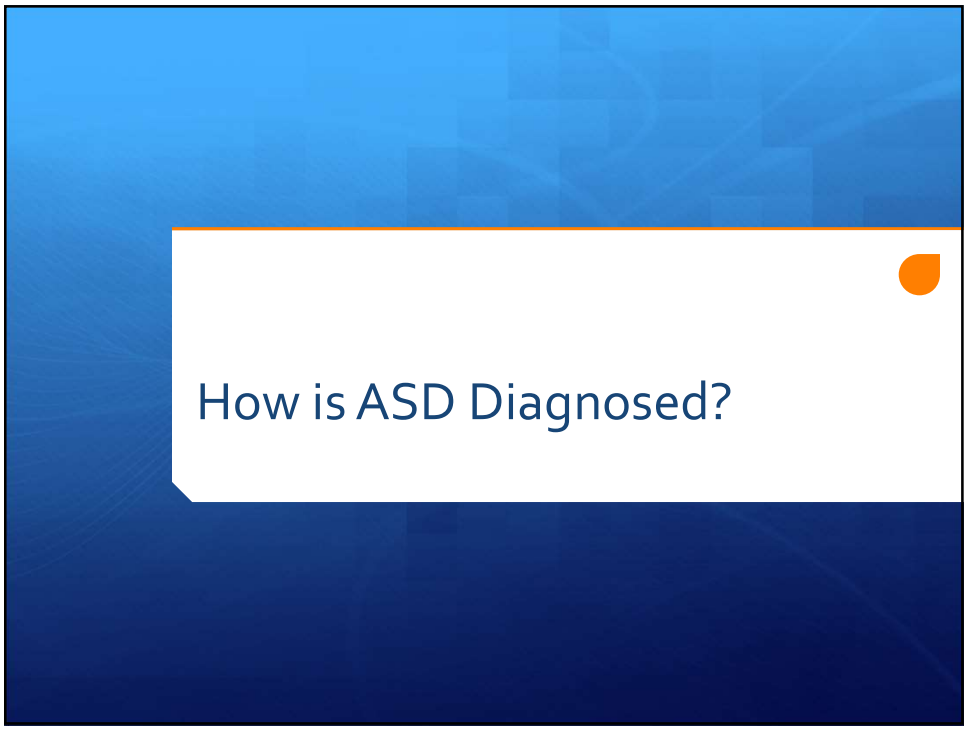
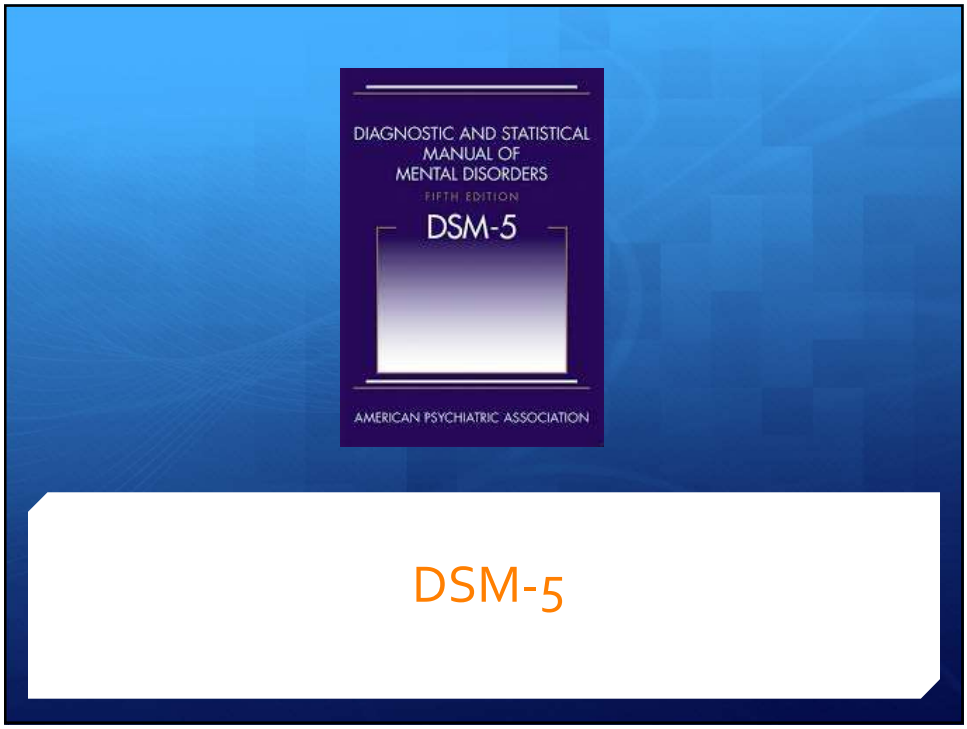
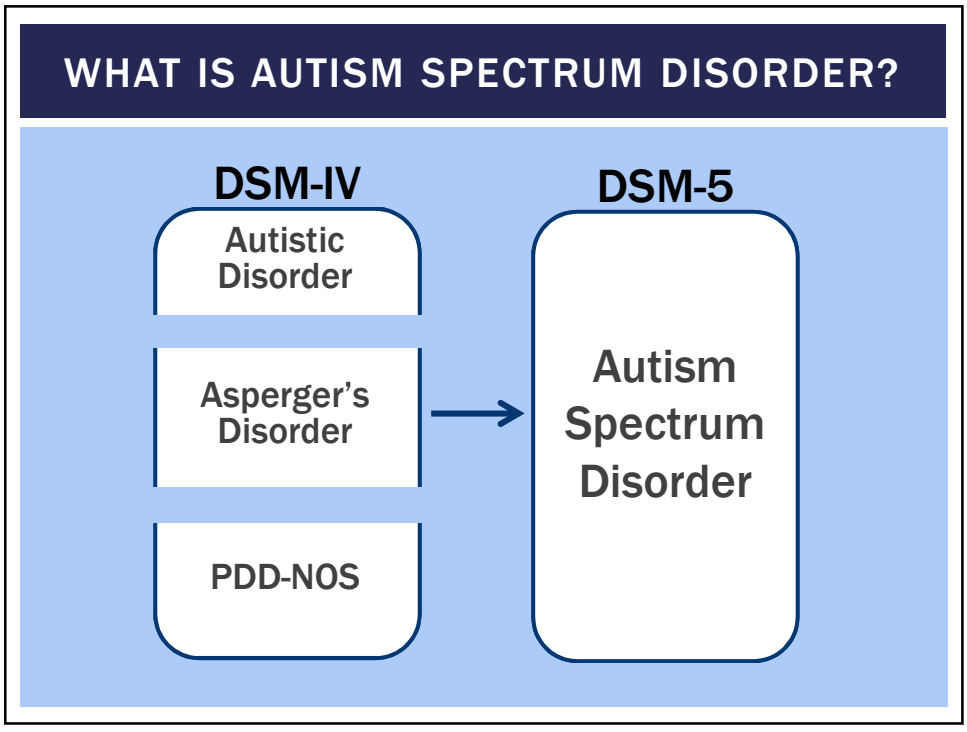

The Children's Hospital of Philadelphia
Diagnosis of Autism Spectrum Disorder and Specific Language Impairment in Clinical and Research Contexts
Lisa Blaskey, Ph.D.


How is ASD Diagnosed?


DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS
FIFTH EDITION
DSM-5
AMERICAN PSYCHIATRIC ASSOCIATION
DSM-5


WHAT IS AUTISM SPECTRUM DISORDER?
DSM-IV
Autistic Disorder
Asperger's Disorder
PDD-NOS
DSM-5
Autism Spectrum Disorder

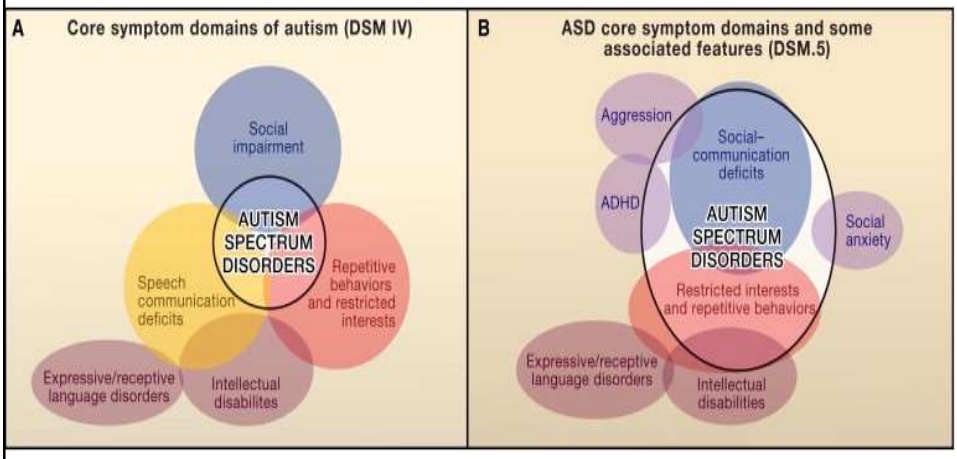


Figure1 The Changing Landscape of Autism (A and B) The three-domain model of autism in the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV) (A), compared with the two-domain model of DSM-V (B).

Catherine Lord (2011)

RATIONALE FOR CHANGES IN DSM-5

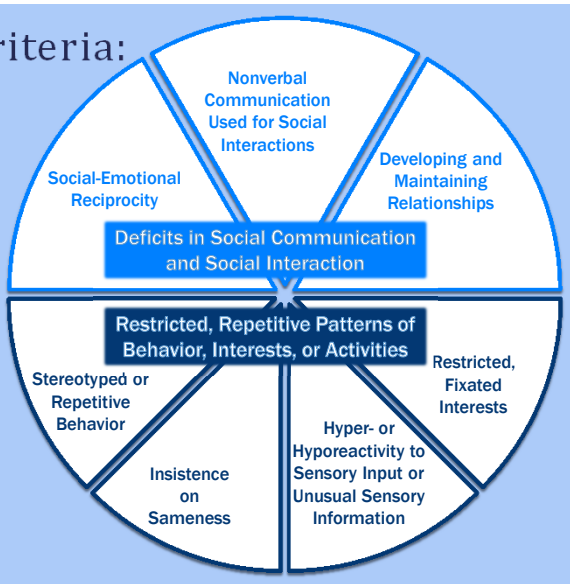
- Reflects research
  - Groups identified in DSM-IV are not necessarily stable over time (nor distinguishable from each other)
  - Clinical diagnosis assigned varies according to clinician making diagnosis and the clinic in which diagnosis made.
  - Language impairment criterion considered non-specific to ASD
- Improved specificity
  - Fewer false positives
- Includes important factors to be considered
  - Environmental features, intellectual functioning, language level, severity of symptoms, overall impairment

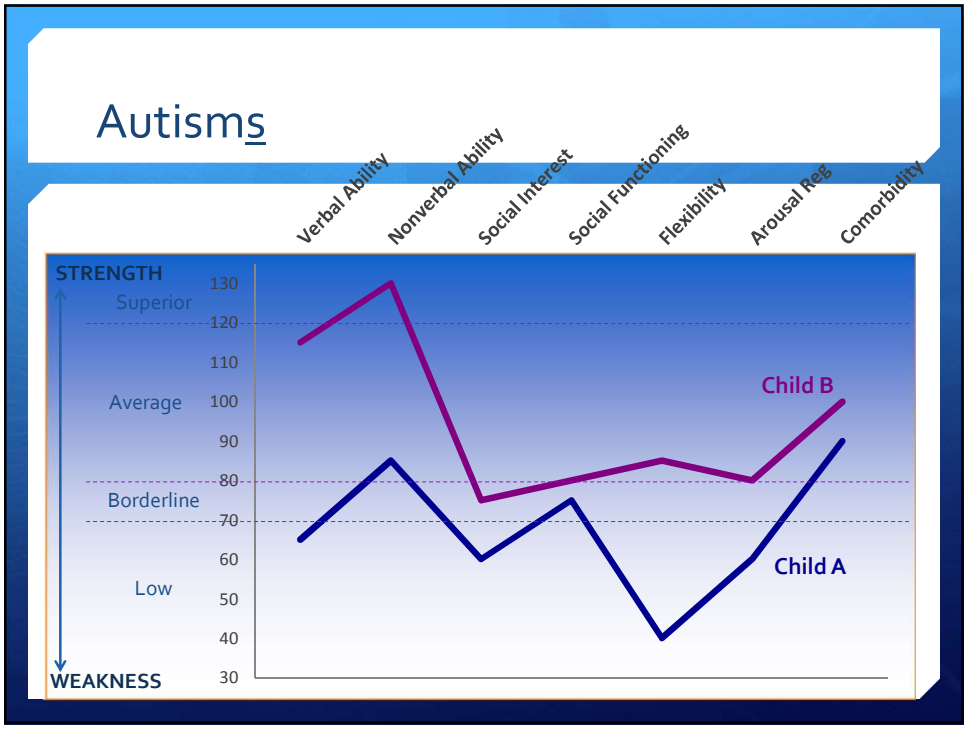
WHAT HAPPENED TO ASPERGER'S DISORDER?

1) Not differentiable from Autism as a distinct subgroup
2) Most children with Asperger's actually have a DSM communication impairment (e.g., inability to sustain back-and-forth conversation).
3) Most children with Asperger's have impairments in adaptive functioning/self-help skills

WHAT IS AUTISM SPECTRUM DISORDER?

DSM-5 Criteria:




Autisms
Verbal Ability
Nonverbal Ability
Social Interest
Social Functioning
Flexibility
Arousal Reg
Comorbidity
STRENGTH
Superior
Average
Borderline
Low
WEAKNESS
130
120
110
100
90
80
70
60
50
40
30
Child B
Child A


Specific Language Impairment

Specific Language Impairment (SLI)

- There is no SLI diagnosis in the DSM or ICD-10!
- SLI=research term not generally used by clinicians

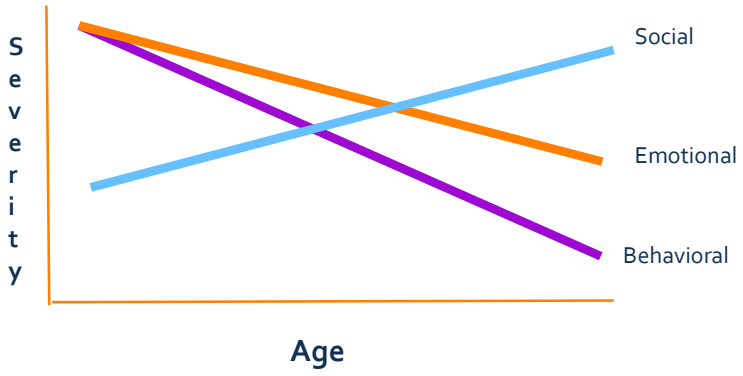
Operational Definitions of SLI

- **"Absolute Impairment" (performance below population average)**
  - e.g., CELF-5 Core Language Score 1 SD below mean (SS≤85)
- **Discrepancy from Aptitude**
  - e.g., Language Ability ≤ 1.5 SD below Nonverbal IQ
- **Scatter**
  - e.g., CELF-5 subtest score range ≥ 5 scaled score points
- **Selective impairments**
  - e.g., 2+ language-related subtests > 1 SD below mean

Do children with SLI have social impairments?

Yes!!!

Social Functioning in SLI



What This Tells Us

- Young children with SLI can have emotional/behavioral problems (e.g., secondary to communication impairments/frustration about not being able to communicate, etc.). Common comorbidities include: hyperactivity, inattention, social anxiety. These can sometimes look a lot like autism.
- Older children with a history of SLI can present with significant social/peer impairments. Older children with SLI who present for evaluation of concerns about social impairments can look a lot like children with ASD.

DSM-5's Answer to Social Impairments in SLI?

Social Communication Disorder

*Impairment of pragmatics. Diagnosed based on difficulty in the **social uses of verbal and nonverbal communication** in naturalistic contexts, which **affects the development of social relationships** and **discourse comprehension** and cannot be explained by low abilities in the domains of word structure and grammar or general cognitive ability.*

Or….. "Autism Light"?

Evidence-Based Assessment of ASD: Best Practices

- Clinical interview, developmental history
- Parent interviews & questionnaires
- Diagnostic observation instruments (e.g., ADOS)
- Intellectual assessment
  - Intellectual abilities associated with severity of autistic symptoms and are one of the best outcome predictors.
- Language assessment
  - Expressive language development other best predictor of outcome.
- Adaptive behavior assessment
  - Often lower than IQ in children with ASD→ Useful for treatment planning.

ADOS-2

Modules
(No expressive language to verbally fluent)

- Toddler (New for ADOS-2). Appropriate for children between 12 and 30 months of age who are not yet using flexible phrases
- Module 1 – For children 30 months and older *without* flexible phrase speech (2-3 word phrases).
- Module 2 – Some flexible phrase speech; not verbally fluent
- Module 3 – Verbally fluent (expressive language of a typical 4 year old) and playing with toys is appropriate
- Module 4 – Verbally fluent; more conversational

ADOS as a clinical instrument:

- Creates a "social world"
- Structured and unstructured activities
- Guidelines for "hierarchy" of examiner's behavior
- Dependent on examiner's experience and sensitivity (to act and not to act)

Vignettes

- 10-year-old male
  - ASD diagnosis at age 5 by school
  - ADHD diagnosis at age 9 by pediatrician
  - Mainstream classroom (pull-out for language-based academics, speech and language therapy, and occupational therapy).
- Intellectual:
  - Verbal: Low Average
  - Nonverbal: Average
  - Processing Speed: Impaired

- Language: CELF-5: Below Expectations
  - Core Language Index: SS=81
    - Word Classes: ss=9 (Average)
    - Following Directions: ss=5 (Low)
    - Formulated Sentences: ss=5 (Low)
    - Recalling Sentences: ss=9 (Average)
    - Semantic Relationships: ss=4 (Low)
- Adaptive: Age-Appropriate
- Behavioral: Mild concerns about anxiety

- Social
  - ADOS: Below Cut-Off
    - Observations:
      - Frequent Grammatical Errors
      - Occasional Unusual Intonation
      - Occasional awkward social overtures (e.g., slightly inappropriate questions)
      - Decreased understanding of social relationships
  - SCQ (parent questionnaire; historical ASD symptoms): Below Cut-Off
  - SRS (parent questionnaire; current social impairments): Below Cut-Off

Evidence-Based Assessment of ASD: Best Practices

?Yes	Developmental History
No	Parent Questionnaires/Interview
No	Intellectual Impairment
Yes	Language Impairment
No	Adaptive Impairment
Mild	Emotional/Behavioral Concerns

Diagnosis:

- Mixed Receptive-Expressive Language Disorder (DSM5: Language Disorder)
- Possible ADHD

SCD: "cannot be explained by low abilities in the domains of word structure and grammar"

- Can't diagnose SCD due to presence of frank structural language impairments????

Case 2

- 10-year-old boy
  - Asperger's Disorder diagnosis
  - ADHD diagnosis
  - Mainstream classroom
  - Behavioral supports; social skills groups (school-based); outpatient OT (past); outpatient counseling/therapy (past)

- Intellectual
  - Verbal: High Average
  - Nonverbal: Superior
  - Processing Speed: Average
  - Working Memory Average
- Language: Average
- Behavior:
  - Clinically Significant Anxiety and Somatic Complaints
  - Clinically Significant ADHD symptoms
- Adaptive:
  - Age-Appropriate Self-Help Skills and Functional Communication Skills
  - Age-Appropriate Interpersonal Relationships
  - Mild Weaknesses in Emotion Regulation and Play Skills

- Social:
  - ADOS: Did not meet criteria
    - Social Motivation
    - Effective Use of Nonverbal Communication (e.g., eye contact, gestures, facial expressions)
    - Reciprocal Communication
    - Spontaneously Labels Emotions
    - Significant inattention and hyperactivity
      - Sometimes misses social bids
    - Becomes very irritable/withdrawn when asked social-emotional questions.
  - SCQ: Met Criteria (Historical symptoms of ASD)
  - SRS: Met Criteria (Current symptoms of Social Impairment/ASD)

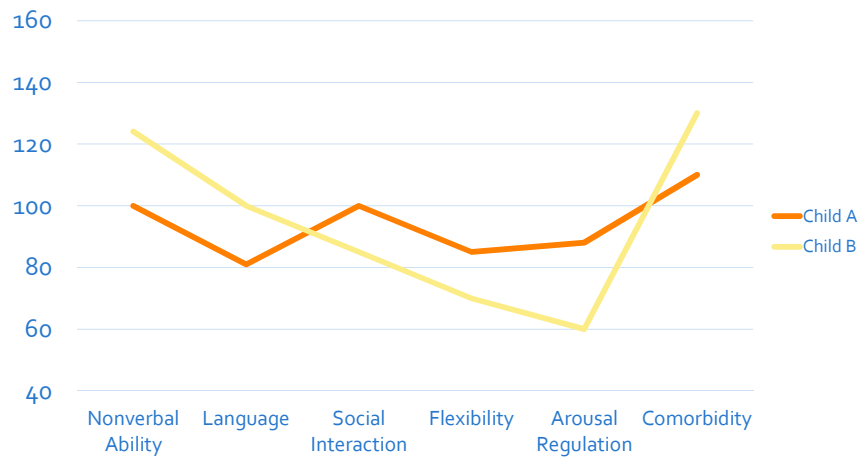
Evidence-Based Assessment of ASD: Best Practices

Yes	Developmental History
Yes	Parent Questionnaires/Interview
No	Intellectual Impairment
No	Language Impairment
No	Adaptive Impairment
Yes	Emotional/Behavioral Concerns

Diagnosis:

- Residual ASD ("Optimal Outcome") ?
- ADHD + Anxiety ?
- Cannot diagnose SCD due to parent report of RRB, as well as observed strong use of nonverbal communication strategies.

Comparing the Profiles



Conclusions

- Differential diagnosis in ASD requires comprehensive assessment and consideration of functioning in multiple domains.
- Children with developmental disorders other than ASD can present with social, behavioral, and emotional symptoms that are frequently overlapping with ASD and that can often be misdiagnosed as ASD.
- Even very experienced clinicians can have difficulty parsing apart these factors in making a diagnosis.
- The jury is still out on Social Communication Disorder. More research and more clinical experience are needed.
- Groups of children with ASD and/or SLI in research samples may be very different, depending on the criteria used.

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