Disorders (Sage) and Co-Editor of the Encyclopedia of Child Development (Springer)

Learning Objectives









I Had a Revelation in St. Augustine

The world operates along a normal curve!



How I Was Trained

All Children:

With all children.
Share qualities

Possess
qualities
unique to
them

Share positive
or negative qualities
with sub-groups

Not surprisingly all but two things we do as psychologists are dimensional!

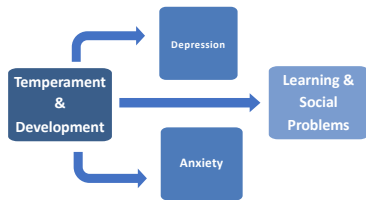
- Diagnosis
- Eligibility Determination



The Disruptive Continuum of Behavior



The Non-disruptive Continuum of Behavior

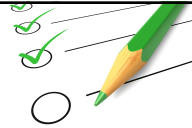


How Shall We Understand, Define and Categorize Mental Illness and Developmental Problems?



- By etiology or cause?
- By emotions, abilities, behaviors and thoughts?
- By impaired function in activities of life?

Diagnosis



Medicine/Medical.

The process of determining by examination the nature and circumstances of a diseased condition.

The decision reached from such an examination.

Eligible

adjective

Having the right to do or obtain something; satisfying the appropriate conditions.

"Customers who are eligible for discounts"

Synonyms: *entitled, permitted, allowed, qualified, able*

"Those people eligible to vote"
(of a person) desirable or suitable as a partner in marriage.
"The world's most eligible bachelor"

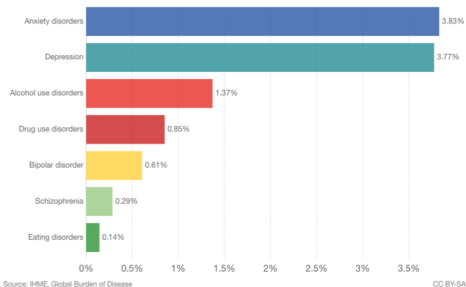
Synonyms: *desirable, suitable*



Determining eligibility is an outcome best understood and obtained by a thorough assessment.

Prevalence by mental and substance use disorder, World, 2016

Share of the total population with a given mental health or substance use disorder. Figures attempt to provide a true estimate (going beyond reported diagnosis) of disorder prevalence based on medical, epidemiological data, surveys and meta-regression modelling.



How distinct are these disorders from each other?

Much less so than makes me comfortable!



How distinct are these disorders from each other?

Although the National Institute of Mental Health (NIMH) has prepared well for this undertaking, much remains to be done. Rigorous diagnostic procedures are available for some mental disorders, but not all. Studies to identify the genes that influence the onset of mental disorders have been initiated, but too few are large enough to efficiently detect these genes. Dedicated investigators are working on various aspects of mental disorders, but more researchers with training in molecular and statistical genetics are required (NIH, 1997)



Co-Occurrence/Comorbidity

DX	ASD	ADHD	ODD	CD	ANX	DEP	LD
ASD		60%	13 to 27%	1 to 10%	35%	41%	45%
ADHD	60%		25 to 75%	22%	35%	41%	45%
ODD	13 to 27%	25 to 75%		42%	62%	39%	55%
CD	1 to 10%	22%	42%		42%	40%	35%
ANX	35%	35%	62%	42%		60%	30%
DEP	41%	41%	39%	40%	60%		10%
LD	45%	45%	55%	35%	30%	10%	

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Savanti Ghosh and Mausumi Sinha

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Abstract

Go to: 

Purpose of Research. Numerous studies have reported comorbidities, overlapping symptoms, and shared risk factors among cases of attention deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD) and conduct disorder (CD). We present three adolescent males aged 13–16 years with conduct disorder having past history of ADHD and ODD. **Principal result.** The symptom profile especially in domains of aggression, hostility, and emotionality as well as the manner of progression from ADHD to ODD and CD in the above cases shows a similar pattern. **Conclusion.** These common developmental pathways and overlapping symptoms suggest the possibility of a common psychopathological spectrum encompassing the three externalizing disorders.

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J Autism Dev Disord. 2008 Aug; 38(7): 1302–1310.

PMID: [18188684](#)

Published online 2008 Jan 11. doi: [10.1007/s10803-007-0516-8](https://doi.org/10.1007/s10803-007-0516-8)

Oppositional Defiant Disorder as a Clinical Phenotype in Children with Autism Spectrum Disorder

Kenneth D. Gadow,²² Carla J. DeVincent, and Deborah A. G. Drabick

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The publisher's final edited version of this article is available at [J Autism Dev Disord](#)
See other articles in PMC that [cite](#) the published article.

Abstract

Go to:

To examine the validity of oppositional defiant disorder (ODD) as a clinical phenotype distinct from attention-deficit hyperactivity disorder (ADHD), parents and teachers completed a DSM-IV-referenced rating scale and a background questionnaire for 608 children (ages 3–12 years) with autism spectrum disorder (ASD). The ASD sample was separated into four groups: ODD, ADHD, ODD + ADHD, and neither (NONE). Comparison samples were non-ASD clinic ($n = 326$) and community ($n = 800$) controls. In the ASD sample, all three ODD/ADHD groups were clearly differentiated from the NONE group, and the ODD + ADHD group had the most severe co-occurring symptoms, medication use, and environmental disadvantage. There were few differences between ASD + ODD and ASD + ADHD groups. Findings for ASD and control samples were similar, supporting overlapping mechanisms in the pathogenesis of ODD.

Keywords: Oppositional defiant disorder, Autism spectrum disorder, Autism, Asperger's syndrome, PDDNOS, Pervasive developmental disorder, Attention-deficit/hyperactivity disorder, DSM-IV, Diagnosis

J Affect Disord. 1996 Jul 8;39(2):123-6.

Comorbidity of major depression and conduct disorder.

Meller WH¹, Borchardt CM.

Author information

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Abstract

Abstract
The association of depression and conduct disorder is common and often perplexing in child psychiatry. Using a systematic retrospective chart review, various symptom, demographic and family history variables were compared between depression with comorbid conduct disorder and depression alone. Variables which differed between groups were entered into a stepwise discriminative function analysis. The four variables which discriminated between groups were anxiety, witness to family violence, illegal behavior, and impulsive behavior. The strongest discriminating variable, anxiety, was associated with depression without comorbid conduct disorder. These results emphasize the heterogeneity of childhood depression and potential importance of anxiety.

PMID: 8827421 DOI: 10.1016/0165-0327(96)00031-6

Substance Use Disorders

Over 50% of youth with Substance Use Disorders suffer from at Least one psychiatric disorder

Santucci K. Psychiatric disease and drug abuse. *Curr Opin Pediatr.* 2012;24(2):233-237.
doi:10.1097/MOP.0b013e3283504bf.

Ross S, Peselow E. Co-occurring psychotic and addictive disorders: neurobiology and diagnosis. *Clin Neuropharmacol.* 2012;35(5):235-243.
doi:10.1097/WNF.0b013e32818261e193.

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PMCID: PMC4155521
NIHMSID: NIHMS591531
PMID: 25197427

The Influence of Comorbid Depression and Conduct Disorder on MET/CBT Treatment Outcome for Adolescent Substance Use Disorders

Jacqueline Herish, MA,^a John F. Curry, Ph.D.,^{a,b} and Sara J. Becker, Ph.D.^c

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See other articles in PMC that [cite](#) the published article.

Abstract

Go to: 

Although depression and conduct disorder frequently co-occur with substance use disorders (SUDs), few studies have investigated the individual and interactive effects of these conditions on SUD treatment outcome. Data were collected from 90 adolescents aged 13–21 ($M = 17.1$, $SD = 2.07$) who received a brief evidence-based intervention for SUD. Hierarchical regressions assessed the relationship among demographic variables, depression, conduct disorder, and two substance use outcomes (frequency and problems) at two intervals (three months, six months). Results revealed that higher baseline substance use and lower socioeconomic status significantly predicted higher substance problems and frequency at three-months. At six months, higher three month substance problems and lower depressive symptoms predicted substance problems. In addition, an interaction indicated that the effect of conduct disorder on substance problems was greatest at lower levels of depression. Results are discussed in the context of previous research indicating mixed effects of depression on SUD treatment outcome.

How distinct are these disorders from each other?

For over a century, psychiatric disorders have been defined by expert opinion and clinical observation. The modern DSM has relied on a consensus of experts to define categorical syndromes based on clusters of symptoms and signs, and, to some extent, external validators, such as longitudinal course and response to treatment. In the absence of an established etiology, psychiatry has struggled to validate these descriptive syndromes, and to define the boundaries between disorders and between normal and pathologic variation.

Expert Review Published: 03 January 2018

Psychiatric genetics and the structure of psychopathology

Jordan W. Smoller  Ole A. Andreassen, Howard J. Edenberg, Stephen V. Faraone, Stephen J. Glatt & Kenneth S. Kendler

Molecular Psychiatry (2018) | [Download Citation &](#)

How distinct are these disorders from each other?

Before the modern era of genomic research, family and twin studies demonstrated that all major psychiatric disorders aggregate in families and are heritable. Over the past decade, the success of large-scale genomic studies has confirmed several key principles: (1) psychiatric disorders are highly polygenic, reflecting the contribution of hundreds to thousands of common variants of small effect and rare (often de novo) SNVs and CNVs; (2) genetic influences on psychopathology commonly transcend the diagnostic boundaries of our clinical DSM nosology. At the level of genetic etiology, there are no sharp boundaries between diagnostic categories or between disorder and normal variation

Expert Review Published 06 January 2018

Psychiatric genetics and the structure of psychopathology

Andrew W. Strevens¹, Ole A. Andreassen, Howard J. Edenberg, Stephen V. Faraone, Stephen J. Glatt & Kenneth S. Kendler

Molecular Psychiatry (2018) | Download Citation &

Comorbidity is the
RULE
not the Exception



What is the Goal of a Comprehensive Evaluation?

- Identify and define symptoms?
- Identify and define strengths and weaknesses?
- Appreciate the relationship of a set of symptoms to a unitary condition?
- Define limits of functional impairment to set a baseline for intervention?



Components of a Thorough Assessment

- History
- Broad Spectrum Questionnaires (Parent and Teacher)
- Impairment, Risk, Executive Functioning
- Narrow Spectrum Questionnaires (Parent and Teacher)
- Self report Questionnaires
- Ability Assessment
- Achievement Assessment
- Interview with student



Critical Issues In Assessment

- Demographics
- Symptoms vs. consequences
- Categories vs. dimensions
- Eligibility vs. diagnosis
- Developmental pathways: accept a moment in time
- There are no shortcuts
- Assess the environment



Critical Issues in Assessment

- Assess for intervention
- Understand positive and negative predictive power
- Understand sensitivity vs. specificity
- Begin with the disruptive/non-disruptive continuum
- Keep low incidence problems in mind
- Consider resilience (protective) factors
- Measure impairment



General Guidelines for a Comprehensive Evaluation

- A distinction should be made between acute vs. chronic problems.
- Person and environment protective factors need to be understood.
- Assessment should be strength and risk focused.
- Test results should be presented in ways that are useful to consumers (e.g. family, school, etc.).
- The least amount of assessment needed to answer referral questions should be completed.



Person Attributes Associated With Successful Coping*

- Affectionate, engaging temperament.
- Sociable.
- Autonomous.
- Above average IQ.
- Good reading skills.
- High achievement motivation.

- Positive self-concept.
- Impulse control.
- Internal locus of control.
- Planning skills.
- Faith.
- Humorous.
- Helpfulness.



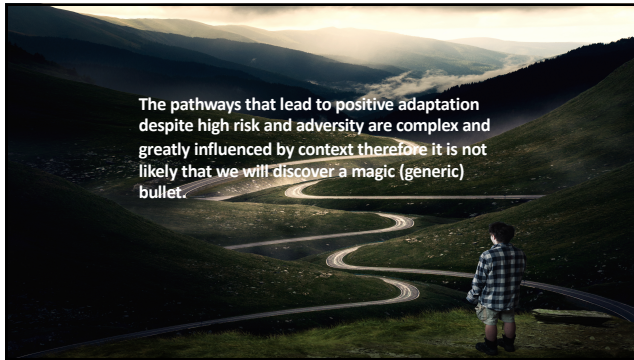
*Replicated in 2 or more studies.

Environmental Factors Associated With Successful Coping*

- Smaller family size.
- Maternal competence and mental health.
- Extended family involvement.
- Close bond with primary caregiver.
- Supportive siblings.
- Living above the poverty level.
- Friendships.
- Supportive teachers.
- Successful school experiences.
- Involvement in pro-social organizations.



*Replicated in 2 or more studies.



Special Education Legislative History

- 1975 — The Education for All Handicapped Children Act (EAHCA) became law. It was renamed the Individuals with Disabilities Education Act (IDEA) in 1990.
- 1990 — IDEA first came into being on October 30, 1990 when the "Education of All Handicapped Children Act" (itself having been introduced in 1975) was renamed "Individuals with Disabilities Education Act." (Pub. L. No. 101-476, 104 Stat. 1142). IDEA received minor amendments in October 1991 (Pub. L. No. 102-119, 105 Stat. 587).
- 1997 — IDEA received significant amendments. The definition of disabled children expanded to include developmentally delayed children between three and nine years of age. It also required parents to attempt to resolve disputes with schools and Local Educational Agencies (LEAs) through mediation, and provided a process for doing so. The amendments authorized additional grants for technology, disabled infants and toddlers, parent training, and professional development. (Pub. L. No. 105-17, 111 Stat. 37).

Special Education Legislative History

- 2004 — On December 3, 2004, IDEA was amended by the Individuals With Disabilities Education Improvement Act of 2004, now known as IDEA. Several provisions aligned IDEA with the No Child Left Behind Act of 2001, signed by President George W. Bush. It authorized fifteen states to implement 3-year IEPs on a trial basis when parents continually agree. Drawing on the report of the President's Commission on Excellence in Special Education,[46] the law revised the requirements for evaluating children with learning disabilities. More concrete provisions relating to discipline of special education students was also added. (Pub. L. No. 108-446, 118 Stat. 2647).
- 2009 — Following a campaign promise for "funding the Individuals with Disabilities Education Act", [47] President Barack Obama signed the American Recovery and Reinvestment Act of 2009 (ARRA) on February 17, 2009, including \$12.2 billion in additional funds.
- 2009 — Americans with Disabilities Amendments Act was signed into law in September 2008 and became effective on January 1, 2009

IDEA

Children are placed in special education services through an evaluation process. If the evaluation is not appropriately conducted, or does not monitor the information that is needed to determine placement it is not appropriate.

The goal of IDEA's regulations for evaluation is to help minimize the number of misidentifications, to provide a variety of assessment tools and strategies, to prohibit the use of any single evaluation as the sole criterion of which a student is placed in special education services, and to provide protections against evaluation measures that are racially or culturally discriminatory.

Overall, the goal of appropriate evaluation is to get students who need help, extra help that is appropriate for the student and helps that specific student to reach his or her goals set by the IEP team

Our focus today is on children with multiple handicaps, disabilities or meeting multiple IDEIA classifications.



California

§ 3030. Eligibility Criteria.

5 CA ADC § 30309BARCLAYS OFFICIAL CALIFORNIA CODE OF REGULATIONS

Barclays Official California Code of Regulations [Currentness](#)

Title 5, Education

Division 1, California Department of Education

Chapter 3, Individuals with Exceptional Needs

Subchapter 1, Special Education

Article 3.1, Individuals with Exceptional Needs

(7) Multiple disabilities means concomitant impairments, such as intellectual disability-blindness or intellectual disability-orthopedic impairment, the combination of which causes such severe educational needs that they cannot be accommodated in special education programs solely for one of the impairments. "Multiple disabilities" does not include deaf-blindness.

(8) Intellectual disability means significantly subaverage general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period that adversely affects a child's educational performance.

Colorado

A child with Multiple Disabilities shall have two or more areas of significant impairment, one of which shall be an intellectual disability. The other areas of impairment include: Orthopedic Impairment; Visual Impairment, Including Blindness; Hearing Impairment, Including Deafness; Speech or Language Impairment; Serious Emotional Disability; Autism Spectrum Disorders; Traumatic Brain Injury; or Other Health Impaired. The combination of such impairments creates a unique condition that is evidenced through a multiplicity of severe educational needs which prevent the child from receiving reasonable educational benefit from general education

New Jersey

"Multiply disabled" corresponds to "multiply handicapped" and "multiple disabilities," and means the presence of two or more disabling conditions, the combination of which causes such severe educational needs that they cannot be accommodated in a program designed solely to address one of the impairments. Multiple disabilities includes cognitively impaired-blindness, cognitively impaired-orthopedic impairment, etc. The existence of two disabling conditions alone shall not serve as a basis for a classification of multiply disabled. Eligibility for speech-language services as defined in this section shall not be one of the disabling conditions for classification based on the definition of "multiply disabled." Multiply disabled does not include deaf-blindness.

Maryland

"Multiple disabilities" means concomitant impairments, such as intellectual disability-blindness or intellectual disability-orthopedic impairment, the combination of which causes such severe educational problems that the student cannot be accommodated in special education programs solely for one of the impairments. (b) "Multiple disabilities" does not include students with deaf-blindness.

Oregon

"Children with disabilities" or "students with disabilities" means children or students who require special education because of: autism; communication disorders; deafblindness; emotional disturbances; hearing impairments, including deafness; intellectual disability; orthopedic impairments; other health impairments; specific learning disabilities; traumatic brain injuries; or visual impairments, including blindness.

Determining eligibility is an outcome best understood and obtained by a thorough assessment.



North Carolina: Well Defined Guidelines



North Carolina



- (8) Multiple Disabilities:
- (A) Required screenings and evaluations:
 - (i) Hearing screening;
 - (ii) Vision screening;
 - (iii) Social-developmental history;
 - (iv) Summary of communication with parents or documentation of attempts to communicate with parents;
 - (v) Observation across settings, to assess academic and functional skills;
 - (vi) Educational evaluation;
 - (vii) Adaptive behavior evaluation;
 - (viii) Psychological evaluation.

NC 190-Evaluation, Eligibility Determination, IEPs, and Educational Placements 69

Policies Governing Services for Children with Disabilities July 2014

- (i) Speech/language evaluation;
- (j) Medical evaluation; and
- (k) Motor evaluation.
- (ii) To be determined eligible in the disability category of multiple disabilities, a child must demonstrate:
 - (A) Three or more disabilities occurring together;
 - (B) The combination of which is so severe, complex, and interwoven that identification in a single category of disability cannot be determined.
- (iii) The disability must:
 - (A) Have an adverse effect on educational performance; and
 - (B) Require specially designed instruction.

Nevada

STUDENT/PARENT INFORMATION	DIAGNOSIS CATEGORY	MEETING INFORMATION
Student Name: <input type="text"/> Sex: <input type="text"/>	<input type="checkbox"/> Autism Spectrum Disorder	DATE OF MEETING: <input type="text"/>
Student Address: <input type="text"/>	<input type="checkbox"/> Developmental Delay	PURPOSE OF MEETING: <input type="text"/>
Student Phone: <input type="text"/>	<input type="checkbox"/> Emotional Disturbance	<input type="checkbox"/> New IEP
Federal Financial Code: <input type="text"/>	<input type="checkbox"/> Health Impairment	<input type="checkbox"/> New IEP
Federal Student Disability Code: <input type="text"/>	<input type="checkbox"/> Hearing Impairment/Deaf	<input type="checkbox"/> Revising IEP
Admission: <input type="text"/>	<input type="checkbox"/> Intellectual Disability	<input type="checkbox"/> Revising IEP
Student Previous: <input type="text"/>	<input type="checkbox"/> Multiple Impairment	<input type="checkbox"/> Revising IEP
Parent/Guardian Signature: <input type="text"/>	<input type="checkbox"/> Specific Learning Disability	<input type="checkbox"/> Revising IEP
Parent/Guardian Title: <input type="text"/>	<input type="checkbox"/> Specific Learning Disability	<input type="checkbox"/> Revising IEP
Student/Teacher Signature: <input type="text"/>	<input type="checkbox"/> Specific Learning Disability	<input type="checkbox"/> Revising IEP
Signature of Other Accommodations: <input type="text"/>	<input type="checkbox"/> Specific Learning Disability	<input type="checkbox"/> Revising IEP
Emergency Contact/Phone Number: <input type="text"/>	<input type="checkbox"/> Specific Learning Disability	<input type="checkbox"/> Revising IEP
Current School: <input type="text"/>	<input type="checkbox"/> Specific Learning Disability	<input type="checkbox"/> Revising IEP

Nevada



NEVADA Decision Tree for Coding Educational Environments for Children Ages 3 through 5 with IEPs
Report each child to only one category. Please refer to state guidance and the Product form for specific reporting requirements when using this decision tree.

Does the child attend a regular early childhood program?

YES	NO
<p>IF YES, determine the following:</p> <p>How many hours does the child attend a regular early childhood program?</p> <p>At least 10 hours per week</p> <p>IF YES, determine the following:</p> <p>Does the child attend a regular early childhood program?</p> <p>IF YES, determine the following:</p> <p>Does the child attend a regular early childhood program?</p> <p>IF YES, determine the following:</p> <p>Does the child attend a regular early childhood program?</p>	<p>IF NO, determine the following:</p> <p>Is the child attending a special education program?</p> <p>IF YES, determine the following:</p> <p>Does the child attend a special education program?</p> <p>IF YES, determine the following:</p> <p>Does the child attend a special education program?</p> <p>IF YES, determine the following:</p> <p>Does the child attend a special education program?</p>

SPED 601 includes 6-10 percent of children 3 through 5 with IEPs who are attending a regular early childhood program and receive the benefits of general education and related services in the regular and specialized programs.

SPED 602 includes 11-20 percent of children 3 through 5 with IEPs who are attending a regular early childhood program and receive the benefits of general education and related services in the regular and specialized programs.

SPED 603 includes 21-30 percent of children 3 through 5 with IEPs who are attending a regular early childhood program and receive the benefits of general education and related services in the regular and specialized programs.

SPED 604 includes 31-40 percent of children 3 through 5 with IEPs who are attending a regular early childhood program and receive the benefits of general education and related services in the regular and specialized programs.

SPED 605 includes 41-50 percent of children 3 through 5 with IEPs who are attending a regular early childhood program and receive the benefits of general education and related services in the regular and specialized programs.

SPED 606 includes 51-60 percent of children 3 through 5 with IEPs who are attending a regular early childhood program and receive the benefits of general education and related services in the regular and specialized programs.

SPED 607 includes 61-70 percent of children 3 through 5 with IEPs who are attending a regular early childhood program and receive the benefits of general education and related services in the regular and specialized programs.

SPED 608 includes 71-80 percent of children 3 through 5 with IEPs who are attending a regular early childhood program and receive the benefits of general education and related services in the regular and specialized programs.

SPED 609 includes 81-90 percent of children 3 through 5 with IEPs who are attending a regular early childhood program and receive the benefits of general education and related services in the regular and specialized programs.

SPED 610 includes 91-100 percent of children 3 through 5 with IEPs who are attending a regular early childhood program and receive the benefits of general education and related services in the regular and specialized programs.

How the Brain Works Ability, Knowledge and Skill



Components of a Thorough Assessment

- Step 1: History**
- Step 2: Assess Impairment (RSI), EF (CEFI) and Risk (RISE)**
- Step 3: Broad Spectrum: Conners CBRS or Conners EC**
- Step 4: Decide on Narrow Spectrum Questionnaires:**
 - Disruptive Problems: Conners 3
 - Non-Disruptive:
 - ASRS
 - MASC 2
 - CDI 2
 - CAS Teacher Questionnaire
- Step 5: Achievement & Ability Testing**
- Step 6: Resilience**
- Step 7: Personality**

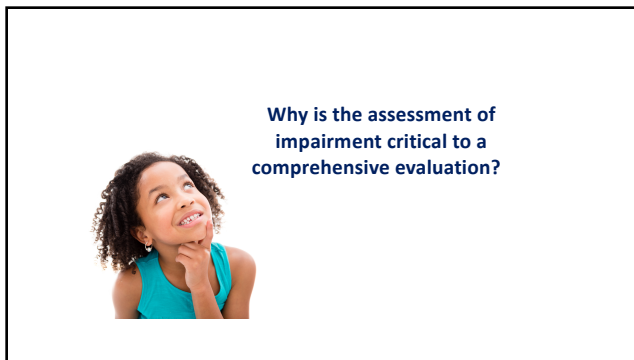


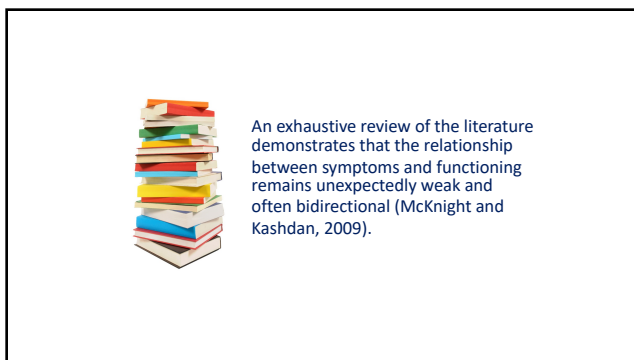
Step 1: Obtain a Thorough History

- Immediate and extended family risks.
- Pregnancy and delivery
- Infancy and toddlerhood (temperament)
- Preschool and school history
- Socialization
- Family relations
- Sleep, appetite and hygiene
- Past treatments or educational services
- Discipline
- Situational problems









Need

- There is a clear need to measure **"impairment"** when using the IDEIA, Diagnostic and Statistical Manual of the American Psychiatric Association (DSM) or the International Classification of Diseases (ICD) as a guide to eligibility determination and/or diagnosis.





Symptoms vs. Impairment

Impairment is not the same as symptoms

- Symptoms are physical, cognitive or behavioral **manifestations** of a disorder.
- Impairments are the functional **consequences of these symptoms**.

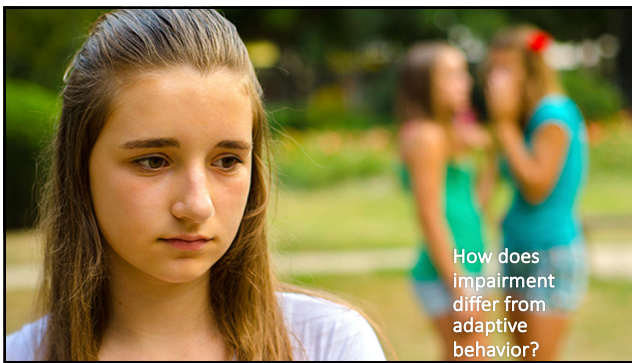


Inattention

VS.



Difficulty completing homework



How does
impairment
differ from
adaptive
behavior?

IMPAIRMENT VS. ADAPTIVE BEHAVIOR

A skill deficit occurs when a person does not know how to perform an everyday task, whereas a deficit in performance occurs when an individual has acquired a skill, yet does not seem to use it when needed.

(Ditterline & Oakland, 2009)

IMPAIRMENT VS. ADAPTIVE BEHAVIOR

Thus, while measures of adaptive behavior emphasize the presence of adaptive skills in daily functioning, measures of functional impairment tend to emphasize the outcome of a behavior or the performance of an individual rather than the presence or absence of the skill.

Ditterline & Oakland (2009); Dumas et al. 2010; Gleason & Coster (2012)

Adaptive Behavior vs. Impairment



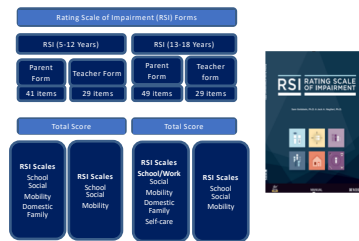
Adaptive Behavior vs. Impairment



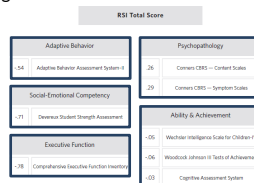
Symptoms vs. Impairment

Impairment can exist absent of formal diagnosis.
(Balazs et al., 2013; Wille et al., 2008)

In one study 14.2% of a sample of children were significantly impaired without a formal diagnosis.
(Angold et al., 1999)



Relationship Between the RSI and Other Measures





Executive Function

Executive Function(s)

Given all these definitions of EF(s) we wanted to address the behavioral question...

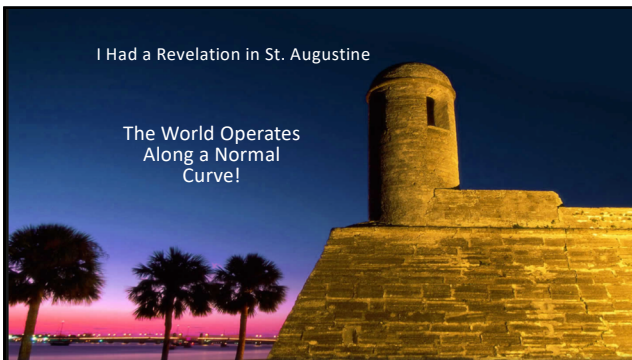
Executive Functions ... or

Executive Function?

68

I Had a Revelation in St. Augustine

The World Operates
Along a Normal
Curve!



Executive Function(s)

- One way to examine this issue is to research the factor structure of behaviors related to EF(s)
- To do so, we examined the factor structure of the Comprehensive Executive Function Inventory (CEFI)
- We conducted a series of research studies to answer the following question:
 - What is the underlying structure of the behaviors assessed on the CEFI?
 - Is there is just one underlying factor called executive function), or do the behaviors group together into different constructs suggesting a multidimensional structure?

70

ITEM FACTOR ANALYSES – PART

1

- For the *first half* of the normative sample for Parent, Teacher and Self ratings' **item scores** (90 items) was analyzed using exploratory factor analysis
- The *scree plots* and the *very simple solution* criterion both indicated that only **one factor**.
- The *ratio of the first and second eigenvalues* was greater than four for all three forms, which indicated a **one factor solution**.

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Item Factor Analyses – Part 1

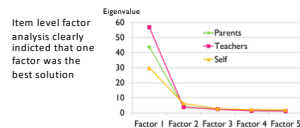


Table 8.2. Eigenvalues from the Inter-Item Correlations

Form	Factor						
	1	2	3	4	5	6	7
Parent	43.7	4.1	2.3	1.5	1.3	1.3	1.0
Teacher	56.8	3.8	2.3	1.3	1.1	1.1	0.8
Self-Report	29.9	6.3	2.7	2.1	1.9	1.8	1.5

Note. Extraction: principal axis factoring. Only the first 10 eigenvalues are presented.

72

SCALE FACTOR ANALYSES – PART 2

- Using the *second half* of the normative sample EFA was conducted using raw scores for the Attention, Emotion Regulation, Flexibility, Inhibitory Control, Initiation, Organization, Planning, Self-Monitoring, and Working Memory scales
- Both the Kaiser rule (eigenvalues > 1) and the Eigenvalue Ratio criterion (> 4) unequivocally indicated **one factor**.

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Item Factor Analyses – Part 2

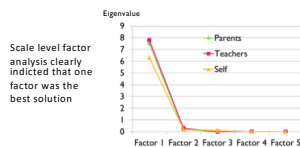


Table 8.4. Eigenvalues of the CEFI Scales Correlations

Form	Factor						
	1	2	3	4	5	6	7
Parent	7.5	0.2	0.0	0.0	0.0	0.0	0.0
Teacher	7.8	0.3	0.0	0.0	0.0	0.0	0.0
Self-report	6.3	0.2	0.1	0.0	0.0	0.0	-0.1

NOTE: Extraction method: Png

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EXPLORATORY FACTOR ANALYSES

Conclusion:

When using parent (N = 1,400), teacher (N = 1,400), or self-ratings (N = 700) based on behaviors observed and reported for a nationally representative sample (N = 3,500) aged 5 to 18 years **Executive Function** *not* functions is the best behavioral term to use.

75



EF as a Mediator of Ability and Knowledge

- Ability: The skills we use to acquire and manipulate knowledge to solve problems. Also referred to as intelligence.
- Knowledge: Everything we learn in life. Also referred to as achievement.
- Executive Function: How efficiently or skillfully you do what you decide to do.

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Why Does Executive Function Matter?



EF is essential for success in daily living including:

- Academic & occupational functioning
 - For more information see: Best et al., 2009; Miller et al., 2012; Valiente et al., 2013
- Interpersonal problems
 - For more information see: Sprague et al., 2011; De Panfilis et al., 2013
- Physical health
 - For more information see: Hall et al., 2006; Falkowski et al., 2013
- Mental health
 - For more information see: Willoughby et al., 2006; Sora et al., 2006; MacIsaac-Gibney et al., 2002; Sprague, 2013

Group Differences: ADHD

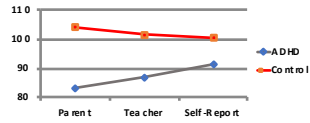


Table 8.19 Differences Between ADHD and Matched General Population Samples: CEPI Full Scale

Form		ADHD	Matched Gen. Pop.	d-value	t(df)	p
Parent	M	83.1	103.9	-1.59	256.55 (1,940)	< .001
	SD	13.0	13.0			
	N	171	171			
Teacher	M	86.7	101.1	-1.07	79.93 (1,278)	< .001
	SD	13.3	13.3			
	N	138	142			
Self-Report	M	91.1	100.3	-0.62	22.21 (1,232)	< .001
	SD	14.7	14.7			
	N	117	117			

Note. ADHD = Attention Deficit/Hyperactivity Disorder; Gen. Pop. = General Population.

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Group Differences: ASD

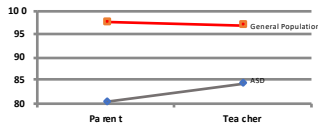


Table 8.20 Differences Between ASD and Matched General Population Samples: CEPI Full Scale

Form		ASD	Matched Gen. Pop.	d-value	t(df)	p
Parent	M	80.4	97.7	-1.41	48.96 (1,96)	< .001
	SD	12.2	12.2			
	N	48	96			
Teacher	M	84.3	96.9	-0.99	23.11 (1,93)	< .001
	SD	12.7	12.7			
	N	47	47			

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Group Differences: Learning Disabilities

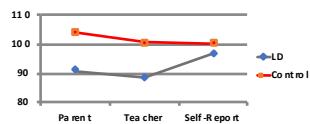


Table 8.22 Differences Between LD and Matched General Population Samples: CEPI Full Scale

Form		LD	Matched Gen. Pop.	d-value	t(df)	p
Parent	M	90.8	103.9	-0.92	19.89 (1,93)	< .001
	SD	14.4	14.4			
	N	47	48			
Teacher	M	88.4	100.6	-0.91	37.29 (1,178)	< .001
	SD	13.4	13.4			
	N	90	90			
Self-Report	M	96.6	100.0	-0.21	1.45 (1,138)	0.231
	SD	15.9	15.9			
	N	64	64			

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Group Differences: Mood Disorders

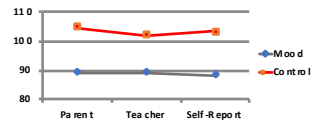


Table 8.21 Differences Between Mood Disorder and Matched General Population Samples: CEFI Full Scale

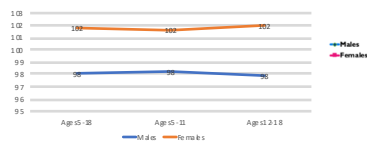
Form		Mood Disorder	Matched Gen. Pop.	d ratio	F(df)	p
Parent	M	88.9	104.3	-1.11	22.66 (1, 71)	< .001
	SD	13.8	13.8			
	N	36	37			
Teacher	M	88.9	101.7	-1.01	14.9 (1, 57)	< .001
	SD	13.8	12.6			
	N	29	30			
Self-Report	M	88.0	103.1	-1.09	16.34 (1, 53)	< .001
	SD	13.9	13.9			
	N	27	28			

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CEFI Gender Differences: Parent Raters

Girls are More Efficient Than Boys

Parents		Mn	SD	N	Mn	SD	ES
Ages 5-18	700	98.1	14.9	699	101.8	15.0	-0.25
Ages 5-11	350	98.2	14.3	349	101.6	15.6	-0.22
Ages 12-18	350	97.9	15.4	350	102.0	14.4	-0.28

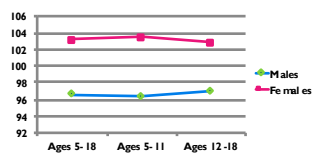


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CEFI Gender Differences: Teacher Raters

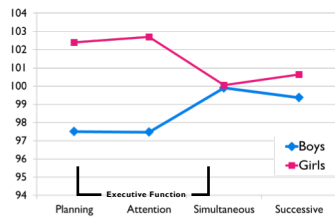
Girls are More Efficient Than Boys

Teachers	N	Mn	SD	N	Mn	SD	ES
Ages 5-18	700	96.7	14.4	700	103.2	15.0	-0.44
Ages 5-11	350	96.4	14.5	350	103.5	14.9	-0.49
Ages 12-18	350	97.0	14.4	350	102.9	15.0	-0.40



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Gender Differences: Abilities Associated With EF



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CEFI Measures Impact WISC-IV, CAS, and WJ III

- Data from the Neurology, Learning and Behavior Center in Salt Lake City, UT
- Children given the CEFI, WISC-IV (N = 43), CAS (N = 62), and the WJIII achievement (N = 58) as part of a typical test battery.

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CEFI and WISC IV

	WISC-IV					CEFI	
	FS	VC	PR	WM	PS	Mn	SD
CEFI							
Full Scale	.39	.44	.27	.30	.34	93.0	11.9
Attention	.39	.33	.32	.40	.35	91.8	11.2
Emotion Regulation	.14	.25	.08	-.06	.11	97.2	14.7
Flexibility	.57	.68	.45	.46	.37	93.8	11.0
Inhibitory Control	.21	.20	.13	.08	.27	97.7	13.5
Initiation	.25	.34	.14	.21	.25	91.2	15.1
Organization	.15	.17	.06	.14	.17	92.2	13.6
Planning	.46	.54	.31	.38	.39	93.6	11.1
Self-Monitoring	.39	.45	.31	.33	.27	92.0	11.3
Working Memory	.38	.43	.31	.36	.23	92.5	13.6
WISC-IV M	95.5	96.8	101.5	92.6	90.7	92.6	
WISC-IV SD	18.1	14.7	17.5	17.5	13.4	17.5	

Note: All correlations were corrected for range instability.

CEFI and CAS

	CAS					CEFI	
	FS	Plan	Sim	Att	Suc	Mn	SD
CEFI							
Full Scale	.45	.49	.43	.37	.32	91.4	13.2
Attention	.40	.42	.39	.30	.35	90.3	12.8
Emotion Regulation	.26	.22	.23	.24	.13	96.9	14.7
Flexibility	.52	.54	.51	.40	.42	92.2	13.0
Inhibitory Control	.27	.29	.22	.18	.21	96.0	13.9
Initiation	.40	.37	.31	.30	.20	89.0	16.3
Organization	.29	.36	.21	.20	.23	90.5	14.3
Planning	.47	.54	.46	.37	.38	92.5	12.4
Self-Monitoring	.48	.50	.49	.43	.35	91.2	12.4
Working Memory	.48	.46	.45	.38	.30	91.0	14.0
CAS Mn	95.8	92.4	101.6	96.5	98.0		
CAS SD	17.1	14.5	17.0	15.1	14.6		

Note: All correlations were corrected for range instability.

CEFI and Woodcock III

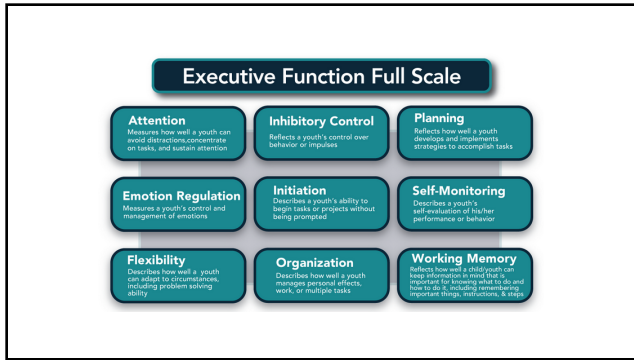
CEFI Scales	WJ-III Achievement Tests				
	Total	Broad Reading	Broad Math	Broad Written Language	Median
Full Scale	.51	.48	.49	.47	.49
Attention	.59	.52	.46	.55	.54
Emotion Regulation	.18	.27	.15	.17	.18
Flexibility	.61	.50	.55	.54	.55
Inhibitory Control	.23	.32	.15	.26	.25
Initiation	.32	.26	.38	.28	.30
Organization	.32	.31	.33	.33	.33
Planning	.58	.54	.57	.50	.56
Self-Monitoring	.53	.51	.51	.49	.51
Working Memory	.57	.48	.60	.47	.53

p < .05 p < .01

Comprehensive Executive Function Inventory (CEFI)

- A comprehensive behavior rating scale of executive function strengths and weaknesses in children and youth aged 5 to 18 years.
- Executive function is important for problem solving and reasoning, and difficulties with executive function can often make simple tasks challenging.





Assessment of Risks and Strengths
Risk Inventory and Strengths Evaluation (RISE)

- **Protective Behaviors**
 - Emotional Balance
 - Interpersonal Skill
 - Self Confidence
- **Risky Behaviors**
 - Bullying
 - Delinquency
 - Health
 - Sexual
 - Substance Abuse
 - Suicide



RISE Overview

- The first tool to look at these concepts within the context of each other
- Ages 9 through 25 years; Parent, Teacher and Self Forms
- 15-20 minutes administration time
- Norm-referenced T-scores examine broad constructs of risk and strength
- Response validity scores also available
- For educational psychologists, counselors, clinical psychologists and other mental-health professionals working with children, adolescents and young adults (Level C)

Standardization: RISE Normative and Clinical Samples

- Nationally representative (U.S.) normative sample: Matched to U.S. Census on gender, race/ethnicity, SES and U.S. geographic region
 - Parent: 1,005 forms
 - Self: 1,380 forms
 - Teacher: 1,000 forms
- Clinical validity sample:
 - 185 Parent Forms
 - 270 Self Forms
 - 152 Teacher Forms
- Includes multiple sub-samples based on risk factors, diagnosis, etc.
 - At Risk
 - Gang Membership
 - Suicidality/Depression
 - ADHD
 - ASD

Reliability

Internal consistency coefficients $\geq .90$ for Summary scales and RISE Index; $\geq .70$ for Subscales

	Parent Form (n = 1005)	Self Form (n = 1380)	Teacher Form (n = 1000)
RISE Summary Scale	0.91	0.91	0.90
Strength Subscales Total	0.91	0.90	0.90
Risk Index	0.87	0.94	0.90
Risk Subscales			
Delinquency/Aggression	0.86	0.86	N/A
Delinquency	0.88	0.78	N/A
Gang/Truancy Problems	0.85	0.80	N/A
Sexual Risk	0.82	0.70	N/A
Substance Abuse	0.88	0.76	N/A
Suicidal/Depressive	0.81	0.86	N/A
Strength Subscales			
Emotional Balance	0.89	0.83	0.89
Interpersonal Skill	0.87	0.85	0.89
Self-Esteem/Respect	0.83	0.78	0.86

In statistics and research, internal consistency is typically a measure based on the correlations between different items on the same test. It measures whether several items that purport to measure the same general construct produce similar scores.

Concurrent Validity

Highlights of correlational studies with concurrent measures

2 factors (risk and strengths), so measures chosen to evaluate both

Risk Scale

BASC-3 Externalizing Problems with RISE Risk Summary: Parent: $r = .69$; Teacher: $r = .63$;
Self: $r = .67$ with BASC-3 School Problems

Conners CBRS Violence Potential with RISE Risk Summary: Parent: $r = .66$; Self: $r = .66$;
Teacher: $r = .74$

Concurrent validity refers to the extent to which the results of a particular test or measurement correspond to those of a previously established measurement for the same construct.

Concurrent Validity

Highlights of correlational studies with concurrent measures
2 factors (risk and strengths), so measures chosen to evaluate both

Strength Scale

ABAS-3 General Adaptive Composite with RISE Strength Summary: Parent: $r = .75$;
Self: $r = .58$; Teacher: $r = .57$

Piers-Harris 3 Total score with RISE Strength Summary: Self: $r = .47$

Analysis of subscales (comprehensive studies in Chapter 5 of RISE Manual) demonstrates extensive evidence of concurrent validity AND shows that while these measures are complementary, the RISE provides data that other scales do not.

Validity: Clinical Groups

At-Risk Sample ($n = 160$): Key validation sample for RISE: qualifying for prevention and intervention services because of unfavorable socioeconomic circumstances, current gang members, ex-gang members, and youth on probation

RISE scores differentiate at-risk youth from typically developing youth with **large, clinically significant effect sizes**.

Validity studies also cover a range of additional groups (clinician-assigned diagnosis):

- Gang Membership
- Suicidality/Depression
- ADHD
- ASD
- Eating Disorders
- Substance Abuse

Step 3: Broad Spectrum Measure

Conners Early Childhood (Conners EC)
2 to 6 years



Conners Comprehensive Behaviour Rating Scales (Conners CBRS)
6 to 18 years



Conners EC

- Innovative psychological instrument to assess the concerns of parents, teachers, and childcare providers about preschool-aged children.
- Aids in the early identification of behavioral, social, and emotional problems.
- Assists in measuring whether or not a child is appropriately meeting major developmental milestones (Adaptive Skills, Communication, Motor Skills, Play, and Pre-Academic/Cognitive).



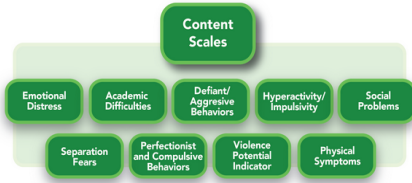


Conners CBRS

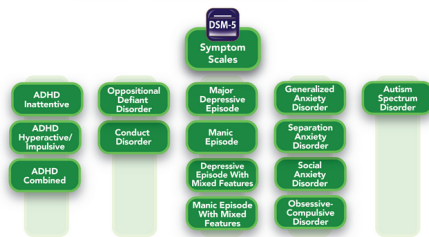
- Comprehensive assessment tool for behavioral, emotional, social, and academic concerns and disorders.
- Common and rare but critical issues.



Conners CBRS



Conners CBRS



Other Clinical Indicators

- Bullying Perpetration
- Bullying Victimization
- Enuresis/Encopresis¹
- Panic Attack
- Pervasive Developmental Disorder³
- Pica²
- Post-Traumatic Stress Disorder
- Specific Phobia
- Tics
- Trichotillomania



¹ Scale Conners CBRS-P & CBRS-T items only. ² Scales on Conners CBRS-P & CBRS-DR items only. ³ Scales on Conners CBRS-DR items only.

Step 4: Decide on Narrow Spectrum
Questionnaires

Disruptive Problems:
Conners 3

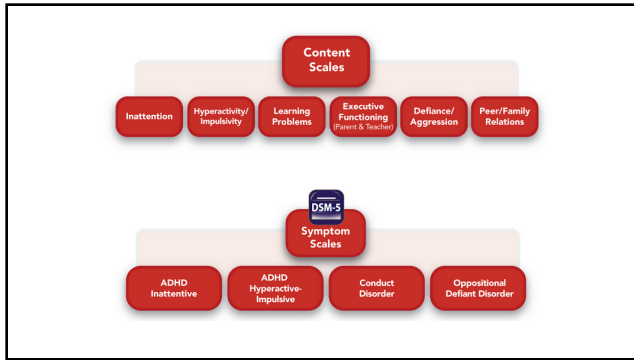
Non-Disruptive:
ASRS
MASC 2
CDI 2
CAS Teacher Questionnaire



**Conners 3rd Edition
(Conners 3)**
C. Keith Conners, M.D.

A thorough and focused
assessment of ADHD and its
most common co-morbid
problems and disorders in
children and adolescents ages
6 to 18 years.

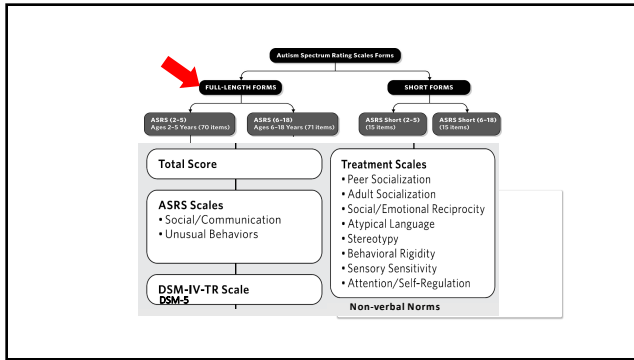


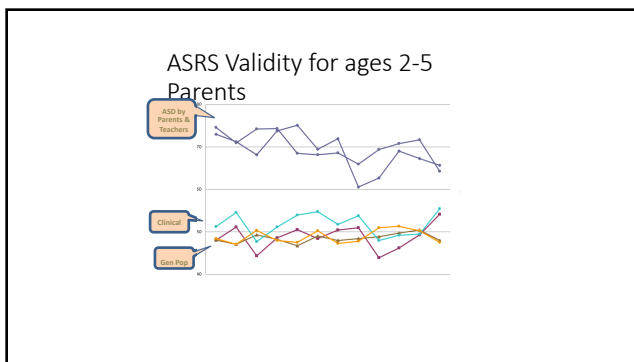


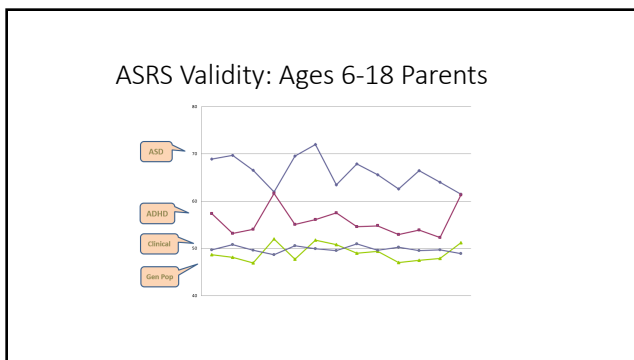


Autism Spectrum Rating Scales

Multi-informant measure designed to identify symptoms, behaviors, and associated features of Autism Spectrum Disorder (ASD) in children and adolescents aged 2 to 18 years.



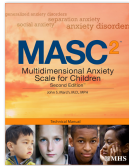


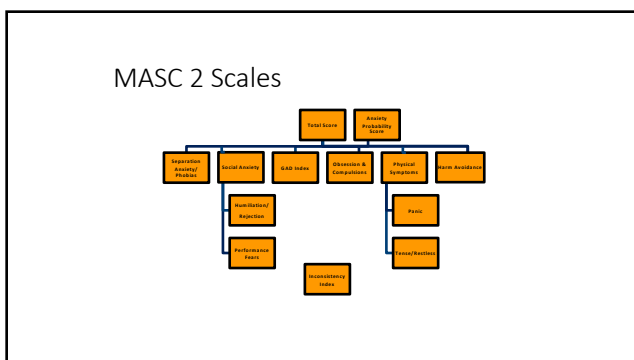




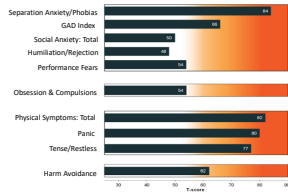
Multidimensional Anxiety Scale for Children 2nd Edition (MASC 2)

- Comprehensive multi-rater assessment of anxiety dimensions in children and adolescents aged 8 to 19 years.
- Distinguishes between important anxiety symptoms and dimensions that broadband measures do not capture.





MASC 2 Scales



Depression

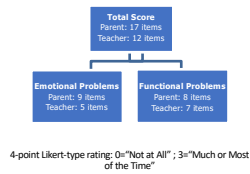


Children's Depression Inventory 2™ (CDI 2)

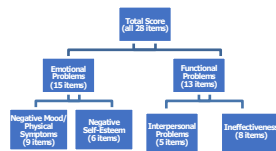
Comprehensive multi-rater assessment of depressive symptoms in children and adolescents from ages 7 to 17, which offers the flexibility of application in either clinical or educational settings.

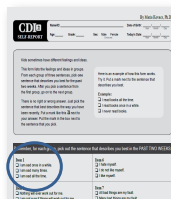


Scale Structure: Parent and Teacher



Scale Structure: Self-Report (Full Length)

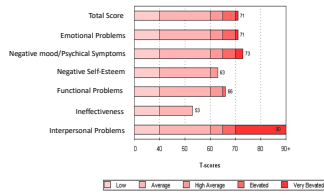




CDI-2 Self-Report

Each sentence is given either 0, 1, or 2 points

CDI 2 Profile



Cognitive/Neuropsychological Abilities

CAS2 (Ages 5-18 yrs.)



PASS Theory

PASS theory is a modern way to define 'ability' based on measuring neurocognitive abilities

Planning = THINKING ABOUT THINKING
 Attention = BEING ALERT
 Simultaneous = GETTING THE BIG PICTURE
 Successive = FOLLOWING A SEQUENCE

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CAS2 Development Goals

- 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
- Retain Administration format of
 - Examiner demonstrates,
 - Child does a sample
 - Directions for remaining items is given
 - And opportunity to Provide Help is given

Census Matched

Table 3.1. Demographic Characteristics of the Normative Sample

Characteristics	Percentage of normative sample (N = 1,402)	Percentage of U.S. school-age population (2011)
Gender		
Male	53.3	51.1
Female	46.7	48.9
Region*		
Northwest	17.9	17.7
South	38.4	37.7
Midwest	29.4	29.4
Ethnicity†		
White	77.9	76.7
Black or African American	15.6	17.7
Hispanic or Latino	6.1	9.7
Asian or Pacific Islander	1.3	5.2
Native American	1.8	1.1
Regional income‡		
Low	23.2	23.2
Mid	34.4	34.4
High	42.4	42.4
Parental education§		
Less than high school	8.0	8.0
High school graduate	21.1	21.1
Some college	21.1	21.1
College graduate	50.0	50.0
Parental occupation¶		
Unemployed	8.0	8.0
Service	21.1	21.1
Skilled	21.1	21.1
Semi-skilled	21.1	21.1
Unskilled	28.8	28.8
Parental occupation 		
Service	21.1	21.1
Skilled	21.1	21.1
Semi-skilled	21.1	21.1
Unskilled	28.8	28.8

Empirically Derived

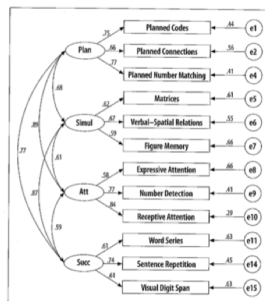


Figure 5.2. Four-factor PASS model for ages 5 to 7 years.

Gender and Race Fair

CAS2 Item	Male (n = 753)		Female (n = 695)		Effect Size	Significance
	M	SD	M	SD		
Subtests						
Planned Codes	9.7	3.1	10.6	3.0	-0.30	Small
Planned Connections	10.6	3.1	10.9	2.9	-0.09	Trivial
Planned Number Sketching	9.6	3.1	10.2	2.8	-0.17	Small
Algebra	10.6	3.3	10.3	3.2	-0.08	Trivial
Visual Spatial Relations	11.9	2.9	10.2	2.9	-0.28	Small
Figure Memory	10.1	3.2	10.1	3.0	-0.01	Trivial
Language Relations	9.9	3.0	10.0	3.0	-0.03	Trivial
Number Sketches	9.7	3.3	10.4	2.9	-0.23	Small
Language Sketches	9.6	3.2	10.4	3.0	-0.31	Small
Word Codes	10.1	3.0	10.2	3.1	-0.02	Trivial
Sentence Relations	10.0	3.0	10.2	2.8	-0.03	Trivial
Sentence Sketches	9.9	2.9	10.2	3.0	-0.14	Small
Visual Shape Space	10.0	3.1	10.1	3.0	-0.03	Trivial
Core Battery						
Planning	10.6	3.3	10.3	3.0	-0.16	Small
Mathematics	10.1	3.0	10.0	3.0	-0.01	Trivial
Algebra	10.6	3.4	10.1	3.0	-0.16	Small
Language	10.6	3.4	10.0	3.0	-0.16	Small
Full Scale	10.6	3.1	10.1	3.0	-0.17	Small
Extended Battery						
Planning	10.6	3.0	10.2	3.0	-0.16	Small
Mathematics	10.1	3.0	10.0	3.0	-0.01	Trivial
Algebra	10.6	3.4	10.1	3.0	-0.16	Small
Language	10.6	3.4	10.0	3.0	-0.17	Small
Full Scale	10.6	3.1	10.2	3.0	-0.16	Small
Supplemental Composite						
Executive Functions with Working Memory	10.6	3.3	10.0	3.0	-0.22	Small
Executive Functions with Working Memory	10.1	3.0	10.0	3.0	-0.01	Trivial
Working Memory	10.1	3.0	10.0	3.0	-0.01	Trivial
Visual Spatial	10.6	3.3	10.1	3.0	-0.16	Small
Nonverbal Composite	10.6	3.3	10.1	3.0	-0.16	Small

Carefully Developed

Relationship Between Strategy Use and Standard Scores

The relationship between reported and observed strategy use and standard scores earned by the students in the standardization sample is summarized for each of the Planning subtests in Table 5.10. The mean subtest scaled score was computed for those students who used and who did not use strategies on each subtest. With the exception of the Planned Connections subtest, results show that the mean scaled scores for those who used strategies were slightly higher than the mean scaled scores obtained by those who did not use strategies. The differences between the two groups suggest that strategy use was associated with modest improvements in Planning scores.

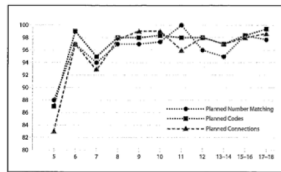


Figure 5.1. Percentage of the standardization sample, by age, who used strategies on the Planning subtests.

CAS2

- Flexibility with special populations
- Strategy assessment
- Guidelines for providing help.

Provide Help

The examiner can explain the demands of the task in any manner deemed appropriate and in any language

Item Set 1

Expose Item Set 1 and say,

Look at this page. There are many boxes for you to fill in (point to the portion of the page with the empty boxes, but do not point to a sweeping motion to the rows or columns). Fill in as many of these as you can, as fast as you can, using these answers (point to the coded boxes, and pause for 3-5 seconds to allow the examinee to look at the page). You can do it any way you want. Let's see how many you can do.

Ready? (Provide a brief explanation if necessary.)

Begin. Start timing. Allow 60 seconds (1:00 minute). Record the time to completion and strategy use.

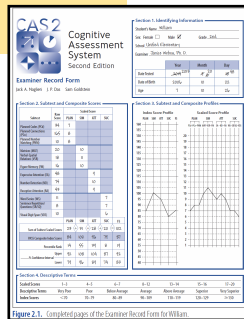
If the examinee stops or spends more than 1 or 2 seconds erasing, immediately say, **Keep going.**

If the examinee is still working after the time limit expires, say, **Stop.** Record the time in seconds. Note strategy use.

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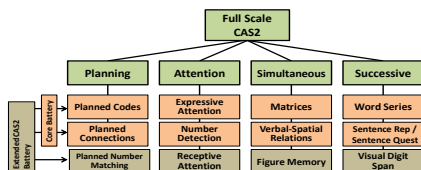
CAS2

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



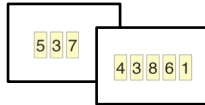
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CAS2 Scale and Subtest Structure



CAS2

- All subtests modified
- Planning subtests have more items
- Speech Rate deleted
- New: Visual Digit Span subtest



Section 2. Subtest and Composite Scores					
Subtest	Raw Score	Scaled Score			
		PLAN	SM	ATT	SSC
Planned Cues (PCL)	94	7			
Planned Connections (PCN)	16/5	8			
Planned Number Matching (PNN)	10	8			
Matrices (MAT)	20		10		
Verbal Spatial Relations (VSR)	18		11		
Figure Memory (FM)	16/2		10		
Expressive Attention (EA)	48			7	
Receptive Attention (RA)	74			10	
Exceptional Attention (EA)	49			7	
Word Series (WS)	11				7
Sentence Repetition/Questions (SRQ)	8				7
Visual Digit Span (VDS)	10				6
		PLAN	SM	ATT	SSC
		FS			
Sum of Subtest Scaled Scores	23	91	28	20	105
PROT Composite Index Scores	84	102	91	71	87
Percentile Rank	14	55	91	8	14
% Confidence Interval	Upper	92	106	104	87
	Lower	71	94	81	89

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CAS2

- Supplementary Scales: Executive Function, Working Memory, Verbal, Nonverbal
- Added: A Visual and Auditory comparison

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	VM	VC	NC
Planned Cues					7
Planned Connections	8	8			
Matrices			11	11	11
Verbal Spatial Relations					10
Figure Memory					10
Expressive Attention	7	7			
Receptive Attention					7
Exceptional Attention					7
Sentence Repetition/Questions	7	7			7
	EF w/o WM	EF w/ WM	VM	VC	NC
Sum of Subtest Scaled Scores	17	95	18	27	27
Composite Index Scores	91	91	94	99	92
Percentile Rank	27	27	94	92	90
% Confidence Interval	Upper	101	99	101	99
	Lower	84	85	88	87

Notes: EF w/o WM = Executive Function without Working Memory; EF w/ WM = Executive Function with Working Memory; VM = Working Memory; VC = Verbal Content; NC = Nonverbal Content.

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CAS2 Online Score & Report

<http://www.proedinc.com/customer/ProductView.aspx?ID=7277>

- ▶ Enter data at the subtest level or enter subtest raw scores
- ▶ Online program converts raw scores to standard scores, percentiles, etc. for all scales.
- ▶ A narrative report with graphs and scores is provided

CAS2: Online Scoring and Report System (1-Year Base Subscription) (1-1111)

See more information about this product's features, click here to learn more. (1-1111) or call 800-451-3002.

Price: \$299.00

NEW AVAILABLE!

Agree to purchase 100 users

Working Time: 40 to 100 minutes

Administration: Individual

The new PC, Mac™, and iPad™ compatible CAS2 Online Scoring and Report System provides an efficient and easy way to enter CAS2 scores and corresponding narratives.

Base CAS2 Online Scoring and Report System (1-Year Base Subscription)

- converting CAS2 subtest raw scores into standard scores, percentile ranks, descriptive terms, and age equivalency
- generating PROT and Full Scale composite scores
- comparing CAS2 subtest and PROT scale scores to identify significant non-individual differences
- providing a pdf report of CAS2 performance; and
- Sample Narrative Report

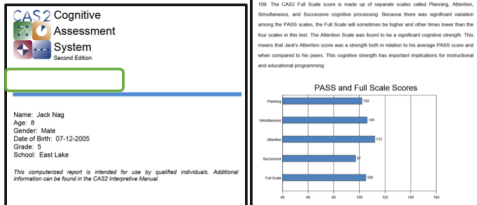
Additional Features Available:

- providing information options
- providing updates
- CAS2 Online Scoring and Report System first-time base subscription provides one year unlimited online scoring and report access for up to 100 users.
- Annual base subscription renewal provides one year unlimited online scoring and report access for up to 100 users.

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CAS2 Online Score & Report

- Narrative report can be obtained in Word or PDF



CAS2 Subtests

Planning

- Planned Codes
- Planned Connections
- Planned Number Matching

Attention

- Expressive Attention
- Number Detection
- Receptive Attention

Simultaneous

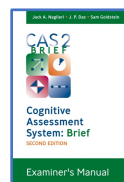
- Matrices
- Visual Spatial Relations
- Figure Memory

Sequencing

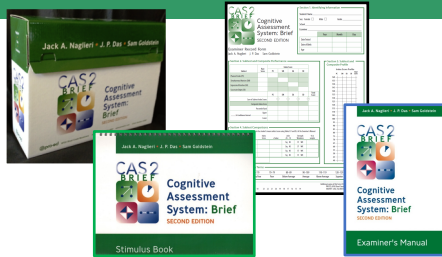
- Word Series
- Sentence Repetition/Questions
- Visual Digit Span

CAS2: Brief

Structure and features



CAS2: Brief for Ages 4-18 years



CAS2: Brief

- Give in 20 minutes
- Yields PASS and Total standard scores (Mn 100, SD 15)
- All items are different from CAS2
 - Planned Codes
 - Simultaneous Matrices
 - Expressive Attention
- New Subtest
 - Successive Digits (forward only)

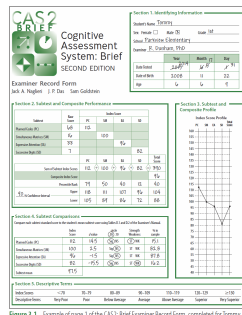


Figure 3.1. Example of page 1 of the CAS2: Brief Examiner Record Form, completed by Tammy.

CAS2: Brief Simultaneous Matrices

Simultaneous Matrices

Administration:
Age-based entry points; apply ceiling (floor) of 6 (and of 2, if needed)

Materials:
CAS2: Brief Stimulus Book (pgs. 1-95) 42 pencils

Objective:
Examinee 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.) When the question 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).

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 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).

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

Stimulus Book

CAS2: Brief Planned Codes & Successive Digits

- Planned Codes has 8 items using numbers not letters and has different patterns
- Successive Digits uses numbers (not words)

Directions for Reported Strategies:

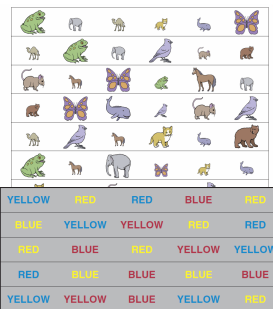
After all item sets have been completed, with Item Set 6 still showing, say, "tell me how you did these. Indicate the pages in the Student Response booklet just completed by the examinee. If necessary, say, 'how did you complete the pages?' You may briefly clarify the question, provided that you give 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	Accuracy Score (Number Correct)	Rate Score (see page 9-11)
Example 1	4:00 (2:00)		
Example 2	4:00 (2:00)		
Example 3	4:00 (2:00)		
Example 4	4:00 (2:00)		
Example 5	4:00 (2:00)		
Example 6	4:00 (2:00)		
Example 7	4:00 (2:00)		
Example 8	4:00 (2:00)		
Example 9	4:00 (2:00)		
Example 10	4:00 (2:00)		
Example 11	4:00 (2:00)		
Example 12	4:00 (2:00)		
Example 13	4:00 (2:00)		
Example 14	4:00 (2:00)		
Example 15	4:00 (2:00)		
Example 16	4:00 (2:00)		
Example 17	4:00 (2:00)		
Example 18	4:00 (2:00)		
Example 19	4:00 (2:00)		
Example 20	4:00 (2:00)		
Example 21	4:00 (2:00)		
Example 22	4:00 (2:00)		
Example 23	4:00 (2:00)		
Example 24	4:00 (2:00)		
Example 25	4:00 (2:00)		
Example 26	4:00 (2:00)		
Example 27	4:00 (2:00)		
Example 28	4:00 (2:00)		
Example 29	4:00 (2:00)		
Example 30	4:00 (2:00)		
Example 31	4:00 (2:00)		
Example 32	4:00 (2:00)		
Example 33	4:00 (2:00)		
Example 34	4:00 (2:00)		
Example 35	4:00 (2:00)		
Example 36	4:00 (2:00)		
Example 37	4:00 (2:00)		
Example 38	4:00 (2:00)		
Example 39	4:00 (2:00)		
Example 40	4:00 (2:00)		
Example 41	4:00 (2:00)		
Example 42	4:00 (2:00)		
Example 43	4:00 (2:00)		
Example 44	4:00 (2:00)		
Example 45	4:00 (2:00)		
Example 46	4:00 (2:00)		
Example 47	4:00 (2:00)		
Example 48	4:00 (2:00)		
Example 49	4:00 (2:00)		
Example 50	4:00 (2:00)		
Example 51	4:00 (2:00)		
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Example 91	4:00 (2:00)		
Example 92	4:00 (2:00)		
Example 93	4:00 (2:00)		
Example 94	4:00 (2:00)		
Example 95	4:00 (2:00)		
Example 96	4:00 (2:00)		
Example 97	4:00 (2:00)		
Example 98	4:00 (2:00)		
Example 99	4:00 (2:00)		
Example 100	4:00 (2:00)		

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CAS2: Brief Scale

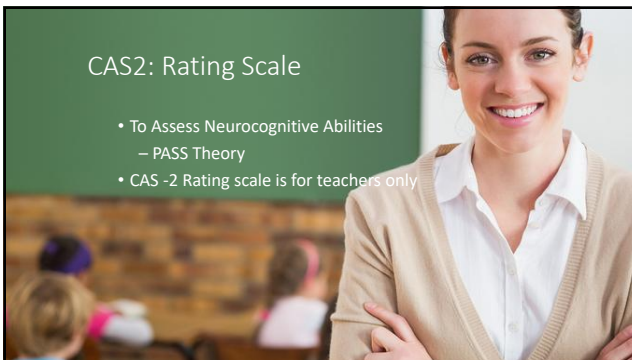
- Expressive Attention (Stroop) used
- Big/Little Animals (ages 4-7 years)
- Color Words (ages 8-18)



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CAS2: Rating Scale

- To Assess Neurocognitive Abilities
 - PASS Theory
- CAS -2 Rating scale is for teachers only



Cognitive Assessment System: Rating Scale (CAS2: Rating Scale)

- Norm referenced measure of behaviors related to cognitive / neuropsychological theory called **PASS** (Planning, Attention, Simultaneous, and Successive).
- The scores from the *CAS2: Rating Scale* can be used to:
 - Support a referral, supportive services, or special placements.
 - Supplement a comprehensive evaluation.
 - Compare teachers' ratings with test results.
 - Help plan and design academic interventions.
 - Monitor the effectiveness of interventions.



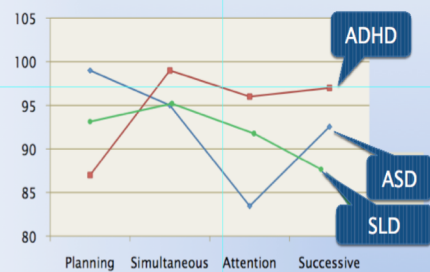
CAS2: Rating Scale Planning

Directions for Items 1-10. These questions ask how well the child or adolescent decides how to do things to achieve a goal. They also ask how well a child or adolescent thinks before acting and avoids impulsivity. Please rate how well the child or adolescent creates plans and strategies to solve problems.

During the past month, how often did the child or adolescent ...

	Never	Rarely	Sometimes	Frequently	Always
1. produce a well-written sentence or a story?	0	1	2	3	4
2. evaluate his or her own actions?	0	1	2	3	4
3. produce several ways to solve a problem?	0	1	2	3	4
4. have many ideas about how to do things?	0	1	2	3	4
5. have a good idea about how to complete a task?	0	1	2	3	4
6. solve a problem with a new solution when the old one did not work?	0	1	2	3	4
7. use information from many sources when doing work?	0	1	2	3	4
8. effectively solve new problems?	0	1	2	3	4
9. have well-defined goals?	0	1	2	3	4
10. consider new ways to finish a task?	0	1	2	3	4
— + — + — + — + — =					Planning Raw Score

PASS Processing Scores



Organizing the Data

- A day in the life
- Ability/Knowledge/Skill
- Take a chronological perspective.
- Risk and Protective factors
- Determining eligibility
- Suggesting possible diagnoses
- Recommending needs
- Considering continuum of services



Multiple Handicap or Primary/Secondary?

ADOPT A LEARNING TO RIDE A BICYCLE MINDSET!





Thank You!
Sam Goldstein, Ph.D.



TEDx
Sam Goldstein, Ph.D.
sam@samgoldstein.com
The Power Of Resilience
https://www.youtube.com/watch?v=uf6tUJ-cWMA&feature=youtu_be

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