

# NEURODEVELOPMENTAL DISABILITIES: THE IMPORTANCE OF EARLY INTERVENTION AND THE BASICS OF BEHAVIOR INTERVENTIONS

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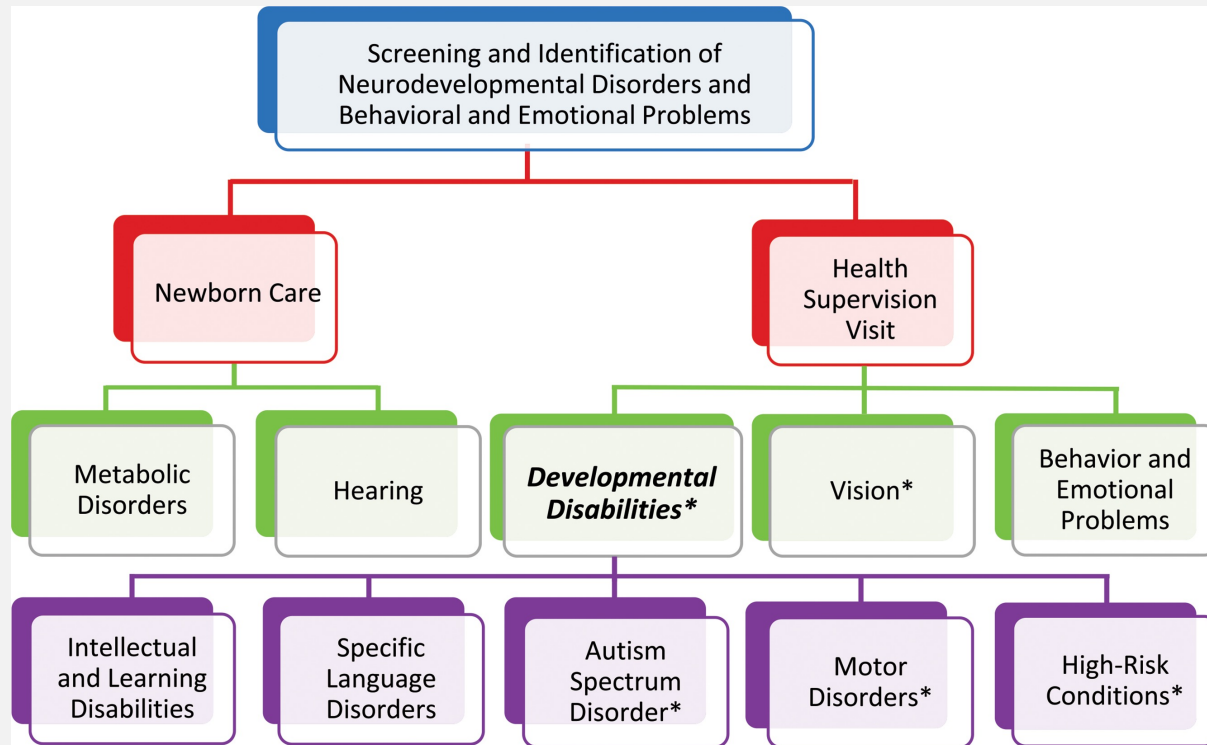
OLIVIA G.  
HOLTER,  
PHD NCSP

- Dually Credentialed Licensed Psychologist and Nationally Certified School Psychologist
- Assistant Professor (Clinical), Department of Pediatrics, University of Utah Health
- Scientist
  - Examined systemic barriers in education and health
- Practitioner
  - Experience across multiple settings;
    - 23 Schools/Districts
    - Integrated Primary Care
    - Outpatient Behavioral Health
    - Multidisciplinary Specialized Clinic (University Developmental Assessment Center)
- Personal Factors Impacting Positionality
  - Parent of a wonderful 23-month (almost 2!!) son

DSM-5:  
NEURODEVELOPMENTAL  
DISORDERS

- Group of conditions with onset early in the developmental period (often before grade school).
- Range of developmental deficits varies from specific limitations in learning or control of executive functions to global impairments in social skills or intelligence.
- Neurodevelopmental disorders frequently co-occur.





(Lipkin & Macias, 2020)

# NEURODEVELOPMENTAL DISORDERS

# EARLY IDENTIFICATION

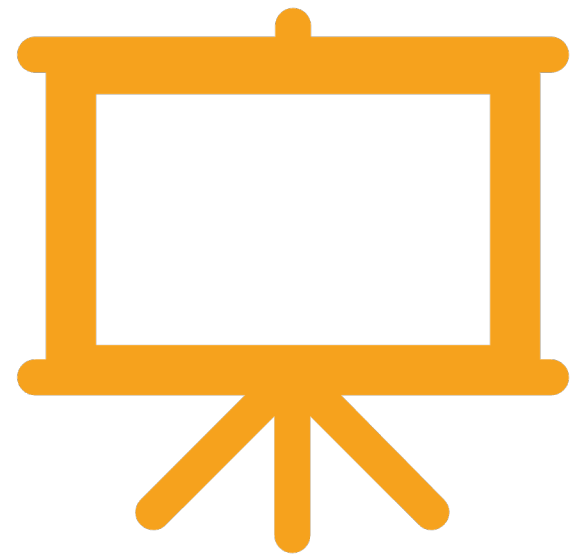
- Primary Care Screenings
  - History of prematurity, low birthweight, or other neonatal complications
  - Surveillance of developmental milestones, regular screenings (ASD screening at 18 months, 2 years, etc.)
  - Hearing screenings
- Concerns Raised by Preschool Educators
- Concerns Raised by Parents
- Concerns Raised by other Professionals
  - [Learn about Developmental Milestones and practice sharing your concerns with parents](#)

## WATCH ME! TRAINING COURSE

One hour "Learn the Signs. Act Early." course on:

- Why monitoring children's development is important
- Why you have a unique and important role in developmental monitoring
- How to easily monitor each child's developmental milestones
- How to talk with parents about their child's development

<https://www.cdc.gov/watch-me-training/index.html>



## HOW TO ACT

- Consistent communication with families
  - Share the positive!
- Communicate in a constructive way; e.g., in line with Utah Early Learning Standards
  - [Birth to Three](#)
  - [Three to Five](#)



### Observation

Asher was playing with the beach ball when he used both his hands to roll it up the wall and then held it there with his head.

2:13 PM

IV.PMD.FMD

### Indicators:

- Uses hands or feet to make contact with objects or people
- Develops small muscle control and coordination
- Coordinates eye and hand movements
- Uses different actions on objects
- Controls small muscles in hands when doing simple tasks

DEVELOPING



# BRIEF INTRO TO ADHD AND ASD



Symptoms and/or behaviors that have persisted  $\geq 6$  months in  $\geq 2$  settings (e.g., school, home, church). Symptoms have negatively impacted academic, social, and/or occupational functioning. In patients aged  $< 17$  years,  $\geq 6$  symptoms are necessary; in those aged  $\geq 17$  years,  $\geq 5$  symptoms are necessary.

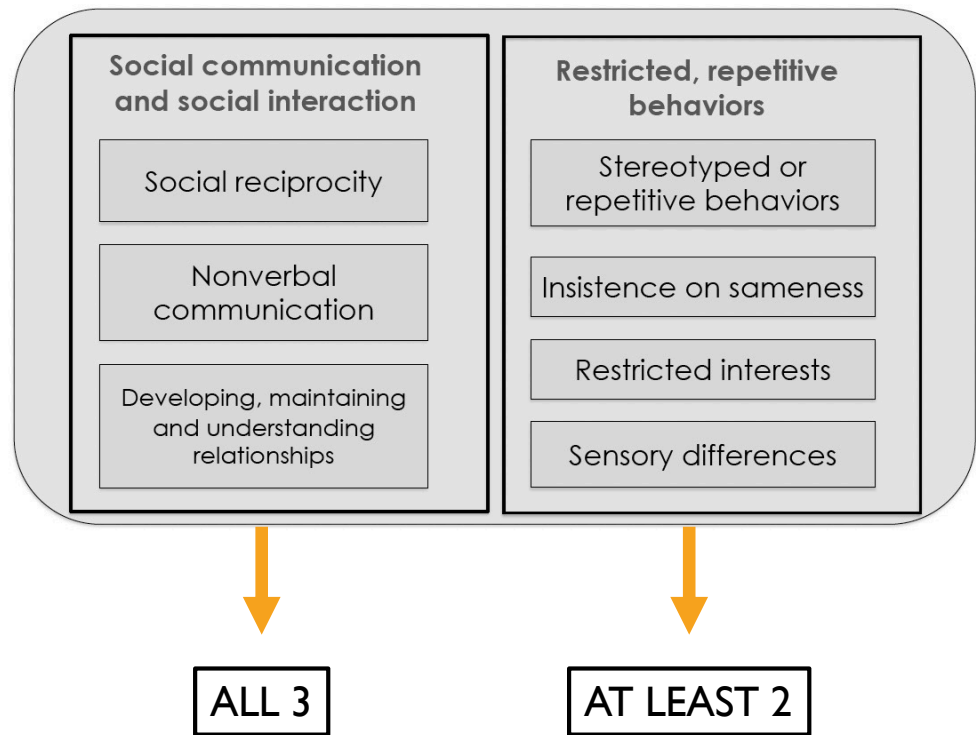
<p><b>Inattentive Type Diagnosis Criteria</b></p>	<ul style="list-style-type: none"> <li>• Displays poor listening skills</li> <li>• Loses and/or misplaces items needed to complete activities or tasks</li> <li>• Sidetracked by external or unimportant stimuli</li> <li>• Forgets daily activities</li> <li>• Diminished attention span</li> <li>• Lacks ability to complete schoolwork and other assignments or to follow instructions</li> <li>• Avoids or is disinclined to begin homework or activities requiring concentration</li> <li>• Fails to focus on details and/or makes thoughtless mistakes in schoolwork or assignments</li> </ul>
<p><b>Hyperactive/ Impulsive Type Diagnosis Criteria</b></p>	<p><b>Hyperactive Symptoms:</b></p> <ul style="list-style-type: none"> <li>• Squirms when seated or fidgets with feet/hands</li> <li>• Marked restlessness that is difficult to control</li> <li>• Appears to be driven by “a motor” or is often “on the go”</li> <li>• Lacks ability to play and engage in leisure activities in a quiet manner</li> <li>• Incapable of staying seated in class</li> <li>• Overly talkative</li> </ul> <p><b>Impulsive Symptoms:</b></p> <ul style="list-style-type: none"> <li>• Difficulty waiting turn</li> <li>• Interrupts or intrudes into conversations and activities of others</li> <li>• Impulsively blurts out answers before questions completed</li> </ul>
<p><b>Additional Requirements for Diagnosis</b></p>	<ul style="list-style-type: none"> <li>• Symptoms present prior to age 12 years</li> <li>• Symptoms not better accounted for by a different psychiatric disorder (e.g., mood disorder, anxiety disorder) and do not occur exclusively during a psychotic disorder (e.g., schizophrenia)</li> <li>• Symptoms not exclusively a manifestation of oppositional behavior</li> </ul>

(American Psychiatric Association, 2013)

# ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

# AUTISM SPECTRUM DISORDER (ASD)

## DSM-5 Criteria



(American Psychiatric Association, 2013)

# EARLY IDENTIFICATION: ASSESSMENT

- Autism
  - Can be diagnosed by developmental pediatricians and general pediatricians with special training.
  - Psychologists
- Early Intervention (Birth to Three)
  - Is the term used to describe federally funded (under the umbrella of special education) services and supports that are available to babies and young children with developmental delays and disabilities and their families.
  - May include speech therapy, physical therapy, and other types of services based on the needs of the child and family.
  - Available in each state, **typically a free service** to the community.

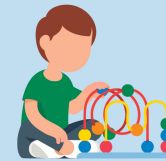
## Early intervention services might help your child with:



**Speaking and communicating (speech-language therapy).**



**Hearing (audiology services).**



**Doing daily tasks (occupational therapy).**



**Moving around (physical therapy).**

# NORTH DAKOTA EARLY INTERVENTION

- Program Administrator Jackie Adusumilli  
Phone: (701) 328-8968  
[dhsddreq@nd.gov](mailto:dhsddreq@nd.gov)
- Developmental Disabilities Regional Offices:
- **Northwest Human Service Center**  
*Serving Divide, McKenzie and Williams counties*  
316 Second Ave. W., PO Box 1266  
Williston, ND 58801  
**Phone:** (701) 774-4600  
**Toll Free:** (800) 231-7724
- **North Central Human Service Center**  
*Serving Bottineau, Burke, McHenry, Mountrail, Pierce, Renville and Ward counties*  
1015 S. Broadway, Suite 18  
Minot, ND 58701  
**Phone:** (701) 857-8500  
**Toll Free:** (888) 470-6968
- **Lake Region Human Service Center**  
*Serving Benson, Cavalier, Eddy, Ramsey, Rolette and Towner counties*  
200 Highway 2 S.W.  
Devils Lake, ND 58301  
**Phone:** (701) 665-2200
- **Northeast Human Service Center**  
*Serving Grand Forks, Nelson, Pembina and Walsh counties*  
151 S. Fourth St., Suite 401  
Grand Forks, ND 58201-4735  
**Phone:** (701) 795-3000
- **Southeast Human Service Center**  
*Serving Cass, Ransom, Richland, Sargent, Steele and Traill counties*  
2624 Ninth Ave. S.W.  
Fargo, ND 58103-2350  
**Phone:** (701) 298-4500  
**Toll Free:** (888) 342-4900
- **South Central Human Service Center**  
*Serving Barnes, Dickey, Foster, Griggs, LaMoure, Logan, McIntosh, Stutsman and Wells counties*  
520 Third St. N.W., PO Box 2055  
Jamestown, ND 58402  
**Phone:** (701) 253-6300  
**Toll Free:** (800) 639-6292
- **West Central Human Service Center**  
*Serving Burleigh, Emmons, Grant, Kidder, McLean, Mercer, Morton, Oliver, Sheridan and Sioux counties*  
1237 W. Divide Ave, Suite 5  
Bismarck, North Dakota 58501-1208  
**Phone:** (701) 328-8888  
**Toll Free:** (888) 328-2662
- **Badlands Human Service Center**  
*Serving Adams, Billings, Bowman, Dunn, Golden Valley, Hettinger, Slope and Stark counties*  
300 13th Ave. W., Suite 1  
Dickinson, ND 58601  
**Phone:** (701) 227-7500  
**Toll Free:** (888) 227-7525

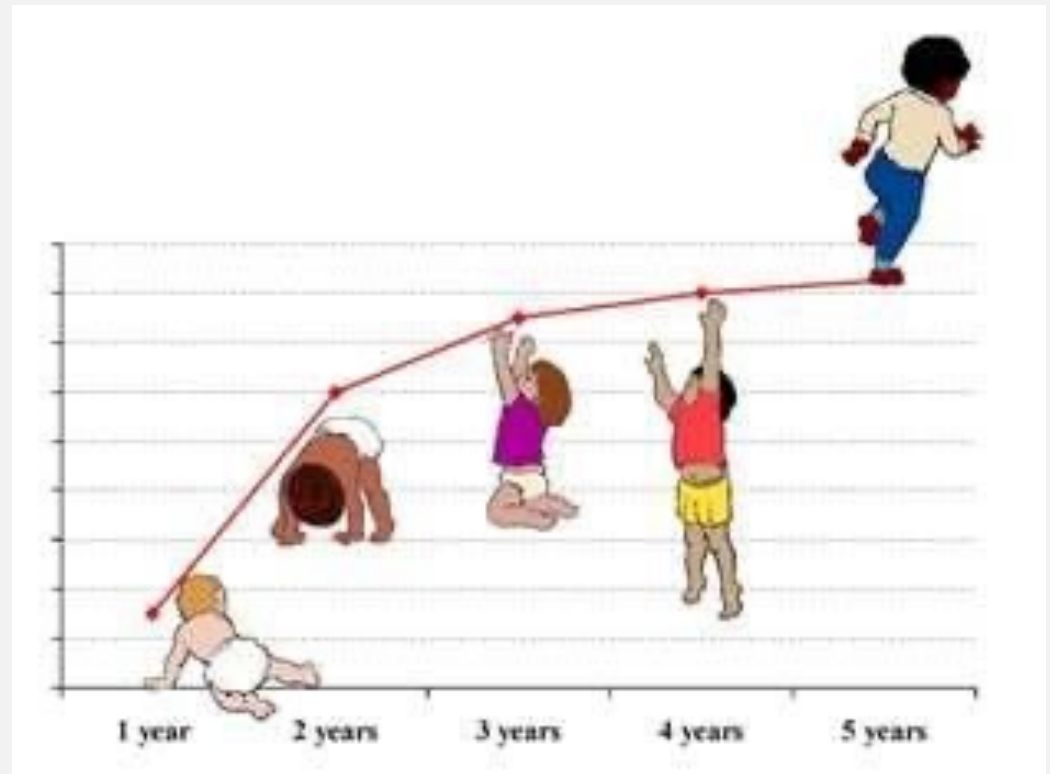
## OTHER RESOURCES

- Family Voices of North Dakota
  - <https://fvnd.org/early-intervention/>
- Family Voices (National)
  - <https://familyvoices.org/about/>

## WHY SHOULD WE IDENTIFY AND ADDRESS CONCERNS EARLY?

- Increase in positive social-emotional development
- Increase in adaptive skills (everyday self-help skills)
- Increase in areas of deficit (motor skills, speech/language, cognitive, etc.)

Development is a moving target



## CAREGIVER AS ADVOCATE

Atkins et al., 2020

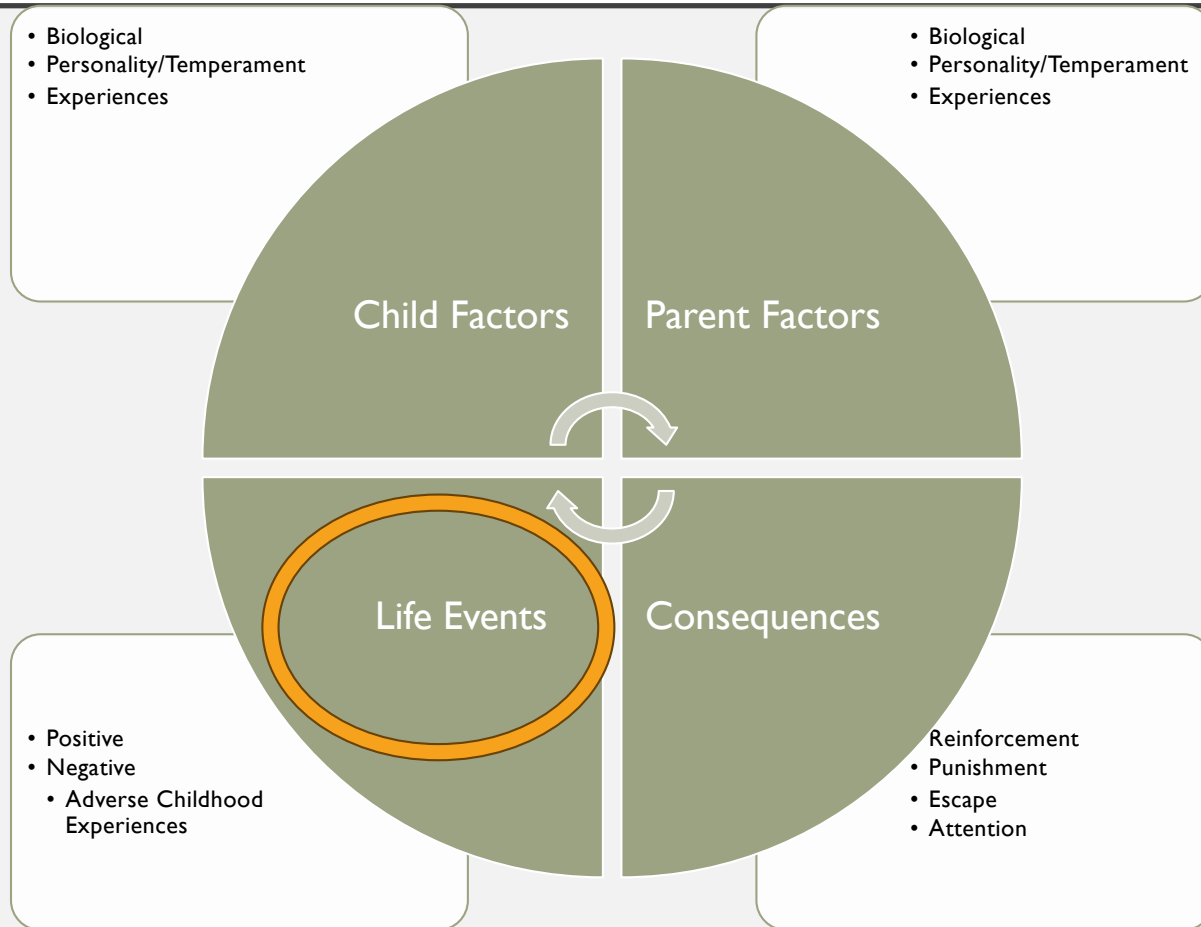
- 62% of EI referrals resulted in evaluation
- 69% were eligible for services
- 34% resulted in EI enrollment
- “Of those who were not evaluated, 71% were likely to have qualified based on state eligibility criteria. Follow-up phone call results indicated the majority of families not evaluated (64%) were never successfully contacted by the EI program.”

**Being a parent of a child with a developmental disability means taking on an active role as advocate.**

BEHAVIOR

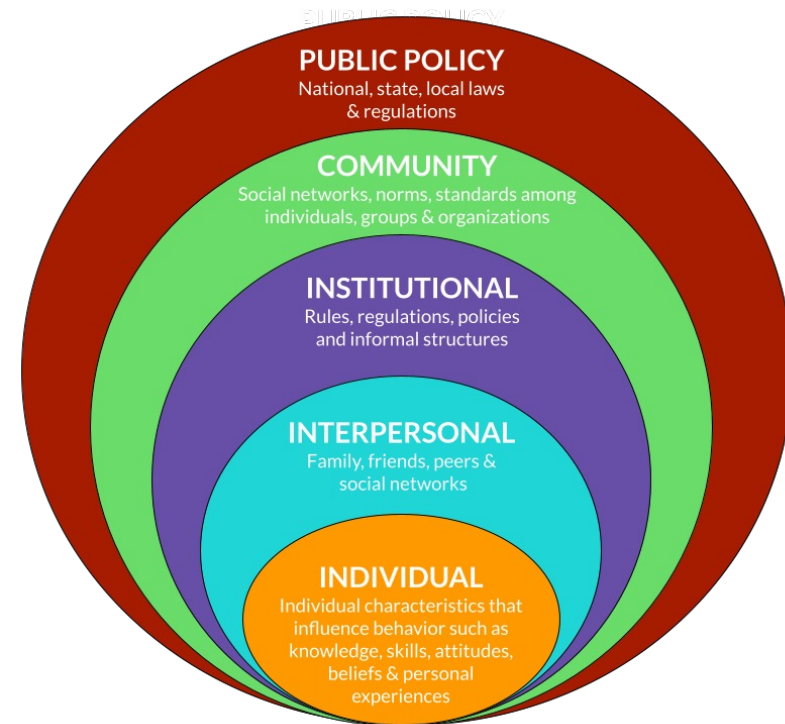


# WHY DO KIDS BEHAVE THE WAY THEY DO?



Adapted from MATCH-ADTC  
Parent Management Training

# STRUCTURAL AND SOCIAL DETERMINANTS OF HEALTH AND DEVELOPMENT



Dahlgren & Whitehead, 1991

## ADVERSE CHILDHOOD EXPERIENCES (ACEs)

### Adverse Childhood Experiences

Traumatic events that can have negative, lasting effects on health and wellbeing



People with 6+ ACEs can die

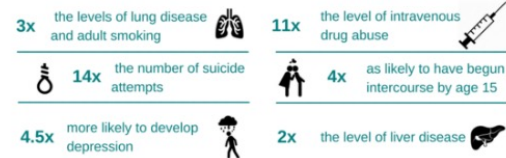
**20 yrs**

earlier than those who have none



www.10-30.org.uk  
#1000Campaign

### 4 or more ACEs

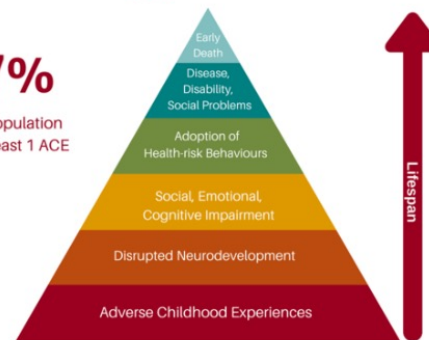


“ Adverse childhood experiences are the single greatest unaddressed public health threat facing our nation today ”

Dr. Robert Block, the former President of the American Academy of Pediatrics

**67%**

of the population have at least 1 ACE



1/8 of the population have more than 4 ACEs

- Adverse childhood experiences, or ACEs, are potentially traumatic events that occur in childhood (0-17 years). Examples include:
- Experiencing violence, abuse, or neglect
- Witnessing violence in the home or community.
- Having a family member attempt or die by suicide.
- Also included are aspects of the child's environment that can undermine their sense of safety, stability, and bonding. Examples can include growing up in a household with:
- Substance use problems.
- Mental health problems.
- Instability due to parental separation.
- Instability due to household members being in jail or prison.

# FAMILY FACTORS

- Parenting

## The Types of Parenting Styles



**Authoritarian:**  
domineering, dictatorial, enforce  
punishments, unresponsive



**Permissive:**  
lenient, few  
demands, "friend"

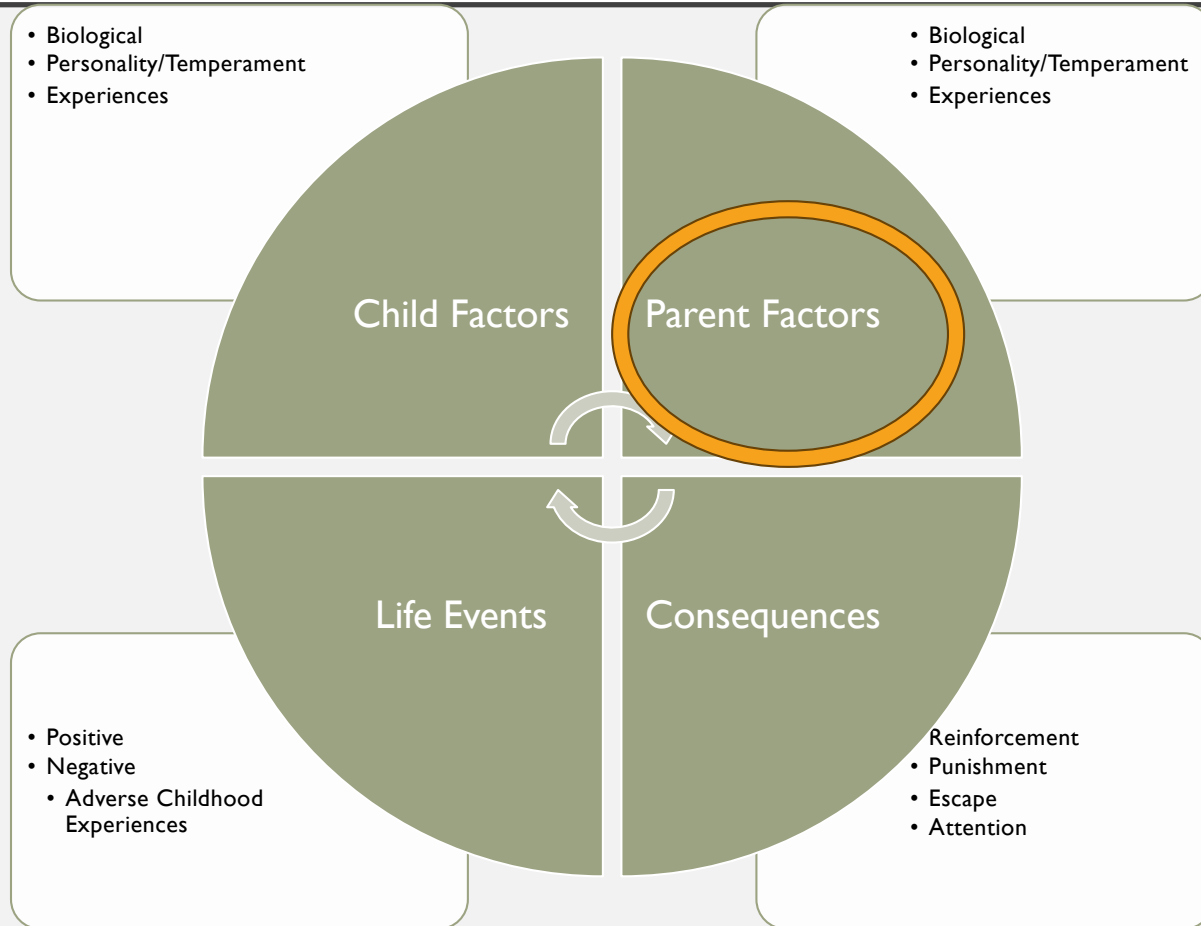


**Authoritative:**  
enforce rules, provide  
warmth and support



**Uninvolved:**  
may be neglectful, provide  
little guidance and support

# WHY DO KIDS BEHAVE THE WAY THEY DO?



Adapted from MATCH-ADTC  
Parent Management Training

# AUTHORITATIVE PARENTING

- Often considered the “Ideal” parenting style
  - Balances Discipline and Warmth
  - Encourages Independence and Responsibility
  - Promotes Healthy Communication
- Associated with;
  - Improved academics (Hayek et al., 2022)
  - Improved social and emotional wellbeing (Zhang, 2022)



Child is playing in living room

Mom asks child to set the table for dinner.

Child ignores Mom. Mom nags, yells, or threatens child. Child whines, complains, tantrums.

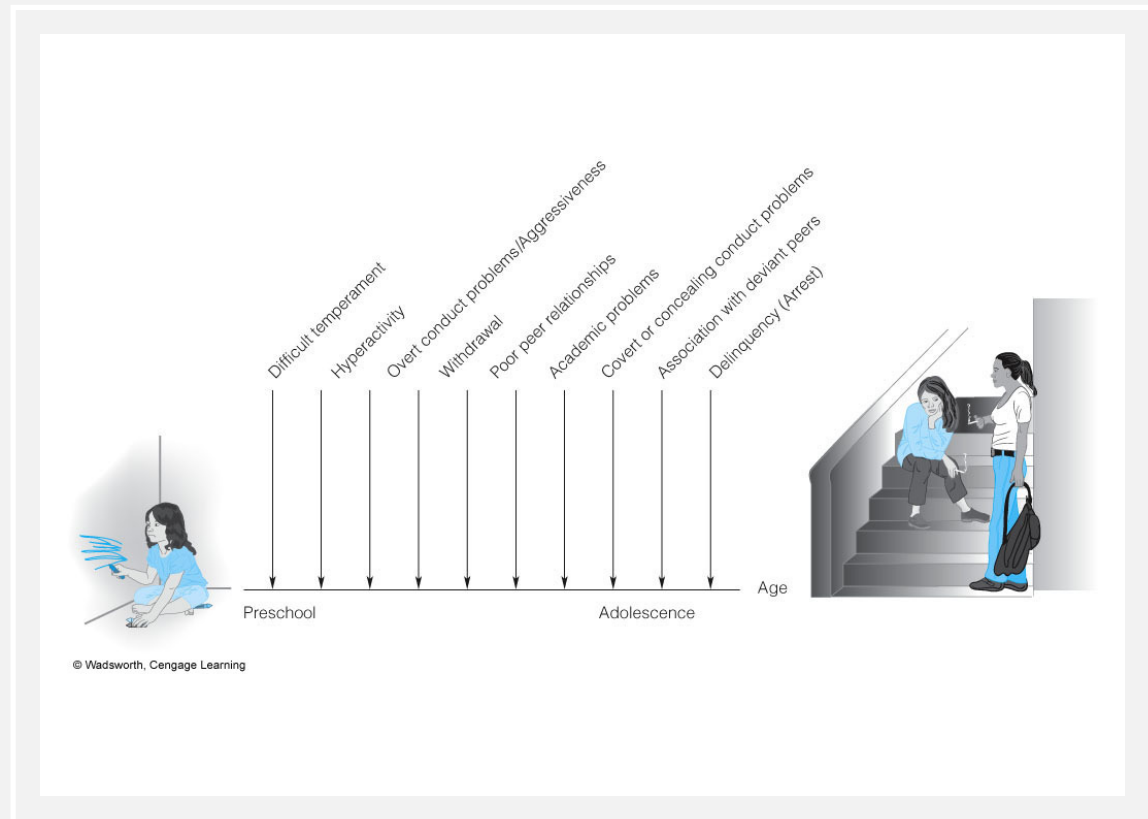
Mom withdraws her request and sets the table herself.

Child quiets and returns to play

## The Coercive Parent-Child Cycle

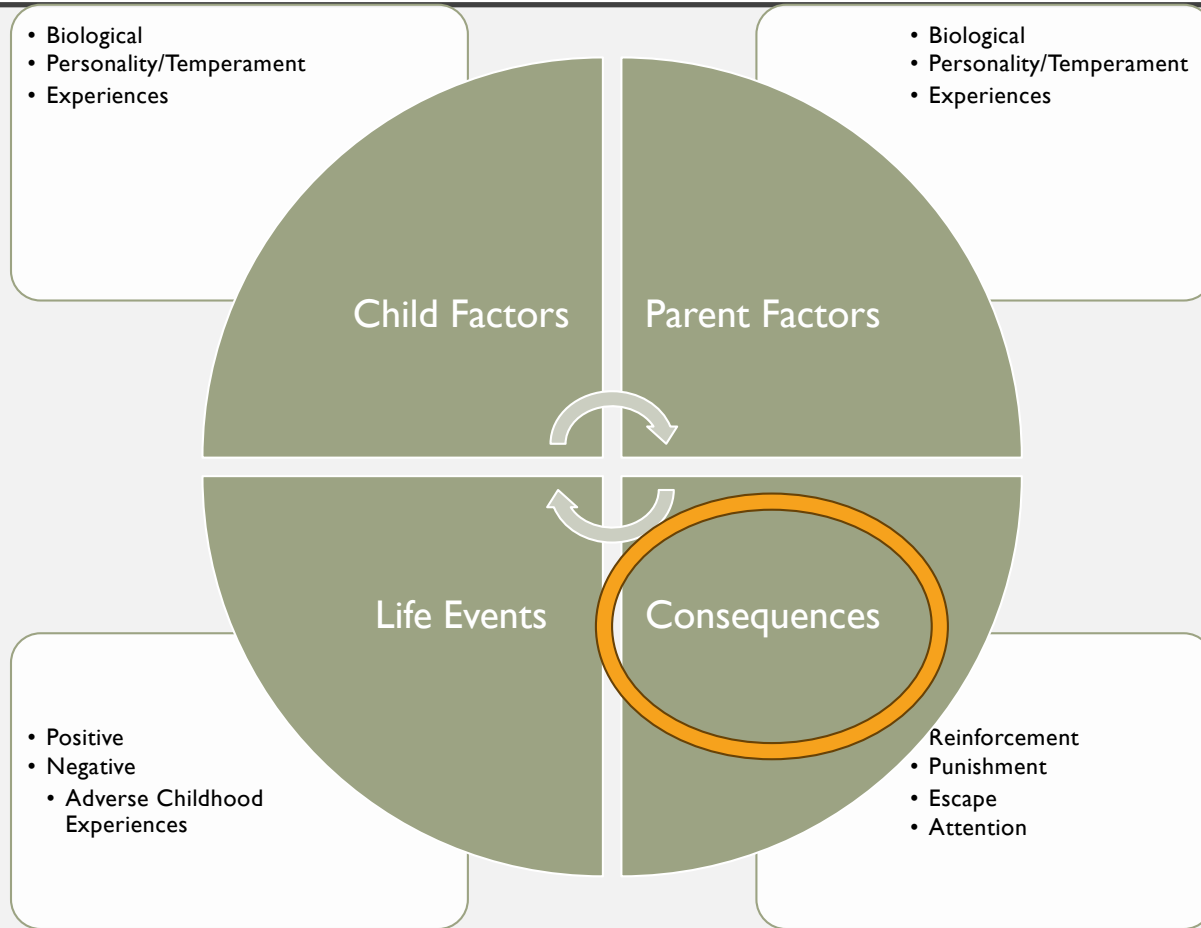
## DEVELOPMENTAL PATHWAYS/COMMORBITIDITIES

- Children with ADHD are more likely to develop oppositional defiant disorder (ODD).
- Children with ODD are more likely to develop Conduct Disorder (CD).
- CD is a developmental precursor to Antisocial Personality Disorder.



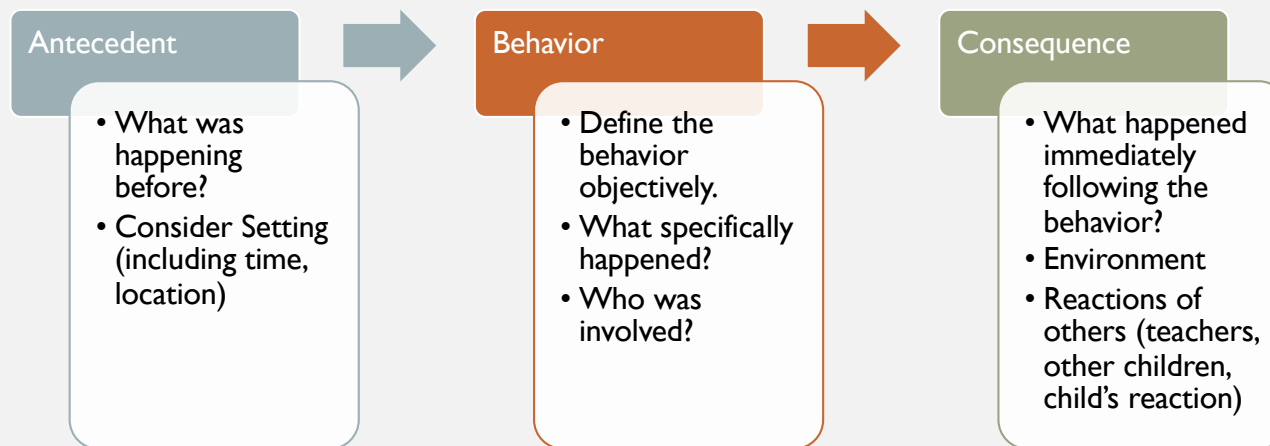


# WHY DO KIDS BEHAVE THE WAY THEY DO?



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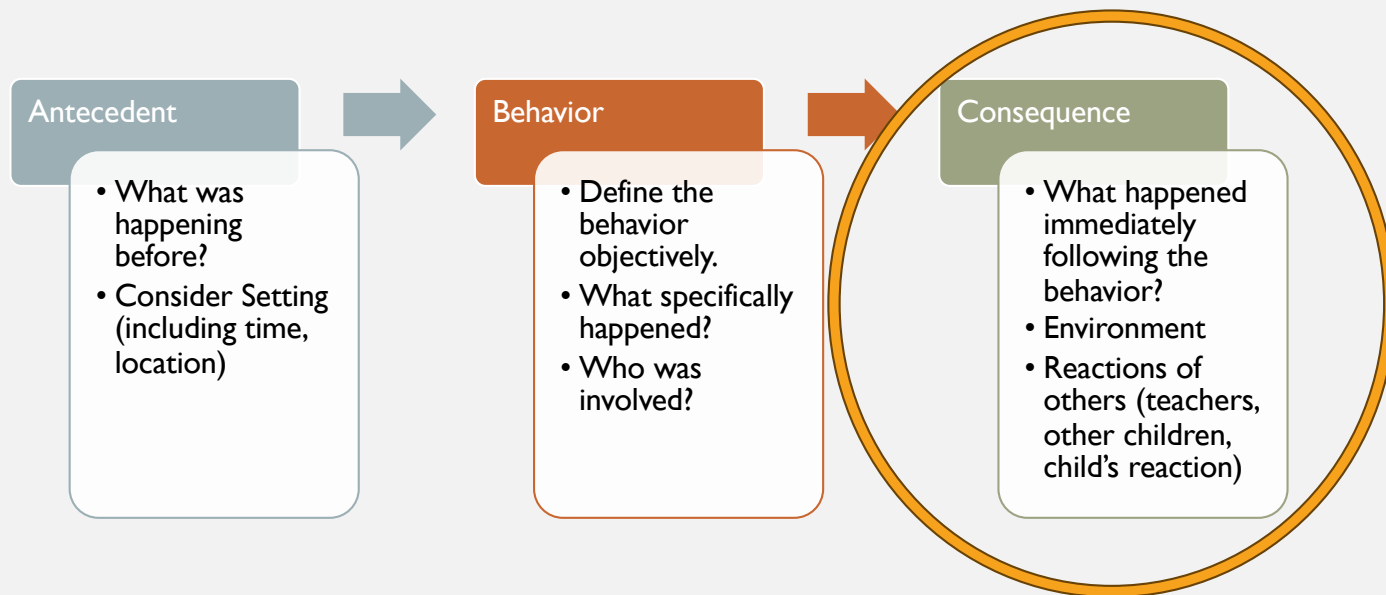
# FUNCTIONAL BEHAVIOR ANALYSIS BASICS



## PUNISHMENT VS. REINFORCEMENT

- Punishment **decreases** behavior.
- Positive punishment = applying an aversive stimulus.
  - E.g., corporal punishment, **time out**
- Negative punishment = taking away a desired stimulus.
  - E.g., taking away phone for not doing the dishes, **active ignoring**
- Reinforcement **increases** behavior.
- Positive reinforcement = providing a desired stimulus.
  - E.g., star charts, rewards, etc.
- Negative reinforcement = taking away an aversive stimulus.
  - E.g., you don't have to do chores for a week if you get good grades

# FUNCTIONAL BEHAVIOR ANALYSIS BASICS



# CONSEQUENCE IS IMPORTANT

- What happens after a behavior?
  - Is Reinforcement Present? (reinforcement increases behavior, punishment decreases behavior)
    - Positive reinforcement
      - Attention (either positive or negative)
      - Access to desired activities
      - Is the behavior self-reinforcing/self-stimulating (i.e., stimming behaviors)?
    - Negative reinforcement
      - Escape/avoidance of undesired activities

# TIMEOUT

Effective timeout is evidenced-based and effective for decreasing negative behaviors.

**Timeout is not being sent to your room/a break for parents!!!**

Help for Parents

## Time Out

### What Is Time Out?

"Time out" is the removal of your child from activities, rewards, and attention. Time out is meant to help stop some of your child's behaviors that you find upsetting or harmful, and it can provide quick and lasting results if used properly. It does not cause any harm to your child, and it also can help you feel less angry and upset with your child. It is easy to learn, and with a little practice it becomes easy to use.



### Use time out for these kinds of behaviors:

- Hitting, slapping, or pinching
- Throwing or breaking things
- Being mean to animals or people
- Disobeying an instruction
- Breaking a house rule
- Cursing or swearing
- Doing dangerous things
- Threatening others
- Hostile arguing
- Damaging property

### Don't use time out for these kinds of behaviors:

- Fussiness, complaining
- Talking back
- Mild arguing
- Legitimate accidents (e.g., spilling something, dropping something)
- Whining
- Asking the same question over and over
- Repeating things
- Doing things to get your attention
- Bad attitude



# THE POWER OF ATTENTION

- Often, children do not differentiate between positive and negative attention.
- This can make active ignoring and increasing non-contingent one on one time important.

## Active Ignoring

Help for caregivers to identify when to not pay attention to your child's behavior.

### What Is Active Ignoring?

Sometimes kids do things to get attention, to get out of doing things they don't like, or even just to get their caregivers upset. "Active ignoring" means purposely not paying attention to these kinds of behaviors in order to make them go away. Active ignoring can quickly stop many types of problem behaviors. It does not cause any emotional harm to your child, and it also can help caregivers feel less angry and upset with their children. It is easy to learn, and with a little practice, it becomes easy to use.

#### Use active ignoring for:

- Fussiness
- Complaining
- Pouting
- Grumpiness
- Talking back
- Making noises
- Mild arguing
- Whining
- Asking the same question over & over
- Repeating things
- Doing things to get your attention

#### Don't use active ignoring for:

- Hitting, slapping, or pinching
- Throwing or breaking things
- Being mean to animals or people
- Disobeying an instruction
- Cursing or swearing
- Doing dangerous things
- Threatening others
- Getting a bad grade
- Forgetting to do chores or homework
- Being afraid or shy
- Wanting to be alone

# PREVENTION

- Non-contingent positive attention
  - One on one time
    - Resource for Parents
      - <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://depts.washington.edu/uwhatc/PDF/TF-%20CBT/pages/8%20Parent%20Management%20Training/One%20on%20One%20TimeN2K.pdf>
    - Resource for Teachers
      - <https://turnaroundusa.org/video/edutopia-how-learning-happens-cultivating-trust-with-one-on-one-time/>
  - Provide Effective Instructions
    - Words Matter!!!
- Avoid “let’s” instructions, unless you’re actually going to help.
  - “let’s clean up your room!”
- Don’t ask questions unless you want to hear “no”.
  - “Will you please get dressed?”
- Be specific
  - “behave when you’re at the table” → “please lower your voice at the table”
- Break down multi-step directions
- Try these instead!
  - Get the child’s attention
  - Reduce distractions
  - Prepare your child for transitions
  - Use the right tone
  - Be clear



# INCREASING POSITIVE BEHAVIORS

Rewards

## What Are Rewards?

A reward is something you give your child for doing something you want him or her to do. Rewards make your child more likely to show that same behavior in the future. At the same time rewards increase good behaviors, they can also help get rid of bad behaviors. A child who is busy trying to do good things will have less time to do bad things. When things aren't going well, rewards can often quickly increase the good behavior you see from your child. Rewards also help parents and children feel less angry and upset.

### Rewards can help your child learn to:

- Be on time
- Be polite
- Share
- Do homework
- Come home on time
- Remember important things
- Do chores
- Go to bed on time
- Do anything else you think is important

A reward doesn't have to cost money. It can be as simple as a smile, a hug, or a special treat like watching TV or playing a game with you. Rewards can be used with children as young as infants, but they can also be used with teenagers and even adults. The type of reward will depend on the age of the child. Choosing a reward that is important to your child will help motivate your child to work hard to earn it.

# REWARDS THAT COST NOTHING

- Praise
- Attention
- At home:
  - Screen time (make screen time *earned*, not something that is expected!)
  - Movie nights
  - Going to the library (park, etc..!)
  - Having friends over



## A NOTE ON STIMMING BEHAVIORS

- Only intervene if;
  - They are causing significant disruption to daily life, impacting learning or social interactions, or have the impact of harm to self or others.
- Great book resource;
  - *Why Johnny Doesn't Flap: NT is okay!*
  - By Clay Morton and Gain Morton; Illustrated by Alex Merry

## Stimming in Autism

### SAFE



Repetitive, non-injurious behavior  
Often used to relieve excess energy,  
anxiety, or sensory overwhelm  
Can be a safe way to self-regulate

### UNSAFE



Repetitive, injurious behavior  
May be a sign of underlying pain  
Consider looking deeper to address  
any discomfort and relieve pain  
(*food sensitivities, gut issues, etc*)

@AUTISMDIETITIAN

# EVIDENCED BASED INTERVENTIONS

## INDIVIDUAL AND FAMILY

- Applied Behavior Analysis (typically only guaranteed coverage for children with ASD)
- Research Units in Behavioral Intervention (RUBI)
  - <https://www.rubinetwork.org/>
- Parent Child Interaction Therapy
- Parent Management Training
  - Online resource through the University of Washington with Videos for each Module.
  - [https://depts.washington.edu/uwhatc/PDF/TF-%20CBT/pages/positive\\_parenting.html#](https://depts.washington.edu/uwhatc/PDF/TF-%20CBT/pages/positive_parenting.html#)
- Parenting with Love and Logic
  - [https://www.loveandlogic.com/collections/parents?srsIid=AfmBOooRqfE3Zdp0ac8TVZEP9c0aeeEXsj\\_8-SFhPcD96RzoizDNNASM](https://www.loveandlogic.com/collections/parents?srsIid=AfmBOooRqfE3Zdp0ac8TVZEP9c0aeeEXsj_8-SFhPcD96RzoizDNNASM)

## SCHOOL

- Positive Behavior Supports
- The Incredible Years
  - <https://www.incredibleyears.com/>
- Zones of regulation
  - <https://zonesofregulation.com/>

QUESTIONS?

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