



Massachusetts General Hospital
Founding Member, Mass General Brigham

II. Diagnosis of Autism

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HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL

Features of AUTISM

CORE Features

Impaired Social-Emotional Competence

- I. **Non-verbal communication (NVC)**
 - Eye contact (joint-attention)
 - Receptive and Expressive emotional NVC (facial expression, verbal tone, touch)
- II. **Verbal communication**
 - Level of verbal communication
 - Atypical style of speech (pedantic, professorial)
- III. **Emotional processing**
 - Emotional awareness, recognition
 - Emotional expression (verbal & non-verbal)
 - Empathy (perspective taking)
- IV. **Social (inter-personal) processing**
 - Social motivation & awareness
 - Sharing (activities, affect, back & forth conversations)
 - Contextual understanding (social adaptability)
- V. **Abstracting ability**
 - Black & white/concrete/literal thinking
 - Tolerance for ambiguity
- VI. **Introspective/Interoceptive ability** (self awareness of cognition, emotions, & physiological state)
 - Psychological mindedness

Restricted/Repetitive Behaviors (RRBs)

- VII. **Cognitive/Behavioral Rigidity**
 - 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
- VIII. **Repetitive Patterns**
 - Speech (delayed echolalia, scripting, idiosyncratic phrases)
 - Motor mannerisms (flapping, clapping, rocking, swaying)
 - Interests (non-progressive, non-social)
- IX. **Atypical Salience**
 - Social-emotional stimuli
 - Interests (odd/idiosyncratic)
- X. **Executive DysControl** (moderation of emotions, motivations, interests, relationship)
 - All or none approach (lack moderation)
 - Abnormal intensity of interests
- XI. **Sensory Dysregulation**
 - Atypical sensory perceptions/responses
 - Sensory preferences

ASSOCIATED Features

- Novelty aversive behaviors
- Poor motor co-ordination



DSM Criteria for Autism

Schizophrenic reaction
- Childhood Type



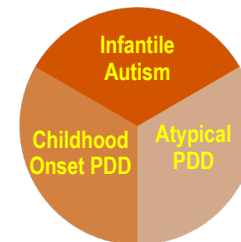
DSM-I
(1952)

Schizophrenia
- Childhood Type



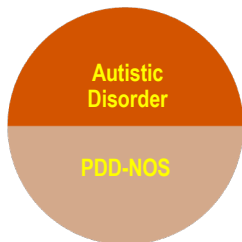
DSM-II
(1968)

Pervasive Developmental Disorders



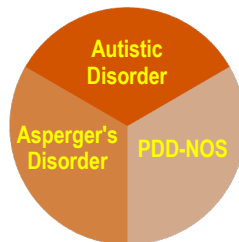
DSM-III
(1980)

Pervasive Developmental Disorders



DSM-III-R
(1987)

Pervasive Developmental Disorders



DSM-IV-TR
(1994/2000)

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



DSM-5-TR Communication Disorders

Social (Pragmatic) Communication Disorder (F80.89/315.39)

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

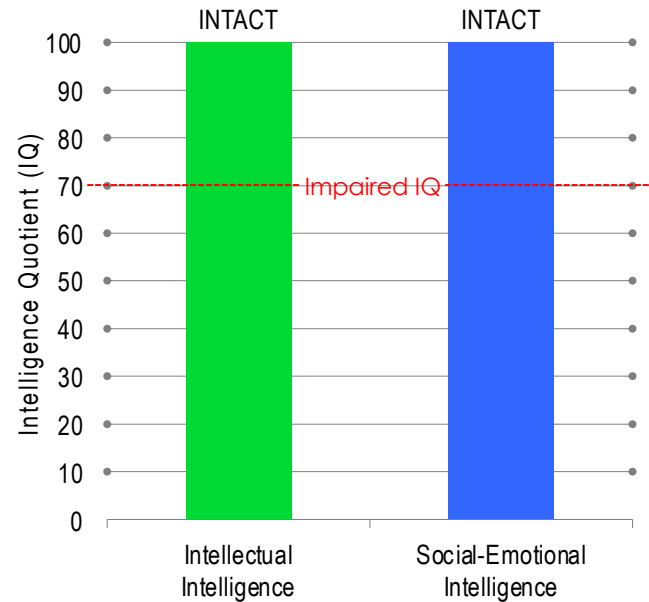


Domains of Intelligence

Neurotypicals

Intellectual IQ

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

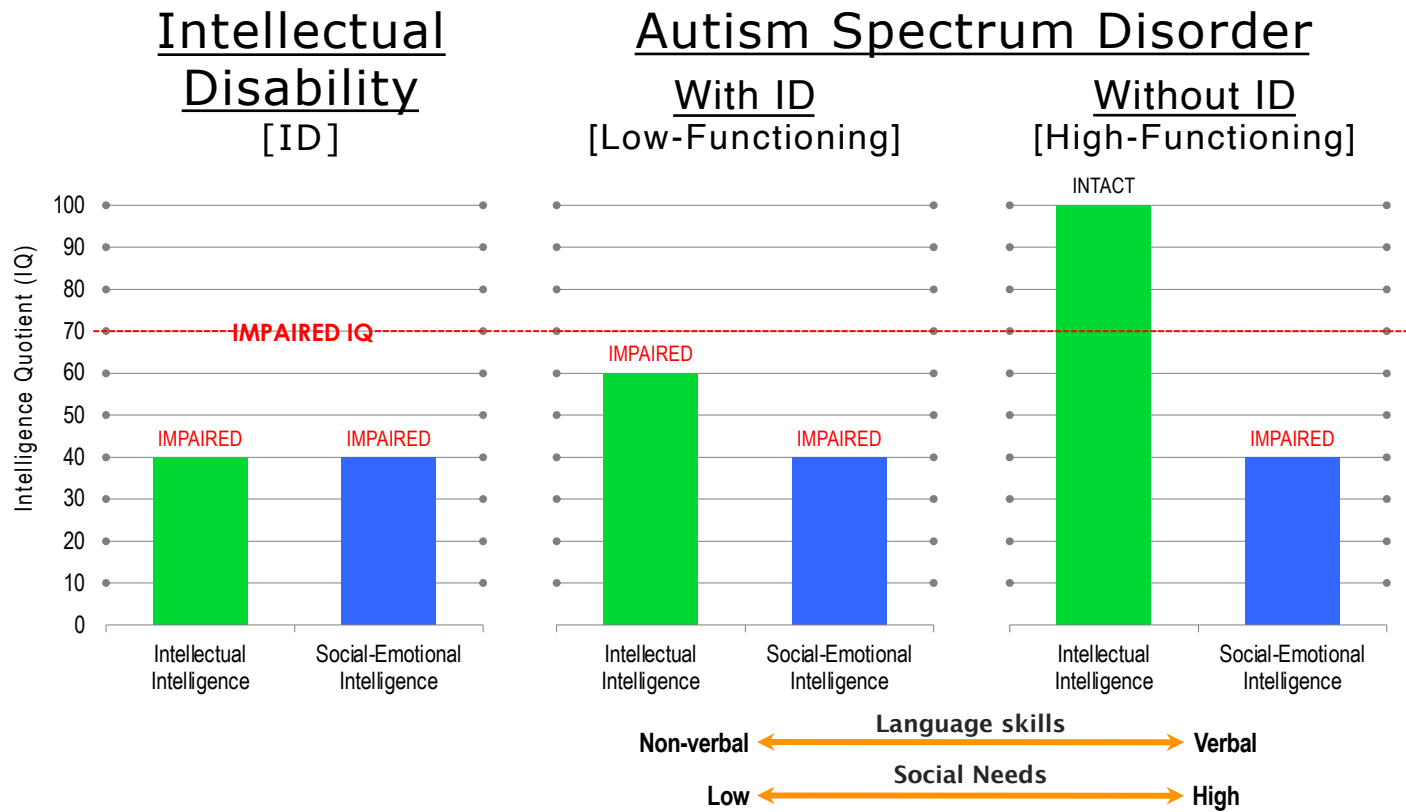


Social-Emotional IQ

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



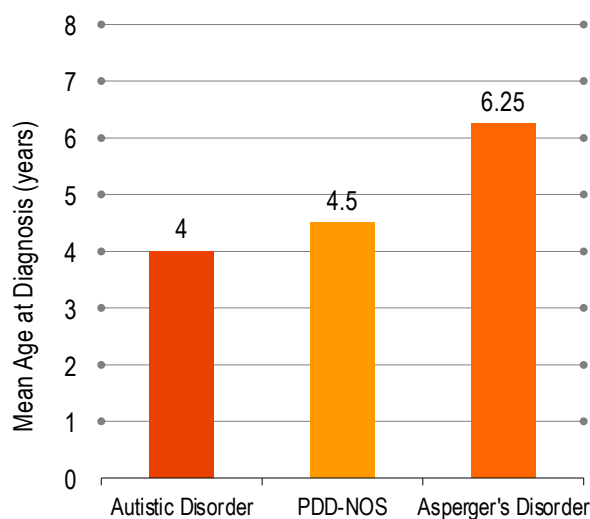
Intelligence Profile in AUTISM



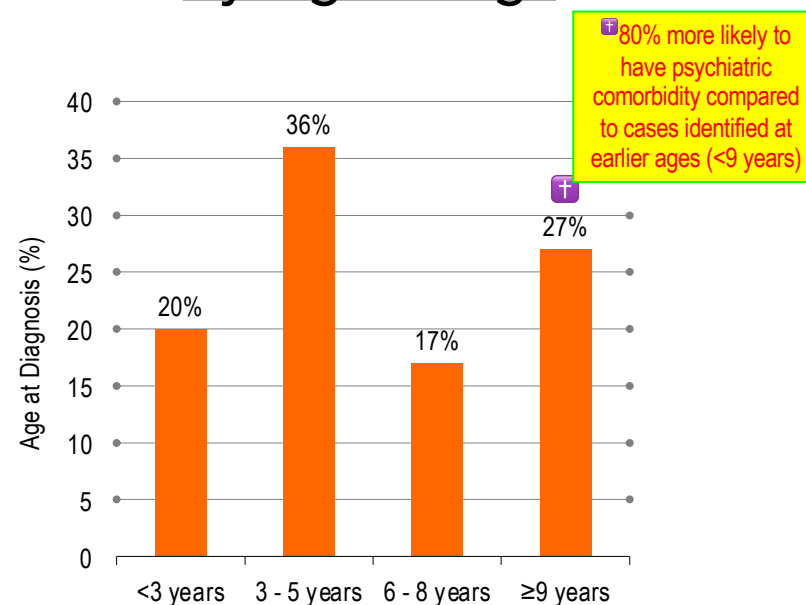
Age at Diagnosis of ASD

By DSM-IV Diagnosis

(In Children 8 years Old)



By Age Range

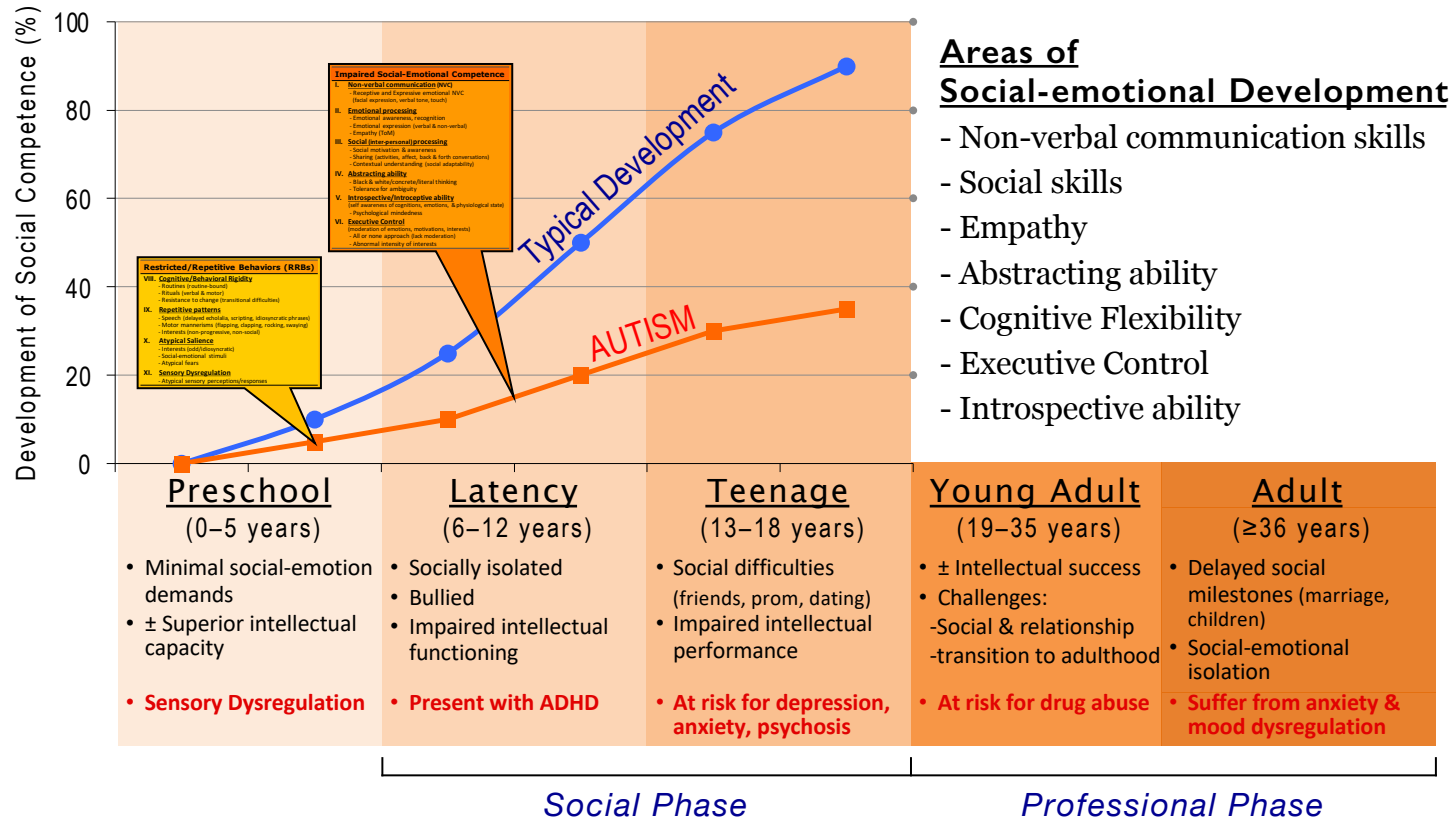


Intact intellectual functioning and the presence of behavioral problems delay the diagnosis of Autism



Autism & Developmental Disabilities Monitoring Network Surveillance Year 2002, 2008, 2010;
Levy et al., 2010

Social-emotion Competence Across the Lifespan



Red Flags for Assessing ASD

Features

- Social immaturity
- Odd/quirky behaviors
- Sensory dysregulation
- Cognitive rigidity
- In-coordination
- High IQ/Savant abilities
- Sensitive to AEs
- Sibling with ASD



Conditions Suggestive of ASD

Social Deficits associated with.....

