



USC University of
Southern California

Developmental-Behavioral Pediatrics (DBP)

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CHLA Developmental-Behavioral Pediatrics Division Chief

L.A. Care Children's Health Conference In Collaboration with First 5 LA
and Los Angeles County Department of Public Health

May 19, 2022, 9:00 am - 12:00 pm PST, 3 CME/CE Credits

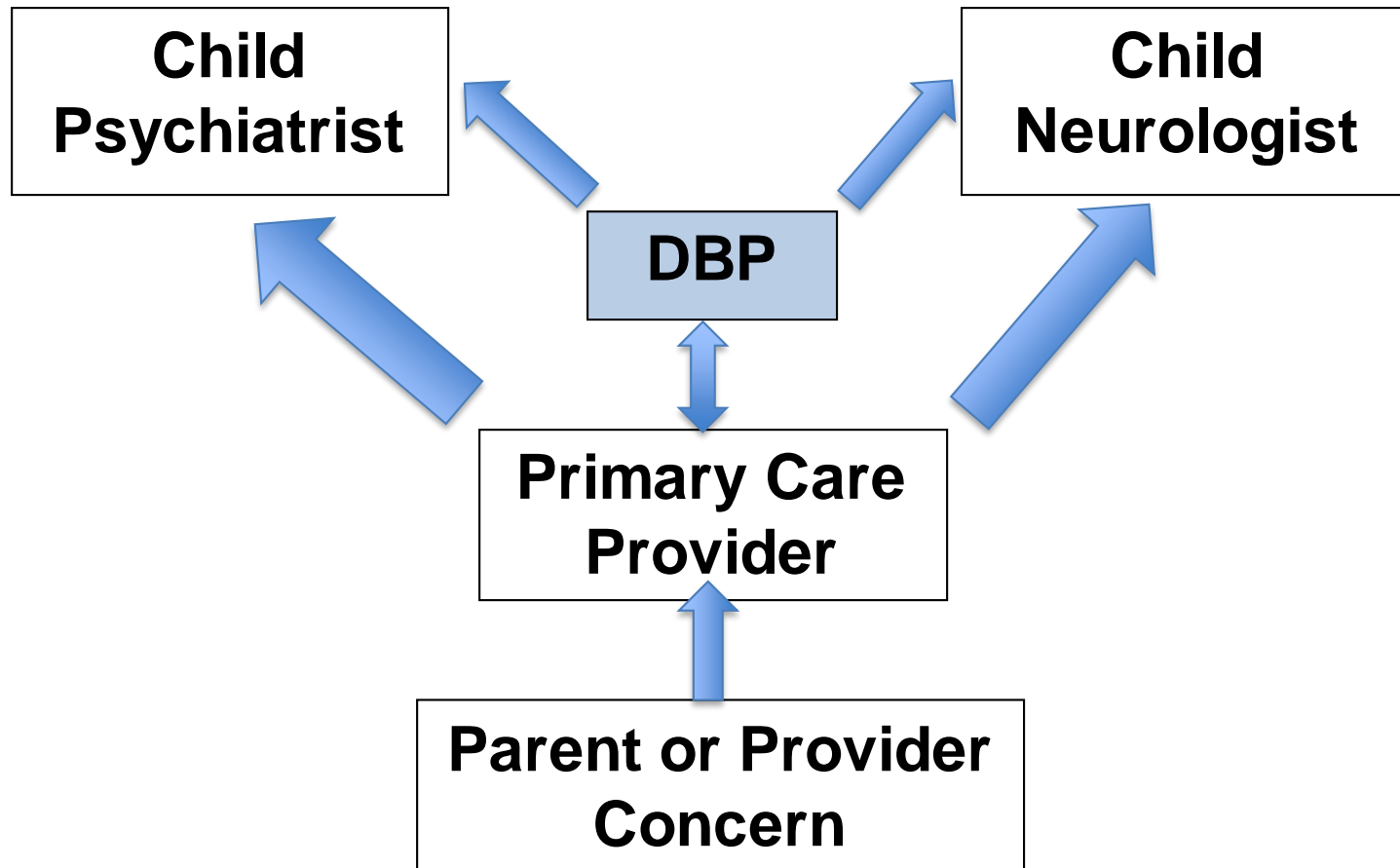
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- Surgeon General Youth Mental Health-
 - 1 in 5 children- emotional/developmental/behavioral disorder
 - leading cause disability and poor life outcomes
- High school students' experiences during the pandemic:
 - 50% experienced emotional abuse
 - 44% felt persistent sadness/hopelessness
 - 20% seriously considered and 9% attempted suicide past year
 - Females>males; LGB>heterosexual
 - American Indian/Alaska Native (AI/AN) highest suicide attempts
 - 36% experienced racism in school
 - 64% Asian, 55% Black, 55% multiracial, 23% White, 27% AI/AN
- United States Preventative Task Force screening
 - 8 to 18 yrs Anxiety
 - 12 to 18 yrs Depression

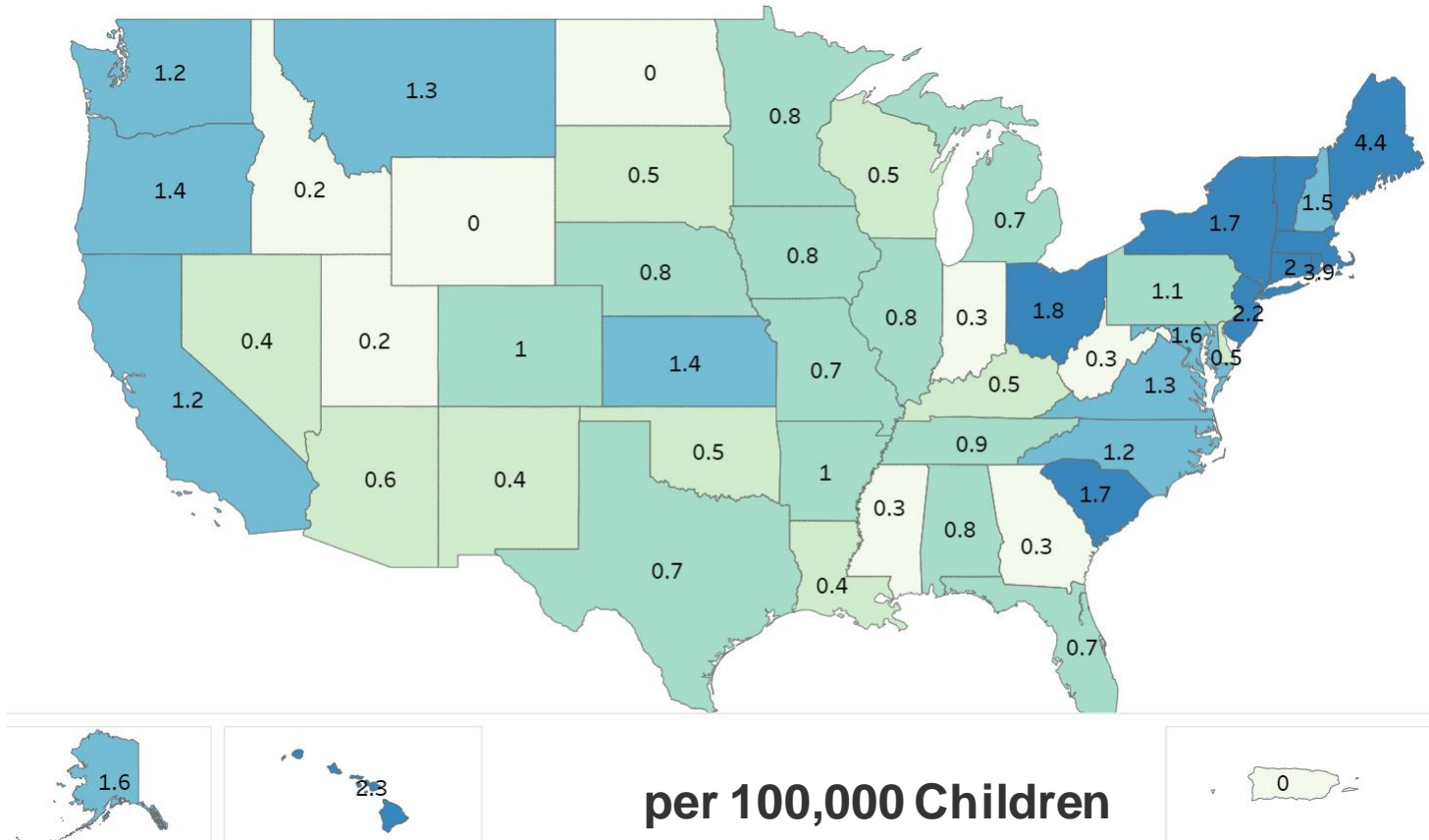
1. Define the DBP perspective and scope of practice understanding the biopsychosocial origins of DBP disorders.
2. Specify 4 screening tools to help diagnose patients with concerns for developmental delay, ADHD and autism.
3. Identify 2 evidence-based therapy and 2 medication interventions for ADHD and ASD.
4. Recognize the role of Adverse Childhood Experiences (ACEs) / trauma exposure / racism in DBP conditions.

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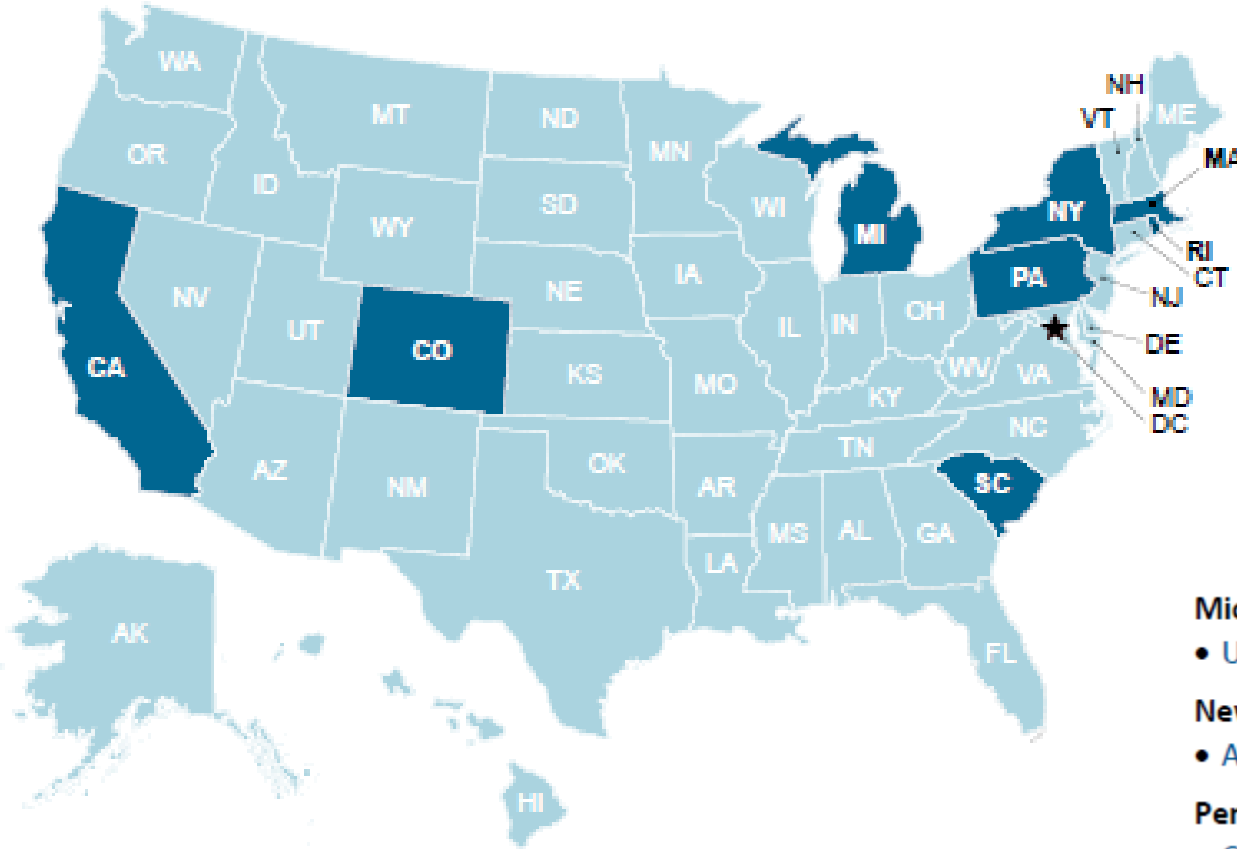
- **Developmental-Behavioral Pediatrics**
- Boarded subspecialty of pediatrics (3 more years)
- Focuses on the normal processes of change in functional domains
 - motor skills, thinking, communication, social and emotional functioning and behavior regulation
- Evaluates and manages infants, children, adolescents, and youth
 - with or at risk for developmental-behavioral disorders
 - with developmental delays in a functional domain
- Examples of diagnoses
 - Normal range, autism spectrum, ADHD, depression, learning disability, learning style difference, disruptive behavior, etc.



- 116 DBPs in-training
- 818 ever certified DBPs
- 106 DBPs in CA (#19th in US)
- 45 accredited fellowship programs
- 53 years average age



Maternal and Child Health Bureau DBP Programs



PROGRAM LOCATIONS

California

- Children's Hospital Los Angeles
- Stanford University
- University of California, Davis

Colorado

- University of Colorado, Aurora

Massachusetts

- Boston Children's Hospital
- Boston Medical Center
- Tufts Medical Center

Michigan

- University of Michigan

New York

- Albert Einstein College of Medicine

Pennsylvania

- Children's Hospital of Philadelphia

Rhode Island

- Rhode Island Hospital, Providence

South Carolina

- Medical University of South Carolina, Charleston

1 in 6 children

Attention Deficit Hyperactivity Disorder	11%
Autism Spectrum Disorder	1/44
Cerebral Palsy	1/345
Intellectual Disability	1%
Hearing Impairment	2 per 1,000
Learning Disability	8%
Speech & Language Delay/Disorder	Expressive language delay: 18% by 36 mo Language impairment: 7% by kindergarten
Any Developmental Delay	7%

20% behavioral/emotional disorder

- Internalizing Behaviors
 - Anxiety disorders- Separation and Reactive attachment
 - Mood disorders / Suicidal behavior
 - Obsessive-compulsive behavior
- Externalizing Conditions
 - Aggressive behavior
 - Oppositional defiant disorder (ODD)/Conduct disorder (CD)
 - Attention Deficit Hyperactivity Disorder (ADHD)
- Substance Use/Abuse
- Child Abuse and Neglect
 - Parental Depression and PTSD
 - Domestic Violence and Munchausen by proxy
- Somatoform Disorders and Pain
- Sleep Problems
- Feeding and Eating Problems
- Elimination Disorders

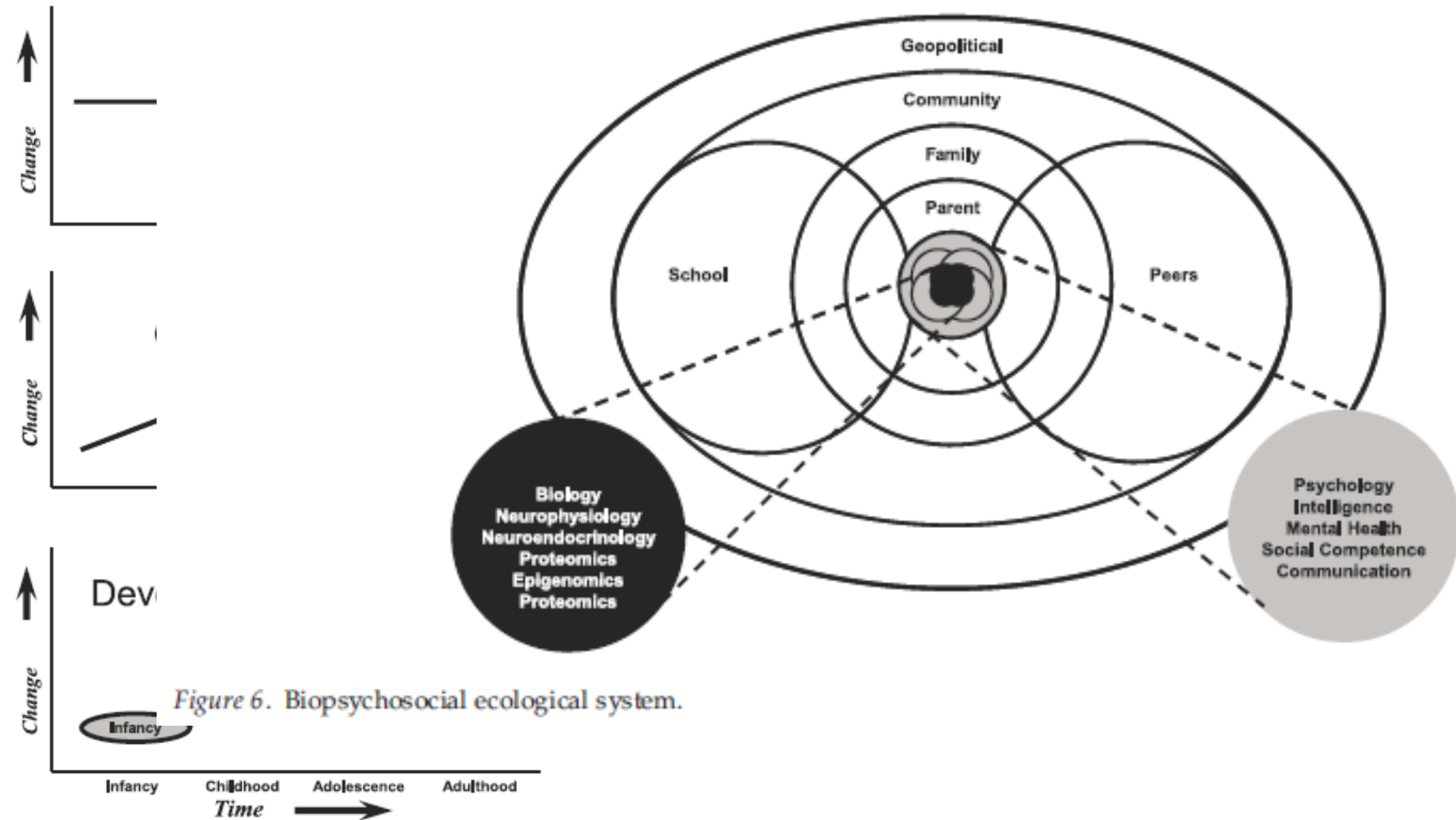


Figure 3. Personal change depicted as a trait, growth, or development.

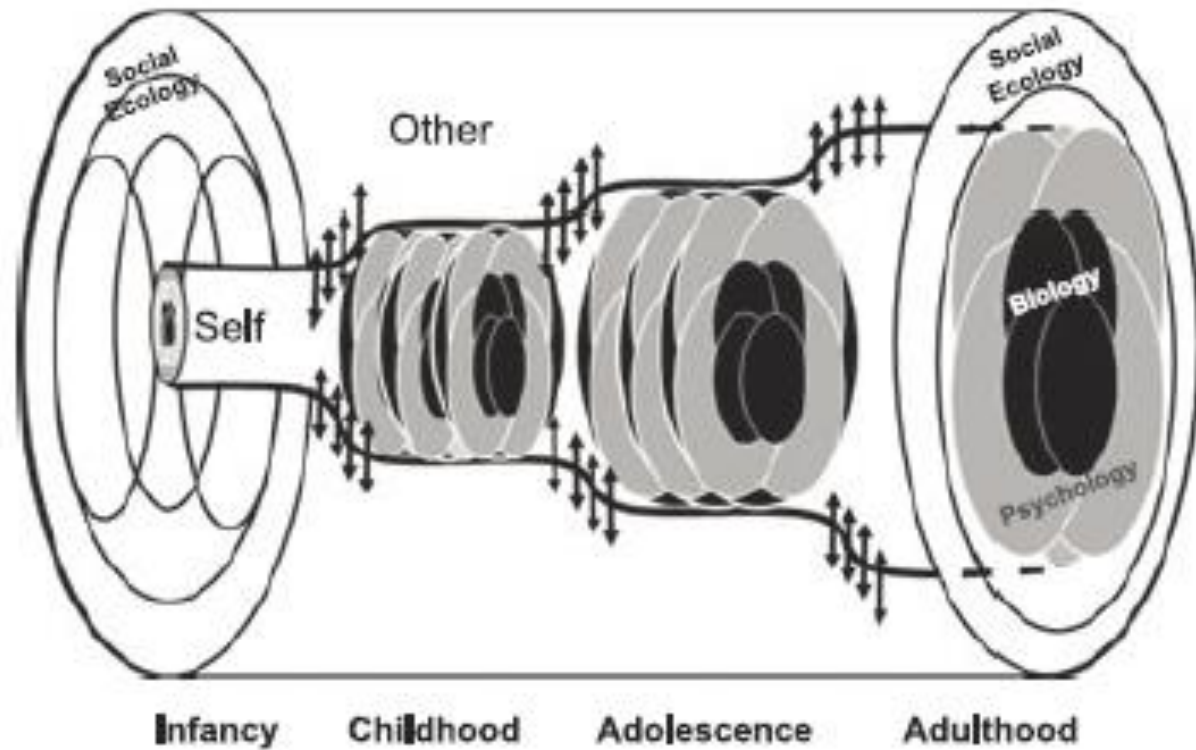
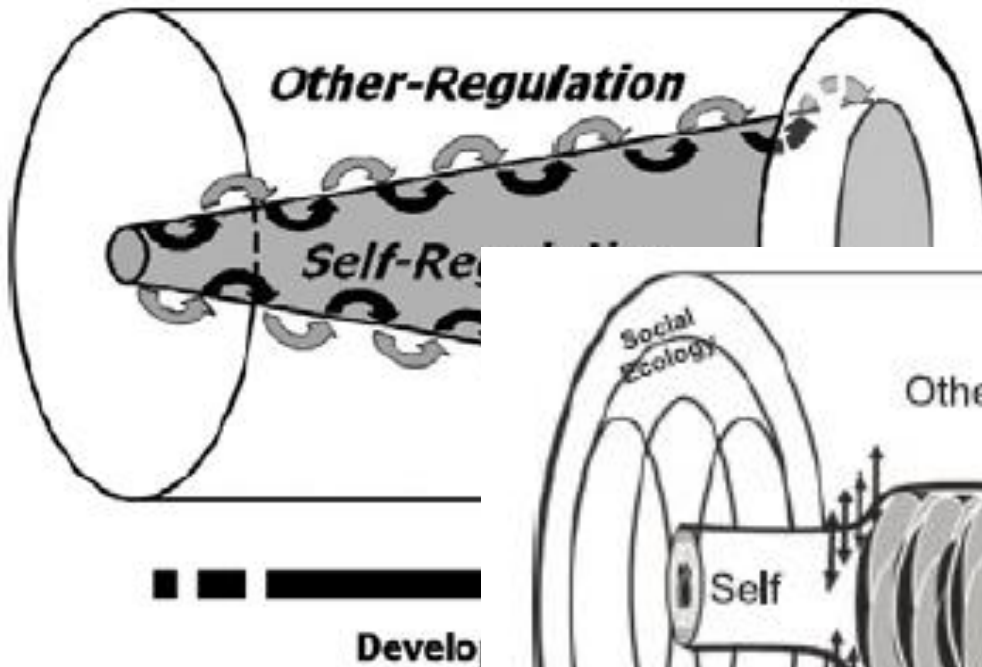


Figure 7. Unified theory of development including the personal change, context, and regulation models. Sameroff, 2010

HEALTH DEVELOPMENT TRAJECTORIES

Patterns of changes in health assets over time, affected by environmental and intrinsic factors.

1

LATENT EFFECTS

Resulting from experiences, particularly during sensitive periods, that influence health later in life.

2

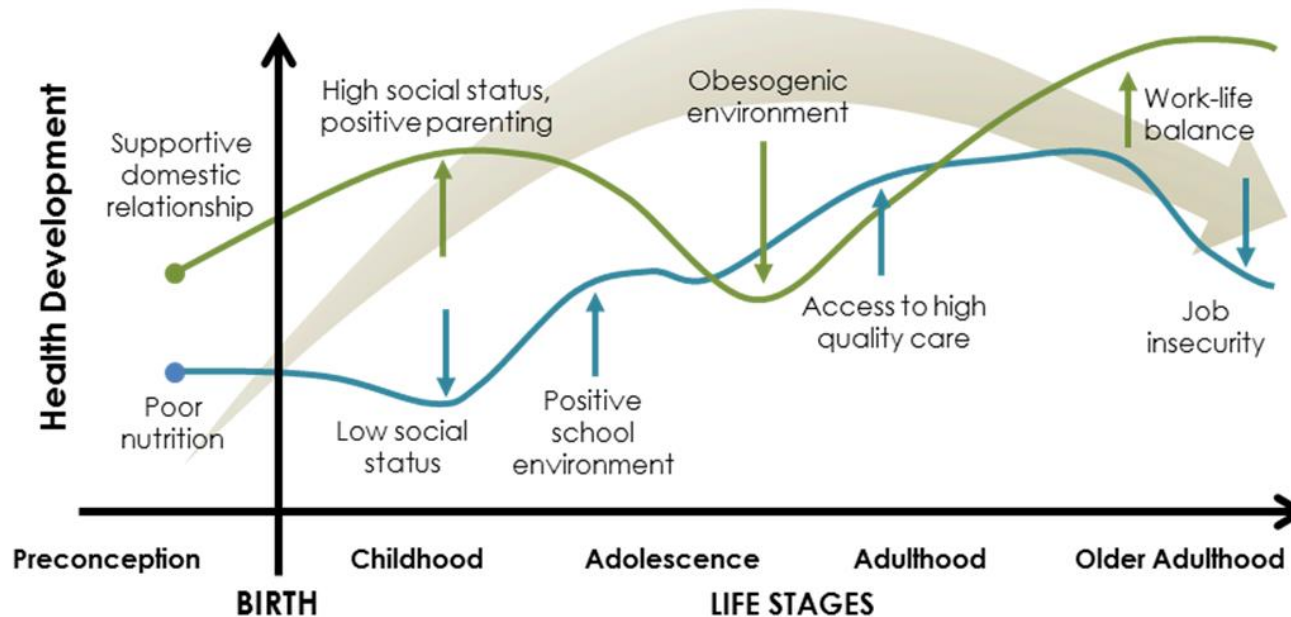
PATHWAY EFFECTS

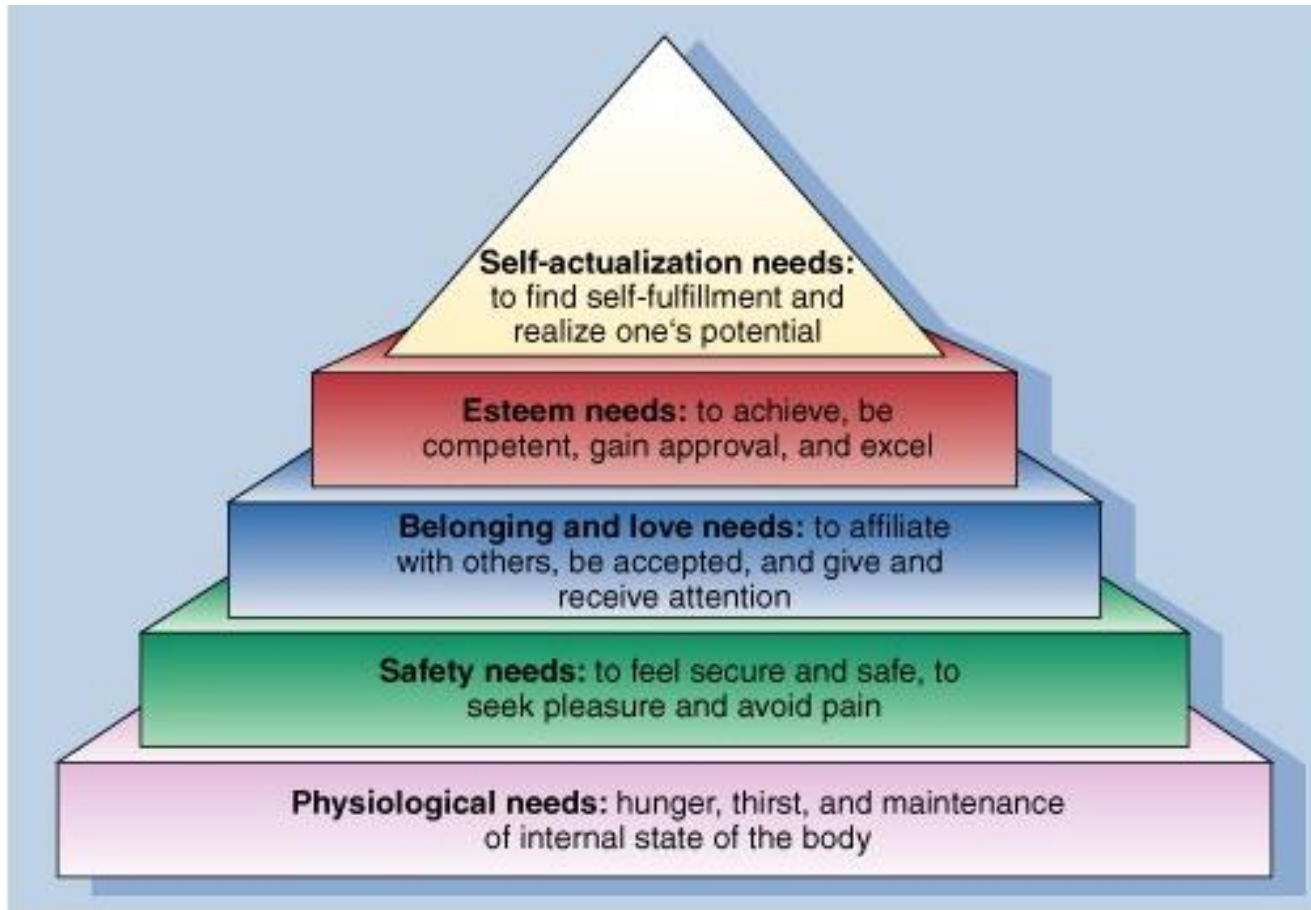
Resulting from experiences that set people on certain health development trajectories.

3

CUMULATIVE EFFECTS

Resulting from experiences that accumulate over time & manifest in health. (Combination of latent and pathway effects)





Data based on Hierarchy of Needs in "A Theory of Human Motivation" in *Motivation and Personality* by Abraham H. Maslow. Copyright © 1979 by Abraham H. Maslow. Reprinted by permission of Harper & Row Publishers, Inc. © 2000 John Wiley & Sons, Inc.

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- Developmental delay-
 - ASQ- <https://agesandstages.com/> (0-5 years)
 - SWYC- <https://www.tuftschildrenshospital.org/the-survey-of-wellbeing-of-young-children/overview> (0-5 ½ years)
 - PEDS- <https://www.pedstest.com/> (0-8 years)
- ADHD-
 - Vanderbilt ADHD Rating Scales- <https://www.nichq.org/resource/nichq-vanderbilt-assessment-scales>
 - Conners Rating Scale- <https://www.pearsonassessments.com/store/usassessments/en/Store/Professional-Assessments/Behavior/Comprehensive/Conners-3rd-Edition/p/100000523.html>
- Autism-
 - MCHAT-R- <https://mchatscreen.com/>
 - Communication and Symbolic Behavior Scales Developmental Profile- <https://brookespublishing.com/product/csbs-dp/>
 - Childhood Autism Spectrum Test- <https://www.autismresearchcentre.com/tests/childhood-autism-spectrum-test-cast/> (5-11 years)

- 4 1/2 year old male
 - poor attention and social interaction problems in preschool
 - talks back to the teacher and doesn't mind his parents at home
 - having difficulties learning to read letters
 - parents don't agree on the reasons for his problems and argue frequently.
 - No significant past medical history
 - father had trouble in school

- What do you want to know?
- What's your differential?
- Screening tools?
- What would you do?



SWYC:
48 months

47 months, 0 days to 58 months, 31 days
V1.08, 9/1/19

Child's Name:

Birth Date:

Today's Date:

DEVELOPMENTAL MILESTONES			
Most children at this age will be able to do some (but not all) of the developmental tasks listed below. Please tell us how much your child is doing each of these things. PLEASE BE SURE TO ANSWER ALL THE QUESTIONS.			
	Not Yet	Somewhat	Very Much
Compares things - using words like "bigger" or "shorter"	0	1	2
Answers questions like "What do you do when you are cold?" or "...when you are sleepy?"	0	1	2
Tells you a story from a book or tv	0	1	2
Draws simple shapes - like a circle or a square	0	1	2
Says words like "feet" for more than one foot and "men" for more than one man	0	1	2
Uses words like "yesterday" and "tomorrow" correctly	0	1	2
Stays dry all night	0	1	2
Follows simple rules when playing a board game or card game	0	1	2
Prints his or her name	0	1	2
Draws pictures you recognize	0	1	2

PRESCHOOL PEDIATRIC SYMPTOM CHECKLIST (PPSC)				
These questions are about your child's behavior. Think about what you would expect of other children the same age, and tell us how much each statement applies to your child.				
	Not at all	Somewhat	Very Much	
Does your child...	Seem nervous or afraid?	0	1	2
	Seem sad or unhappy?	0	1	2
	Get upset if things are not done in a certain way?	0	1	2
	Have a hard time with change?	0	1	2
	Have trouble playing with other children?	0	1	2
	Break things on purpose?	0	1	2
	Fight with other children?	0	1	2
	Have trouble paying attention?	0	1	2
	Have a hard time calming down?	0	1	2
	Have trouble staying with one activity?	0	1	2
Is your child...	Aggressive?	0	1	2
	Fidgety or unable to sit still?	0	1	2
	Angry?	0	1	2
Is it hard to...	Take your child out in public?	0	1	2
	Comfort your child?	0	1	2
	Know what your child needs?	0	1	2
	Keep your child on a schedule or routine?	0	1	2
	Get your child to obey you?	0	1	2

PARENT'S CONCERNS			
	Not At All	Somewhat	Very Much
Do you have any concerns about your child's learning or development?	0	1	2
Do you have any concerns about your child's behavior?	0	1	2

FAMILY QUESTIONS				
Because family members can have a big impact on your child's development, please answer a few questions about your family below:				
	Never true	Sometimes true	Often true	
1 Does anyone who lives with your child smoke tobacco?				Yes No
2 In the last year, have you ever drunk alcohol or used drugs more than you meant to?				Y N
3 Have you felt you wanted or needed to cut down on your drinking or drug use in the last year?				Y N
4 Has a family member's drinking or drug use ever had a bad effect on your child?				Y N
5 Within the past 12 months, we worried whether our food would run out before we got money to buy more.	0	1	2	
<i>Over the past two weeks, how often have you been bothered by any of the following problems?</i>				
	Not at all	Several days	More than half the days	Nearly every day
6 Having little interest or pleasure in doing things?	0	1	2	3
7 Feeling down, depressed, or hopeless?	0	1	2	3
8 In general, how would you describe your relationship with your spouse/partner?	No tension 0	Some tension 1	A lot of tension 2	Not applicable 0
9 Do you and your partner work out arguments with:	No difficulty 0	Some difficulty 1	Great difficulty 2	Not applicable 0
10 During the past week, how many days did you or other family members read to your child?	0	1	2	3 4 5 6 7

FORM	Age (m)	Needs Review	Appears to meet age expectations
36m	38-39	≥13	≤14
	40-41	≤14	≥15
	42-43	≤15	≥16
	44-46	≤16	≥17
48m	47	≤12	≥13
	48-50	≤13	≥14
	51-53	≤14	≥15
	54-57	≤15	≥16
60m	58-65	No Milestones cut scores available	

NICHQ Vanderbilt Assessment Scale – PARENT Informant*

Today's Date: _____ Child's Name: _____ Date of Birth: _____

Parent's Name: _____ Parent's Phone Number: _____

Directions: Each rating should be considered in the context of what is appropriate for the age of your child. When completing this form, please think about your child's behaviors in the past 6 months.

Is this evaluation based on a time when the child was on medication was not on medication not sure?

Symptoms	Never	Occasionally	Often	Very Often
1. Does not pay attention to details or makes careless mistakes with, for example, homework	0	1	2	3
2. Has difficulty keeping attention to what needs to be done	0	1	2	3
3. Does not seem to listen when spoken to directly	0	1	2	3
4. Does not follow through when given directions and fails to finish activities (not due to refusal or failure to understand)	0	1	2	3
5. Has difficulty organizing tasks and activities	0	1	2	3
6. Avoids, dislikes, or does not want to start tasks that require ongoing mental effort	0	1	2	3
7. Loses things necessary for tasks or activities (toys, assignments, pencils, or books)	0	1	2	3
8. Is easily distracted by noises or other stimuli	0	1	2	3
9. Is forgetful in daily activities	0	1	2	3
10. Fidgets with hands or feet or squirms in seat	0	1	2	3
11. Leaves seat when remaining seated is expected	0	1	2	3
12. Runs about or climbs too much when remaining seated is expected	0	1	2	3
13. Has difficulty playing or beginning quiet play activities	0	1	2	3
14. Is "on the go" or often acts as if "driven by a motor"	0	1	2	3
15. Talks too much	0	1	2	3
16. Blurts out answers before questions have been completed	0	1	2	3
17. Has difficulty waiting his or her turn	0	1	2	3
18. Interrupts or intrudes in on others' conversations and/or activities	0	1	2	3
19. Argues with adults	0	1	2	3
20. Loses temper	0	1	2	3
21. Actively defies or refuses to go along with adults' requests or rules	0	1	2	3
22. Deliberately annoys people	0	1	2	3

1. Child and Parent interview:
 - medical evaluation
 - developmental history
 - psychosocial history
 - family mental health history
2. Behavioral rating scales
3. Assess functional impairment / safety
4. Consider differential possibilities
5. Apply Diagnostic Statistic Manual (DSM-5) criteria

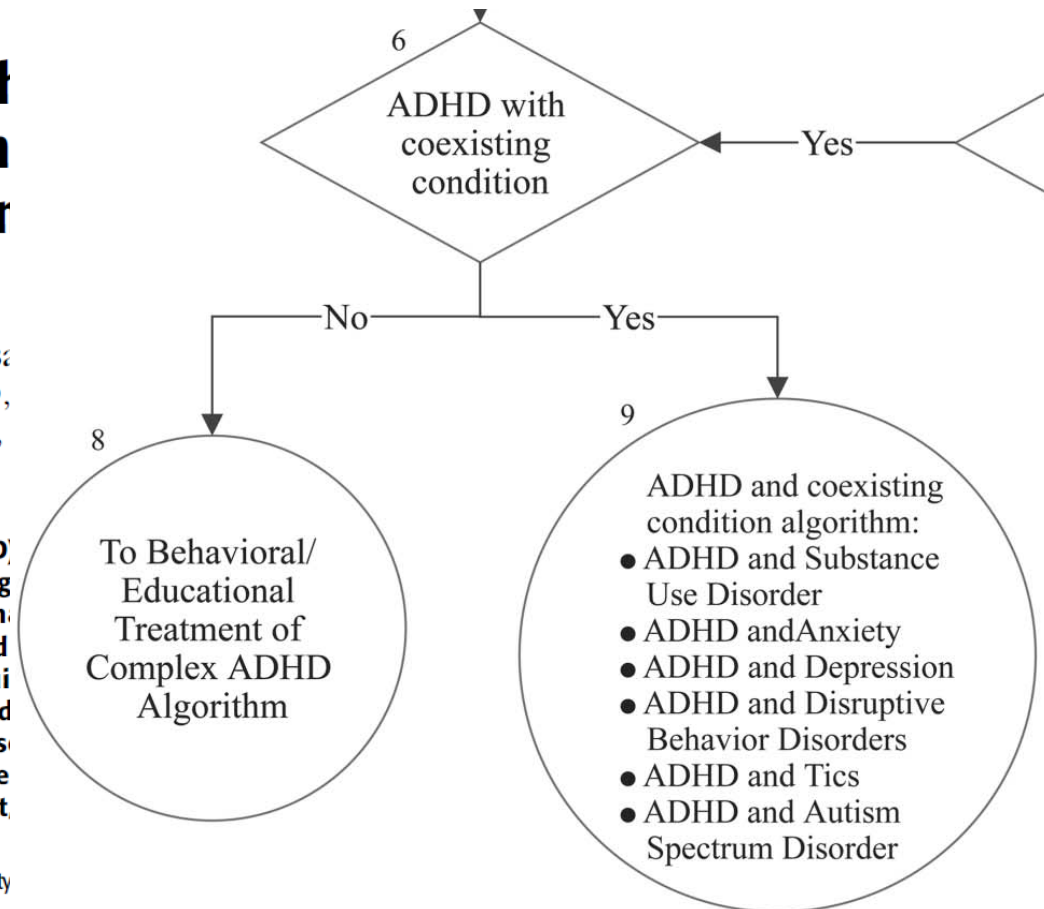
- Hyperactivity, impulsivity, inattention
- Reaches a defined threshold for 6 months
- 2 or more settings
- Symptoms before age 12
- Functional impairment- social, academic, occupational

Society for Developmental and Behavioral Practice Guideline for the Assessment of Children and Adolescents with Complex ADHD

William J. Barbaresi, MD (Guideline Panel Chair),* Lisa Elizabeth A. Diekroger, MD,‡ Tanya E. Froehlich, MD, William E. Pelham Jr, PhD, ABPP,** Thomas J. Power, Eugenia Chan, MD, MPH*

ABSTRACT: Attention-deficit/hyperactivity disorder (ADHD) is associated with an array of coexisting conditions (e.g., anxiety, depression, substance use disorder, tic disorder, autism spectrum disorder), placing the affected child at risk for poor social outcomes in adulthood. Current practice guidelines recommend integrated, interprofessional assessment and treatment in the primary care setting. The Society for Developmental and Behavioral Practice guideline to facilitate integrated, interprofessional assessment and treatment of children and adolescents with “complex ADHD” defined by age (<4 years or >12 years), coexisting conditions, moderate to severe functional impairment, and uncertainty or poor response to treatment.

(*J Dev Behav Pediatr* 41:S1-S23, 2020) **Index terms:** attention-deficit/hyperactivity



Complex ADHD = <4 or >12 years, co-exist conditions, >Moderate impairment, uncertainty, poor response to treatment

- **Externalizing Disorders**
 - Oppositional defiant disorder
 - Conduct disorder
- **Internalizing Disorders**
 - Mood Disorders
 - Major depressive disorder
 - Dysthymic disorder
 - Anxiety Disorders
 - Post-traumatic stress disorder
 - Obsessive compulsive disorder
 - Panic disorder
 - Generalized anxiety disorder
 - Phobias
- **Cognitive Deficits**
 - Learning disabilities
 - Language disorders
- **Motoric Conditions**
 - Developmental coordination disorder
 - Tourette's or chronic tic disorder
- **ASD**
- **Medical Conditions**
 - Sleep problems

Learning disability	40%
Oppositional defiant disorder	40%
Any Mental disorder	45%
Anxiety disorders	30%
Conduct disorder	26%
Depressive disorder	18%
Substance use disorders	14%
Compulsive disorder	15%
Bipolar disorder	11%
Tics	8%

- Grades
- School screener or IEP
- Family History of learning problems
- Office screeners
 - Parent Questionnaire
 - <http://dyslexiatest.me/>
 - One Minute Reading Test
 - <https://www.dyslexia-international.org/content/Informal%20tests/oneminutereadingtest.pdf>

Screen for Child Anxiety Related Disorders (SCARED) Parent Version

<i>Directions: Below is a list of sentences that describe how people feel. Read each phrase and decide if it is "Not True or Hardly Ever True", or "Somewhat True or Sometimes True", or "Very True or Very Often True" for your child. Then, for each sentence, write the number that corresponds to the response that seems to describe your child <u>for the last 3 months</u>.</i>	0 = Not True or Hardly Ever True 1= Somewhat True or Sometimes True 2= Very True or Often True
1. When my child feels frightened, it is hard for him/her to breathe.	
2. My child get headaches when he/she is at school.	
3. My child doesn't like to be with people he/she doesn't know well.	
4. My child gets scared if he/she sleeps away from home.	
5. My child worries about other people liking him/her.	
6. When my child gets frightened, he/she feels like passing out.	
7. My child is nervous.	
8. My child follows me wherever I go.	
9. People tell me that my child looks nervous.	
10. My child feels nervous with people he/she I doesn't know well.	
11. My child gets stomachaches at school.	

SCORING:

A total score of ≥ 25 may indicate the presence of an **Anxiety Disorder**. Scores higher than 30 are more specific. **TOTAL =**

A score of 7 for items 1, 6, 9, 12, 15, 18, 19, 22, 24, 27, 30, 34, 38 may indicate **Panic Disorder** or **Significant Somatic Symptoms**. **PN =**

A score of 9 for items 5, 7, 14, 21, 23, 28, 33, 35, 37 may indicate **Generalized Anxiety Disorder**. **GD =**

A score of 5 for items 4, 8, 13, 16, 20, 25, 29, 31 may indicate **Separation Anxiety SOC**. **SP =**

A score of 8 for items 3, 10, 26, 32, 39, 40, 41 may indicate **Social Anxiety Disorder**. **SC =**

A score of 3 for items 2, 11, 17, 36 may indicate **Significant School Avoidance**. **SH =**

Depression Screening: PHQ-9

PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME: _____ DATE: _____

Over the last 2 weeks, how often have you been bothered by any of the following problems?
(use "✓" to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3

Interpretation of Total Score

Total Score	Depression Severity
1-4	Minimal depression
5-9	Mild depression
10-14	Moderate depression
15-19	Moderately severe depression
20-27	Severe depression

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American Academy
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DEDICATED TO THE HEALTH OF ALL CHILDREN®

FROM THE AMERICAN ACADEMY OF PEDIATRICS

Guidance for the Clinician in
Rendering Pediatric Care

CLINICAL PRACTICE GUIDELINE

ADHD: Clinical Practice Guideline for the Diagnosis, Evaluation, and Treatment of Attention-Deficit/Hyperactivity Disorder in Children and Adolescents

SUBCOMMITTEE ON ATTENTION-DEFICIT/HYPERACTIVITY DISORDER, STEERING COMMITTEE ON QUALITY IMPROVEMENT AND MANAGEMENT

KEY WORDS

attention-deficit/hyperactivity disorder, children, adolescents, preschool, behavioral therapy, medication

ABBREVIATIONS

AAP—American Academy of Pediatrics
ADHD—attention-deficit/hyperactivity disorder
DSM-PC—*Diagnostic and Statistical Manual for Primary Care*
CDC—Centers for Disease Control and Prevention
FDA—Food and Drug Administration
DSM-IV—*Diagnostic and Statistical Manual of Mental Disorders*,
.....

abstract



Attention-deficit/hyperactivity disorder (ADHD) is the most common neurobehavioral disorder of childhood and can profoundly affect the academic achievement, well-being, and social interactions of children; the American Academy of Pediatrics first published clinical recommendations for the diagnosis and evaluation of ADHD in children in 2000; recommendations for treatment followed in 2001. *Pediatrics* 2011;128:000

1. Primary care evaluation 4-18 yrs
2. Use DSM-5, 2 settings
3. Consider alternate causes and comorbidities (PECS)
 - Physical (sleep, vision, hearing, medical)
 - Emotional/behavioral (mood, anxiety, trauma)
 - Cognitive (learning / intellectual disabilities)
 - Stressors (bullying, family conflict)
4. Chronic care and medical home
5. Ages
 1. 4-5 yr- 1st behavior thx, 2nd methylphenidate
 2. 6-11 yr- meds + behavioral thx
 3. 12-18 yr- meds +/- behavioral thx
6. Titrate doses- benefit vs. adverse reaction

TABLE 1 Evidence-Based Behavioral Treatments for ADHD

Intervention Type	Description	Typical Outcome(s)
Behavioral parent training (BPT)	Behavior-modification principles provided to parents for implementation in home settings	Improved compliance with parental commands; improved parental understanding of behavioral principles; high levels of parental satisfaction with treatment
Behavioral classroom management	Behavior-modification principles provided to teachers for implementation in classroom settings	Improved attention to instruction; improved compliance with classroom rules; decreased disruptive behavior; improved work productivity
Behavioral peer interventions (BPI) ^b	Interventions focused on peer interactions/relationships; these are often group-based interventions provided weekly and include clinic-based social-skills training used either alone or concurrently with behavioral parent training and/or medication	Office-based interventions have produced minimal effects; interventions have been of questionable social validity; some studies of BPI combined with clinic-based BPT found positive effects on parent ratings of ADHD symptoms; no differences on social functioning or parent ratings of social behavior have been revealed

Improvement Focus

- Hyperactivity
- Attention span
- Impulsivity and self control
- Physical and verbal aggression
- Academic productivity

Maybe Improvement

- Reading skills
- Social skills
- Academic achievement
- Antisocial behavior
- Learning disability

- Start low, go slow, but go.
- Stimulants first
 - methylphenidate, dexamethylphenidate
 - lisdexamfetamine, mixed amphetamine salts
 - side effects- appetite, moody, headache, sleep
 - ECG only if risk factors present
- Second line consider
 - guanfacine (6-17 yr)
 - clonidine (6-17 yr)
 - atomoxetine (>6 yr)

- 2 X methylphenidate = 1 X amphetamine
- Racemic twice as potent as non racemic
- Titrate weekly
- If one doesn't work after max tolerable dose, try the other class.
- If that doesn't work, revisit your diagnosis.
- If that doesn't work, refer!

Medication	Usual Starting Dose	Usual Maximum Dose (mg/kg/d)	Usual Dosing Intervals (hours)
Methylphenidate (MPH)	5 mg qd/bid	2	tid (4)
Dexmethylphenidate	2.5 mg	1	bid (5 - 6)
OROS MPH	18 mg qd	2	qd (12)
MPH- long acting	10 mg qd	2	qd (6 - 8)
Dexmethylphenidate-long acting	5 mg qd	1	qd (10 -12)
Amphetamine mixed salts	2.5 - 5 mg	1.0	bid (6)
Amphetamine mixed salts-long acting	5-10 mg	1.0	qd (12)
Lisdexamfetamine	20 mg	70 mg/day	qd (10-12)
Guanfacine-long acting	1 mg	3-4 mg/day	qd (24)
Atomoxetine	0.5mg/kg	1.4	qd (24)

Stimulants- side effects- appetite, moody, headache, sleep, ECG for risk factor only

- Behavioral treatment
- Other psychotherapy
- Special education evaluation
 - Psycho-educational evaluation
 - Speech and language testing
 - Fine motor testing
 - Sensory assessment
 - Autism assessment

The Childhood Autism Spectrum Test (CAST)

Child's Name: Age: Sex: Male / Female

Birth Order: Twin or Single Birth:

Parent/Guardian:

Parent(s) occupation:

Age parent(s) left full-time education:

Address:

.....

.....

Tel.No: School:

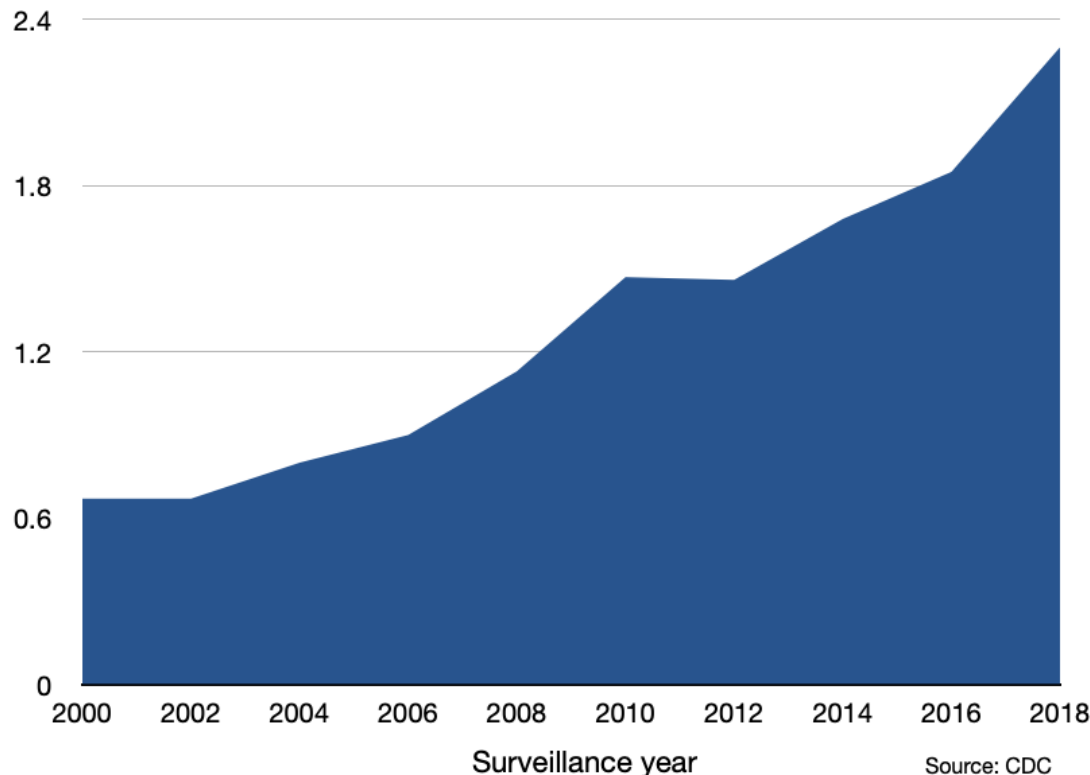
Please read the following questions carefully, and circle the appropriate answer responses are confidential.

- | | | |
|--|-----|----|
| 1. Does s/he join in playing games with other children easily? | Yes | No |
| 2. Does s/he come up to you spontaneously for a chat? | Yes | No |
| 3. Was s/he speaking by 2 years old? | Yes | No |
| 4. Does s/he enjoy sports? | Yes | No |
| 5. Is it important to him/her to fit in with the peer group? | Yes | No |
| 6. Does s/he appear to notice unusual details that others miss? | Yes | No |
| 7. Does s/he tend to take things literally? | Yes | No |
| 8. When s/he was 3 years old, did s/he spend a lot of time pretending (e.g., play-acting being a superhero, or holding teddy's tea parties)? | Yes | No |
| 9. Does s/he like to do things <u>over and over again</u> in the same way all the time? | Yes | No |
| 10. Does s/he find it easy to interact with other children? | Yes | No |
| 11. Can s/he keep a two-way conversation going? | Yes | No |

- | | | |
|--|-----|----|
| 12. Can s/he read appropriately for his/her age? | Yes | No |
| 13. Does s/he mostly have the same interests as his/her peers? | Yes | No |
| 14. Does s/he have an interest which takes up so much time that s/he does little else? | Yes | No |
| 15. Does s/he have friends, rather than just acquaintances? | Yes | No |
| 16. Does s/he often bring you things s/he is interested in to show <u>you</u> ? | Yes | No |
| 17. Does s/he enjoy joking around? | Yes | No |
| 18. Does s/he have difficulty understanding the rules for polite behaviour? | Yes | No |
| 19. Does s/he appear to have an unusual memory for details? | Yes | No |
| 20. Is his/her voice unusual (e.g., overly adult, flat, or very monotonous)? | Yes | No |
| 21. Are people important to him/her? | Yes | No |
| 22. Can s/he dress him/herself? | Yes | No |
| 23. Is s/he good at turn-taking in conversation? | Yes | No |
| 24. Does s/he play imaginatively with other children, and engage in role-play? | Yes | No |
| 25. Does s/he often do or say things that are tactless or socially inappropriate? | Yes | No |
| 26. Can s/he count to 50 without leaving out any numbers? | Yes | No |
| 27. Does s/he make normal eye-contact? | Yes | No |
| 28. Does s/he have any unusual and repetitive movements? | Yes | No |
| 29. Is his/her social behaviour very one-sided and always on his/her own terms? | Yes | No |
| 30. Does s/he sometimes say "you" or "s/he" when s/he means "I"? | Yes | No |

- 1 in 44 (CDC, 2021)
 - 1 in 27 boys / 1 in 116 girls
- Most diagnosed >4 years, possible by age 2
- All ethnic and SES groups but minority diagnosed later/less often

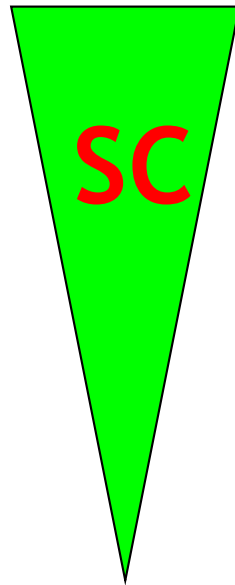
Autism prevalence per 100 8 year-old children, United States



- No medical detection
- Vaccines do not cause autism
- Intervention and Supports
 - Early intervention improves learning, communication and social skills
 - Behavioral based therapies- Applied behavior analysis (ABA)
 - Speech and occupational therapy
- Cost \$60,000 a year through childhood
 - Special services
 - Lost wages
 - case manager and advocate
 - less likely to work outside the home

- Boys 4x more likely than girls
- Positive family history
 - Prior child with ASD (2-18%)
 - Identical twins (36-95%)
 - Non-identical twins (31%)
- Having neurodevelopmental disorders:
 - Fragile X syndrome
 - Tuberous sclerosis
 - Tourette's syndrome
 - Epilepsy
- Advanced maternal age
- Paternal age > 40 years 6x more likely than < 30 years
- Prematurity / low birth weight / perinatal risks
 - Gestational diabetes (40% risk)

Social Communication



Interests

American Acad
DEDICATED TO THE B
California District

Autism: Diagnosis in Evolution and Opportunity for Pediatric Intervention

Douglas Vanderbilt, MD;
Marian E. Williams, PhD

The Centers for Disease Control recently reported an increase to 1 in 110 children with an autism spectrum disorder (ASD). Here in California, the Regional Centers are reporting

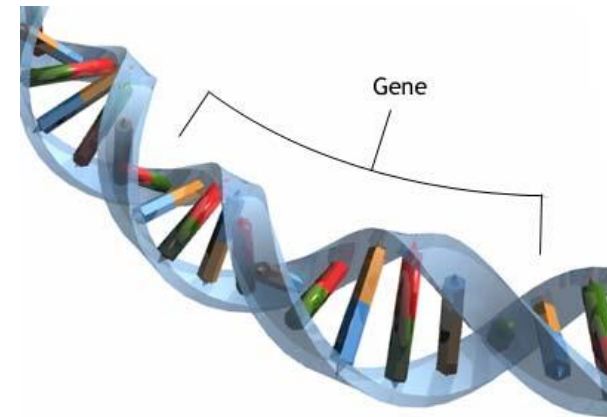
- **Social-Communication (all):**
 - Social-emotional reciprocity- back and forth
 - Nonverbal communicative behaviors- eye contact
 - Relationships- friends
- **Interests (2):**
 - Stereotyped/repetitive speech- echolalia
 - Excessive routines/ritualized patterns- flapping
 - Restricted/fixated interests- trains
 - Sensory Integration problems- hypo/hyper

1. History
 - Seizures, GI, Sleep, Regression
2. Physical examination
 - Head circumference, dysmorphia
3. Audiology evaluation
4. Genetic testing (up to 30%)
 - Microarray analysis (\$\$\$) + fragile X + ...
5. Not recommended:
 - EEG / MRI / Metabolic / GI / Allergy studies / Heavy metal testing

Measurement of head circumference



ADAM.



ADAM.

- More stress and depression
- Natural supports
 - Spouse, friends, religious institutions
- Informal supports
 - Parent groups, social networks
- Formal supports
 - Regional Center/EI, Special Education, SSI



Educational Interventions

- Comprehensive programs
 - Behavioral Therapy
 - Early Start Denver Model
- Developmental- Floortime
- Social skills instruction
- Speech/language therapy
- Occupational / sensory integration therapy

<https://community.undivided.io/news/166739>

EVIDENCE-BASED PRACTICES

*Indicates practices with newly developed content (2015-2016). Select the practice to access these modules and downloadable resources.

Antecedent-based Intervention (ABI)*

Cognitive Behavioral Intervention (CBI)**

Differential Reinforcement of Alternative, Incompatible, or Other Behavior (DRA/I/O)

Discrete Trial Teaching (DTT)*

Exercise (ECE)*

Extinction (EXT)

Functional Behavior Assessment (FBA)*

Functional Communication Training (FCT)

Modeling (MD)*

Naturalistic Intervention (NI)

Parent-implemented Intervention (PII)

Peer-mediated Instruction and Intervention (PMII)*

Picture Exchange Communication System (PECS)*

Pivotal Response Training (PRT)

Prompting (PP)*

Reinforcement (R+)*

Response Interruption/Redirection (RIR)

Scripting (SC)**

Self-management (SM)*

Social Narratives (SN)*

Social Skills Training (SST)*

Previously Social Skills Groups

*Structured Play Group (SPG)***

Task Analysis (TA)*

*Technology-aided Instruction and Intervention (TAII)** Previously Computer Aided Instruction and Speech Generating Devices*

Time Delay (TD)*

Video Modeling (VM)

Visual Support (VS)*

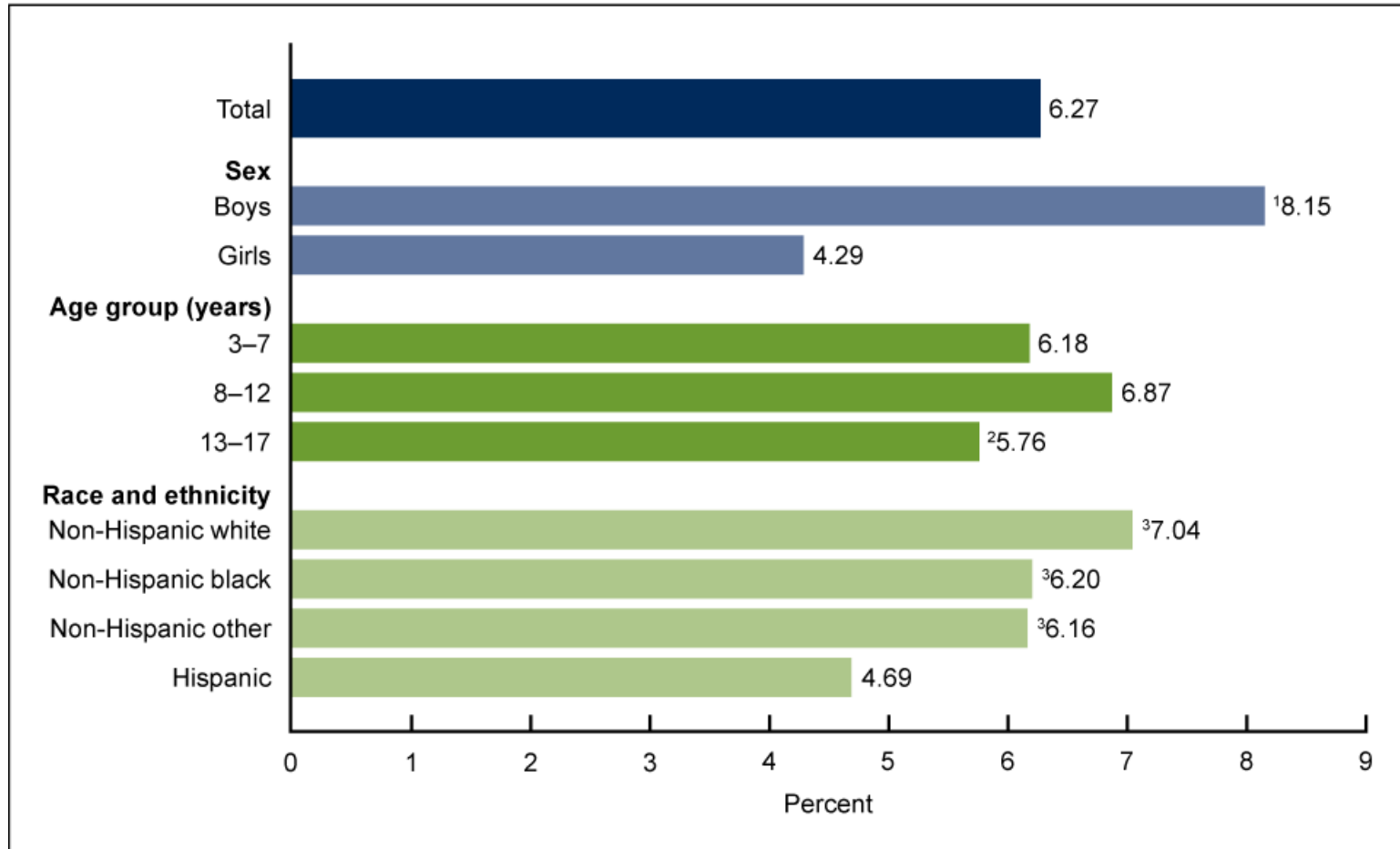
45% on psychotropic meds

Symptom	Medication
Repetitive, rigid, obsessive	SSRI
Hyperactive, impulsive, inattentive	Stimulants Alpha 2-adrenergic agonist antihypertensive agents
Aggressive, self injurious	Atypical antipsychotic agents
Depressive, anxiety	SSRI
Cycling mood / behavior	Antiepileptic drugs
No indications	Secretin, chelators, antibiotics, supplements, Omega-3 fatty acids

- Individualized Education Programs (IDEA Part B)
 - Comprehensive programs
 - Social skills groups
 - OT, SLT, Behavioral therapy
- Regional Center or Early Intervention (IDEA Part C)
 - Respite
 - Family Resource Centers
 - Behavioral classes / therapy

1. Define the DBP perspective and scope of practice understanding the biopsychosocial origins of DBP disorders.
2. Specify 4 screening tools to help diagnose patients with concerns for developmental delay, ADHD and autism.
3. Identify 2 evidence-based therapy and 2 medication interventions for ADHD and ASD.
4. **Recognize the role of Adverse Childhood Experiences (ACEs) / trauma exposure/ racism in DBP conditions.**

Figure 5. Prevalence of children aged 3–17 years ever diagnosed with any developmental disability, by sex, age, and race and ethnicity: United States, 2014–2016



¹Significantly different from girls ($p < 0.05$).

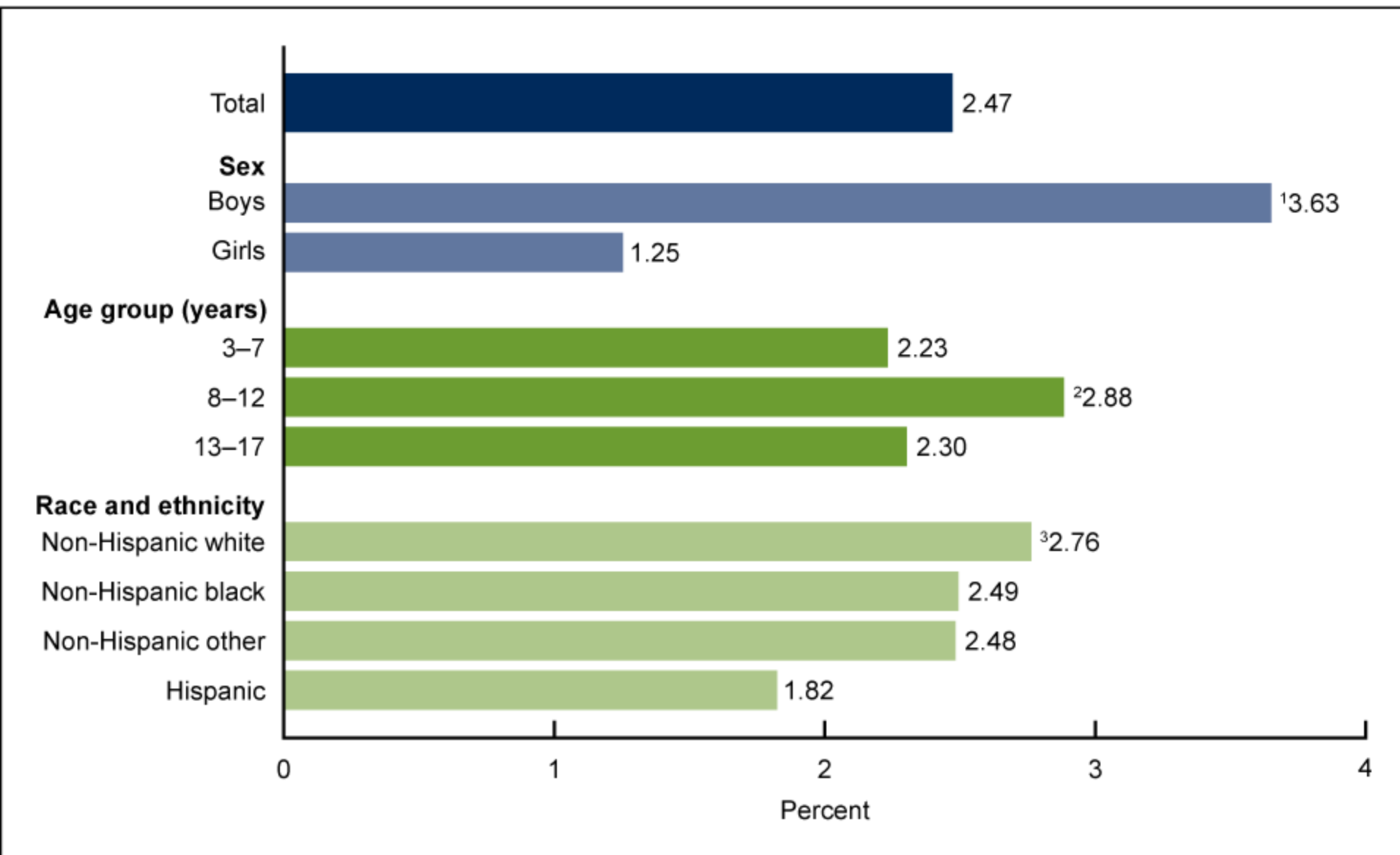
²Significantly different from children aged 8–12 years ($p < 0.05$).

³Significantly different from Hispanic children ($p < 0.05$).

NOTE: Access data table for Figure 5 at: https://www.cdc.gov/nchs/data/databriefs/db291_table.pdf#5.

SOURCE: NCHS, National Health Interview Survey, 2014–2016.

Figure 2. Prevalence of children aged 3–17 years ever diagnosed with autism spectrum disorder, by sex, age, and race and ethnicity: United States, 2014–2016



¹Significantly different from girls ($p < 0.05$).

²Significantly different from children aged 3–7 years ($p < 0.05$).

³Significantly different from Hispanic children ($p < 0.05$).

NOTE: Access data table for Figure 2 at: https://www.cdc.gov/nchs/data/databriefs/db291_table.pdf#2.

SOURCE: NCHS, National Health Interview Survey, 2014–2016.

ABUSE



Physical abuse

NEGLECT



Physical neglect

HOUSEHOLD STRESS



Mental illness



Substance abuse

Adverse **childhood** experiences

(Leaves and branches)



Adverse **community** environments

(Roots)



Slavery

Genocide

Mass incarceration

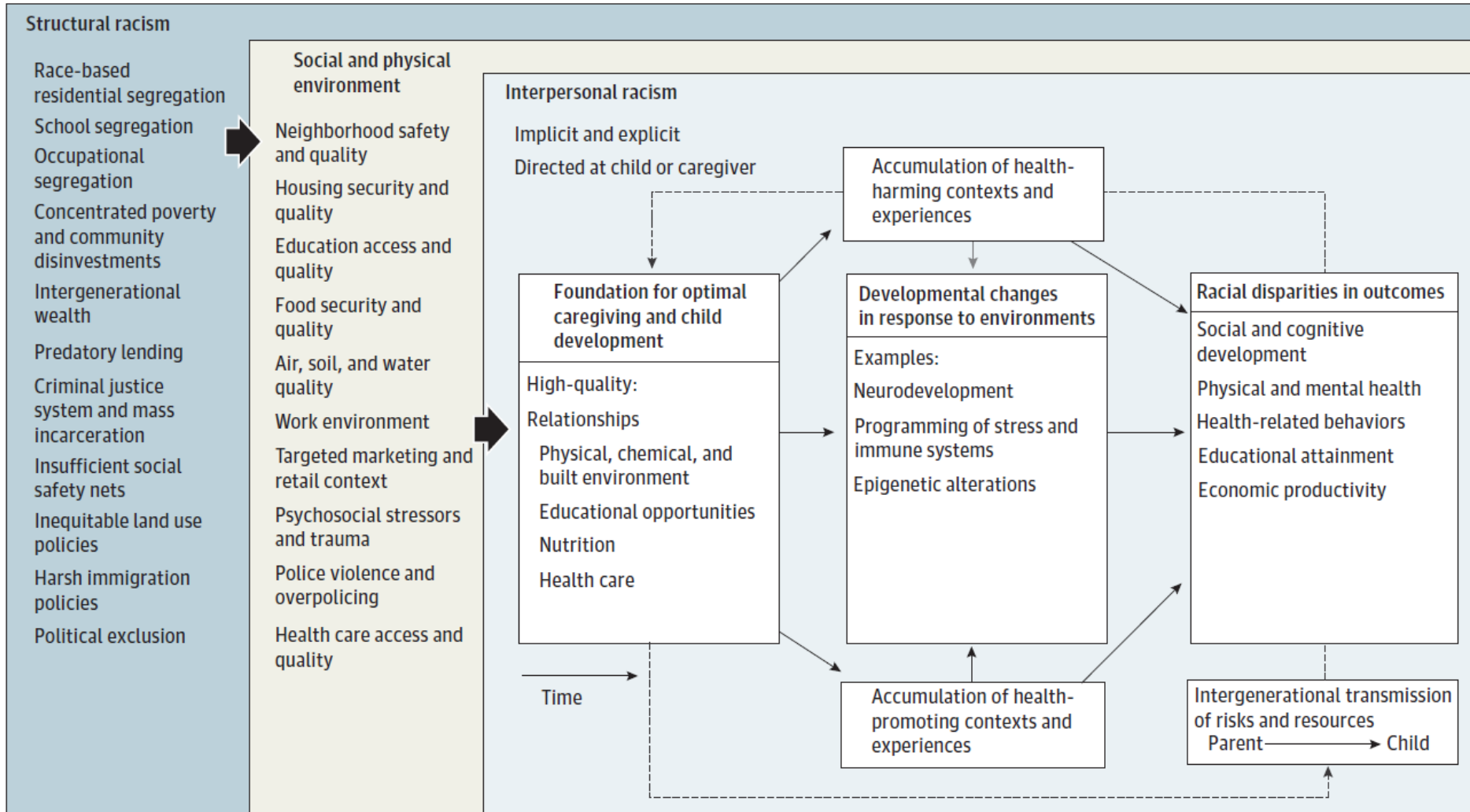
Holocaust

Forced displacement

Adverse **collective historical** experiences (Soil)

Adapted from Ellis W, Dietz W, B
Framework. Academic Peds (201

Figure. Socioecological Model Connecting Racism to the Development of Racial Health Disparities, an Adaptation of the Ecobiodevelopmental Framework¹



	Take medicine (for behavior)	Don't take medicine (for behavior)
What is usually involved?	<ul style="list-style-type: none"> You learn about the medicine. You learn what symptoms it can help with. You learn what side effects to watch for. You give medicines every day. You talk with the school team, health team, and others who work with your child to see how well the medicines are working. You watch your child for side effects. You meet with your health care provider regularly. 	<ul style="list-style-type: none"> You can work with your health care provider and others to determine if health problems or other factors might make behavior worse. You can consider other ways to teach desired behavior and reduce problem behavior. You can find other ways to reduce family stress. You can ask family or friends to help you. You can find respite or other community supports to help your child and family.

1. Understand DBP perspective complex biopsychosocial origins
2. Recognize how to screen for ADHD, ASD, Anxiety, Depression
3. Insist on the best practices for the treatment for ADHD and ASD
4. Know that care transcends our medical space



1. What is a Developmental-Behavioral Pediatrician?
 - a. A DBP is a subspecialty of pediatrics who uses a biopsychosocial behavioral approach to focus on the social, educational, and cultural influences in the treatment of developmental and behavioral disorders like ADHD and Autism. More information about DBP is at <https://sdbp.org/about/developmental-behavioral-pediatrics-general-questions/>
2. What are useful screening tools to identify developmental delay, ADHD and autism?
 - a. Developmental delay-
 - i. ASQ- <https://agesandstages.com/>
 - ii. SWYC- <https://www.tuftschildrenshospital.org/the-survey-of-wellbeing-of-young-children/overview>
 - iii. PEDS- <https://www.pedstest.com/>

b. ADHD-

- i. Vanderbilt ADHD Rating Scales- <https://www.nichq.org/resource/nichq-vanderbilt-assessment-scales>
- ii. Conners Rating Scale- <https://www.pearsonassessments.com/store/usassessments/en/Store/Professional-Assessments/Behavior/Comprehensive/Conners-3rd-Edition/p/100000523.html>

c. Autism-

- i. MCHAT-R- <https://mchatscreen.com/>
- ii. Communication and Symbolic Behavior Scales Developmental Profile- <https://brookespublishing.com/product/csbs-dp/>
- iii. Childhood Autism Spectrum Test- <https://www.autismresearchcentre.com/tests/childhood-autism-spectrum-test-cast/>

3. A 4-year old presents with rating scales positive for ADHD in 2 settings. You would like to start treatment for this child. What would be the first treatment to start?
 - a. Methylphenidate
 - b. Guanfacine
 - c. Mixed amphetamine salts
 - d. **Parent training in behavioral management**

4. What would be the first line treatment for a 6-year old child with autism and disruptive behaviors without significant aggression, irritability or self-injurious behaviors?
 - a. SSRI
 - b. Atypical Antipsychotic
 - c. Stimulant
 - d. **Applied Behavioral Analysis**

Thank you!

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