



MASSACHUSETTS
GENERAL HOSPITAL

PSYCHIATRY ACADEMY

Prevalence, Presentation and Assessment of AUTISM

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Disclosures



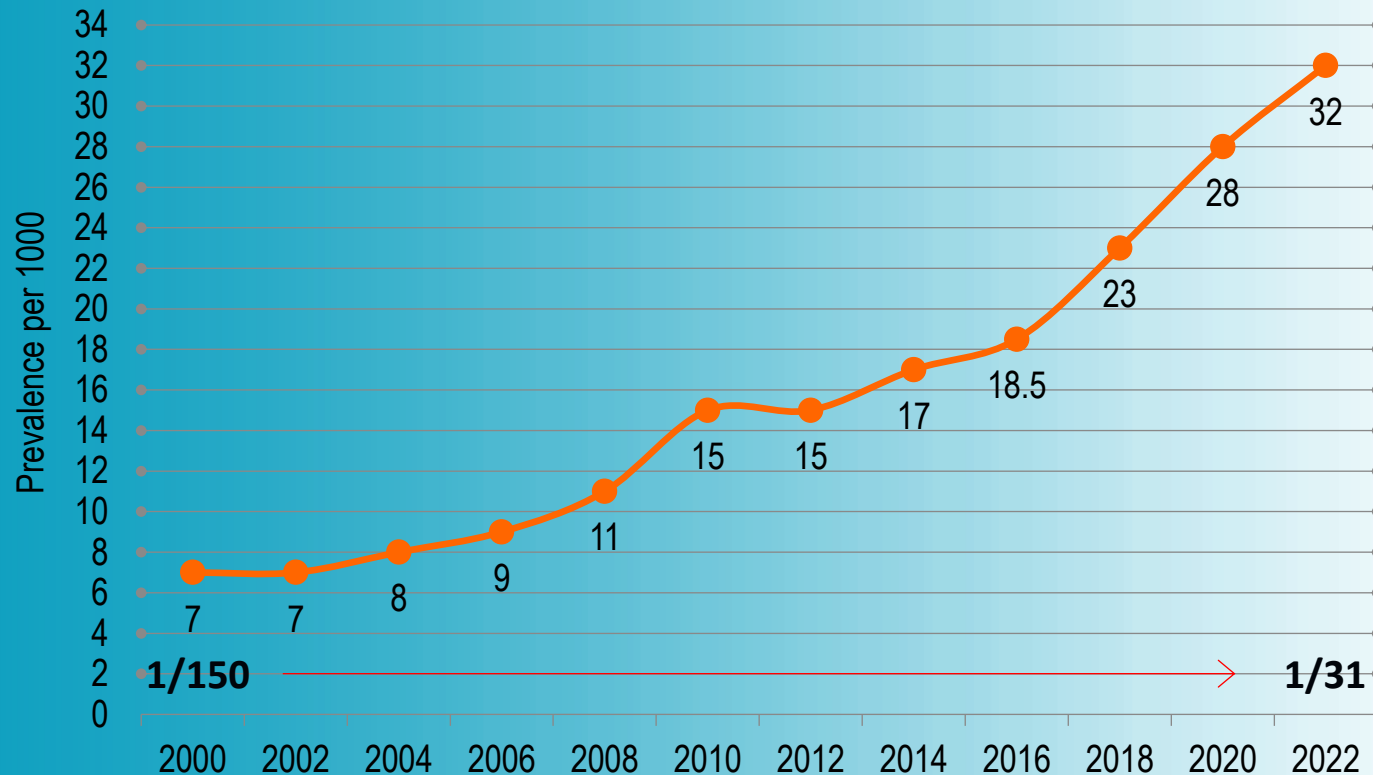
Disclosures 2023-2026

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Hackensack Meridian Health		✓		
Neuroimmune Institute		✓		
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EuMentis Therapeutics			✓	
Mass General Brigham Innovation				✓



Prevalence of AUTISM

Children with AUTISM (USA)



CDC-ADDN Network Surveys

- Children 8 years old
- Medical health records reviewed by trained clinicians
- 11-15 states in US (AZ, AR, CA, GA, IN, MD, MN, MO, NJ, PA, PR, TN, TX, UT, WI)

Prevalence of AUTISM has **QUADRUPLED** in last two decades



Core Features of AUTISM

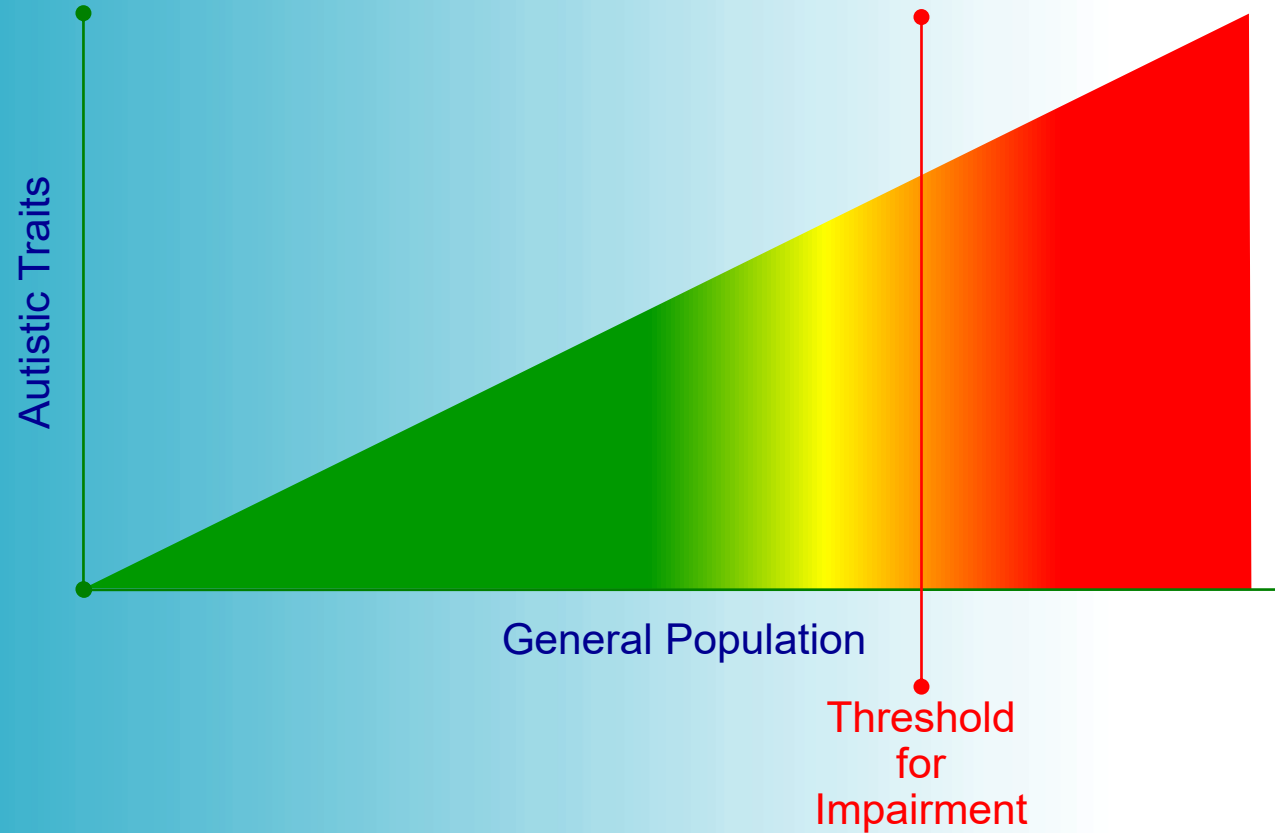
Impaired Social-Emotional Competence	Restricted/Repetitive Behaviors (RRBs)
<p>I. <u>Non-verbal communication (NVC)</u></p> <ul style="list-style-type: none">- Eye contact (joint-attention)- Receptive and Expressive emotional NVC (facial expression, verbal tone, touch) <p>II. <u>Verbal communication</u></p> <ul style="list-style-type: none">- Level of verbal communication- Atypical style of speech (pedantic, professorial) <p>III. <u>Emotional processing</u></p> <ul style="list-style-type: none">- Emotional awareness, recognition- Emotional expression (verbal & non-verbal)- Empathy (perspective taking) <p>IV. <u>Social (inter-personal) processing</u></p> <ul style="list-style-type: none">- Social motivation & awareness- Sharing (activities, affect, back & forth conversations)- Contextual understanding (social adaptability) <p>V. <u>Abstracting ability</u></p> <ul style="list-style-type: none">- Black & white/concrete/literal thinking- Tolerance for ambiguity <p>VI. <u>Introspective/Interoceptive ability</u> (self awareness of cognition, emotions, & physiological state)</p> <ul style="list-style-type: none">- Psychological mindedness	<p>VII. <u>Cognitive/Behavioral Rigidity</u></p> <ul style="list-style-type: none">- Routines (routine-bound)- Rituals (verbal & motor)- Resistance to change (transitional difficulties)- Rigid pattern of thinking (rule-bound/highly opinionated)- Lack spontaneity/tolerance for unstructured time- Social inflexibility <p>VIII. <u>Repetitive Patterns</u></p> <ul style="list-style-type: none">- Speech (echolalia, scripting, idiosyncratic phrases)- Motor mannerisms (flapping, clapping, rocking, swaying)- Interests (non-progressive, non-social) <p>IX. <u>Atypical Salience</u></p> <ul style="list-style-type: none">- Social-emotional stimuli- Interests (odd/idiosyncratic) <p>X. <u>Executive DysControl</u> (moderation of emotions, motivations, interests, relationship)</p> <ul style="list-style-type: none">- All or none approach (lack moderation)- Abnormal intensity of interests <p>XI. <u>Sensory Dysregulation</u></p> <ul style="list-style-type: none">- Atypical sensory perceptions/responses- Sensory preferences

Distribution of Autistic Traits in General Population



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DSM Criteria for AUTISM

Schizophrenic Reaction - Childhood Type



Psychotic Reaction in
Children with Autism

DSM-I
(1952)

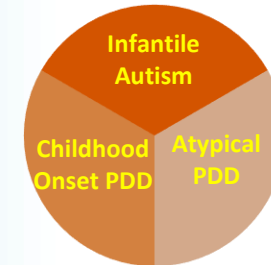
Schizophrenia - Childhood Type



Autistic, Atypical, &
Withdrawn Behavior

DSM-II
(1968)

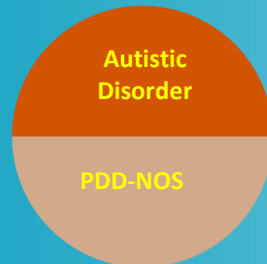
Pervasive Developmental Disorders



Infantile
Autism
Childhood
Onset PDD
Atypical
PDD

DSM-III
(1980)

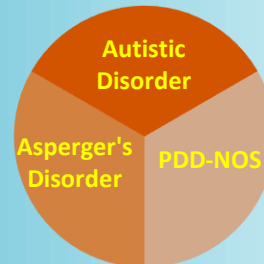
Pervasive Developmental Disorders



Autistic
Disorder
PDD-NOS

DSM-III-R
(1987)

Pervasive Developmental Disorders



Autistic
Disorder
Asperger's
Disorder
PDD-NOS

DSM-IV/-TR
(1994/2000)

Autism Spectrum Disorder



Autism Spectrum
Disorder

DSM-5/-TR
(2013/2022)



DSM-5-TR Diagnostic Criteria for AUTISM

Autism Spectrum Disorder (F84.0/299.00)

A. Persistent deficits in social interaction and communication

as manifested by **lifetime history of all** of the following:

I Deficits in social-emotional reciprocity

- Inability to initiate or respond to social interactions
- Inability to share affect, emotions, or interests
- Difficulty in initiating or in sustaining a conversation

II Deficits in nonverbal communicative behaviors used for social interaction

- Abnormal to total lack of understanding and use of eye contact, affect, body language, & gestures
- Poorly integrated verbal and nonverbal communication

III Deficits in developing, maintaining, and understanding relationships

- Difficulty in adjusting behavior to social contexts
- Difficulty in making friends
- Lack of interest in peers

B. Restricted, repetitive, and stereotyped patterns of behavior, interests, or activities

as manifested by **lifetime history of at least two** of the following:

I Stereotyped or repetitive speech, motor movements, or use of objects

- Motor stereotypies or mannerisms (lining up toys)
- Echolalia, stereotyped, or idiosyncratic speech

II Excessive adherence to sameness, routines, or ritualized patterns of verbal or nonverbal behavior

- Transitional difficulties
- Greeting rituals
- Rigid patterns of thinking

III Highly restricted, fixated interests that are abnormal in intensity or focus

- Preoccupation with excessively circumscribed or perseverative interests

IV Hyper- or hypo-reactivity to sensory input or unusual interest in sensory aspects of environment

- Sensory integration issues
- Apparent indifference to pain/temperature
- Excessive smelling, touching, or visual fascination with lights or movements

C. Symptoms must be present in the early developmental period

Symptoms may not 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 functioning

E. These disturbances are not better explained by intellectual disability

To make comorbid diagnoses of ASD & ID, social communication should be below that expected for general developmental level.

Note: Individuals with well-established DSM-IV ASD diagnosis should be given the DSM-5 ASD diagnosis.

Specify if:

- With or without accompanying intellectual impairment
- With or without accompanying structural language impairment
- Associated with a known medical or genetic condition or environmental factor
- Associated with another neurodevelopmental, mental, or behavioral problem
- With catatonia

Social (Pragmatic) Communication Disorder (F80.89)

A. Persistent deficits in social use of verbal and nonverbal communication

as manifested by all of the following:

I Deficits in social communication

- Inability to initiate communication
- Inability to share communication

II Inability to adapt manner of communication with social context/needs

- Manner of speech does not change with social situations (relative age, relationship, or familiarity with the reciprocating individual)
- Use of overly formal language

III Difficulties in regulating social communication

- Inability to take turns in conversation
- Inability to rephrase
- Poorly integrated verbal and nonverbal communication

IV Impaired understanding of implicit communication

- Too literal and doesn't get the implied meaning of conversation (puns, sarcasm)
- Difficulty understanding ambiguous meanings of language (idioms, humor, metaphors, meanings that requires context for interpretation)

B. Symptoms cause clinically significant impairment in functioning

C. Symptoms must be present in the early developmental period

Symptoms may not fully manifest until social communication demands exceed limited capacities.

D. These disturbances are not better explained by ASD, ID, or mental disorder

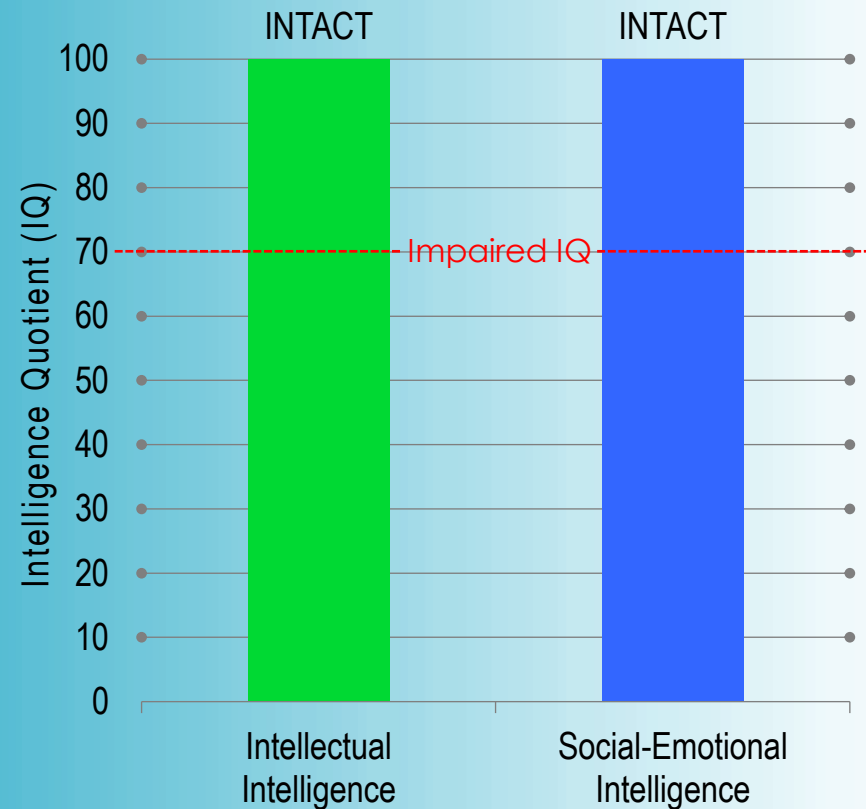


Domains of Intelligence

Intellectual IQ

- Verbal ability
- Logical reasoning skills
- Problem solving skills
- Mathematical ability

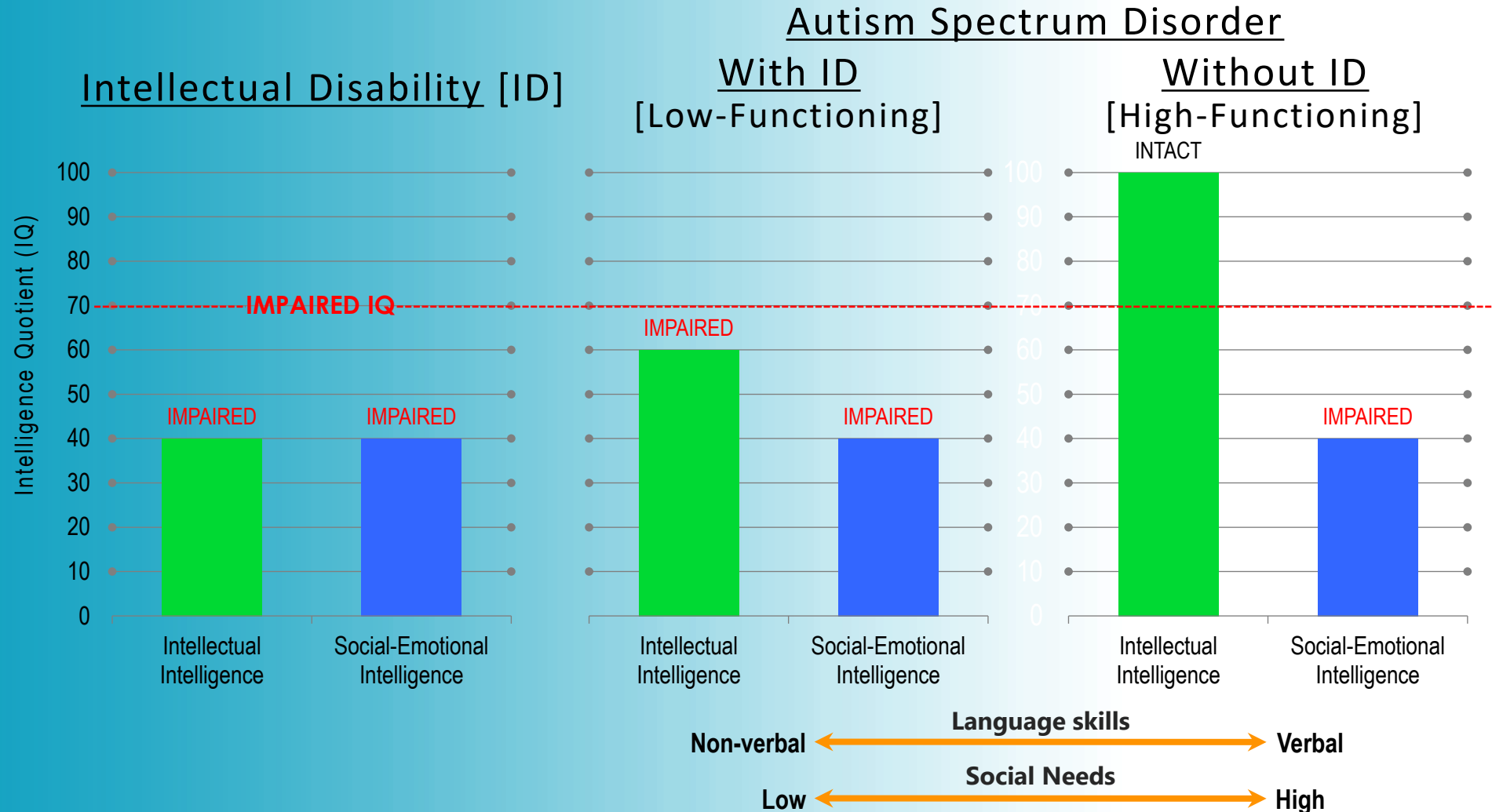
Neurotypicals



Social-Emotional IQ

- Non-verbal communication
- Salience
- Empathy/ToM
- Cognitive flexibility
- Abstracting ability
- Executive control
- Introspective ability
- Contextual Understanding

Intelligence Profile in AUTISM





Intellectually Intact vs. Impaired AUTISM

AUTISM Core Characteristics

Autistic Traits

Intellectually-Impaired

Intellectually-Intact

Deficits in Social Interaction and Communication

Verbal Communication

Often impaired (non-verbal)

- Intact intellectual communication
- Impaired emotional communication

Non-verbal Communication

- Lack eye contact
- Globally impaired

- Satisfactory eye contact
- Impaired for milder intensity non-verbals

Social interest

Impaired

Intact

Social-emotional reciprocity

Globally Impaired

- Customary social reciprocity intact
- Impaired emotional reciprocity

Ability to develop/maintain/
understand relationships

Impaired

- Often develop but unable to maintain relationships

Restricted Repetitive Behaviors

Stereotyped/repetitive
speech/motor movements

Present

Usually not present, though may have it in past
or express under stress

Rigidity

Behavioral

Cognitive

Interests

Abnormal focus and behavioral

Abnormal intensity and often cognitive

Sensory dysregulation

Present

Present



Intellectually Intact vs. Impaired AUTISM

AUTISM Other Characteristics

Characteristics

Intellectually-Impaired

Intellectually-Intact

Autism Diagnosis

Early

Late

Social Milieu

Specialized

Typical

Social Stress

Low

High

Known genetic abnormality

Up to 25%

Low

Medial comorbidity

Seizures, Allergies, GI disorders

Typical

Psychopathology

Follows Autism Diagnosis

Precedes Autism Diagnosis

Psychiatric Conditions

Symptoms (Hyperactivity, irritability)

Disorders (ADHD, Anxiety, Mood Disorder)

Initial Referral for Services

Autism

Mental Health

Ability to Procreate

Low

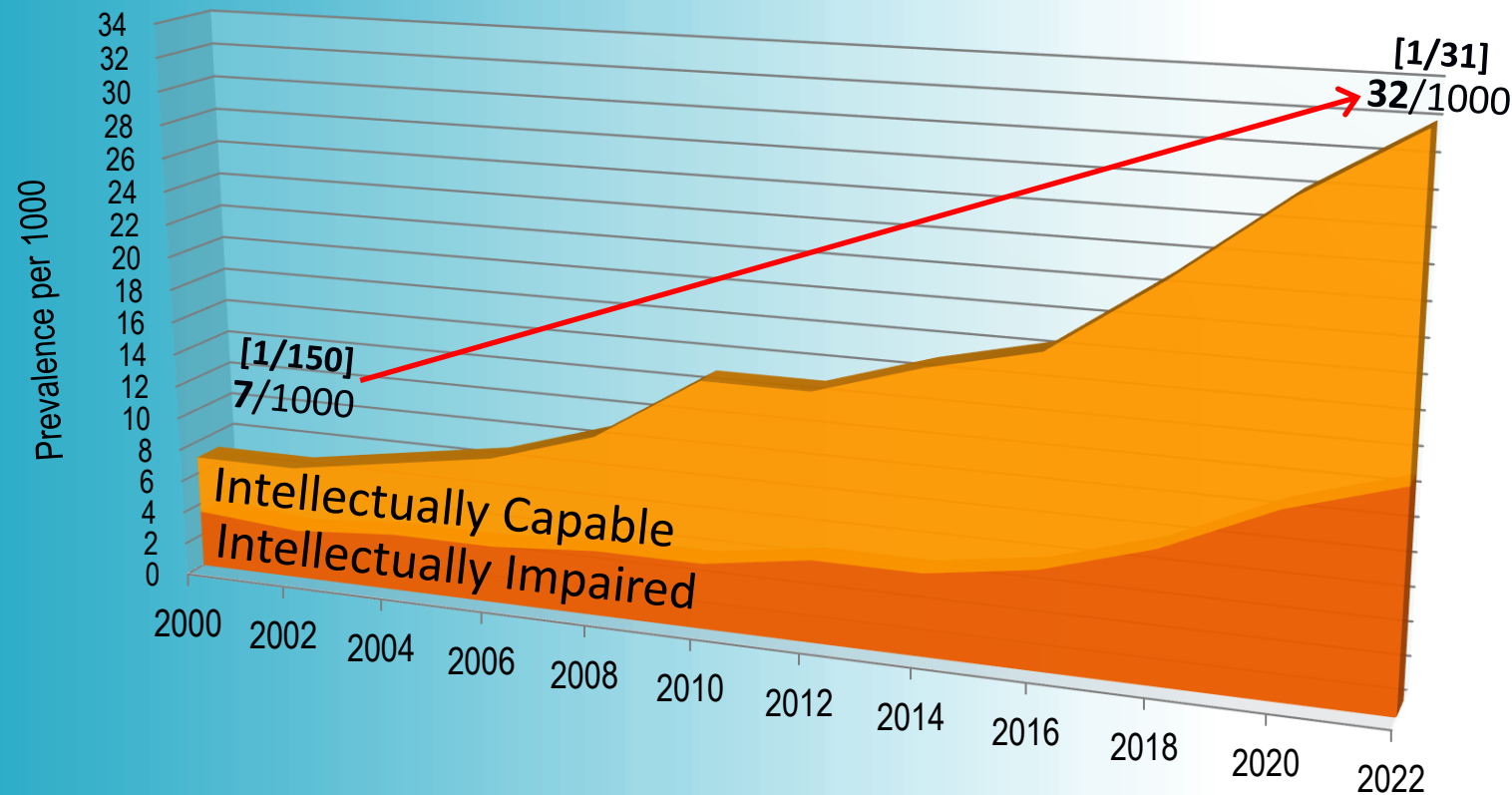
High

Prevalence

Stable

Increasing

Prevalence of AUTISM



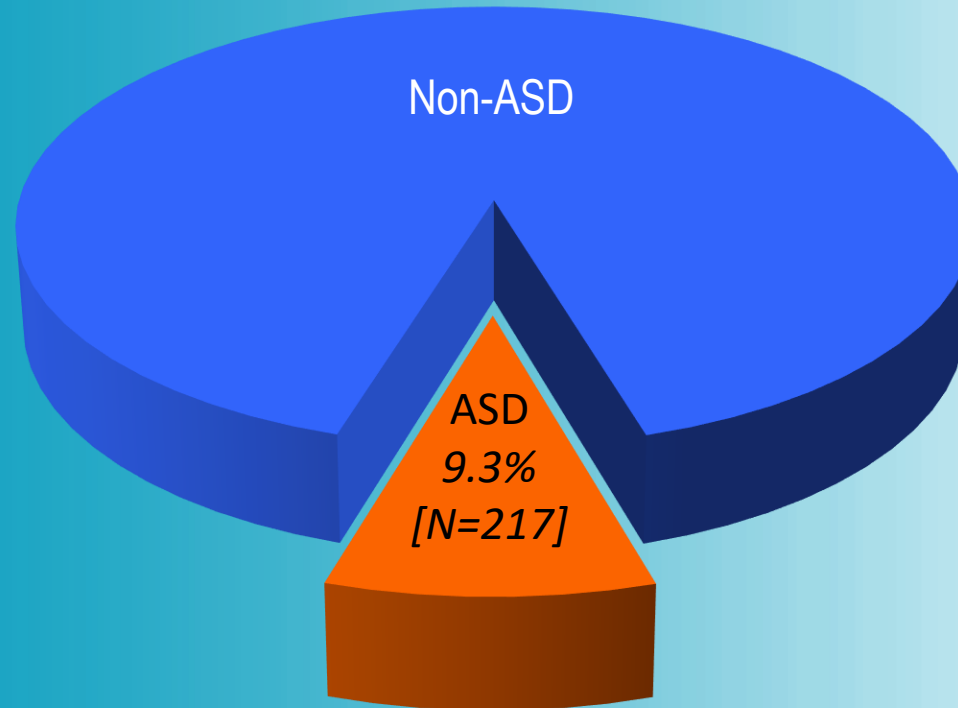
**Substantial rise in the prevalence of AUTISM
in intellectually capable populations**

Prevalence of AUTISM in Psychiatrically Referred Youth



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Total N: 2323

Total Duration: 15 years (1991-2006)

Male: 87%

Age (yrs): 9.7 ±3.6 (3-17)

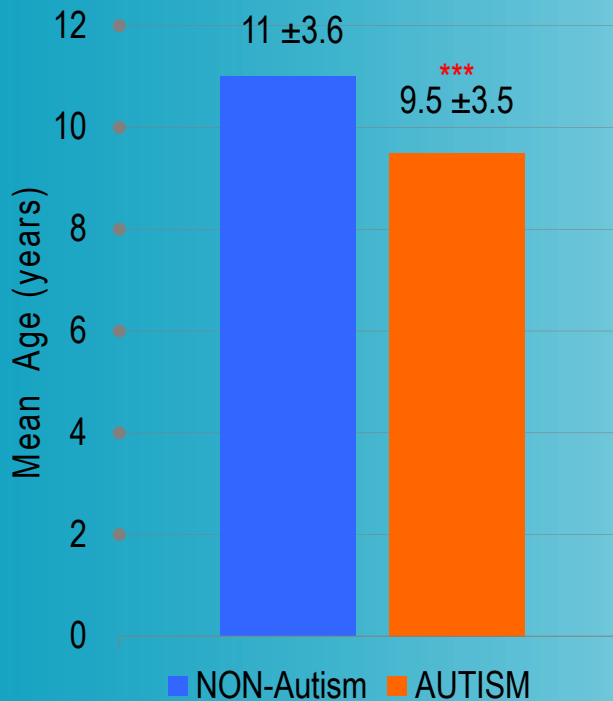
Intellectual Ability & Language Skills: Clinically not impaired in majority of the referred youth

AUTISM Prevalence >3 x Higher than General Population

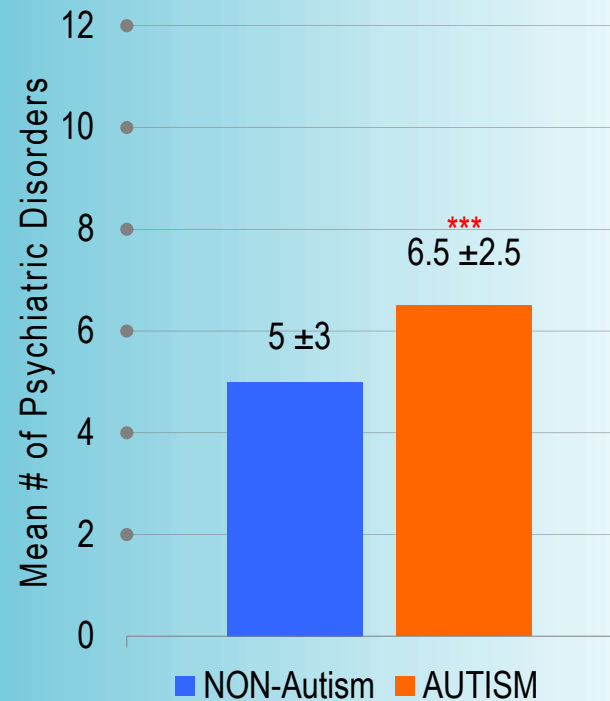
Psychiatrically Referred Youth with AUTISM



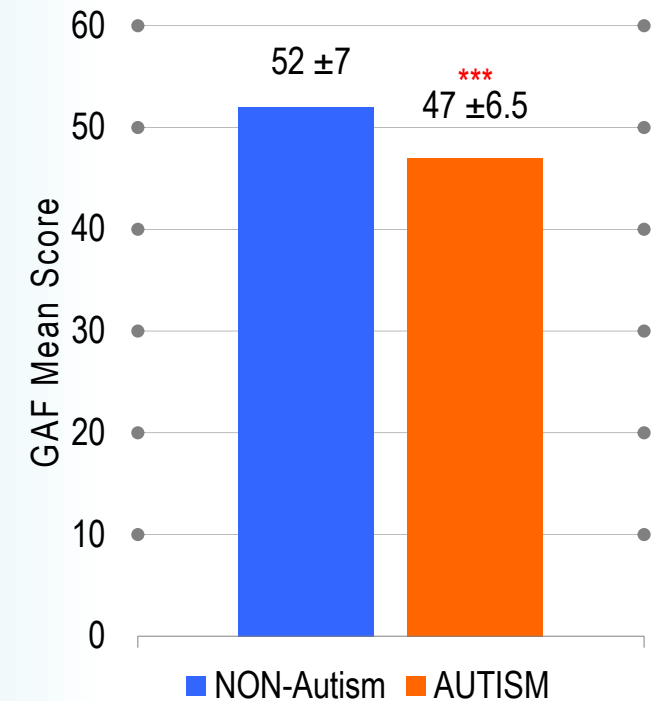
Age at Evaluation



Burden of Psychopathology



Global Assessment of Functioning



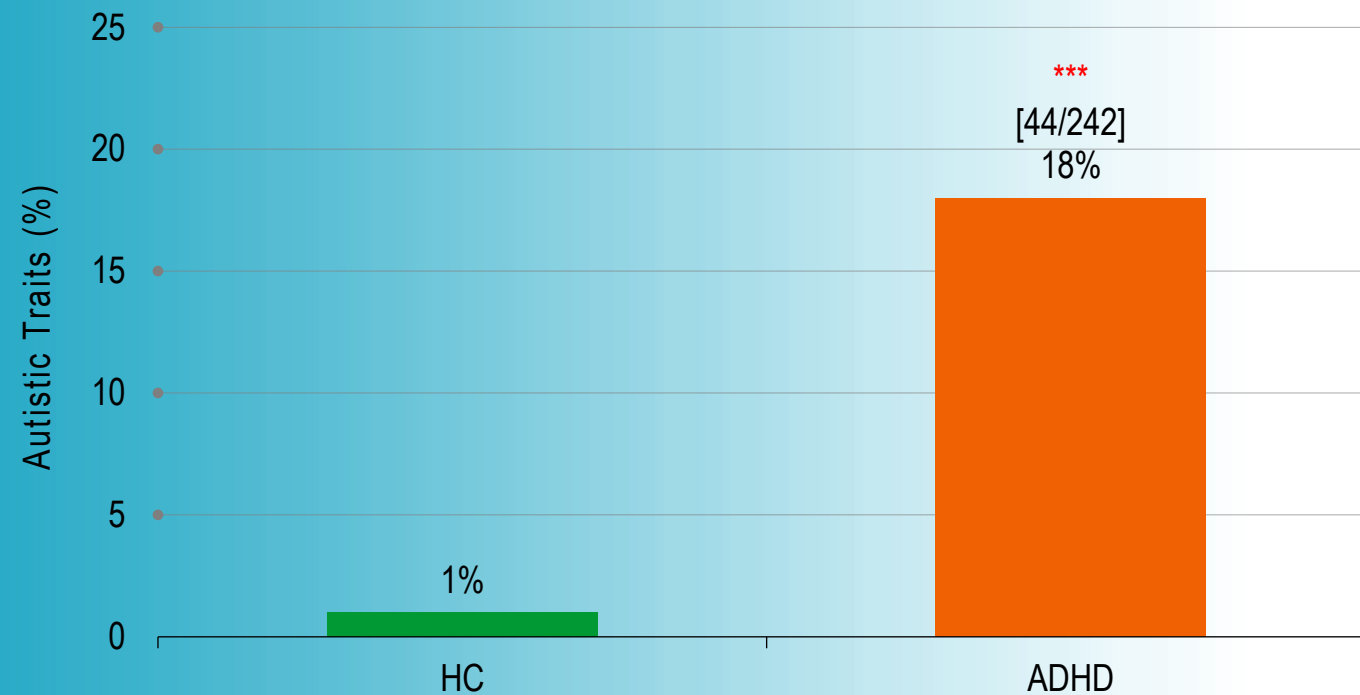
**Referred at Younger Age with Greater Burden of Psychopathology
& Poorer Level of Functioning**

Statistical Significance: ***p≤0.001

Prevalence of Significant Autistic Traits in ADHD

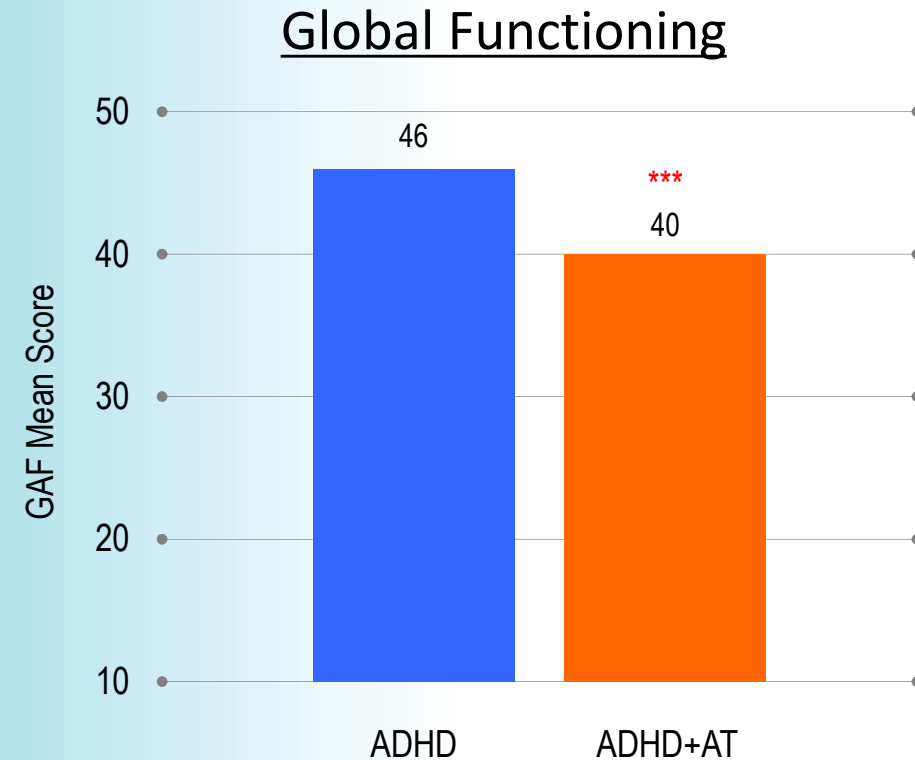
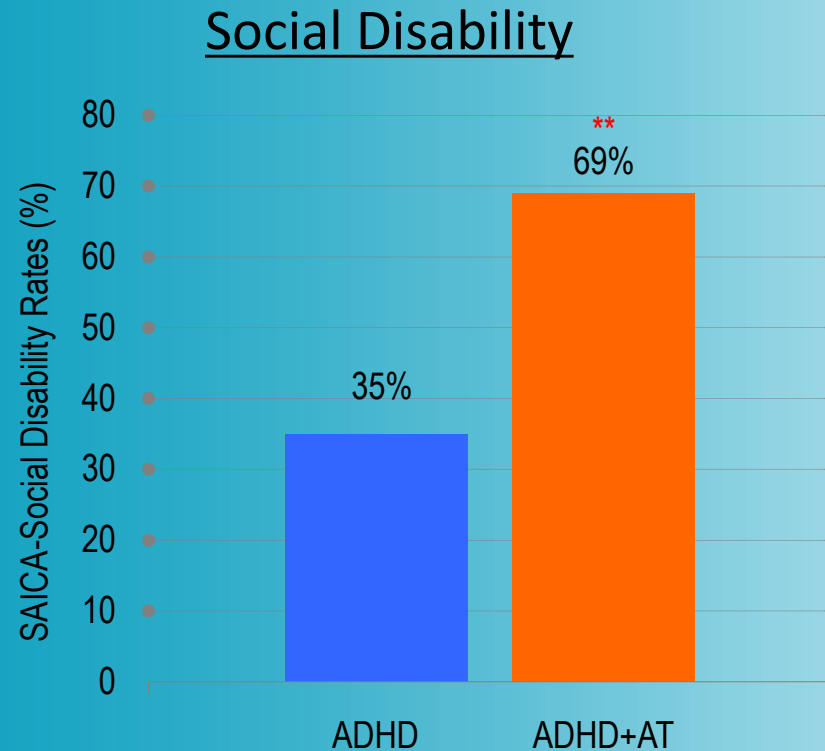


CBCCL-AT Profile



Statistical Significance: *** $p \leq 0.001$

Disability Associated with Autistic Traits

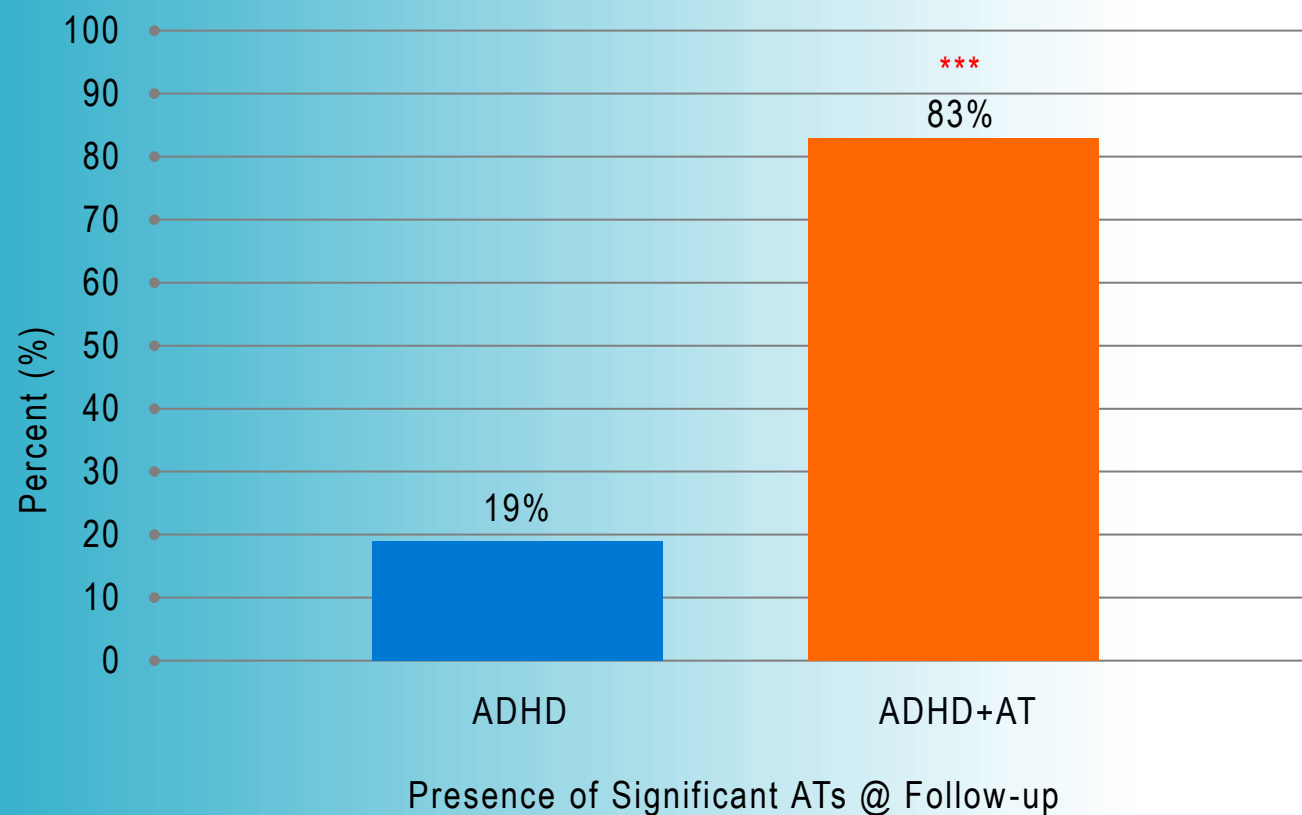


Statistical Significance: **p<.01; ***p<.001

Stability of Autistic Traits in ADHD



10-year Longitudinal Follow-up

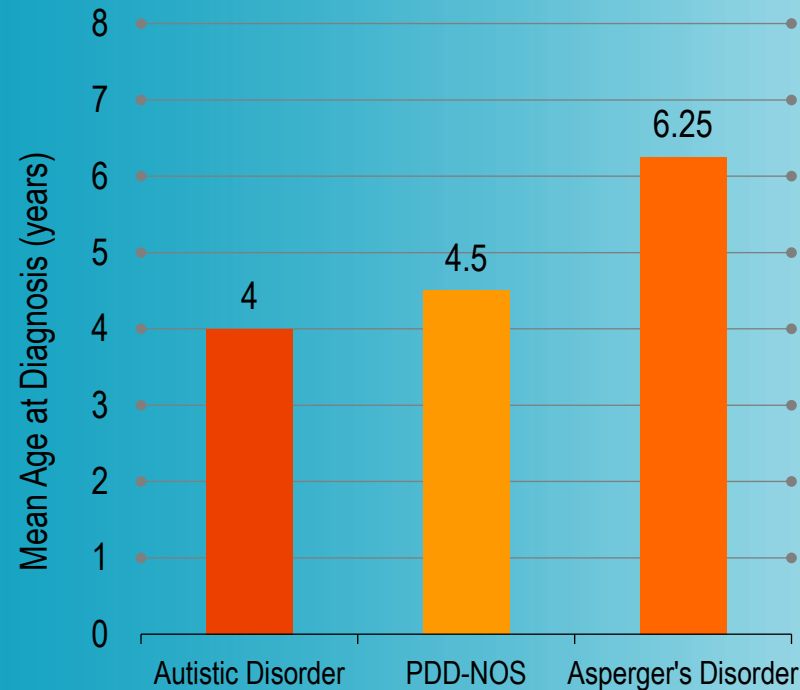


Statistical Significance: ***p≤.001

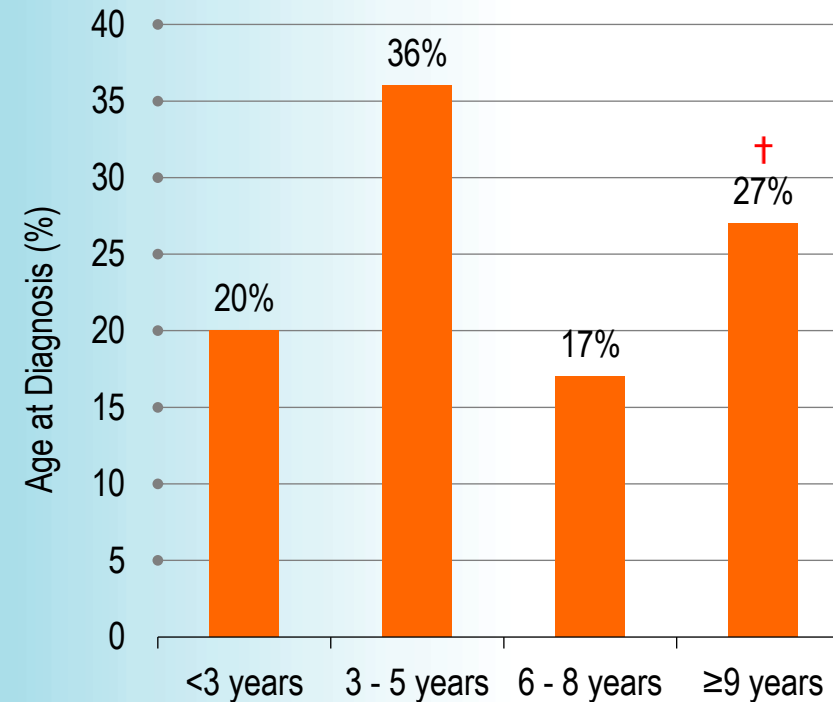


Age at Diagnosis of AUTISM

By DSM-IV Diagnosis
(In Children 8 years Old)



By Age Range



† 80% more likely to have psychiatric comorbidity compared to cases identified at earlier ages (<9 years)

Factors associated with delay in diagnosis of AUTISM

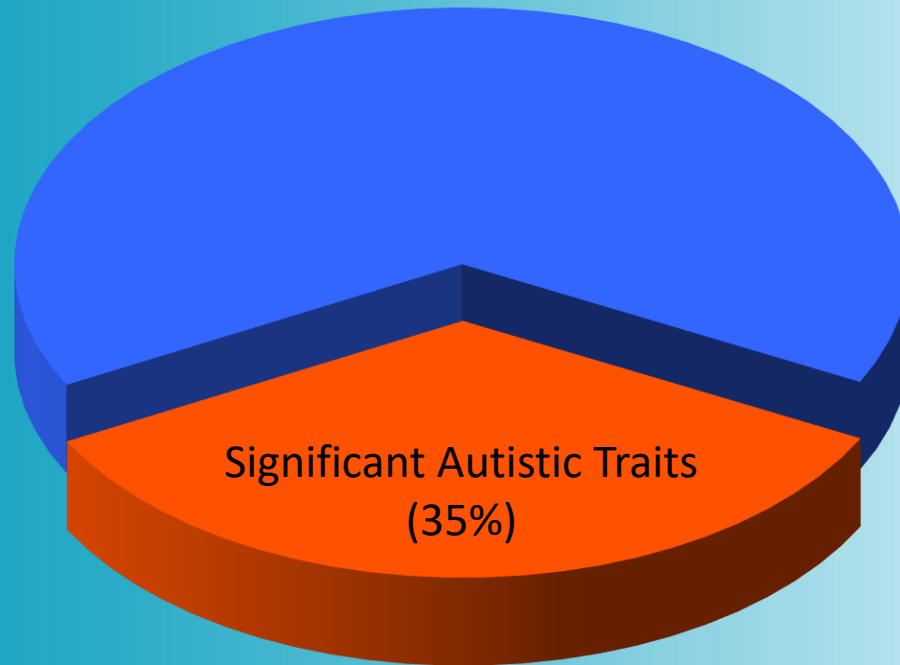
Autistic Traits in Psychiatrically Referred Youth



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Attending Child and Adolescent Psychiatry Outpatient Clinic



Total N: 342

Age Range: 4-18 years

IQ: Predominantly Intact

SRS Screen⁺ for ASD: 35% (N=121)
(Raw score: ♂>70; ♀>65)

One-third of youth screened positive for AUTISM

Only 8% of those who screened positive received a formal AUTISM diagnosis

Conditions Suggestive of AUTISM



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Social Deficits associated with.....

**Sensory Processing
Disorder**

**Auditory Processing
Disorder**

**Nonverbal Learning
Disability**

Prosopagnosia
(Face blindness)

**Reactive Attachment
Disorder**

**Pediatric Onset
OCD**

ARFID
(Avoidant/Restrictive Food
Intake Disorder)

**Social Communication
Disorder**

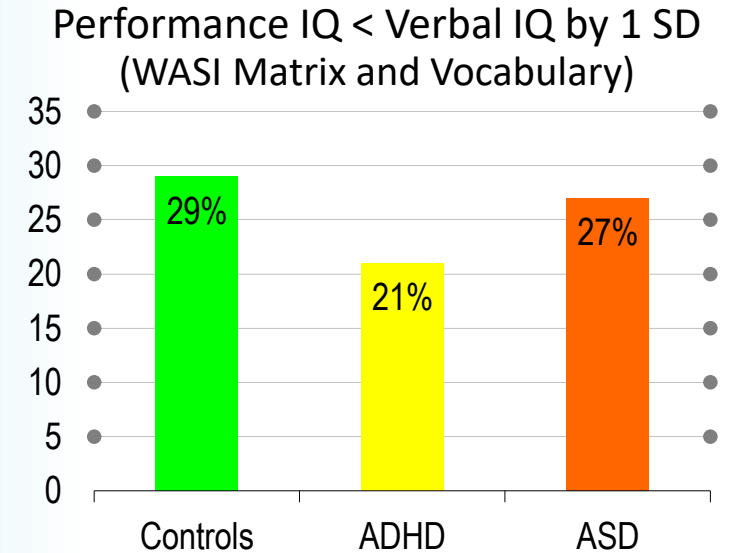
Autism Diagnostic Challenges: Institutional Factors & Myths



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- Autism is diagnosed early in life
- Diagnosis of ASD requires:
 - Diagnostic tools: ADIR/ADOS
 - Genetic work-up (*Familial work-up*)
 - Neuropsychological assessment

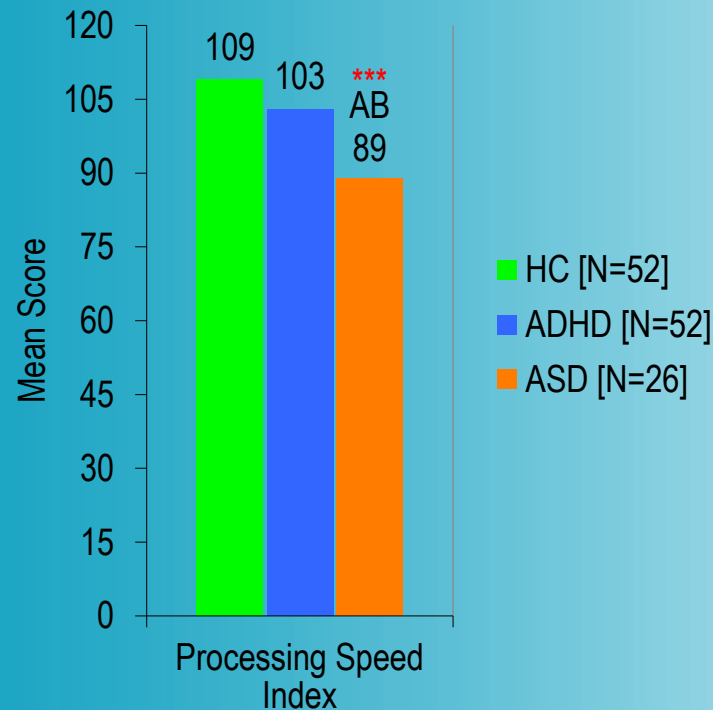


Neuropsychological Correlates of Intellectually Capable AUTISM



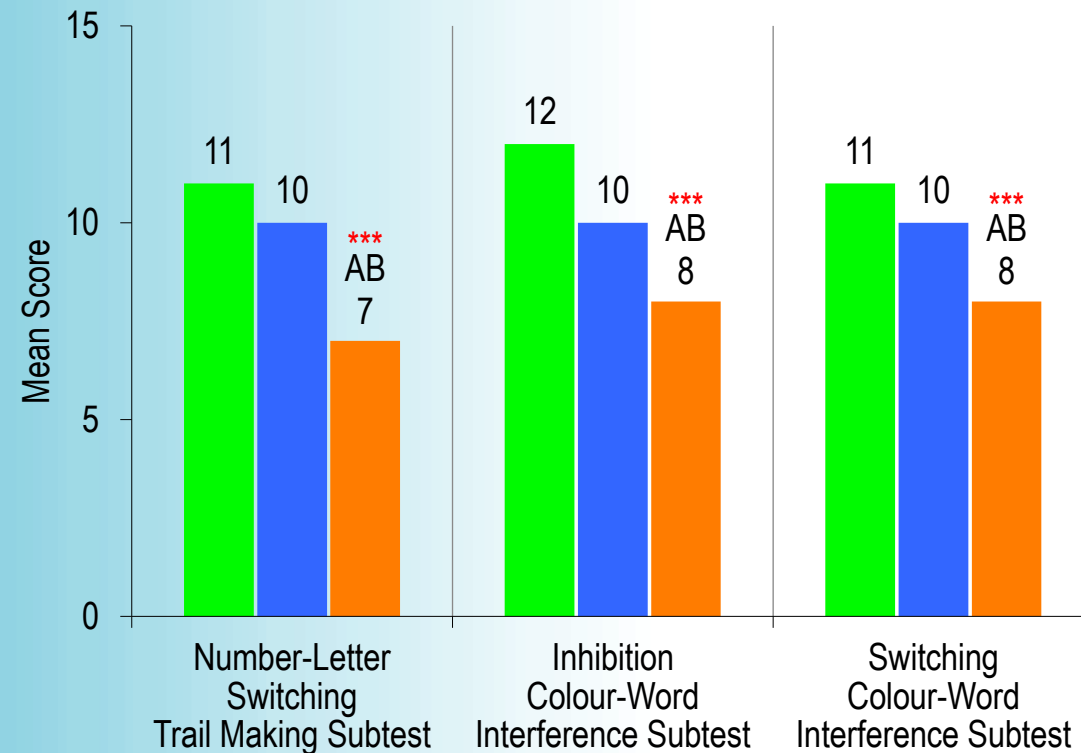
Processing Speed

Wechsler Adult Intelligence Scale (WAIS-III)



Cognitive Flexibility

Delis Kaplan Executive Function System (D-KEFS)



HC=Healthy Controls; A=Versus HC, B=Versus ADHD; Statistical Significance: ***p<0.001

Autism Diagnostic Interview-Revised (ADI-R) Autism Diagnostic Observation Schedule (ADOS)



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- Semi-structured assessment
- Requires trained raters
(training is expensive, time consuming, and not readily available)
- Assessment is expensive, time-consuming, with limited accessibility
- ADI-R assesses ASD-related symptoms at the age of 4-5 years
- ? sensitivity to detect ASD in intellectually capable and in adult populations
- ? validity in populations with emotional and behavioral difficulties

Social Responsiveness Scale, Second Edition



- Informant- and self- rated screening instrument
- Quantitative measure of autism related social impairments
- Preschool (2.5-4.5 yrs.), School-age (4-18 yrs.), and Adult forms
- 65 item rating scale
- Each item on the scale is rated on a Likert scale from “1” (never true) to “4” (almost always true)
- Requires 15-20 minutes
- The psychometric properties of the SRS are well established (Excellent correspondence between SRS & ADI-R)

School-Age Form

Response Sheet

SRS™-2



Social Responsiveness Scale, Second Edition
John N. Constantino, MD

Child and Rater Information			
Child's name	Gender <input type="checkbox"/> Male <input type="checkbox"/> Female	Date of rating	Assessment ID
School or clinic	Child's age in years	Grade	
Rater's name	Relationship to rated individual <input type="checkbox"/> Mother <input type="checkbox"/> Father <input type="checkbox"/> Other custodial adult <input type="checkbox"/> Teacher <input type="checkbox"/> Other specialist		

Instructions: For each question, please circle the number that best describes this child's behavior over the past 6 months.

	Not True	Sometimes True	Often True	Almost Always True
1. Seems much more fidgety in social situations than when alone.	1	2	3	4
2. Expressions on his or her face don't match what he or she is saying.	1	2	3	4
3. Seems self-confident when interacting with others.	1	2	3	4
4. When under stress, he or she shows rigid or inflexible patterns of behavior that seem odd.	1	2	3	4
5. Doesn't recognize when others are trying to take advantage of him or her.	1	2	3	4
6. Would rather be alone than with others.	1	2	3	4
7. Is aware of what others are thinking or feeling.	1	2	3	4
8. Behaves in ways that seem strange or bizarre.	1	2	3	4
9. Clings to adults, seems too dependent on them.	1	2	3	4
10. Takes things too literally and doesn't get the real meaning of a conversation.	1	2	3	4
11. Has good self-confidence.	1	2	3	4
12. Is able to communicate his or her feelings to others.	1	2	3	4
13. Is awkward in turn-taking interactions with peers (for example, doesn't seem to understand the give-and-take of conversations).	1	2	3	4
14. Is not well coordinated.	1	2	3	4
15. Is able to understand the meaning of other people's tone of voice and facial expressions.	1	2	3	4
16. Avoids eye contact or has unusual eye contact.	1	2	3	4
17. Recognizes when something is unfair.	1	2	3	4

Continued on next page

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Social Responsiveness Scale - Subscale Items

SOCIAL AWARENESS	SOCIAL COGNITION	SOCIAL MOTIVATION	SOCIAL COMMUNICATION	AUTISTIC MANNERISMS
Expressions on his or her face don't match what he or she is saying	Concentrates too much on parts of things rather than seeing the whole picture	Avoids starting social interactions with peers or adults	Gets frustrated trying to get ideas across in conversations	Rigid or inflexible patterns of odd behavior under stress
Seems to reach to people as if they are objects	Becomes upset in a situation with lots of things going on	Avoids people who want to be emotionally close to him or her	Is inflexible, has a hard time changing his or her mind	Unusual sensory interests or strange ways of playing with toys
Doesn't mind being out of step with or "not on the same wavelength" as others	Is able to understand the meaning of other people's tone of voice & facial expressions	Would rather be alone than with others	Has trouble keeping up with the flow of a normal conversation	Has repetitive, odd behaviors such as hand flapping or rocking
Is aware of what others are thinking or feeling	Seems overly sensitive to sounds, textures, or smells	Does not join group activities unless told to do so	Is socially awkward, even when trying to be polite	Can't get mind off thinking about something
Has good personal hygiene	Is imaginative, good at pretending	Has good self-confidence	Is able to communicate feelings to others	Difficulty with changes in routine
Focuses his or her attention to where others are looking and listening	Doesn't recognize when others are trying to take advantage of him or her	Seems self-confident when interacting with others	Has difficulty making friends, even when trying his or her best	Thinks or talks about the same thing over and over
Walks in between people who are talking	Recognizes when something is unfair	Stares or gazes off into space	Is too silly or laughs inappropriately	Has an unusually narrow range of interests
Knows when he or she is talking too loud or making too much noise	Doesn't understand how events relate to one another (cause and effect)	Seems much more fidgety in social situations than when alone	Knows when he or she is too close to someone or is invading someone's space	Does extremely well at a few tasks, but does not do as well at most other tasks
	Has a sense of humor, understands jokes	Is too tense in social settings	Has overly serious facial expressions	Touches others in an unusual way
	Takes things too literally and doesn't get the real meaning of a conversation	Clings to adults, seems too dependent on them	Has difficulty answering questions directly and ends up talking around the subject	Is regarded by other children as odd or weird
	Is overly suspicious	Separates easily from caregivers	Has difficulty relating to peers	Is not well coordinated
	Gives unusual or illogical reasons for doing things		Responds appropriately to mood changes in others	Behaves in ways that seem strange or bizarre
			Is emotionally distant, doesn't show feelings	
			Offers comfort to others when they are sad	
			Has difficulty relating to adults	
			Plays appropriately with peers	
			Is able to imitate others' actions	
			Avoids eye contact or has unusual eye contact	
			Gets teased a lot	
			Is awkward in turn-taking interactions with others	
			Wanders aimlessly from one activity to another	
			Talks to people with an unusual tone of voice	

Social Responsiveness Scale

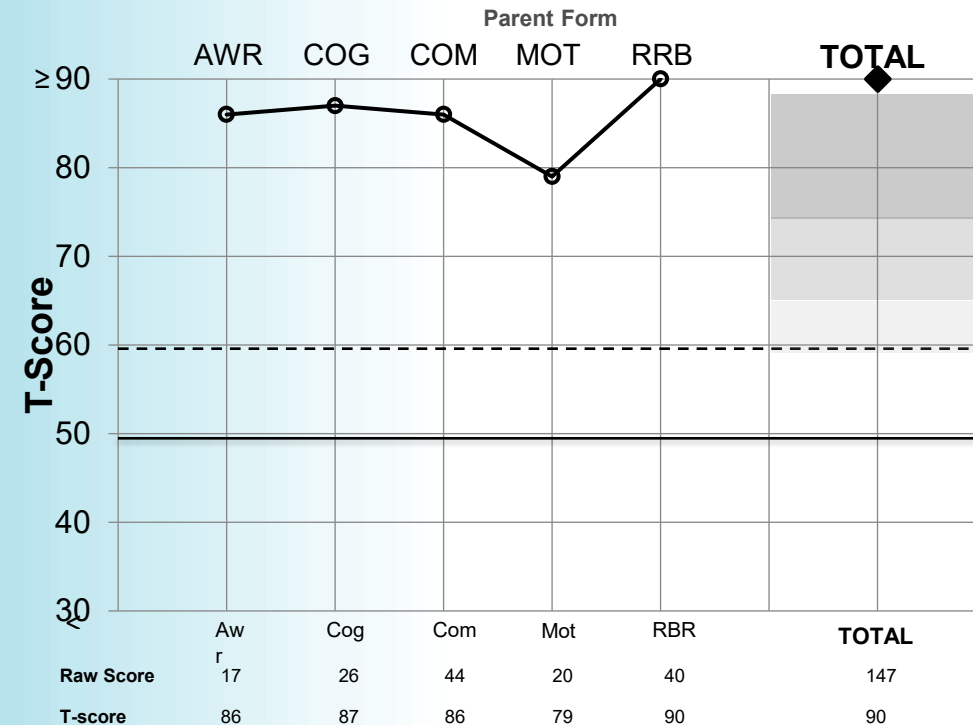


Scoring Algorithm

Severity Levels	Total Raw Score			T-Score
	School-Age*		Adult**	
	Male	Female		
Normal	≤ 57	≤ 51	≤ 67	≤ 59
Mild	58 - 72	52 - 65	68 - 84	60 - 65
Moderate	73 - 97	66 - 89	85 - 112	66 - 75
Severe	≥ 98	≥ 90	≥ 113	≥ 76
<u>Screening Threshold</u>				
Non-referred	≥ 70	≥ 70	≥ 70	
Referred	≥ 85	≥ 85	≥ 85	

*Informant-rated; **Self & Observer-rated

Scoring Results





Child Behavior Checklist Clinical Scales Discriminate Referred Youth With Autism Spectrum Disorder: A Preliminary Study

Joseph Biederman, MD,* Carter R. Petty, MA,* Ronna Fried, EdD,* Janet Wozniak, MD,*
Jamie A. Micco, PhD,* Aude Henin, PhD,* Robert Doyle, MD,* Gagan Joshi, MD,*
Maribel Galdo, MSW,* Meghan Kotarski, MBA,* Janet Caruso, BA,* Dayna Yorks, BA,*
Stephen V. Faraone, PhD†

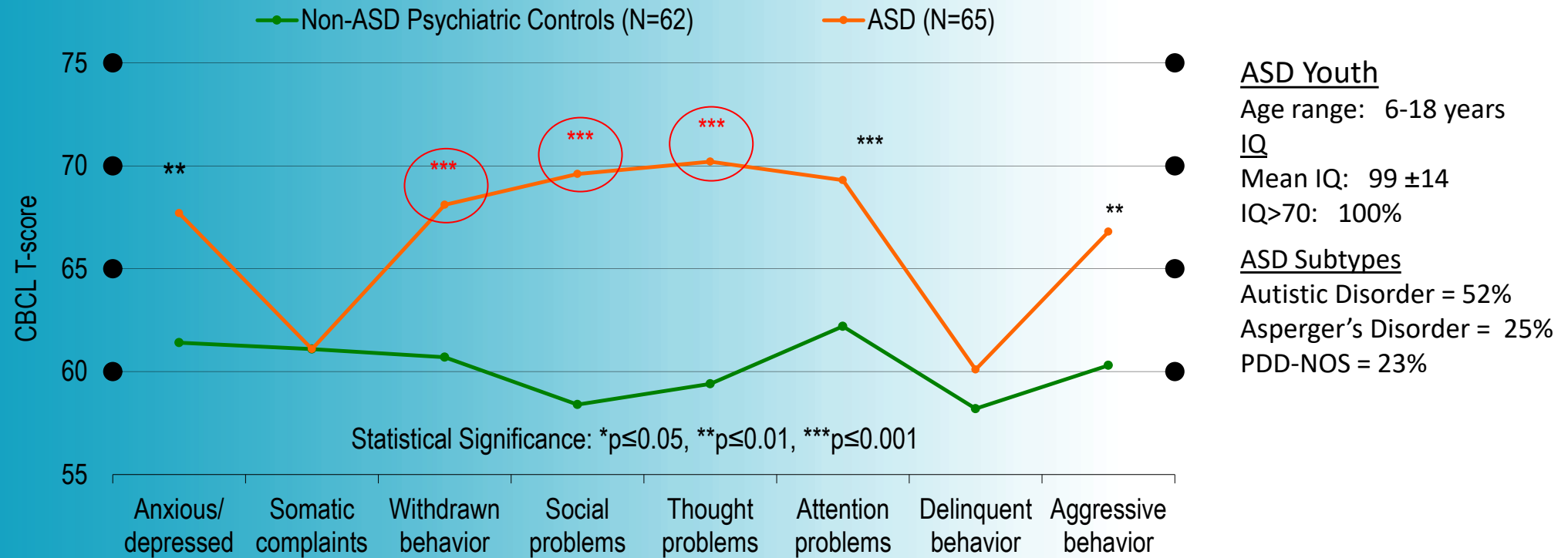
ABSTRACT: *Objective:* To evaluate the properties of clinical scales of the Child Behavior Checklist in discriminating referred children with autism spectrum disorders (ASDs) (autistic disorder, Asperger's disorder, and pervasive developmental disorder not otherwise specified) from psychiatrically referred children without ASDs. *Method:* Comparisons were made between children with ASDs (n = 65) with intelligence quotient >70 and children without ASDs (N = 83) on the clinical scales of the Child Behavior Checklist. Stepwise logistic regression was used to identify those scales that best predicted ASDs when compared with the non-ASD comparison group. Receiver operating characteristic curves examined the ability of the significant predictor T-scores to identify ASDs versus the non-ASD subjects. *Results:* Withdrawn, Social Problems, and Thought Problems T-scores were the best independent predictors of ASD status. The Withdrawn + Social + Thought Problems T-scores yielded an area under the curve of 0.86, indicating an 86% chance that a randomly selected sample of ASD subject will have abnormal scores on these scales than a randomly selected sample of non-ASD subjects. *Conclusion:* These findings suggest that a new Child Behavior Checklist-ASD profile consisting of the Child Behavior Checklist-Withdrawn, Social, and Thought Problems scales could serve as a rapid and cost-effective screening instrument to help identify cases likely to meet clinical criteria for ASDs in the clinical setting.

(*J Dev Behav Pediatr* 31:485-490, 2010) **Index terms:** autism spectrum, CBCL, screening.

CBCL – ASD Profile



Level of Dysfunction on Child Behavior Checklist in Psychiatrically Referred Youth



ASD Youth

Age range: 6-18 years

IQ

Mean IQ: 99 ±14

IQ>70: 100%

ASD Subtypes

Autistic Disorder = 52%

Asperger's Disorder = 25%

PDD-NOS = 23%

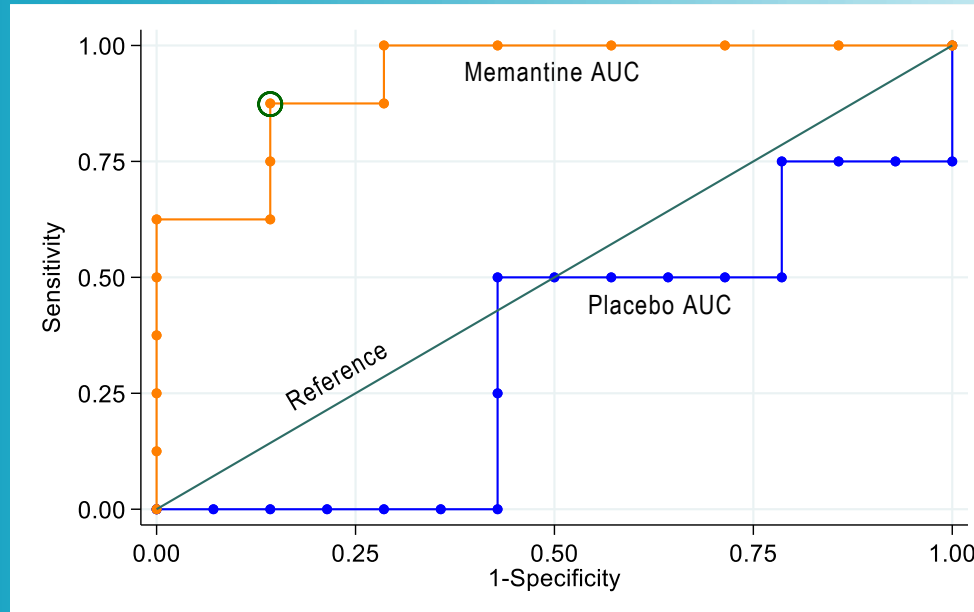
**CBCL-ASD Subscales (Withdrawn behavior, Social, & Thought Problems)
aggregate cutoff T-score of ≥195 is suggestive of AUTISM**

Biederman et al. 2010.

pgACC Glu Activity as Predictor of Response to Memantine Treatment



ROC Curve Analysis



	MEM [N=15]	PBO [N=18]	P-Value
AUC (95% CI)	0.93 (0.80, 1.00)	0.34 (0.02, 0.66)	<.001

	Optimal Cut-point	Sensitivity	Specificity	PPV	NPV	% Correctly Classified
MEM	99	88%	86%	88%	86%	87%
PBO	97	50%	57%	25%	80%	50%

PPV=Positive Predictive Value; NPV=Negative Predictive Value

MGH Autism Spectrum Disorder DSM-5-TR Diagnostic Symptom Checklist[®]



MASSACHUSETTS
GENERAL HOSPITAL

PSYCHIATRY ACADEMY

Name _____ Age _____ years Gender: Male / Female

Assessment Guidelines: 1. Incorporate information from clinical observation and all available sources
2. Offer suggested prompts to elicit features of concern

Diagnostic Features

	Absent (No=1)	Unsure (Subth=2)	Present (Full=3)
A Deficits in Social Communication and Interaction (as manifested by lifetime history of all three of the following)			
1. Deficits in social-emotional reciprocity	-	±	+
<ul style="list-style-type: none"> Does not share or respond appropriately to others' feelings Seems unaware of others' feelings or is unable to express his/her feelings Does not offer or seek comfort or seeks comfort in an odd way Socially inappropriate responses Inability to spontaneously share their own or others' enjoyment, achievements, or interests Inability to engage in a cooperative (give and take) activity with others Difficulty with initiating or in sustaining a conversation Limited ability to engage in back and forth reciprocal conversation (especially on other person's topic of interest) Does not talk to be friendly or social (lacks ability to make small talk) 			
2. Deficits in nonverbal communicative behaviors used for social interaction	-	±	+
<ul style="list-style-type: none"> Poor eye contact (impaired joint attention; does not use or respond to eye gaze or pointing to share attention) Does not show or understand gestures (facial expression [social smile] or body language) Does not use or understand tone of voice (e.g., sarcasm) 			
3. Deficits in developing, maintaining, and understanding relationships	-	±	+
<ul style="list-style-type: none"> Limited interest in peers Difficulty making or maintaining friendship with peers Rigid or atypical social interests and behaviors Difficulty adopting behavior to different social contexts (contextually inappropriate behavior) Does/does not engage in pretend play Inability to imitate others' personal behaviors Too literal; doesn't get the implied meaning in conversations (puns, jokes) 			
B Restricted, Repetitive Patterns of Behavior, Interests, or Activities (as manifested by lifetime history of at least two of the following)			
1. Stereotyped or repetitive motor movements, speech, or use of objects (Stimming)	-	±	+
<p>Stereotyped and repetitive motor mannerisms</p> <ul style="list-style-type: none"> Flapping, clapping, finger flicking Whole body movement (e.g., rocking, swaying) Repetitive use of objects (e.g., lining-up, flipping, or spinning objects) <p>Stereotyped, repetitive, or idiosyncratic speech</p> <ul style="list-style-type: none"> Often uses odd phrases or words (including neologisms) Repeats words, sentences, or scripts (scripting) in the exact same way (including delayed echolalia) Refers to self in third person (nominative reversal) Has unusual tone (monotonous, high-pitched, robotic) or style of speech (pedantic, professorial) 			
2. Inflexible adherence to routines or ritualized patterns of verbal or nonverbal behavior	-	±	+
<ul style="list-style-type: none"> Strong need for sameness from day-to-day (routine bound) Gets unusually upset if routine or environment changes (transitional difficulties) Verbal or nonverbal rituals (fixed sequence of utterances or nonverbal behaviors) Has a hard time changing his/her mind (cognitive rigidity; rule bound/highly opinionated) 			
3. Highly restricted, fixated interests that are abnormal in intensity or focus	-	±	+
<ul style="list-style-type: none"> Very narrow range of interests (circumscribed, non-progressive, non-social) Unusual intensity of interest(s) that are odd or peculiar in quality (e.g., preoccupation with names of train stations, war battles) Extreme preoccupation with usual interest(s) Engages in certain activities repetitively (e.g., watching the same movie over and over again) 			
4. Hyper- or hypo-reactivity to sensory input or unusual interest in sensory aspects of environment	-	±	+
<ul style="list-style-type: none"> Unusual attachment to object(s) Does not use objects for their intended purpose (e.g., plays with the wheels of a toy car) Tendency to hyper-focus on minor details without ability to grasp the broader concept <p>Sensory Dysregulation (touch, sound, smell, taste, visual, pain, kinetic, temperature, pressure, proprioceptive)</p> <ul style="list-style-type: none"> Hypersensitive to neutral stimuli (Sensory Integration Issues) Hyposensitive to certain stimuli Extreme response to certain neutral or pleasant stimuli Unusual sensory interests (unusual fascination to certain neutral or unpleasant stimuli) (e.g., excessive smelling or touching objects, visual fascination with light or movement) 			

	Absent (No=1)	Unsure (Subth=2)	Present (Full=3)
C Symptoms Present in the Early Developmental Period	-	±	+
D Clinically Significant Impairment in Social, Occupational, or other Important Areas of Functioning			
1. Severity of deficits in social communication and interaction (Domain-A)	<1	1	2 3
<p>Level 1: Without support, some significant deficits in social communication</p> <p>Level 2: Marked deficits with limited initiations and reduced/atypical responses</p> <p>Level 3: Minimal social communication</p>			
2. Severity of restricted, repetitive, and stereotyped patterns of behaviors (Domain-B)	<1	1	2 3
<p>Level 1: Significant interference in at least one context</p> <p>Level 2: Obvious to the casual observer and occurs across contexts</p> <p>Level 3: Marked interference in daily life</p>			
Diagnosis (ASD if Domain A and B criteria are met; SCD if only Domain A criteria are met)	-	SCD	ASD
Specifiers			
1. Associated with Intellectual Disability (ID; IQ < 70)	-	±	+
2. Associated with a structural language impairment:	Lack language	Single words	Phrase
3. Associated with known factors:	Medical condition	Genetic condition	Environmental factors
4. Associated with another neurodevelopmental, mental, or behavioral disorder	-	±	+
5. Associated with Cataplexy	-	±	+

Associated Features

1. Fine or gross motor coordination impairment	-	±	+
2. Novelty averse behaviors (limited diet)	-	±	+
3. Self-injurious behaviors	-	±	+
4. History of developmental regression (loss of acquired social or language skills)	-	±	+

Clinician _____

Date _____

Concurrent Validity

Diagnostic Correspondence with:

- SRS: 95%

- ADOS: 86%

In Summary



- Increasingly greater recognition of ASD in intellectually capable populations.
- Three-fold greater prevalence of Autism in psychiatrically referred populations.
- Autism is under-recognized in psychiatrically referred populations.
- ADI-R, ADOS, or neuropsychological assessments are NOT essential for the diagnosis of ASD.
- **SRS** is a screening tool for assessing burden of autistic traits in intellectually capable populations.
- **CBCL ASD Profile** offers screening for ASD that is integrated with assessment for general psychopathology in psychiatrically referred population of youth.
- **DSM-based ASD Symptom Checklist** is a rapid and cost-effective diagnostic aid for clinicians



MASSACHUSETTS
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PSYCHIATRY ACADEMY

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