Evaluating Complicated Cases in Students With Suspected Autism Spectrum Disorder

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Relevant Disclosure

- Co-author of the Autism Spectrum Rating Scales (MHS, 2009).
- Co-author of Assessment of Autism Spectrum Disorders First and Second Editions (Guilford, 2009, 2019).
- Co-author/presenter Assessment of Autism Spectrum Disorders CEU (APA, 2009).
- Co-author of Raising a Resilient Child With Autism Spectrum Disorders (2011, McGraw Hill).
- Co-author of Treatment of Autism Spectrum Disorders (2012, Springer).
- Co-author of the Autism Spectrum Evaluation Scales (in development, MHS).
- Compensated speaker financially supported by Multi-Health Systems.

Goals

- Briefly discuss the historical theories of Autism Spectrum Disorders (ASD).
- Define ASD and DSM 5 criteria.
- Discuss Eligibility versus Diagnosis
- Briefly discuss symptoms of ASD by age.
- Briefly discuss a core theory of ASD.
- Present cases through childhood with common co-morbidities and overlapping symptoms.
- Discuss the ASRS and other methods for assessment, diagnosis and treatment of autism.

We are social beings.

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What Benefits Do We Derive From Socialization?

- Support
- Survival
- Affiliation
- Pleasure
- Procreation
- Knowledge
- Friendship

The social development of autistic children is qualitatively different from other children.

In normal children perceptual, affective and neuroregulatory mechanisms predispose young infants to engage in social interaction from very early on in their lives.

Socialization Begins Early
Reina and Her Mother

8

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Adrian, my seatmate on a recent flight.

Adrian

Adrian

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Kanner's Description (1943)

- first physician in the world to be identified as a child psychiatrist
- founder of the first child psychiatry department at Johns Hopkins University Hospital
- Wrote *Child Psychiatry* (1935), the first English language textbook to focus on the psychiatric problems of children.

Leo Kanner who introduced the label *early infantile autism* in 1943 in his paper : Kanner, L. (1943). Autistic disturbances of affective contact. Nervous Child, 2, 217-250.

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Kanner's Description (1943)

- His seminal 1943 paper, "Autistic Disturbances of Affective Contact", together with the work of Hans Asperger, forms the basis of the modern study of autism.
- Leo Kanner was the Editor for *Journal of Autism and Developmental Disorders*, then called *Journal of Autism and Childhood Schizophrenia*

Leo Kanner who introduced the label *early infantile autism* in 1943 in his paper : Kanner, L. (1943). Autistic disturbances of affective contact. Nervous Child, 2, 217-250.

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Kanner's Description (1943)

- Inability to relate to others
- Disinterest in parents and people
- Language difficulties
- Fascination with inanimate objects
- Resistance to change in routine
- Purposeless repetitive movements
  - A wide range of cognitive skills
  - Where they possess an innate inability for emotional contact

Leo Kanner who introduced the label *early infantile autism* in 1943 in his paper : Kanner, L. (1943). Autistic disturbances of affective contact. Nervous Child, 2, 217-250.

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Broadening the Spectrum

- Eleven meta-analyses published between 1966 and 2018.
- 27,723 total subjects from around the world.
- Five psychosocial dimensions: emotion recognition, theory of mind, cognitive flexibility, planning and inhibition.
- For all 5 dimensions group differences between normal and those with ASD have declined since 2000.
- This was attributed to differences in diagnostic criteria, assessment practices and community awareness.

Autism is now referred to as a Spectrum Disorder in which individuals can present problems ranging from total impairment to near reasonable functioning.

Lorna Wing: Godmother of Autism

In a Spectrum Disorder genetic and phenotypic factors predispose certain individuals to express certain Central Nervous System vulnerabilities leading to poorly adapted variations in development and behavior.

In a Spectrum Disorder all symptoms are considered relevant to the extent they present in each disorder. Thus a symptom is not exclusive to a disorder.

The form that a Spectrum Disorder assumes is determined by its composite symptoms. These symptoms often have complex relationships.

Determining IDIEA Eligibility of Autism

- Autism, as defined by Individuals with Disabilities Education Act (IDEIA), refers to "a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three, that adversely affects a child's educational performance."
- This federal definition then proceeds to name traits commonly related to the condition: "Other characteristics often associated with autism are engaging in repetitive activities and stereotyped movements, resistance to environmental change or change in daily routines, and unusual responses to sensory experiences.
- The term Autism does not apply if the child's educational performance is adversely affected primarily because the child has an emotional disturbance, as defined in [IDEIA]."
- IDEIA rounds out its definition by noting that a child who shows the characteristics of autism after age three could be diagnosed as having Autism if the criteria above are satisfied. This enables a child to receive special education services under this classification if he or she develops signs of autism after his or her third birthday.
- Typically a psychiatrist, clinical psychologist, physician or other highly qualified professional makes the diagnosis. It would not be uncommon for the evaluation team to suspect Autism, then ask the parent to see a psychiatrist, clinical psychologist or appropriately trained pediatrician.

California IDEIA Categories Of Eligibility

- Autism
- Deaf/blindness
- Deafness
- Hearing impairment
- Intellectual disability
- Multiple disabilities
- Orthopedic impairment
- Other health impairment (impairment in strength, vitality, or alertness due to chronic or acute health problem, e.g. ADHD, Epilepsy)
- Emotional disturbance
- Specific learning disability
- Speech or language impairment
- Traumatic brain injury
- Visual impairment (including blindness)

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

Generally, an IEP team in California will find that a child is eligible for special education services if:

- The child is between three and 22 years old

- The child has one or more of the following: mental retardation, a hearing impairment, a speech or language impairment, a visual impairment, an emotional disturbance, an orthopedic impairment, autism, traumatic brain injury, other health impairment, a specific learning disability, deaf-blindness or multiple disabilities

-Because of the disability, the child needs special education services and supports

About Autism Eligibilty In California

A diagnosis is also not necessary for a student to qualify under the category of Autism. Under the education code, Autism means a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three, and adversely affecting a child's educational performance.

Despite the number of eligibility categories, it can be difficult to identify the needs of students if their disability is not immediately apparent. There may be assumptions made by teachers and school administrators that these children are just lazy, inattentive or defiant.

Students that have a DSM or ICD diagnosis are not automatically eligible for special education services, according to the Individuals with Disabilities Education Improvement Act (IDEIA).

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Educational eligibility and subsequent services are determined by conducting assessments and testing performed by a school's multidisciplinary team and not that of medical diagnostic tests.

These can include observations, history, developmental information, behavior information and a documented prevalence over a period of time.

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Assessment of ASD

- High levels of co-morbidity require a comprehensive assessment including: intellect, neuropsychological abilities, achievement, emotional status, personality and protective factors.
- A careful history is essential.
- Well developed, reliable and valid measures must be used to the extent they are available.
- DSM 5 or ICD 10 criteria must be met for a diagnosis.

Comorbidity

ABSTRACT

Context: Few published studies of autism spectrum disorder (ASD) and comorbidity are population based.

Objective: To describe the comorbidity of ASD and disorders listed in the main classes of the International Classification of Diseases, Ninth Revision (ICD-9) in a general population.

Design: Direct physician billing data for the city of Calgary, Alberta, Canada, for the treatment of any presenting concern in the Calgary Health Zone (n = 763,449) from 1994 to 2009 were extracted. Diagnosed ICD-9 disorders (independent variable) were grouped into 17 categories using ICD-9 diagnosis codes. ASD (dependent variable) was classified under ICD-9 Code 299. Individuals with and without independent disorder classes were counted by the presence or absence of any ASD. Odds ratios (ORs) and 95% confidence intervals of the association were calculated.

Main Outcome Measures: ORs of ASD comorbidities.

Results: Annual rates of ASD increased 3.9-fold for males and 1.4-fold for females. Diagnosed disorders ranked by OR in the independent ICD-9 categories indicated that males with ASD had overall higher ORs (> 1.0) in 11 main ICD-9 classes, and females with ASD had higher ORs (> 1.0) in 12 main ICD-9 classes. Males with ASD had lower ORs in 4 main ICD-9 disease classes; females with ASD had lower ORs related only to the main class "complications of pregnancy and childbirth." Five main ICD-9 classes were not significant for males or females.

Conclusions: Patients with ASD have significant comorbidity of physical disorders. This finding may inform other areas of research and assessment in clinical management.

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Approximately 92% of children met criteria for at least one non-autism spectrum disorder diagnosis (78% attention deficit hyperactivity disorder, 58% oppositional defiant disorder, 56% anxiety, 30% mood). Logistic regression indicated that child gender and clinical characteristics were differentially associated with meeting criteria for attention deficit hyperactivity disorder, oppositional defiant disorder, an anxiety, or a mood disorder. Exploratory analyses supported a link between challenging behaviors and mood disorder symptoms and revealed high prevalence of these symptoms in this autism spectrum disorder population.

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Characterizing psychiatric comorbidity in children with autism spectrum disorder receiving publicly funded mental health services

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Table 5.

Proportion of children meeting screening criteria for adapted MINI-KID-P internalizing disorders.

Individual diagnoses (not mutually exclusive)	Screening criteria met, *N* (%)
Anxiety disorders (current or past)	155 (77%)
Specific phobia	100 (50%)
Separation anxiety disorder	69 (34%)
Social phobia	67 (33%)
Obsessive compulsive disorder	59 (29%)
Panic disorder	37 (19%)
Generalized anxiety disorder	31 (15%)
Agoraphobia	20 (10%)
Mood disorders (current or past)	89 (44%)
Major depressive disorder or dysthymia[a]	68 (34%)
Manic or hypomanic episode[a]	39 (19%)

[a]These diagnostic categories were combined because the screening items were shared.

Proportion of children meeting diagnostic criteria for adapted MINI-KID-P disorders and diagnostic categories.

Diagnostic categories and individual diagnoses (not mutually exclusive)	Met diagnostic criteria, *N* (%)
Any MINI-KID diagnosis	184 (92%)
Any ADHD disorder	156 (78%)
Combined	125 (62%)
Inattentive	23 (11%)
Hyperactive/impulsive	8 (4%)
Oppositional defiant disorder	115 (58%)
Any anxiety disorder	113 (56%)
Specific phobia	65 (33%)
Social phobia	47 (24%)
Separation anxiety disorder	29 (15%)
Generalized anxiety disorder	29 (15%)
Agoraphobia	21 (10%)
Obsessive compulsive disorder	19 (10%)
Panic disorder (with or without agoraphobia)[a]	17 (9%)
Any mood disorder	60 (30%)
Major depressive disorder (lifetime)[a]	45 (22%)
Dysthymia	16 (8%)
Manic episode (lifetime)[a]	10 (5%)
Hypomanic episode (lifetime)[a]	6 (3%)

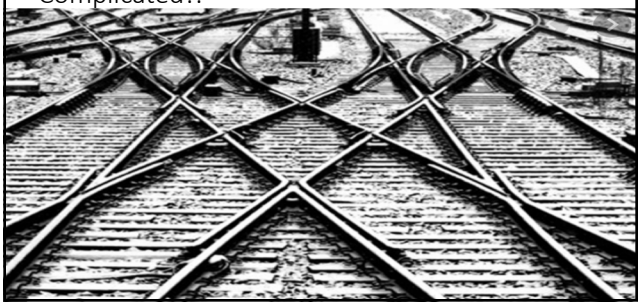
Patterns of comorbidity (mutually exclusive)	
ADHD + ODD + anxiety	34 (17%)
ADHD + ODD + anxiety + mood	32 (16%)
ADHD + ODD	30 (15%)
ADHD only	21 (10%)
ADHD + anxiety	19 (9%)
Anxiety Only	14 (7%)
ADHD + ODD + mood	10 (5%)
ADHD + anxiety + mood	7 (4%)
ODD only	5 (3%)
ODD + mood + anxiety	3 (2%)
ADHD + mood	3 (2%)
Anxiety + mood	3 (2%)
Mood only	2 (1%)
ODD + anxiety	1 (1%)
No non-ASD disorder	17 (8%)

Comorbidity is the

RULE

not the Exception

All if Not Nearly All Cases Involving ASD are Complicated!!



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**

Comorbidities to Consider with ASD

- Externalizing or Disruptive Disorders: ADHD, ODD, CD
- Internalizing or Non-Disruptive Disorders: MD, ANX, DMDD
- Language: Pragmatic, Articulation, Grammar and Meaning
- Motor: Large, Fine, DCD
- Resilience Factors (e.g. Supportive Parents)
- Risk Factors (e.g. Child live in poverty)

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.

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

Core DSM and ICD Core ASD Symptoms in All Ages

- Impaired social relations.
- Impaired communication skills.
- Impaired behavior.

Symptoms Present Before 24 Months

Children with ASD Struggle to:

- Orient to name
- Attend to human voice
- Look at face and eyes of others
- Imitate
- Show objects
- Point
- Demonstrate interest in other children

Symptoms Present Before 36 Months

Children with ASD:

- Use of other's body to communicate or as a tool
- Stereotyped hand/finger/body mannerisms
- Ritualistic behavior
- Failure to demonstrate pretend play
- Failure to demonstrate joint attention

DSM 5 Autism Spectrum Disorder

- Combined social and communication categories.
- Tightened required criteria reducing the number of symptom combinations leading to a diagnosis.
- Omitted Retts and Childhood Disintegrative Disorders.
- Clarifies co-morbidity issues.
- Eliminated PDD NOS and Aspergers in favor of Autism Spectrum Disorder.
- Created Social Pragmatic Communication Disorder.
- Still no specified profile for adults, just guidelines.

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DSM 5 Autism Spectrum Disorder

- Five criteria.
- Seven sets of symptoms in the first two criteria – Social/Communication and Restrictive/Repetitive behaviors, interests or activities.
- All three symptoms are required to meet the first criteria (although a typo omits this).
- Two out of four are needed for the second criteria.
- Some symptoms have been combined.
- Sensory sensitivity has been added.

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DSM 5 ASD Criteria A

Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history (examples are illustrative, not exhaustive; see text):

1. Deficits in social-emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back-and-forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions.
2. Deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits in understanding and use of gestures; to a total lack of facial expressions and nonverbal communication.
3. Deficits in developing, maintaining, and understanding relationships, ranging, for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers.

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DSM 5 ASD Criteria B

Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following, currently or by history (examples are illustrative, not exhaustive; see text):

1. Stereotyped or repetitive motor movements, use of objects, or speech (e.g., simple motor stereotypies, lining up toys or flipping objects, echolalia, idiosyncratic phrases).
2. Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior (e.g., extreme distress at small changes, difficulties with transitions, rigid thinking patterns, greeting rituals, need to take same route or eat same food every day).
3. Highly restricted, fixated interests that are abnormal in intensity or focus (e.g., strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests).
4. Hyper- or hypo-reactivity to sensory input or unusual interest in sensory aspects of the environment (e.g., apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling or touching of objects, visual fascination with lights or movement).

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DSM 5 Autism Spectrum Disorder

- *Specify* if:

  With or without accompanying intellectual impairment.

  With or without accompanying language impairment.

  Associated with a known medical or genetic condition or environmental factor.

  Associated with another neurodevelopmental, mental, or behavioral disorder.

  With catatonia.

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DSM 5 ASD Criteria C, D, E.

C. Symptoms must be present in the early developmental period (but may not become fully manifest until social demands exceed limited capacities, or may be masked by learned strategies in later life)

D. Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning.

E. These disturbances are not better explained by intellectual disability (intellectual developmental disorder) or global developmental delay. Intellectual disability and autism spectrum disorder frequently co-occur; to make co-morbid diagnoses of autism spectrum disorder and intellectual disability, social communication should be below that expected for general developmental level.

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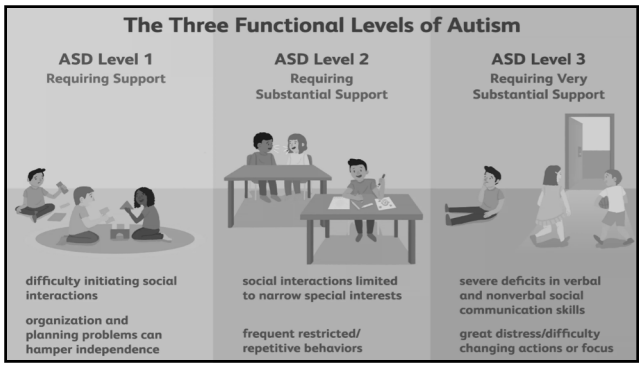

Applying DSM 5 With Adults (page 54)

- "Many adults with ASD without intellectual or language disabilities learn to suppress repetitive behavior in public."
- "Special interests may be a source of pleasure and motivation and provide avenues for education and vocation later in life."
- "Diagnostic criteria may be met when restricted, repetitive patterns of behavior, interests or activities were clearly present during childhood. . . even if symptoms are no longer present."
- "Among adults with ASD with fluent language, the difficulty in coordinating non-verbal communication with speech may give the impression of add, wooden or exaggerated body language."

Applying DSM 5 With Adults (page 56-57)

- Symptoms are "clear in the developmental period."
- "In later life interventions or compensations, as well as current supports, may mask these difficulties in at least some contexts."
- "However **symptoms remain sufficient** to cause current impairment in social, occupational or other important areas of functioning."
- "ASD is diagnosed four times more often in males than females."
- "Girls without accompanying intellectual impairment or language delays may go unrecognized."

Autism Spectrum Disorder as Reflected in the Autism Spectrum Rating Scales (Goldstein and Naglieri, 2009) Exploratory and Confirmatory Factor Analyses

Validity of the Factors

- Factor analysis is a valuable tool to understand how items group.
- But we also need to know if the items have validity, that is do they measure what they purport to measure?
- Discriminating individuals with ASD from the regular population is important.
- Discriminating individuals with ASD from those who are not in the regular population (e.g. they suffer from other conditions) but not ASD is equally important.

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ASRS Profiles

- A scale like the ASRS should differentiate adults with ASD from the normal population.
- Comparison to regular individuals should demonstrate that those with ASD have high scores.
- Comparisons to other clinical groups should also show differences from those with ASD.
- Comparisons of the ASD to regular and other clinical samples provides an essential examination of validity.

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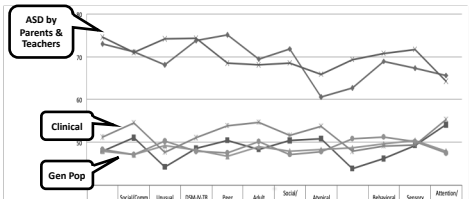
ASRS Validity for ages 2-5



	Total Score	Social/Communication	Unusual Behaviors	DSM-IV-TR Scale	Peer Socialization	Adult Socialization	Social/ Emotional Reciprocity	Atypical Language	Stereotypy	Behavioral Rigidity	Sensory Sensitivity	Attention/ Self-Regulation
Parent ASD	73.0	71.2	68.1	73.8	75.1	69.3	71.9	60.6	62.7	69.0	67.3	65.7
Parent Other Clinical	48.0	51.1	44.3	48.6	50.5	48.4	50.4	50.9	43.9	46.2	49.3	54.1
Parent General Population	48.0	47.1	49.3	48.2	46.7	49.0	47.9	48.4	48.8	49.7	50.4	47.9
Teacher ASD	74.6	71.0	74.2	74.3	68.5	68.1	68.6	65.9	69.4	70.8	71.7	64.3
Teacher Other Clinical	51.2	54.6	47.7	51.1	53.9	54.7	51.7	53.8	47.9	49.2	49.4	55.4
Teacher General Population	48.4	47.1	50.3	47.9	47.5	50.2	47.2	47.8	50.9	51.3	50.2	47.5

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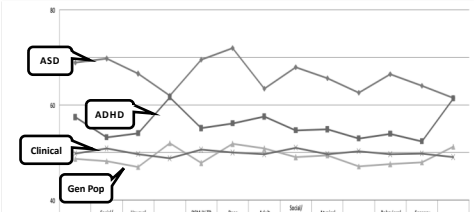
ASRS Validity: Ages 6-18 Parents



	Total Score	Social/ Communication	Unusual Behaviors	Self-Regulation	DSM-IV-TR Scale	Peer Socialization	Adult Socialization	Social/ Emotional Reciprocity	Atypical Language	Stereotypy	Behavioral Rigidity	Sensory Sensitivity	Attention
ASD	68.9	69.7	66.6	62.0	69.6	72.0	63.5	67.9	65.6	62.6	66.5	64.0	61.5
ADHD	57.4	53.2	54.1	61.7	55.1	56.1	57.5	54.6	54.8	53.0	53.9	52.3	61.4
Other Clinical	48.7	48.2	47.0	52.0	47.7	51.8	50.8	49.0	49.4	47.0	47.5	47.9	51.2
General Population	49.7	50.8	49.7	48.7	50.6	50.0	49.6	51.0	49.6	50.3	49.6	49.8	49.0

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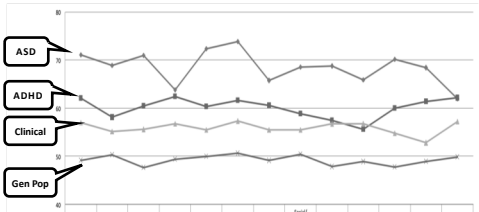
ASRS Validity: Ages 6-18 Teachers



	Total Score	Social/ Communication	Unusual Behaviors	Self-Regulation	DSM-IV-TR Scale	Peer Socialization	Adult Socialization	Social/ Emotional Reciprocity	Atypical Language	Stereotype	Behavioral Rigidity	Sensory Sensitivity	Attention
ASD	71.1	68.9	71.0	63.8	72.4	73.9	65.8	68.6	68.8	65.9	70.3	68.4	62.0
ADHD	62.1	58.1	60.5	62.5	60.4	61.6	60.6	58.9	57.5	55.7	60.0	61.4	62.2
Other Clinical	57.0	55.1	55.6	56.8	55.5	57.3	55.5	55.5	56.7	56.7	54.8	52.8	57.2
General Population	49.2	50.3	47.7	49.4	50.0	50.6	49.1	50.4	47.8	48.8	47.8	48.9	49.9

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The ASRS now has a DSM 5 scale as well as scoring options for non-verbal children.

DSM IV TR Autism and Asperger Syndrome

Data from the Autism Spectrum Rating Scales Epidemiologic Sample (2009)

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Autism vs. Asperger

- ASRS means for ages 2-5 years were typically somewhat higher for children with Autism than those with Asperger's syndrome.
  - Exception being Unusual Behaviors where the two groups were similar
- ASRS means for ages 6-18 years were consistently higher for children with Autism than those with Asperger's syndrome.

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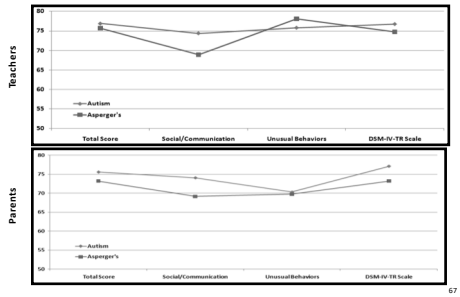
Autism vs Asperger (2-5 years)



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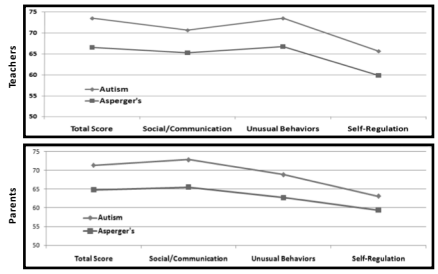
Autism vs Asperger (6-18 Years)



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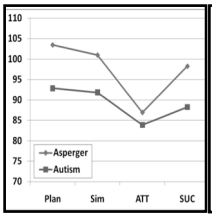
Autism vs Asperger (6-18 years)



Descriptive Statistics and Comparisons Between Individuals with Autism (n = 20) and Asperger Syndrome (n = 23).

		Mn	*SD*	*F*	Sig	*d*-ratio
PLAN	Asperger	103.5	31.6	1.71	.20	0.40
	Autism	92.9	19.2			
SIM	Asperger	101.0	15.3	3.33	.08	0.54
	Autism	91.9	17.5			
ATT	Asperger	86.9	17.7	0.30	.59	0.17
	Autism	83.9	18.8			
SUC	Asperger	98.3	15.7	2.46	.12	0.47
	Autism	88.3	25.6			

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ASD vs Communication Disorders

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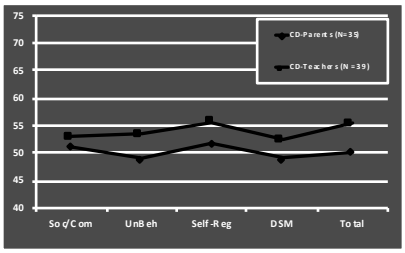
ASD vs Communication Disorders



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ASRS and PASS Processes

- Two groups were given the CAS and rated by either Parents or Teachers

Demographic	Group	Parent	Teacher
	Age *M (SD)*	11.0 (2.4)	11.0 (2.4)
Gender *(N)*	Male	33	34
	Female	12	13
Race/Ethnicity *(N)*	Asian	4	4
	African American	6	7
	Hispanic	11	11
	White	23	24
	Multiracial/Other	1	1
Parental Education Level *(N)*	Less than high school	3	–
	High school or equivalent	7	–
	Some college	16	–
	College or higher	19	–
	Total	**45**	**47**

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ASRS and PASS Processes

Table 8.17. ASRS and CAS Scores for Youth diagnosed with an ASD

Rater		ASRS (6-18 Years)	Cognitive Assessment System (CAS)				
		Total Score	Full Scale	Planning	Simultaneous	Attention	Successive
Parent	*M*	69.8	89.8	98.8	95.9	83.4	93.0
	SD	9.8	25	27.6	17.5	17.7	20.5
	N	45	45	45	45	45	45
Teacher	*M*	66.5	88.8	97.8	95.0	83.5	92.1
	SD	8.6	25.0	27.5	17.8	18.1	20.3
	N	47	47	47	47	47	47

Note. ASRS *T*-scores have a normative mean of 50 and standard deviation of 10. The CAS standard scores have a normative mean of 100 and standard deviation of 15.

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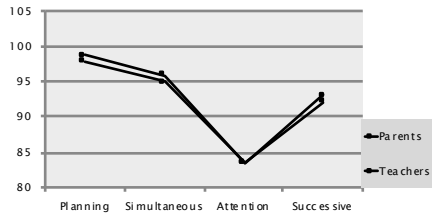
PASS Processing Scores



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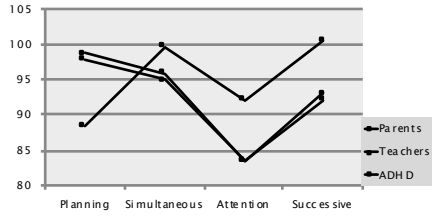
PASS Processing Scores



Note: Values for CAS for children with ADHD from Naglieri & Das (1997) CAS Interpretive Handbook

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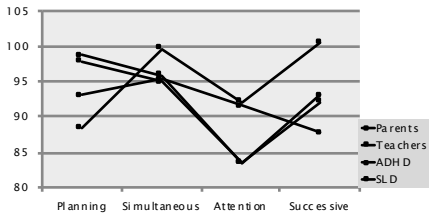
PASS Processing Scores



Note: Values for CAS for children with Reading Disability from Naglieri & Das (1997) CAS Interpretive Handbook

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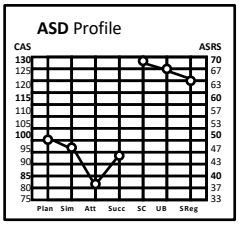
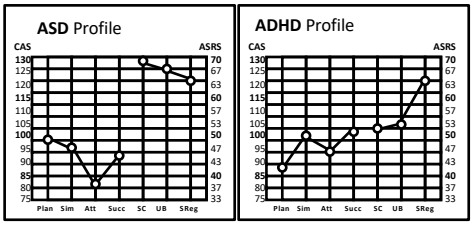
Differential Diagnosis: ADHD vs ASD



Differential Diagnosis: ADHD vs ASD



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ASRS VS, ADOS

Sam Goldstein Ph.D.

Autism Diagnostic Observation Schedule (ADOS)

- Age range toddlers to adults.
- No speech to those who are verbally fluent.
- Semi-structured assessment.
- Five modules across age ranges with each requiring 45 minutes to administer.
- A module is chosen depending upon expressive language and age.
- Non-verbal teens and adults can't be reliably evaluated.
- Autism and Autism Spectrum cut off scores are provided for two domains (Social Affective and Restricted Repetitive Behaviors).

Autism Diagnostic Observation Schedule

CURRENT	NEW
• Social Domain • Communication Domain	• Social Affect Domain • Restrictive Repetitive Behaviors Domain

ADOS vs. ASRS

- Social Affect Domain
- Restrictive Repetitive Behaviors Domain

- Social/ Communication
- Unusual Behavior
- Self-regulation

Sample Description

- University of Virginia *Autism Genetic Resource Exchange* (*AGRE*) project data
- Sample selection
  - If the child met criteria for ASD or Autism on the ADOS and met criteria for Autism on the ADI-R, they were considered to be on the autism spectrum - ASD or Autism - (whichever they met according to the ADOS).
  - In the AGRE dataset the ADOS is used in conjunction with the ADI to classify the child

Sample Description

- Sample selection (continued)
  - The ADOS and ADI are used for designating the sample as ASD or Autism.
  - If the child did not meet criteria on either instrument there was a case conference to discuss the case in depth - taking into consideration multiple test results (in addition to ADOS and ADI) and reviewing video of the child. At that time the clinical psychologist and the clinician who administered the ADOS and ADI would come to a decision as to what to classify the child.

Sample Description

- Ages 6-18 (Mean = 10.3; SD = 3.1)
- N = 90
- 82% (N = 74) Males, 18% (N = 16) Females

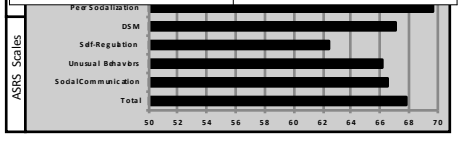
ADOS (N = 90)

	ADOS Diagnosis Classification
Autism	63
ASD	18
No Diagnosis	9

	Met Criterion	Did Not Meet
Communication Autism	64	26
Communication Autism Spectrum	83	7
Social Autism	80	10
Social Autism Spectrum	86	4
Commmunication + Social Autism	66	24
Communication + Social Autism Spectrum	84	6

ASRS Mean T-Scores (*N* = 90)

ASRS TOTAL T-Score	
Value	**N**
70+	**35**
65+	**26**
60+	**19**
<60	**10**



ADOS & ASRS Different Scales

	ADOS Diagnosis	ASRS Total (T > 59)
Autism or ASD	81	80
No Diagnosis	9	10

ADOS	TOTAL
0	69
0	39
0	62
0	73
0	77
0	75
0	54
0	65
0	69

Note: 0 = Not identified on ADOS

Some Possible Challenges to Interviewing Youth With ASD

- Concrete thinkers
- Difficulty with humor
- Problems regulating affect
- Difficulty interpreting other's feelings
- Rule bound
- Diminished empathy
- Decreased desire to please others.

DSM 5 Social (Pragmatic) Communication Disorder Criteria A

Persistent difficulties in the social use of verbal and nonverbal communication as manifested by all of the following:

- Deficits in using communication for social purposes, such as greeting and sharing information, in a manner that is appropriate for the social context.
- Impairment of the ability to change communication to match context or the needs of the listener, such as speaking differently in a classroom than on a playground, talking differently to a child than to an adult, and avoiding use of overly formal language.
- Difficulties following rules for conversation and storytelling, such as taking turns in conversation, rephrasing when misunderstood, and knowing how to use verbal and nonverbal signals to regulate interaction.
- Difficulties understanding what is not explicitly stated (e.g., making inferences) and non-literal or ambiguous meanings of language (e.g., idioms, humor, metaphors, multiple meanings that depend on the context for interpretation).

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DSM 5 Social (Pragmatic) Communication Disorder Criteria B, C, and D

B. The deficits result in functional limitations in effective communication, social participation, social relationships, academic achievement, or occupational performance, individually or in combination.

C. The onset of the symptoms is in the early developmental period (but deficits may not become fully manifest until social communication demands exceed limited capacities).

D. The symptoms are not attributable to another medical or neurological condition or to low abilities in the domains of word structure and grammar, and are not better explained by autism spectrum disorder, intellectual disability (intellectual developmental disorder), global developmental delay, or another mental disorder.

NO DISCUSSION OF THIS DIAGNOSIS IN ADULTS!

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Meet Kevin

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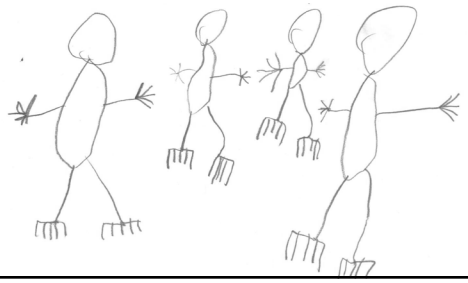
Kevin Draws His Family



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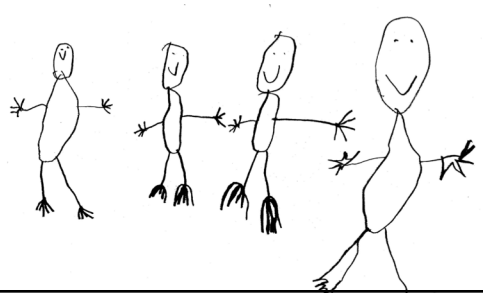
Kevin Adds Faces



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Pretend Play in Autism

- Limited, often absent
- When present usually characterized by: repetitive themes, rigidity, isolated acts, one-sided play, limited imagination.

Evaluating Compensatory Behaviors: Social Camouflage in ASD

- Social camouflaging is defined as the use of strategies by autistic people to minimize the challenges of autism during social situations (Lai et al. 2011).
- Social camouflage has recently been a focus of researchers, but has been recognized by clinicians as coping strategies. It is now recommended that clinicians evaluate masking or coping behaviors when assessing autism in the newly released 11th edition of the International Classification of Diseases (Zeldovich 2017).
- This phenomena may be a widespread in ASD, especially in intellectually strong individuals.

Social Camouflage in ASD

- Social camouflaging reflects an explicit effort to 'mask' or 'compensate' for autistic characteristics; and to use conscious techniques to minimize an autistic behavioral presentation (Hull et al. 2017; Lai et al. 2017; Livingston and Happé 2017).
- Examples of camouflaging behaviors described in the current literature include as example: forcing oneself to make eye contact during a social interaction; pretending that one is doing so by looking at the space between someone's eyes or at the tip of their nose; or using working memory strategies to develop a list of appropriate topics for conversation.

Social Camouflage in ASD: Unanswered Questions

- Do autistic females camouflage more than males, and does this partly account for gender disparities in the rate and timing of diagnosis (Begeer et al. 2013; Loomes et al. 2017)?
- What is the relationship between camouflaging and mental health outcomes?
- How should camouflaging be accurately measured? Is a discrepancy method sufficient to assess the the gap between how a person with ASD mediates their internal autistic status and their overt behavior (external autistic presentation)?

Camouflaging Autistic Traits Questionnaire (CAT-Q)

- Compensation
- Masking
- Assimilation

Laura Hull , William Mandy, Meng-Chuan Lai, Simon Baron-Cohen, Carrie Allison,Paula Smith & K. V. Petrides. Development and Validation of the Camouflaging Autistic Traits Questionnaire (CAT-Q) *Journal of Autism and Developmental Disorders.* doi.org/10.1007/s10803-018-3792-6

Social Camouflage: Compensation

- Copy others facial expression or body language.
- Learn social clues from media.
- Watch others to understand social skills.
- Repeat others phrasing and tone.
- Use script in social situations.
- Explicitly research the rules of social engagement.

Social Camouflage: Masking

- Monitor face and body to appear relaxed.
- Adjust face and body to appear relaxed.
- Monitor face and body to appear interested in others.
- Adjust face and body to appear interested in others.
- Pressured to make eye contact.
- Think about impression made on others.
- Aware of impression made on others.

Social Camouflage: Assimilation

- Feel a need to put on an act.
- Conversation with others is not natural.
- Avoid interacting with others in social situations.
- ”Performing” e.g. not being oneself in social situations
- Force self to interact with others.
- Pretending to be normal.
- Need support of others to socialize.
- Cannot be oneself while socializing.

Making or Ruling Out the Diagnosis of ASD and/or Determining Eligibility For Autism Classification

- Meets DSM 5 Criteria.
- Coping behaviors assessed.
- Co-morbid behaviors and disorders assessed.
- Corroborating data obtained about child and adulthood.
- Intellectual, achievement and neuropsychological data collected if warranted.

The "Prime Directive" is Independence

- Reduce reliance on prompts.
- Help individual's predict and control. environment and behavior.
- Increase self-esteem and self-efficacy.
- Develop independence through a "learning to swim" mindset.

EPIC Players

Theater as a Medium to Develop Social Skills

- Theater arts offer an opportunity for individuals with ASD to venture into the community in a win-win relationship.
- EPIC's performances help the general community better understand the nature of having ASD.
- At the same time, actors with ASD have the opportunity to interact in a medium that we believe will foster not only the development of self-esteem, but appropriate social interaction—the latter very clearly being the primary hurdle to successful adult transition for those with ASD.
- EPIC hopes to quantify our initial experiences of the benefits of theater for those with ASD through a long-term, qualitative study measuring the associative effects of theater arts, training on social skills, sense of purpose and independence in daily life activities.

Devin Teichert

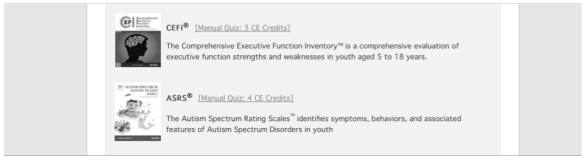
Song of Myself

December 16, 2008

Were They but There at Night

There is a bolder field where every stone
Is a glazed, glittering gem, like stars fallen from the sky
All except one, a plain grey rock alone in the center
Feeling excluded and shunned
People come, tourists, painters, photographers, collectors
To view each shining boider, a pleasure to the beholder
Ooh! Ahh! Look at this one! Come quick!
Pockets bulge with fragments and paint cans run dry
But the grey rock remains ignored
An ugly blotch on a sweeping mural
The sun sets, everyone leaves
And they miss the centerpiece of the field
For when night falls, the grey rock in the center
It glows in the dark

Continuing Education



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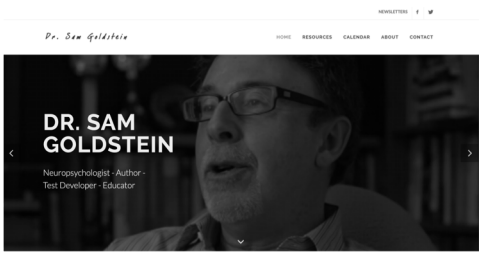

Questions?

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TEDx: https://www.youtube.com/watch?v=isfw8JJ-eWM