

Disclosures

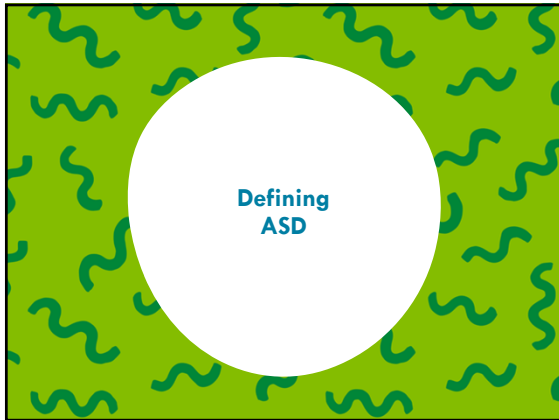
- As co-author of the *Vineland Adaptive Behavior Scales, Third Edition*, Dr. Saulnier receives royalties from Pearson
- As co-author of *Essentials of Autism Spectrum Disorders Evaluation and Assessment*, Dr. Saulnier Receives royalties from Wiley

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Learning Objectives

1. Define adaptive behavior & differentiate adaptive behavior from cognition or ability
2. Describe common profiles of adaptive functioning in ASD for individuals with and without cognitive impairment
3. Identify effective treatment strategies for enhancing adaptive functioning

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**Criteria for Autism Spectrum Disorder (299.0)
Diagnostic & Statistical Manual, 5th Edition (DSM-5)**

A. Persistent deficits in social communication and interactions across multiple contexts, as manifested by the following *currently or by history*:

1. Deficits in social-emotional reciprocity
2. Deficits in nonverbal communication behaviors used for social interaction
3. Deficits in developing, maintaining, and understanding relationships, ranging, e.g., 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

**Criteria for DSM-5
Autism Spectrum Disorder (299.0)**

B. Restricted, repetitive patterns of behavior, interests, and activities, as manifested by at least TWO of the following, *currently or by history*:

1. Stereotyped or repetitive speech, motor movements, or use of objects
2. Excessive adherence to routines, ritualized patterns of verbal or nonverbal behavior, or excessive resistance to sameness
3. Highly restricted, fixated interests
4. Hyper- or hypo-reactivity to sensory input or unusual interest in sensory aspects of behavior

**Criteria for DSM-5
Autism Spectrum Disorder (299.0)**

C. Symptoms must be present in early childhood (but may not become fully manifest until social demands exceed limited capacities)

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

E. Disturbances are not better explained by intellectual disability or global developmental delay.

Individuals with a well-established DSM-IV diagnosis of autistic disorder, Asperger's disorder, or PDD-NOS should be given the diagnosis of ASD

Clinical Specifiers for ASD (299.0)

1. With or without accompanying intellectual impairment
2. With or without accompanying language impairment ("no intelligible speech" vs. "phrase speech")
3. Associated with a known medical or genetic condition or environmental factor
4. Associated with another neurodevelopmental, mental, or behavioral disorder (can now include ADHD)
5. With Catatonia

Severity Levels for ASD (299.0)

- Level 1: Requiring Support
- Level 2: Requiring Substantial Support
- Level 3: Requiring Very Substantial Support

Current Epidemiological Statistics for ASD
www.cdc.gov/ncbddd/autism

IN THE GENERAL POPULATION:

- 1 in 68 (More prevalent than all childhood cancers combined)
- Male-Female Ratio:
 - 4-5 times higher in boys
- Median Age of Diagnosis: 4-5 years
 - Much later for disadvantaged populations
- When ASD can be reliably diagnosed:
 - 18-24 months when diagnosed by experienced clinicians
- Comorbidity with Intellectual Disability:
 - 32%

IN SIBLINGS OF CHILDREN WITH ASD:

- ASD: 1 in 5 (~20% risk)
- Broader Autism Phenotype ("shadow symptoms"): 1 in 5
- Non-ASD developmental delays: 1 in 10

Comprehensive Diagnostic Evaluations for ASD

Diagnostic Evaluations are Two-Fold:

1. Need for conducting a thorough developmental history
 - Parent/Caregiver report
 - Teacher report (older children)
2. Need for conducting direct testing with the child
 - Profile of developmental/cognitive skills
 - Profile of speech/language/communication skills
 - Profile of adaptive behavior
 - Direct observations of social-communication, play/interaction skills, & restricted, repetitive and unusual behaviors (i.e. diagnostic assessment for autism symptomatology)

**Assessment
of
Adaptive Behavior**

Defining Intellectual Disability in the DSM-5

- Deficits in cognitive functioning (“scores of approximately two standard deviations or more below the mean”)
- Deficits in adaptive functioning (e.g., communication, daily living, social participation, and independent living)
- Onset in the developmental period

Severity Levels: Defined by adaptive functioning rather than IQ level (different from DSM-IV)

- Mild
- Moderate
- Severe
- Profound



Differentiating Cognitive Ability from Adaptive Functioning

- **Cognitive ability** is generally defined as an individual's repertoire of skills that are either innate or acquired.
 - Skills that an individual is *capable* of performing
- **Adaptive Behavior** is generally defined as performance of skills that are necessary for personal and social sufficiency.
 - Skills an individual *does* perform, *independently*, in daily activities and routines



Characteristics of Adaptive Behavior

Age-related

Defined by the expectations/standards of others

Defined by typical performance, not ability

Modifiable (can change over time)

Adequate is the appropriate goal



**Adaptive Communication:
Typical Development**

VIDEO



Vineland Adaptive Behavior Scales
(Sparrow, Balla, & Cicchetti, 1984 & 2005; Sparrow, Cicchetti, & Saulnier, 2016)

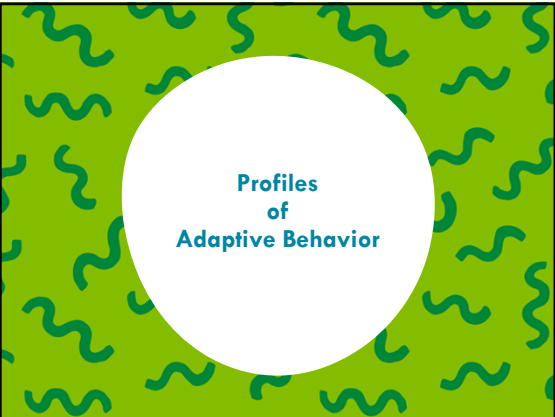
1. Interview Form*
2. Parent/Caregiver Form
3. Teacher Form

*Semi-structured interview with a caregiver is considered the Gold Standard

Domains of Functioning (birth – 90 years)

- **Communication:** Receptive; Expressive; Written
- **Daily Living:** Personal; Domestic; Community
- **Socialization:** Interpersonal; Play/Leisure; Coping
- **Motor:** Fine; Gross Motor
- **Maladaptive Behavior Index**





**Profiles
of
Adaptive Behavior**

Profiles of Adaptive Behavior in ASD

Historically

Adaptive skills are often delayed & found to fall significantly below age & IQ in ASD

Volkmar et al., 1987; Carter et al., 1998; Klin et al., 2007

More Recently

Standard scores are found to be higher than IQ in children with intellectual disability & ASD

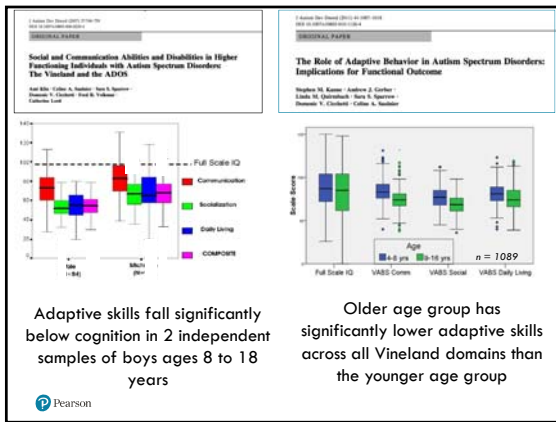
Perry et al., 2009; Kanne et al., 2010

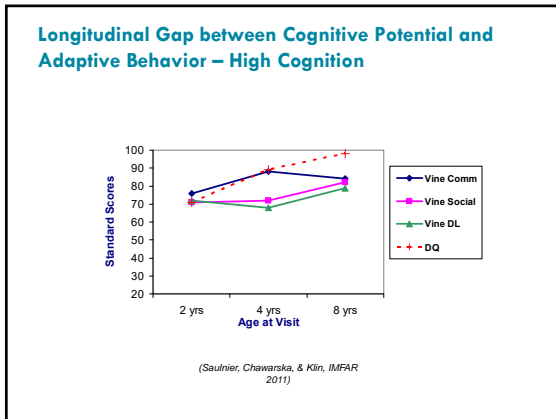
Of Concern

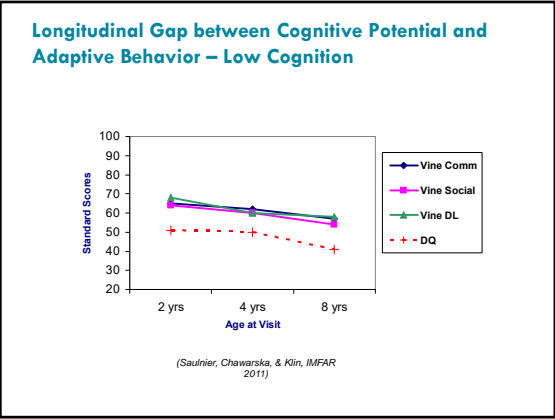
The gap between cognitive ability and adaptive functioning appears to widen with age

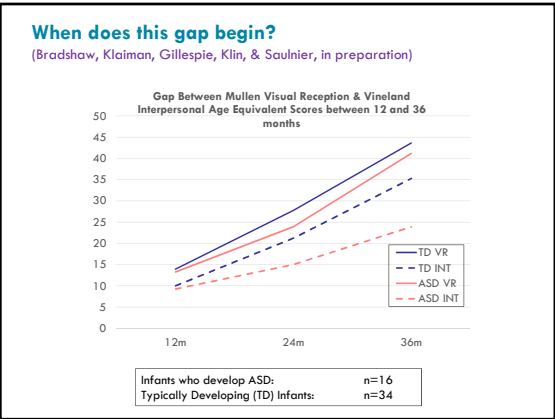
Klin et al., 2007; Saulnier & Klin, 2007; Kanne et al., 2010











What Predicts "Good Outcome"?

- Best predictors of good outcome = intact IQ and functional language by age 5
Paul & Cohen, 1984; Howlin et al., 2004
- The majority of adults fail to achieve independent levels of employment and living, & fail to develop successful relationships
Billsedt, Gillberg, & Gillberg, 2005; Eaves & Ho, 2008; Howlin et al., 2004
- Adaptive skills may be a better predictor of positive adult outcome than IQ and language level, alone
Farley et al., 2009

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Social Outcomes in Mid- to Later Adulthood Among Individuals Diagnosed With Autism and Average Nonverbal IQ as Children
JOURNAL OF THE AMERICAN ACADEMY OF CHILD & ADOLESCENT PSYCHIATRY
VOLUME 52 NUMBER 6 JUNE 2013
Patricia Howlin, M.D., Philippe Mass, M.D., Sarah Savage, M.D., Michael Rubi, M.D.

Outcome assessed by:

- Educational Attainments
- Social Functioning
- Residential Status
- Occupation
- Friendships

First Adult Assessment - Age 26 yrs Second Adult Assessment - Age 46 yrs

Assessment	Age	Good/Very Good	Fair	Poor/Very Poor
First Adult Assessment	26 yrs	52%	24%	24%
Second Adult Assessment	46 yrs	59%	23%	18%

Legend: Good/Very Good (blue), Fair (red), Poor/Very Poor (green)

The Impact of ASD Interventions on Adaptive Behavior

NEW RESEARCH

Effect of Parent Training on Adaptive Behavior in Children With Autism Spectrum Disorder and Disruptive Behavior: Results of a Randomized Trial
Journal of Autism and Developmental Disorders
Volume 43, Number 7, July 2013
www.jaad.com

Randomized, Controlled Trial of an Intervention for Toddlers With Autism: The Early Start Denver Model
Journal of Autism and Developmental Disorders
Volume 43, Number 7, July 2013
www.jaad.com

Effects of intensive and parent training on adaptive functioning in children with pervasive developmental disorders and serious behavioral problems
Journal of Autism and Developmental Disorders
Volume 43, Number 7, July 2013
www.jaad.com

Effects of Cognitive Behavioral Therapy on Daily Living Skills in Children with High-Functioning Autism and Concurrent Anxiety Disorders
Journal of Autism and Developmental Disorders
Volume 43, Number 7, July 2013
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How do we translate test results into meaningful recommendations for treatment, intervention, and functional independence into adulthood?

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IDEA Eligibility

Eligibility is not automatic with a diagnosis of ASD!

- The needs of the child must demonstrate an inability/impairment regarding “access to the general curriculum”
- This calls for attention to social & adaptive functioning in addition to academic functioning



Vineland-II Assessment Scores & Interpretation

9 Year-old Male with Autism; Full Scale IQ = 119

Domains and Subdomains	Standard V.Scores	Percentile Rank	Adaptive Level	Age Equivalent
Communication	61	10	Moderately Low	
Receptive	10		Moderately Low	3 years, 7 months
Expressive	11		Moderately Low	3 years, 8 months
Written	14		Adequate	8 years, 10 months
Daily Living Skills	88	16	Moderately Low	
Personal	12		Moderately Low	6 years, 8 months
Domestic	13		Adequate	7 years, 4 months
Community	13		Adequate	8 years, 5 months
Socialization	68	2	Low	
Interpersonal Relationships	9		Low	2 years, 11 months
Play and Leisure Time	10		Moderately Low	4 years, 8 months
Coping Skills	9		Low	3 years, 11 months
Adaptive Behavior Composite	76	5	Moderately Low	

Though Communication & DLS may be in “average range”, scores fall 2 SDs below IQ

Socialization scores fall substantially below both age and IQ

Also beware of high Written subdomain scores in comparison to significantly lower Receptive & Expressive scores. This profile often inflates the Communication Domain scores and reflects the affinity for numbers, letters, reading, & writing often observed in ASD



Writing up Vineland Results in a Written Report

- Provide an overall summary of performance (ABC & Domain Standard Scores)
- Comparison to chronological age expectations
- Comparison to mental-age expectations (i.e., IQ)
- Provide description of Strengths & Weaknesses per subdomains
- Identify topic areas for intervention
 - Dressing
 - Toileting
 - Conversation with peers



Recommended Resources



Adaptive Living Skills Curriculum (Bruininks, Morreau, Gilman, & Anderson):

- Employment Skills
- Community Living Skills
- Home Living Skills
- Personal Living Skills

Infancy – 40+ years

Acknowledgments

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John Kamp, PhD



Many thanks to all the children and families that contribute to our knowledge and understanding of adaptive behavior!

Thank you for attending!

Questions?



