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# LOUISIANA EARLY CHILDHOOD Key Training Modules:

Adverse Childhood Experiences  
(ACEs)

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# **Welcome, Session & Group Introductions**



# Learning Objectives

# LEARNING OBJECTIVES

- Gain a general understanding of brain development, the findings of the ACEs study, and evidence-based prevention and intervention strategies
- Apply scientific findings about ACEs and toxic stress to development ages 0-3, and analyze impacts on behaviors and developmental milestones
- Connect information presented to their own experiences
- Practice applying evidence-based strategies for creating safe, stable, nurturing relationships and environments



# Understanding ACEs and Development

# WHAT ARE ADVERSE CHILDHOOD EXPERIENCES?

ACEs are *types of experiences* that have been found to increase risk of physical, emotional, and social challenges when experienced before the age of 18.

- A measure of *cumulative risk*
  - More types of adverse experiences, more risk of challenges
- Significant in the context of *development*
  - Extreme or chronic stress has predictable effects on developing brains
  - What is *predictable* is *preventable*
- Can be counter-balanced by *resilience*
  - Traits, relationships, experiences, and learned skills that help one bounce back after hard times



# Experiences Identified as ACEs (Original)

## ABUSE



Physical



Emotional



Sexual

## NEGLECT



Physical



Emotional

## HOUSEHOLD DYSFUNCTION



Mental Illness



Incarcerated Relative



Mother treated violently



Substance Abuse



Divorce

# EXPANDED OR “MODERN” ACES

- Effects of poverty, including social effects
- Homelessness
- Community violence
- Drug culture
- Unstable or chaotic home life
- Refugee experiences
- Human trafficking
- Racism/discrimination
- Bullying
- Intrusive medical treatments
- Frequent changes in placement/schools
- Natural disasters
- Serious accidents



# WHAT IS TRAUMA?

*Trauma* is an event or experience that overwhelms the brain.

- A response to an overwhelmingly stressful event, where one's ability to cope is dramatically undermined
- Usually associated with exposure to extreme or chronic stress
- A *natural* biological response to an event that poses a significant threat to well-being
- Some research focuses on significant and complex impact of trauma or toxic stress during childhood

# WHAT IS TOXIC STRESS?

## Three essential features:

- Extreme stress
- Lasting for an extended period of time without opportunity to escape
- In a situation where there is no supportive relationship or caregiver, or the caregiver is unable to provide adequate support
  - Ex. neglect, abuse

## Compare to:

- Positive stress – challenges that help the brain grow
- Tolerable stress – stressful events that are mediated by caregiver support



# ACES, TRAUMA, AND TOXIC STRESS

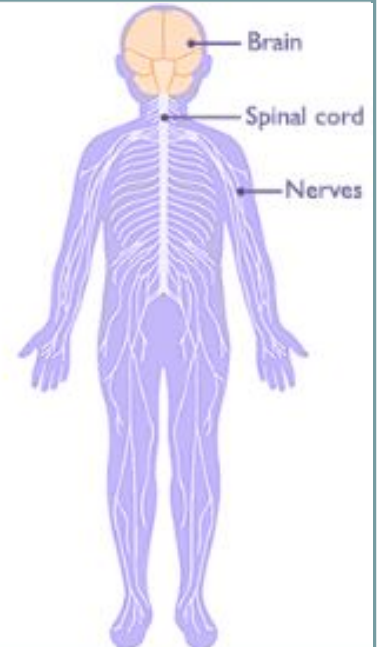
***No matter the terminology,  
they all need prevention and  
intervention.***



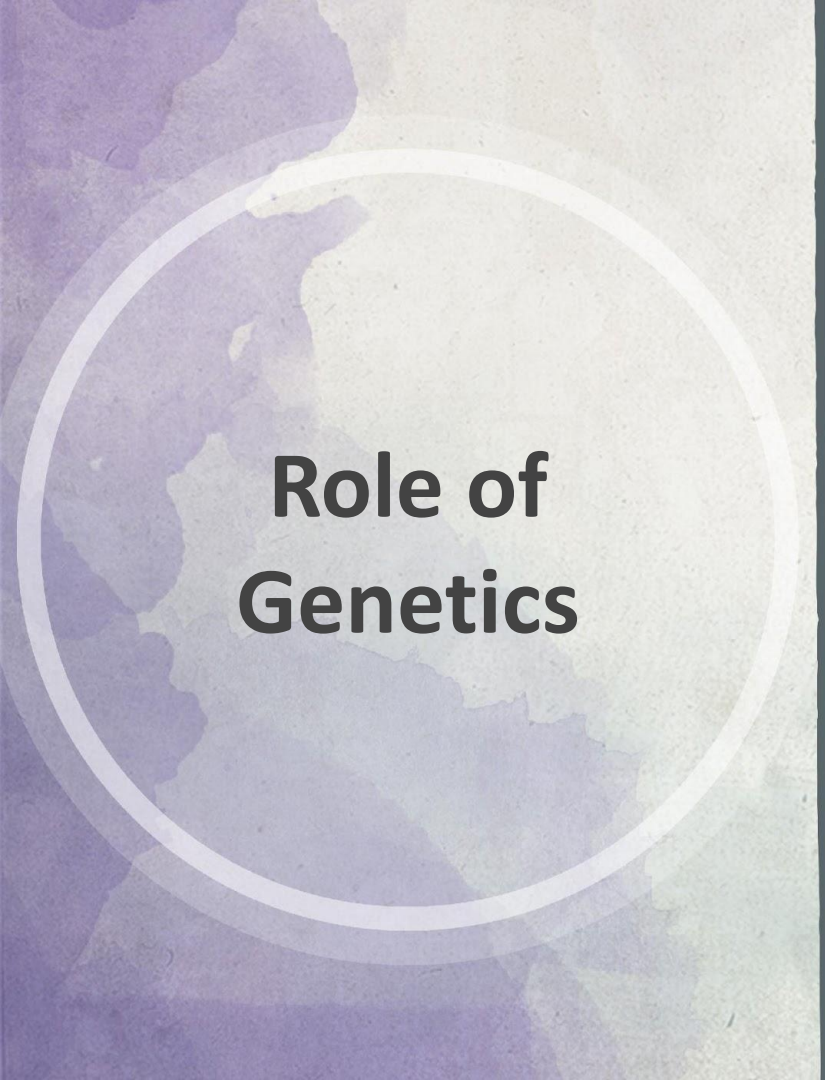
# Basics of Brain Development

- The brain develops in a predictable sequence
- Basic brain function at birth
- More complex structures develop as our needs become more complex

The Central Nervous System







# Role of Genetics

- The genetic code is like the blueprint
- Genetics, environment, and experience interact to influence brain architecture
- Epigenetics seeks to illuminate the role of historical or intergenerational trauma

# ROLE OF GENETICS

## SYNAPTIC DENSITY



At Birth



Elementary Age



Puberty



Single  
Neuron

# FIGHT, FLIGHT, FREEZE

Three major categories of panic or fear response.

- These are *natural* reactions that are essential to keeping us safe in dangerous situations
- Problems arise when the threat or danger is chronic or extreme, or we are unable to protect ourselves

**Cortisol** is a neurotransmitter that the brain releases to fuel the stress response.

- ACEs can elevate baseline cortisol



# ACES AND SELF-REGULATION

**Amygdala** is a part of the brain central to fear response.

- ACEs can enlarge and sensitize
- Hypervigilance, perception of danger everywhere
- More vulnerable to “amygdala hijack”

**Hippocampus** is key to memory and mood.

- ACEs can weaken capacity

- Important for “turning off” stress response in amygdala, release of cortisol and other stress hormones

**Neurotransmitters** are altered or rapidly fluctuate.

- Decreased serotonin, dopamine, oxytocin, norepinephrine
- Increase adrenaline and cortisol

# ACES AND ATTENTION, COMPLEX THOUGHT

## Impacts of ACEs on learning and attention:

Inability to focus, hypervigilance

Extreme focusing, inability to perceive

Weakened development of Cerebellar Vermis

Long-term impact on “feel good” neurotransmitters

## Impact of ACEs on complex thought:

Weakened development of Corpus Callosum

Delayed rational response when upset

# IMPACTS OF ACES ARE DIFFERENT FOR EVERYONE

## Factors that may influence impact of ACEs:

Age

Severity

Duration

Protective factors

Prenatal environment

## What does this mean in the classroom?

Impacts of stress and trauma can affect many domains

- Learning, behavior, social courage, attention, etc.

Reactions to stress or triggers can take many forms

- Externalized, internalized, flight reaction



# RELATIONSHIPS AND ATTACHMENT

**Relationships are central to learning and self-regulation in early life.**

**Essential relationships in early childhood:**

- Parents or primary caregivers
- Childcare providers and teachers

**Development in relationships:**

- Social competence
- Concept of self
- Thinking and learning ability
- Buffer for negative impacts of ACEs
- Foundation for resilience

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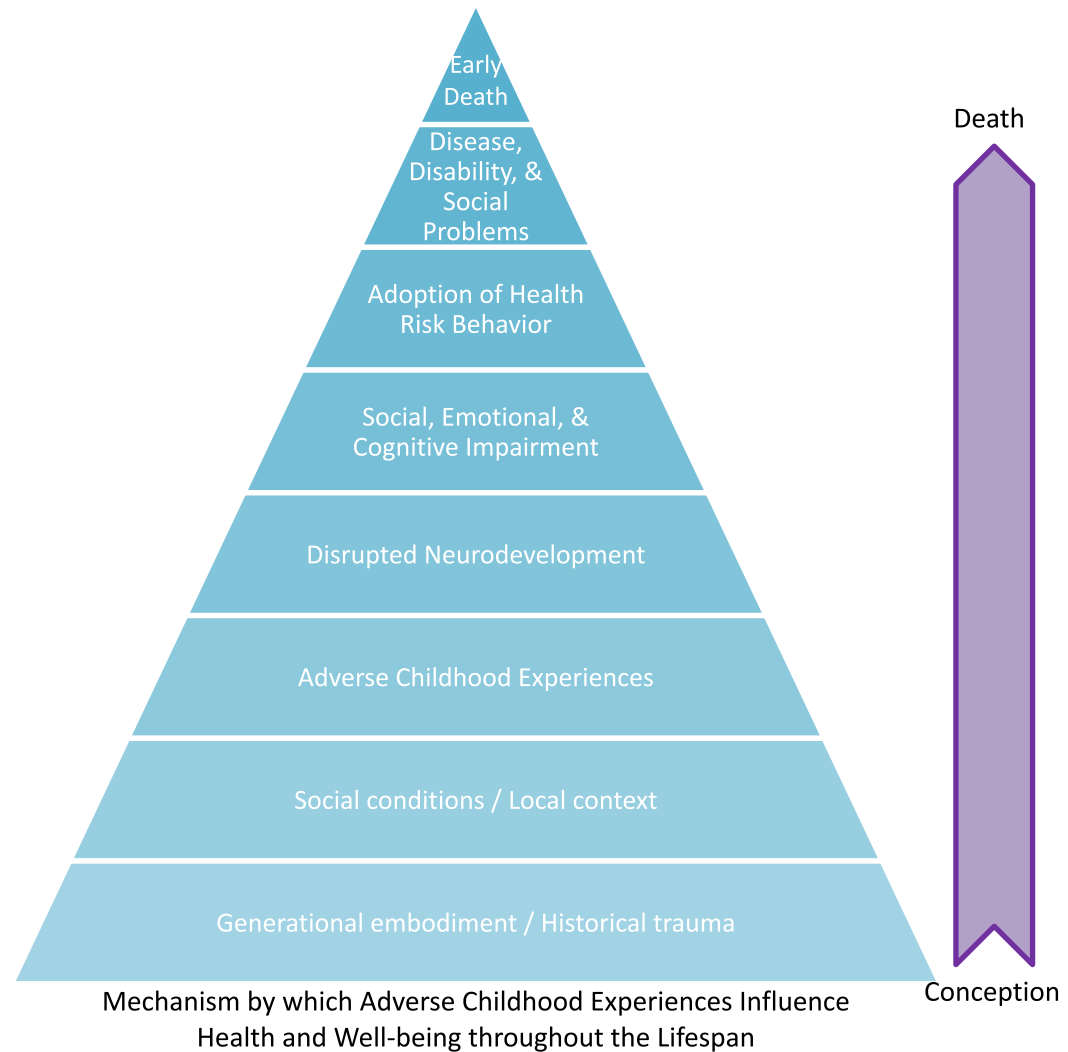
# Turn and Talk

Have you seen ACEs or trauma show up in your work?

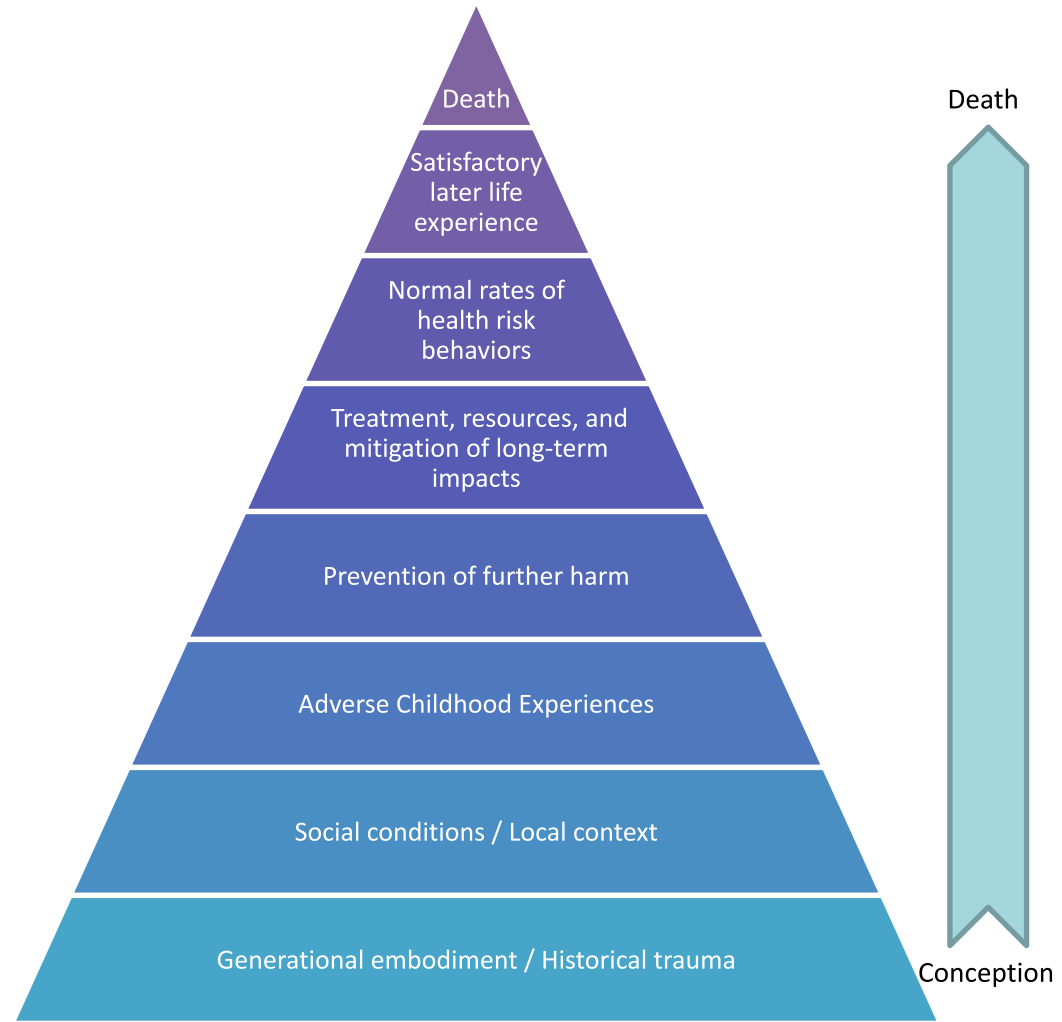
# ACEs Across Generations



# ACE Pyramid



# ACE Prevention Pyramid



# ACE STUDY

## **Findings:**

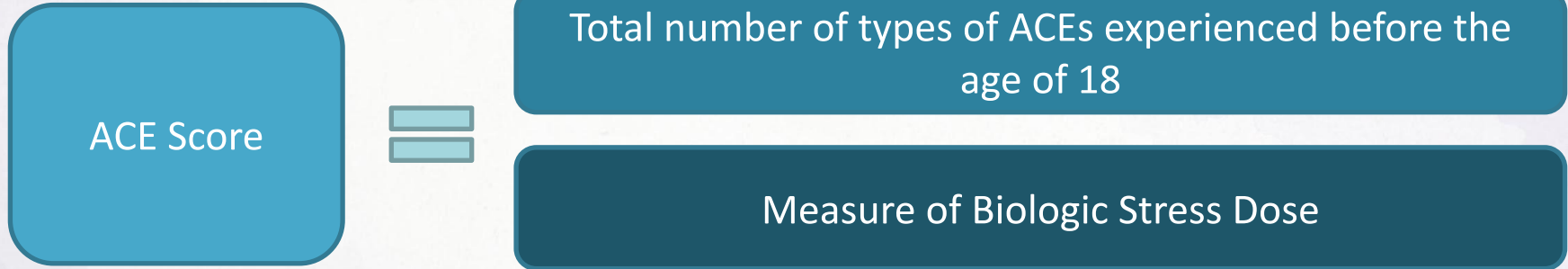
- ACEs are common
- ACEs are inter-related
- ACEs are linked to lifelong health outcomes

## **More recent studies:**

- National Study of Behavioral Risk Data
- Philadelphia ACE Study



# ACE SCORE

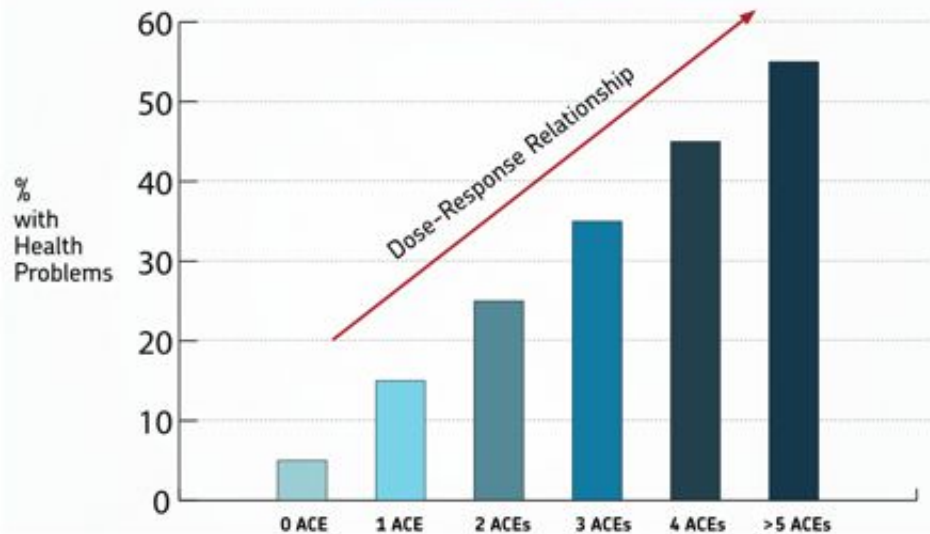


Important notes about the ACE Score:

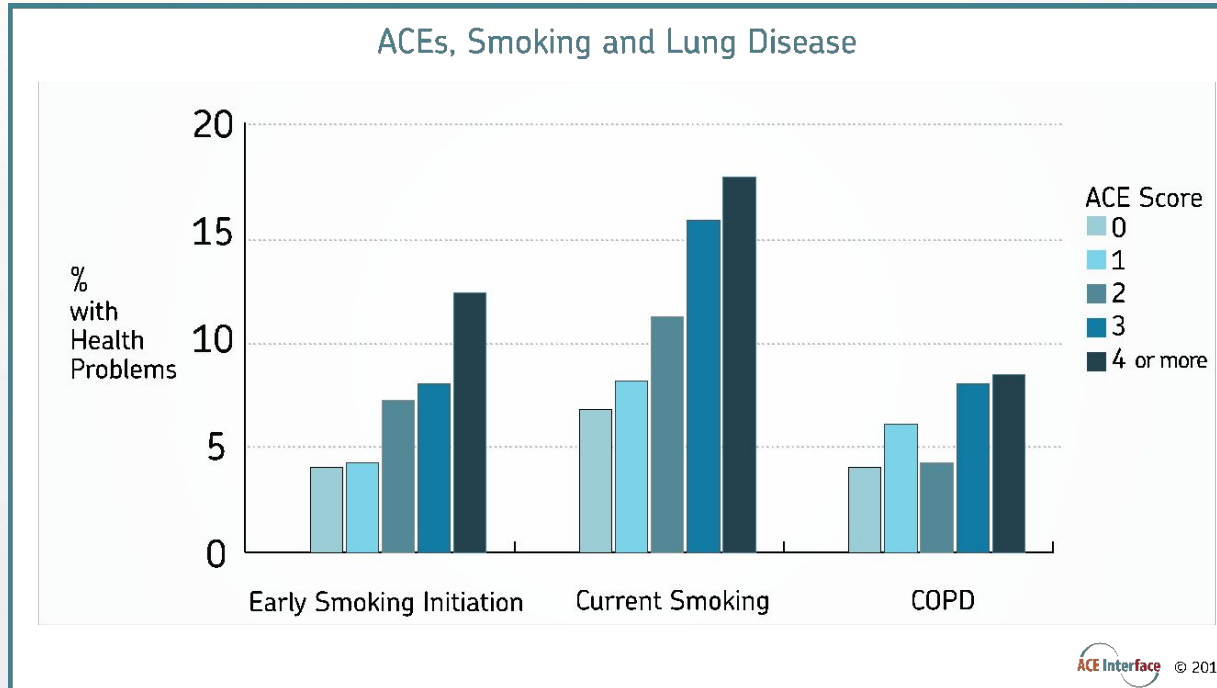
- ACEs help us understand risk, not destiny
- We can help every child build resilience

# Dose-Response Relationship

ACE Score and Health Problems

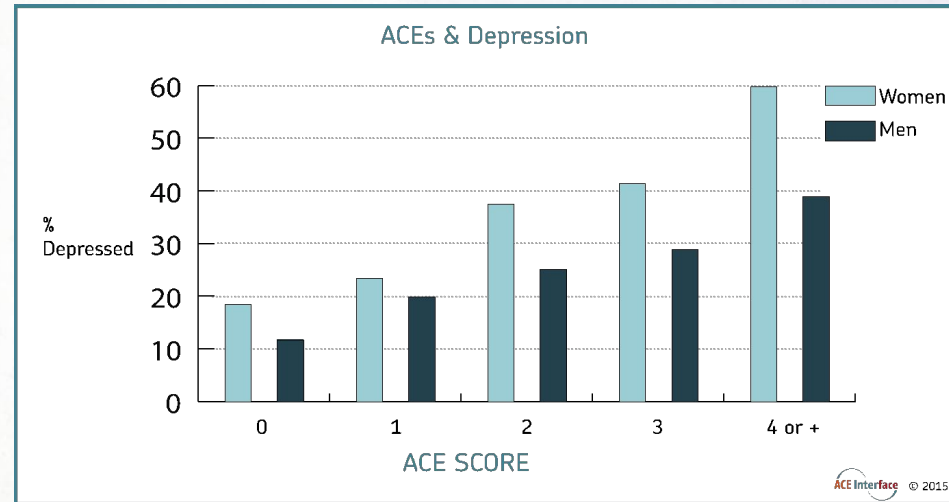
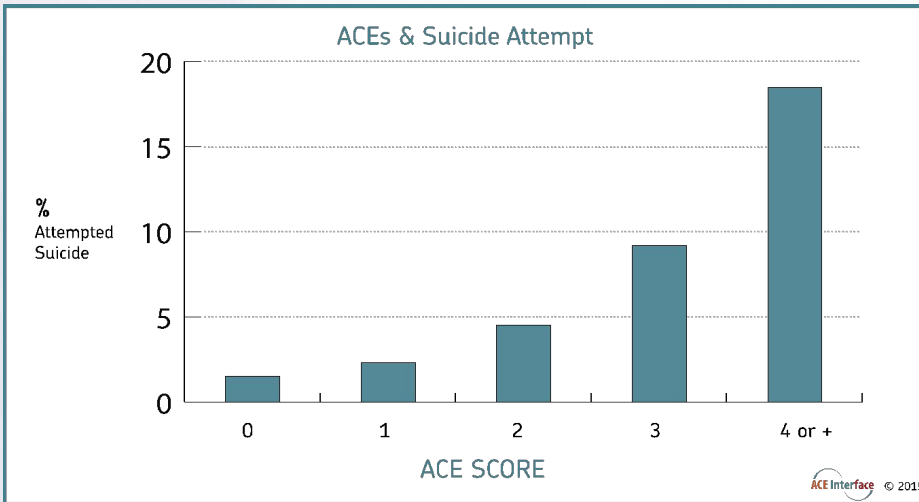


# ACES, SMOKING AND LUNG DISEASE

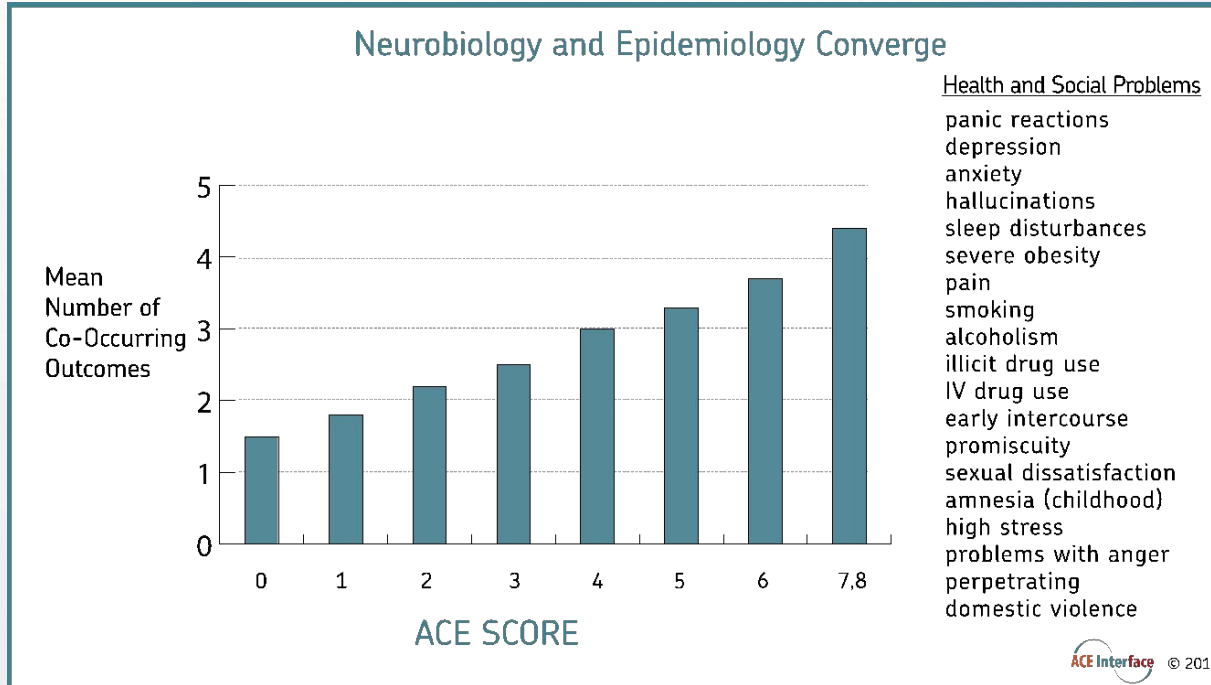




# ACES AND SUICIDE ATTEMPT, DEPRESSION



# NEUROBIOLOGY AND EPIDEMIOLOGY CONVERGE



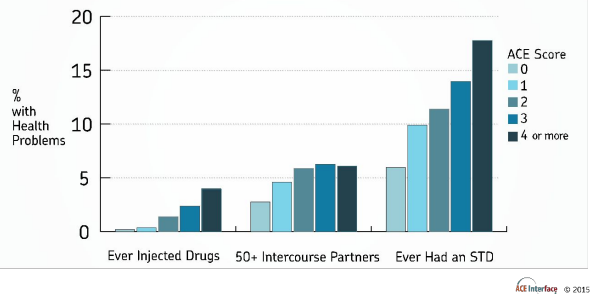
# OTHER ASSOCIATED HEALTH CONDITIONS

- Asthma
- Liver disease
- Stroke
- Heart disease

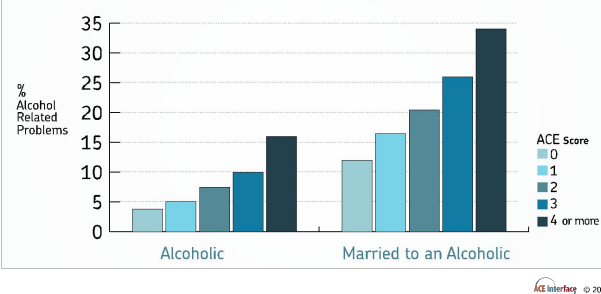
- Cancer
- Diabetes
- Hypertension
- Alzheimer's

- Frequent infections
- Premature death
- Kidney disease
- Obesity

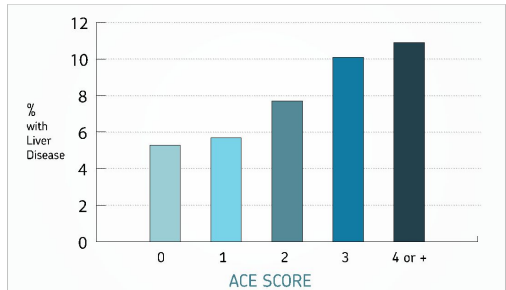
ACE Score and HIV Risks



ACEs & Alcoholism & Marrying an Alcoholic



ACE Score and Liver Disease





# A NOTE ABOUT ASSESSING ACES

## **ACE Questionnaire limitations:**

- Does not account for factors affecting impact
- Does not measure duration of severity
- Does not measure lived well-being
- Does not measure resilience

## **Another option – PEARLS:**

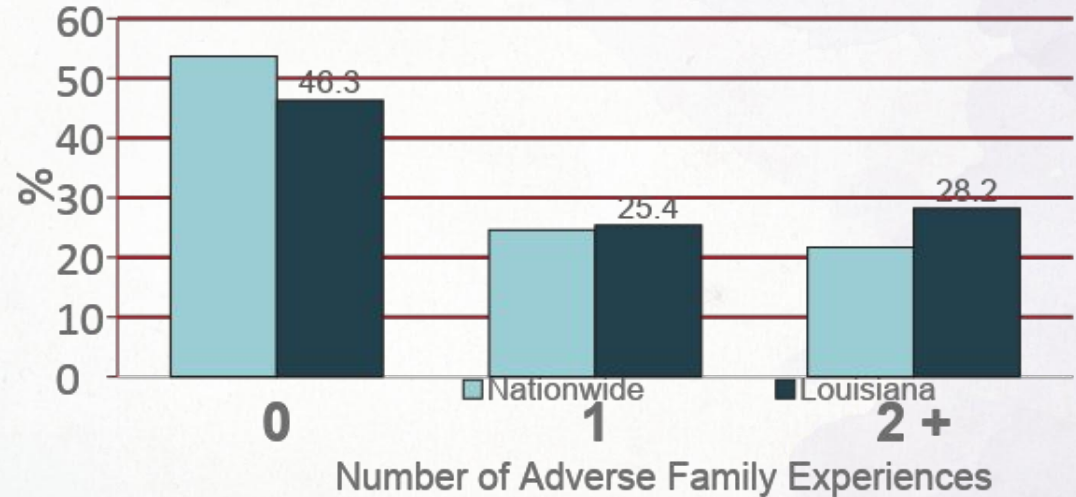
- Assessment conducted by pediatrician
- Validated
- Designated to ask caregiver about child's ACEs or self-report for 12-19-year-olds
- Specific information not required
- Expanded ACEs to better assess toxic stress

# ADVERSE FAMILY EXPERIENCES IN LOUISIANA

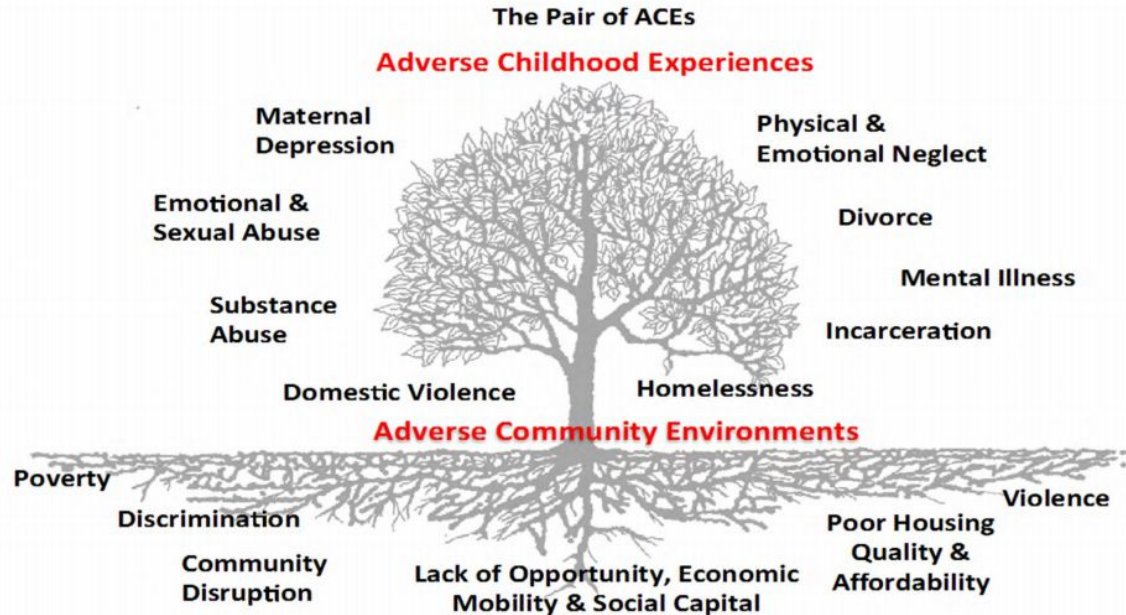
1. Divorce/separation of parent
2. Death of parent
3. Parent served time in jail
4. Witness to domestic violence
5. Lived with someone who was mentally ill or suicidal
6. Lived with someone with alcohol/drug problem
7. Socioeconomic hardship
8. Victim of neighborhood violence
9. Treated or judged unfairly due to race/ethnicity

## Adverse Family Experiences – 2016

Children age 0-17 years  
Nationwide vs. Louisiana



# THE PAIR OF ACES



Ellis, W., Dietz, W. (2017) A New Framework for Addressing Adverse Childhood and Community Experiences: The Building Community Resilience (BCR) Model. *Academic Pediatrics*. 17 (2017) pp. S86-S93. DOI information: 10.1016/j.acap.2016.12.011



# ACEs in Early Childhood

1 in 4

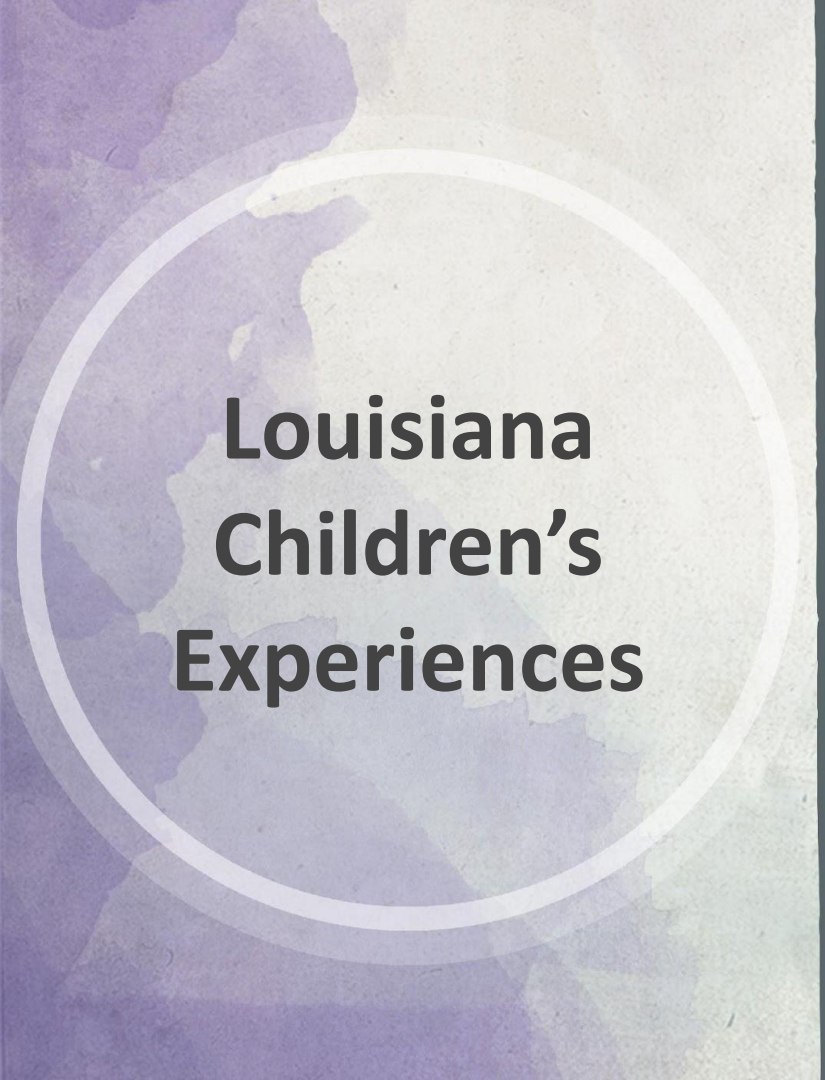
confirmed Child Abuse/Neglect  
cases involved a child under 3  
(US DHHS 2015)

60%

of children who experience  
domestic violence are under  
age 6 at time of exposure

# ACES IN EARLY CHILDHOOD

- Parental ACEs increase risk for development delays
  - 18% increase with each additional maternal ACE
- Why?
  - Multiple pathways for risk
  - Physical health risk – difficult pregnancy, preterm birth
  - Psychosocial risk (parental stress) – prenatal cortisol, post-partum depression (maternal affect)
  - Epigenetic risk



# Louisiana Children's Experiences

- 12% of Louisiana children have a parent who was ever incarcerated
- 27% of Louisiana children live in households below the poverty line
- 23% of Louisiana children live in food insecure households
- Child abuse and neglect can happen to any child



# EXPERIENCES OF LOUISIANA MOMS

***Maternal stressors in the 12 months before baby was born.***

	Weighted %
Family member sick	26.7%
Separation/divorce	15.4%
Moved to new address	33.5%
Homeless	4.1%
Partner lost job	12.6%
Mother lost job	14.3%
Cut in work hours or pay	25.5%
Apart from husband or partner for work reasons	6.5%
Argued with partner more	28.9%
Partner said didn't want pregnancy	6.4%
Had bills couldn't pay	21.9%
Partner went to jail	4.0%
Someone close had problem with drinking/drugs	9.6%
Someone close died	17.3%

# THE PARADIGM SHIFT

*“What’s  
wrong with  
you?”*



*“What  
happened to  
you?”*

# ACES

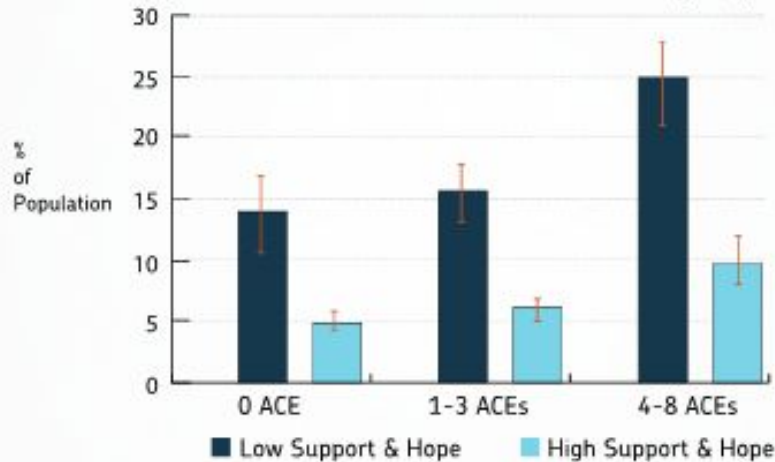
*Healing is possible at  
any point in life.*



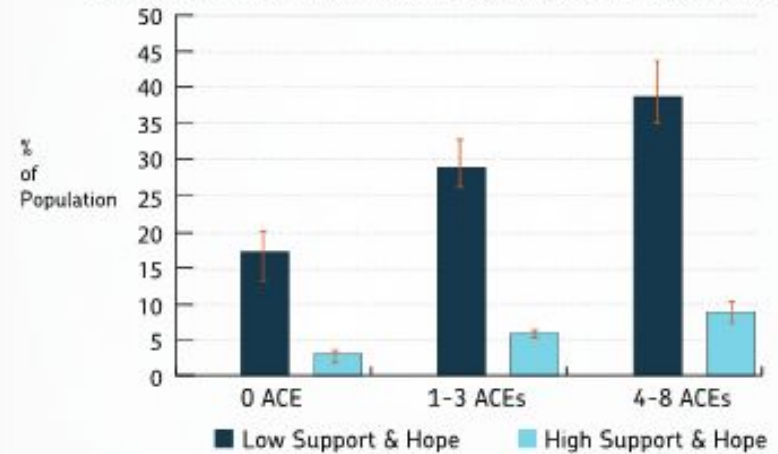


# THE IMPORTANCE OF RELATIONSHIPS

Poor Physical Health More Than Half Last Month With High Support & Hope



Poor Mental Health More Than Half Last Month With High Support & Hope



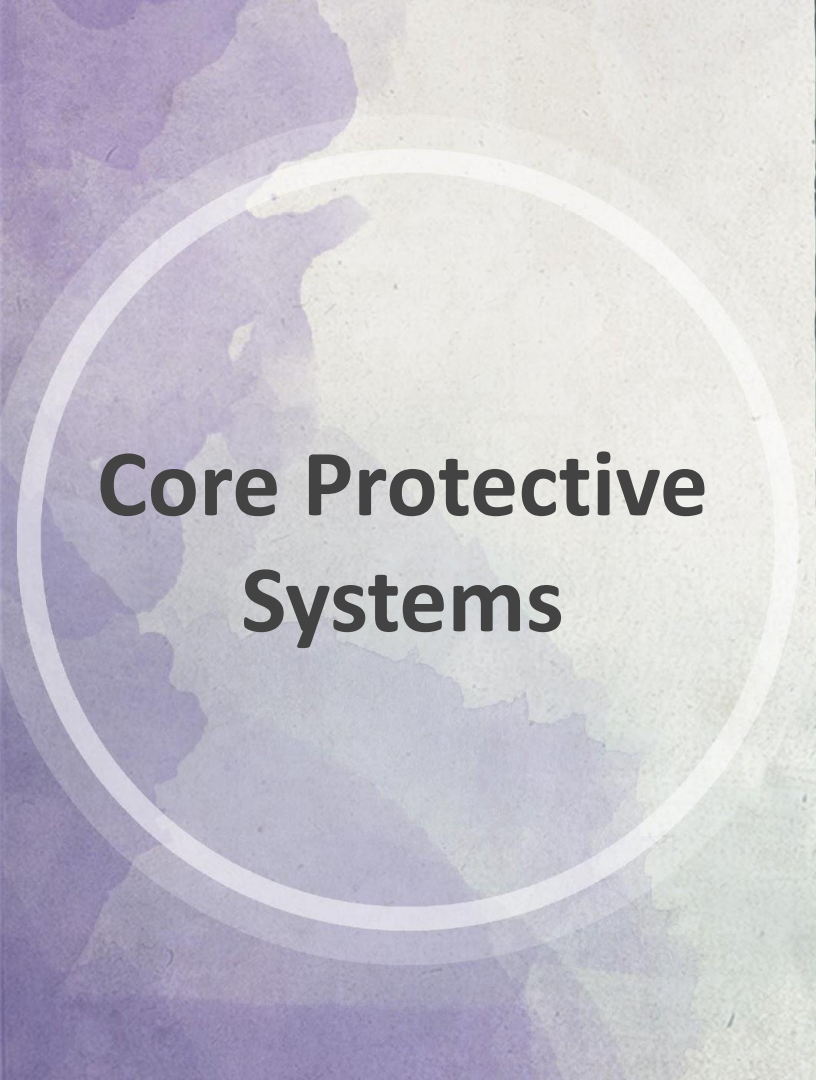
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# Turn and Talk

- Does this change your thinking about ACEs and trauma? How?
- What do you think can be done to prevent ACEs and heal trauma?

# Preventing ACEs: Safety and Connection





# Core Protective Systems



CONNECTED  
COMMUNITIES

INDIVIDUAL  
CAPABILITIES

CARING &  
COMPETENT  
RELATIONSHIPS

# SAFE, STABLE, NURTURING RELATIONSHIPS AND ENVIRONMENTS

**Safe** – Free from fear and secure from physical or psychological harm within social and physical environment.

**Stable** – Predictability and consistency in child's social, emotional, and physical environment.

**Nurturing** – Children's physical, emotional, and developmental needs are sensitively and consistently met.

# TRAUMA-SENSITIVE APPROACH

The Four Rs:

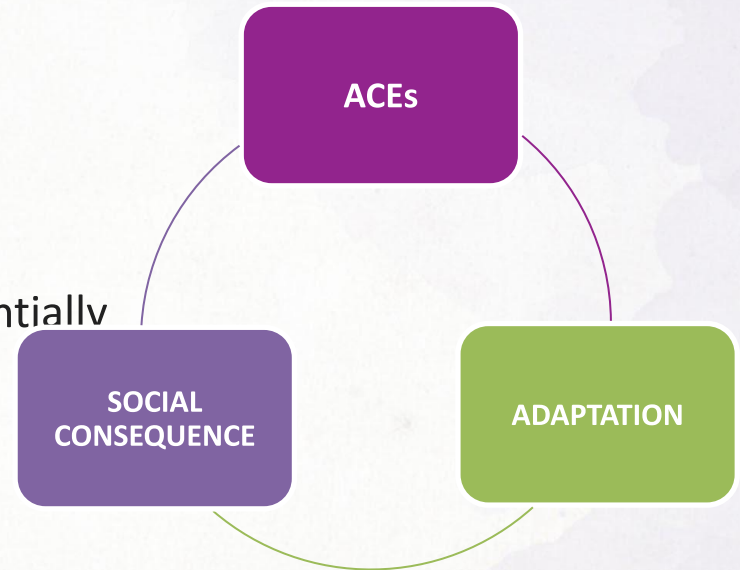
- **Realizes** the widespread impact of trauma and understands potential paths for recovery.
- **Recognizes** the signs and symptoms of trauma in clients, families, staff, and others involved with the system.
- **Responds** by fully integrating knowledge about trauma into policies, procedures, and practices.
- **Resists** re-traumatization.

*Especially important* when disciplining, correcting, or addressing conflict or tension.



# VICIOUS AND VIRTUOUS CYCLES

- Adaptations to ACEs often collide with social expectations.
- In a **vicious cycle**:
  - ACEs lead to adversity
  - Adaptations lead to social consequence and potentially re-traumatization
- In a **virtuous cycle**:
  - ACEs lead to adaptations
  - Adaptations are recognized by social systems prepared to provide safety and connection and build resilience



# STRESS TRIGGERS AND BEHAVIORS, 0-1

## Potential stressors:

- Unexpected changes in routines or caregivers
- Loud, unexpected noises
- Strong emotions (often anger)

## Developmentally appropriate response:

- Startle, but is able to self-soothe (clasp hands, suck)
- Cry, but is able to be comforted by caregivers

# STRESS TRIGGERS AND BEHAVIORS, 0-1

FLIGHT	FIGHT	FREEZE
<ul style="list-style-type: none"><li>• Excessive sleeping with difficulty arousing</li><li>• Avoiding eye contact</li><li>• Crawling or moving away</li></ul>	<ul style="list-style-type: none"><li>• Crying inconsolably (caregiver may be unable to soothe)</li><li>• Clinging to adults</li><li>• Fussing</li><li>• Arching back</li><li>• Pulling or pushing away</li></ul>	<ul style="list-style-type: none"><li>• Dull-looking face and eyes</li><li>• Looking away (disengaging)</li><li>• Sleeping a lot</li><li>• Showing little emotion</li><li>• Going from “awake” to “sleep state” quickly</li></ul>



# TRAUMA-SENSITIVE CARE, 0-1

- Provide consistent routines
- Provide consistent caregivers
- Allow comfort items (thumb, blanket)
- Show sensitivity to children's cues
- Be physically and emotionally available through challenging feelings/behaviors
- Verbalize sympathy

# STRESS TRIGGERS AND BEHAVIORS, 1-3

## Potential stressors:

- Unexpected changes in routines
- Transitions
- Strangers
- Crowds, disorder, and chaotic environments
- Anger (real or perceived) from others

## Developmentally appropriate response:

- Excited about their world
- Eager to engage, but may be shy
- Easily frustrated, which may lead to tantrums or aggression
- Fear of strangers
- Engage in parallel play rather than group play

# STRESS TRIGGERS AND BEHAVIORS, 1-3

FLIGHT	FIGHT	FREEZE
<ul style="list-style-type: none"><li>• Difficulty paying attention</li><li>• Fearfulness</li><li>• Isolating self from others</li><li>• Refusal to participate through withdrawal</li><li>• Running or walking away</li></ul>	<ul style="list-style-type: none"><li>• Aggressive behavior (biting, hitting, pushing)</li><li>• Clinging to adults</li><li>• Having a tantrum</li><li>• Refusal to participate through disruptive behavior</li><li>• Throwing toys</li></ul>	<ul style="list-style-type: none"><li>• “Checking out”</li><li>• Unresponsive, not appearing to hear or understand</li><li>• Difficulty with learning activities</li></ul>



# TRAUMA-SENSITIVE CARE, 1-3

- Help identify and label feelings
- Minimize power and control, focus on collaboration with the child – give choices
- Encourage movement and exercise
- Teach deep, slow breathing games – blowing candles out, breathing in pleasant smells
- Allow extra time for child to prepare for transitions – give verbal warnings 5-10 minutes before transitions
- Allow children to take breaks from activities as needed
- Allow comfort items – blankets, stuffed animals
- Show sensitivity to children's cues

# BUILDING SKILLS THROUGH PLAY

**Executive Skills** form a foundation for learning and development.

- Working memory
- Inhibitory control
- Cognitive flexibility

**School readiness skills:**

- Following directions
- Taking turns and sharing
- Paying attention

**“Scaffolding” by adults:**

- Get to know each child
- Practice and repeat
- Let the child decide when to stop

# GAMES THAT BUILD EXECUTIVE SKILLS

## 6-18 months:

- Lap games
- Hiding games
- Imitation or copying games
- Simple role play

## 18-36 months:

- Active games
- Conversations and storytelling
- Matching/sorting games
- Imaginary play





# FAMILY ENGAGEMENT

## Key features:

- Two-generation approach
- Receptive, responsive, respectful
- Training on how to partner with families
- Culturally responsive
- Strengths-based
- Allow parents and providers to collaborate on difficulty behaviors, routines, expressing pride, and preparing transitions
- Help childcare and ECE providers identify potential risks



# Family Engagement Activities

- Parents cafes
- Conversation starters
- Programs for dads
- Playgroups
- Story times
- Family field trips
- Welcoming environment
- Adult skills trainings

# CONNECTED COMMUNITIES

- Staff and parent training
- Intensive individual therapy for particularly affected children
- In-classroom skill-building and coaching for teachers
- Mandated reporter training
- Helping children learn boundaries

## **Improvements in:**

- Attention problems
- Attention deficit/hyperactivity
- Aggressive behavior
- Oppositional defiance
- Individual treatment improvements in attention and depression/anxiety





# Vignettes

How could you address your situation in a trauma-informed way:

- With the child?
- With the family?
- As a community?

# Session Review

# REVIEW LEARNING OBJECTIVES

- Gain a general understanding of brain development, the findings of the ACEs study, and evidence-based prevention and intervention strategies
- Apply scientific findings about ACEs and toxic stress to development ages 0-3, and analyze impacts on behaviors and developmental milestones
- Connect information presented to their own experiences
- Practice applying evidence-based strategies for creating safe, stable, nurturing relationships and environments



**Reflections,  
Questions, &  
Comments**



**Please complete the  
Post-Assessment  
Evaluation.**

**Thank you!**





# REFERENCES

ACE Interface

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Namka, L. (2002). Help your child deal with feelings of threat: The options: Fight, Flight, Freeze or Deal with the Problem. Visit: [angriesout.com/parent9.htm](http://angriesout.com/parent9.htm)

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