



# Adverse Childhood Experiences: Trauma Responsive Care

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# Agenda

- Overview of Adverse Childhood Experiences
- Evidence-based Resilience Factors
- Trauma Responsive Care Practices

“The science is clear: Early adversity dramatically affects health across the lifetime.”

--Dr. Nadine Burke Harris, TedMed talk, 2014



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“Adverse Childhood Experiences are the single greatest unaddressed public health threat facing our nation today.”

--Dr. Bob Block

Child Abuse Pediatrician, Past President of the AAP 2011-2012

# Interconnectedness

- Adverse Childhood Experiences (ACEs) *vs* Toxic Stress *vs* Social Determinants of Health (SDoH)
  - ACEs can lead to Toxic Stress → poor child health → poor adult health outcomes
  - SDoH = conditions (e.g., social, economic, and physical) in the environments in which people live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks
    - Elements can be considered ACEs



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# ACEs—the original 1998 study

## Research Article

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## Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults

### The Adverse Childhood Experiences (ACE) Study

Vincent J. Felitti, MD, FACP, Robert F. Anda, MD, MS, Dale Nordenberg, MD, David F. Williamson, MS, PhD, Alison M. Spitz, MS, MPH, Valerie Edwards, BA, Mary P. Koss, PhD, James S. Marks, MD, MPH

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Am J Prev Med 1998;14(4)

© 1998 American Journal of Preventive Medicine

- Has been cited 8,239 times in medical literature (per Web of Science)
- Numerous publications using this data
  - These are listed on CDC website

(<https://www.cdc.gov/violenceprevention/aces/resources.html>)

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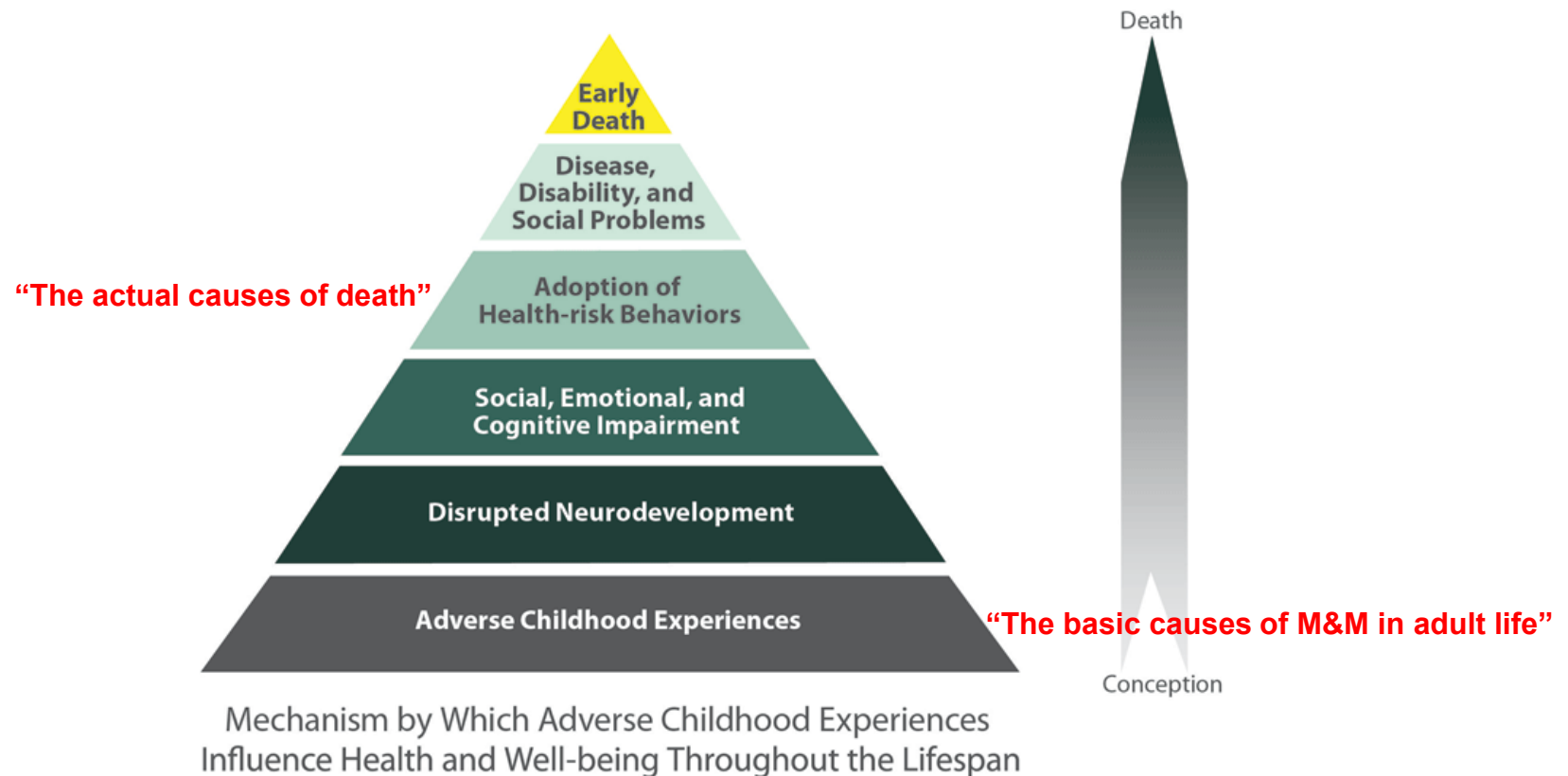


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# Conceptual Framework of ACEs Study



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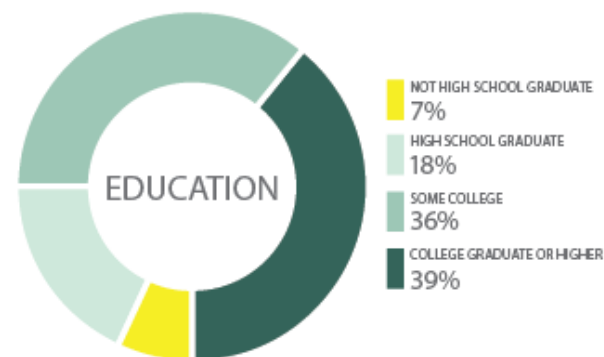
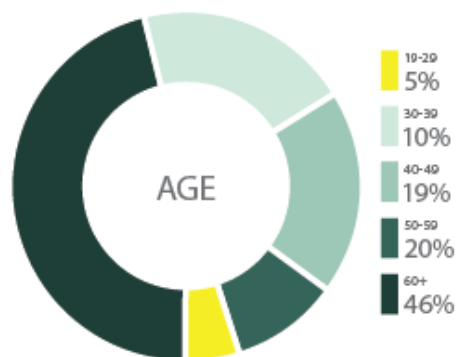
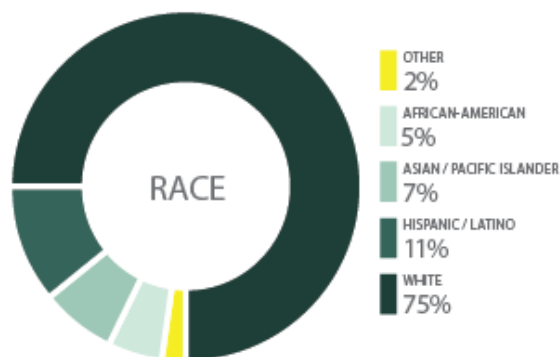


# WHAT ARE ACEs?

Adverse Childhood Experiences (ACEs) is the term given to describe all types of abuse, neglect, and other traumatic experiences that occur to individuals under the age of 18. The landmark Kaiser ACE Study examined the relationships between these experiences during childhood and reduced health and well-being later in life.

## WHO PARTICIPATED IN THE ACE STUDY?

Between 1995 and 1997, over 17,000 people receiving physical exams completed confidential surveys containing information about their childhood experiences and current health status and behaviors. The information from these surveys was combined with results from their physical exams to form the study's findings.



\*Participants in this study reflected a cross-section of middle-class American adults.



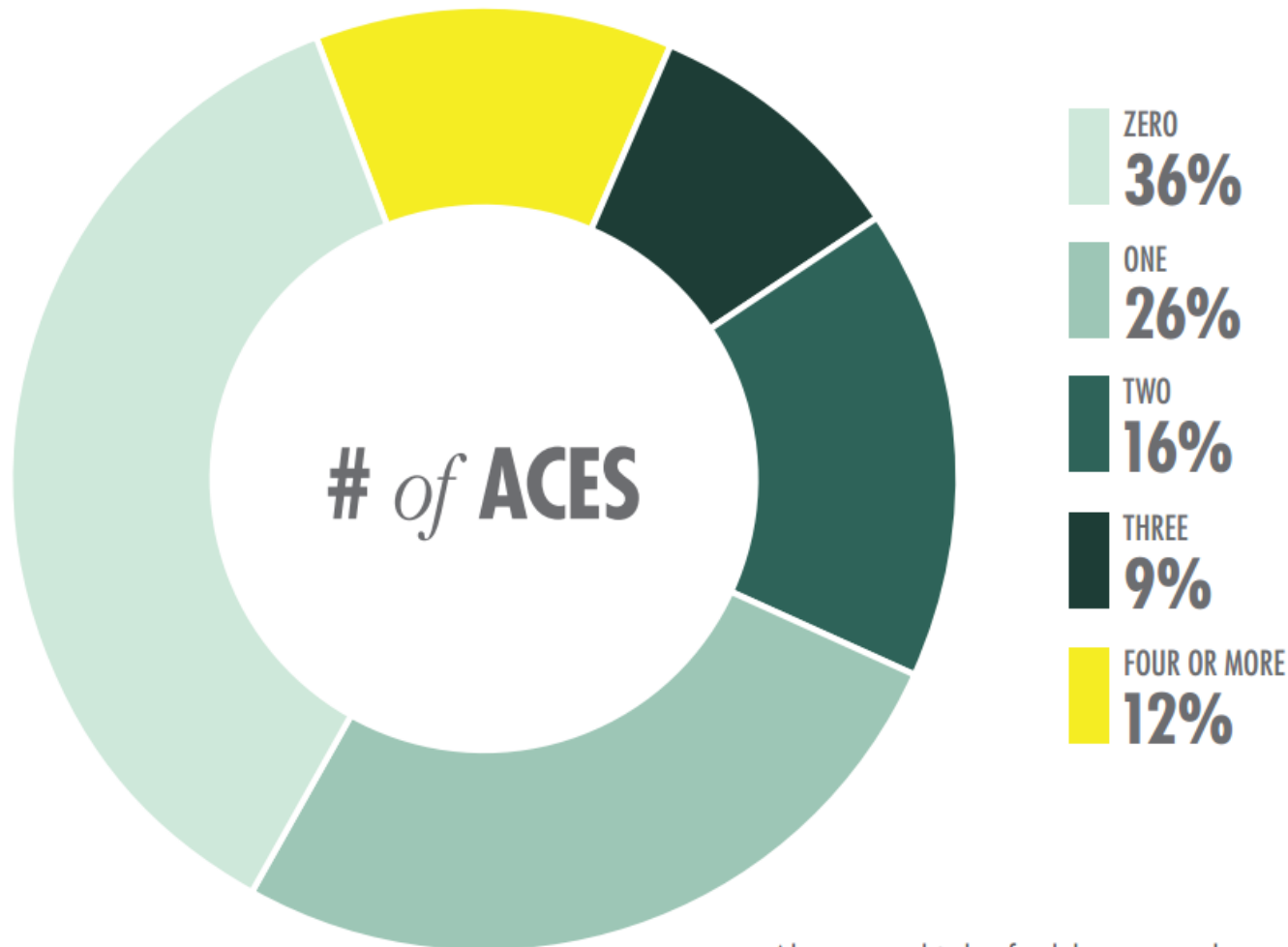
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# Prevalence of ACEs



Almost two-thirds of adults surveyed reported at least one Adverse Childhood Experience – and the majority of respondents who reported at least one ACE reported more than one.

# ACES can have lasting effects on....



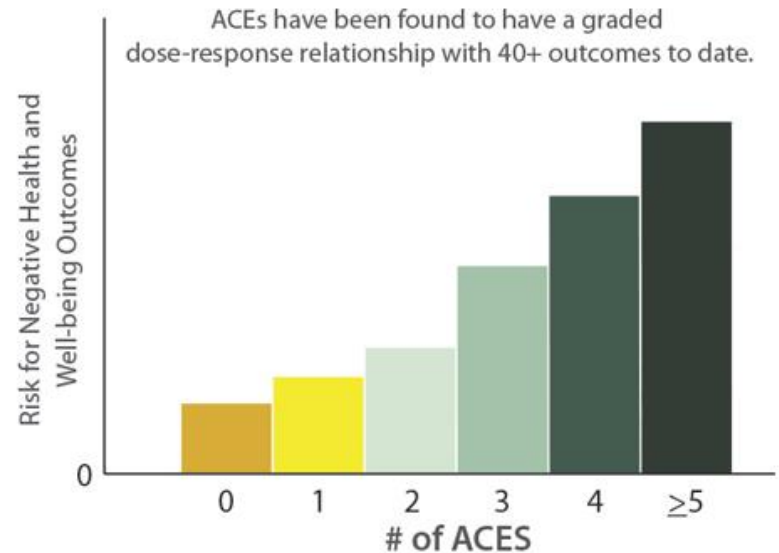
Health (obesity, diabetes, depression, suicide attempts, STDs, heart disease, cancer, stroke, COPD, broken bones)



Behaviors (smoking, alcoholism, drug use)



Life Potential (graduation rates, academic achievement, lost time from work)



\*This pattern holds for the 40+ outcomes, but the exact risk values vary depending on the outcome.

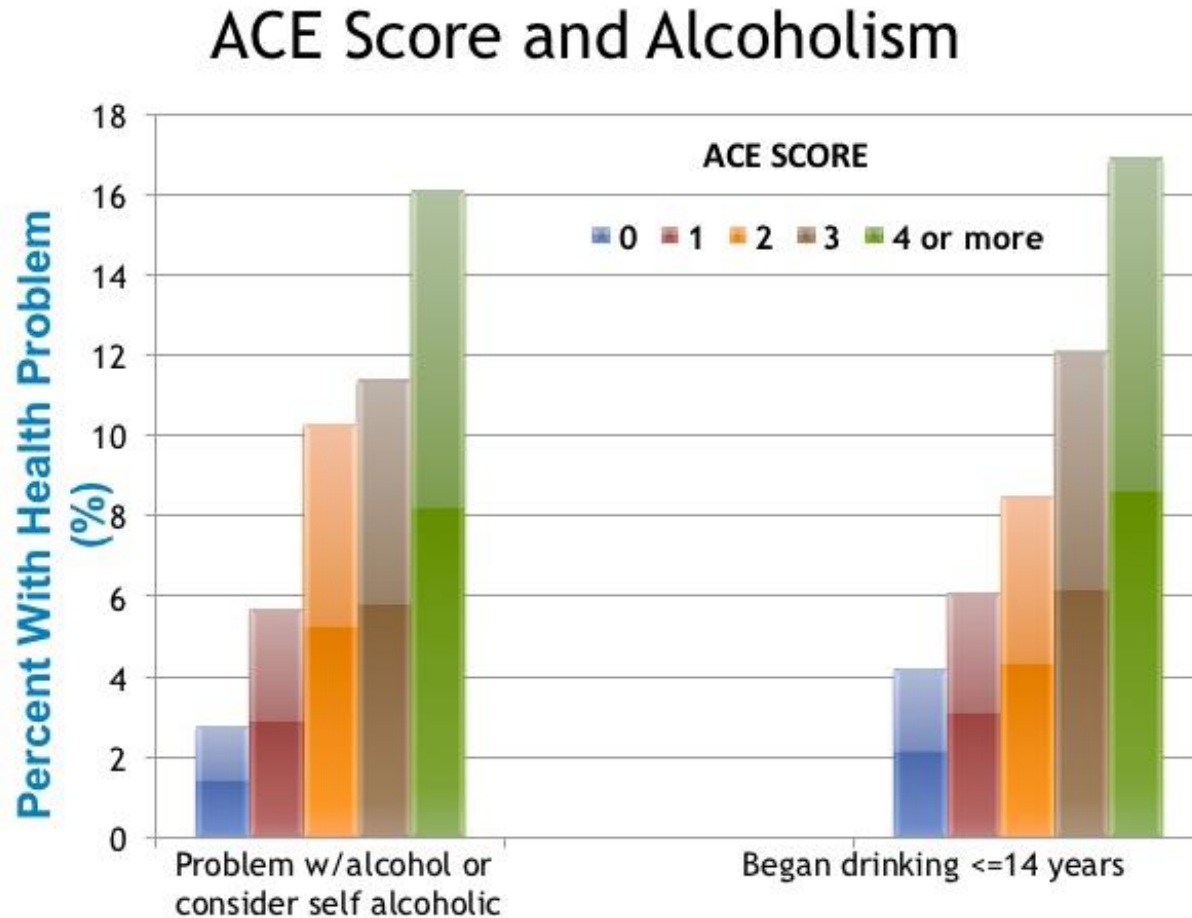


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# ACE Score & Alcohol Use

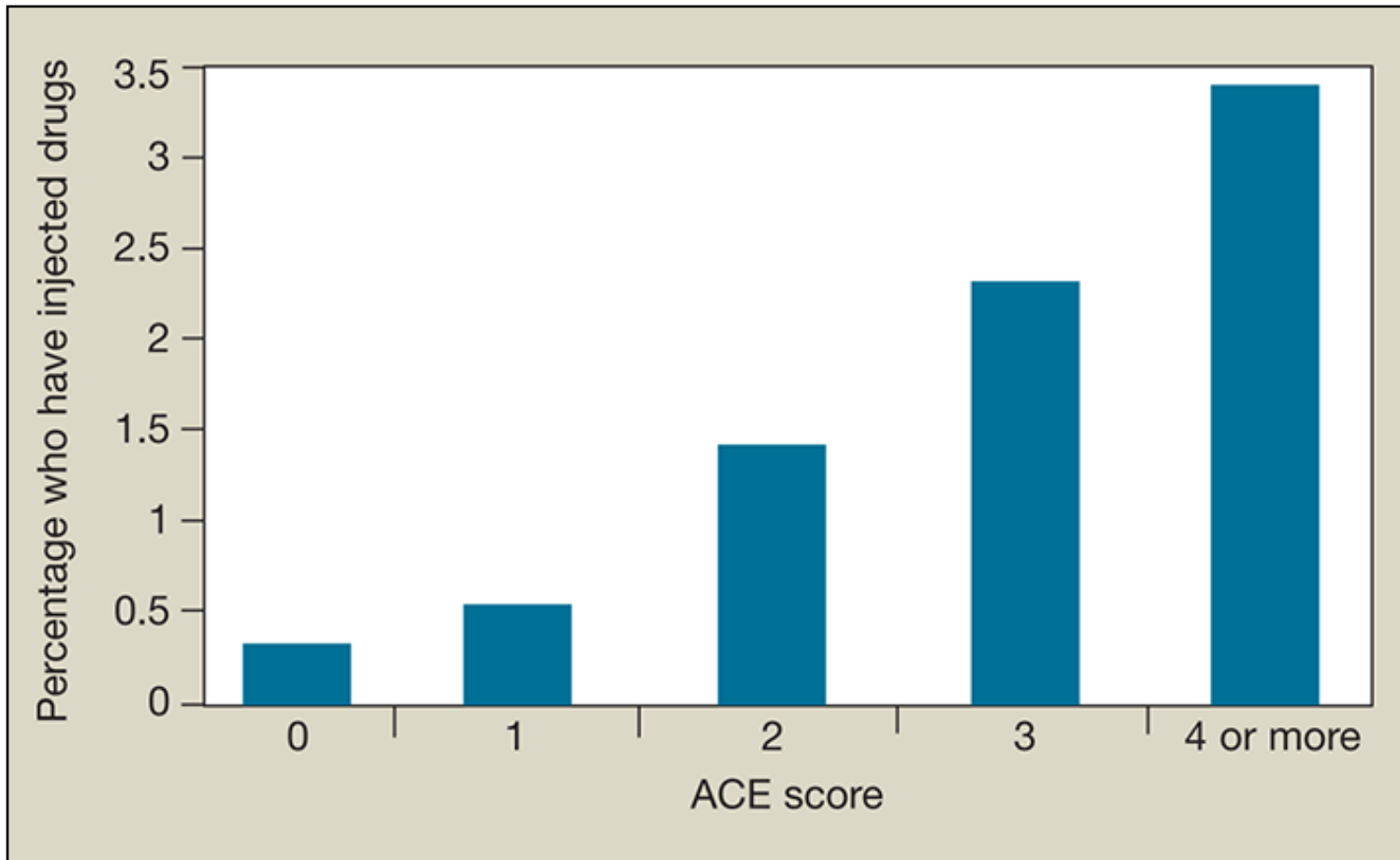


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# ACE Score & IV Drug Use



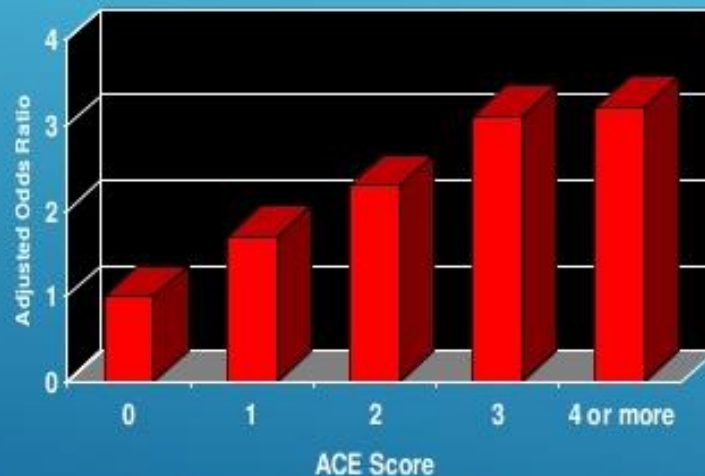
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# ACE Score & Sexual Partners

## Adverse Childhood Experiences and Likelihood of > 50 Sexual Partners



Higher # of ACEs more likelihood of the adult having had 50 or more sexual partners and being at risk for unwanted pregnancy, socially transmitted diseases, HIV/AIDS.

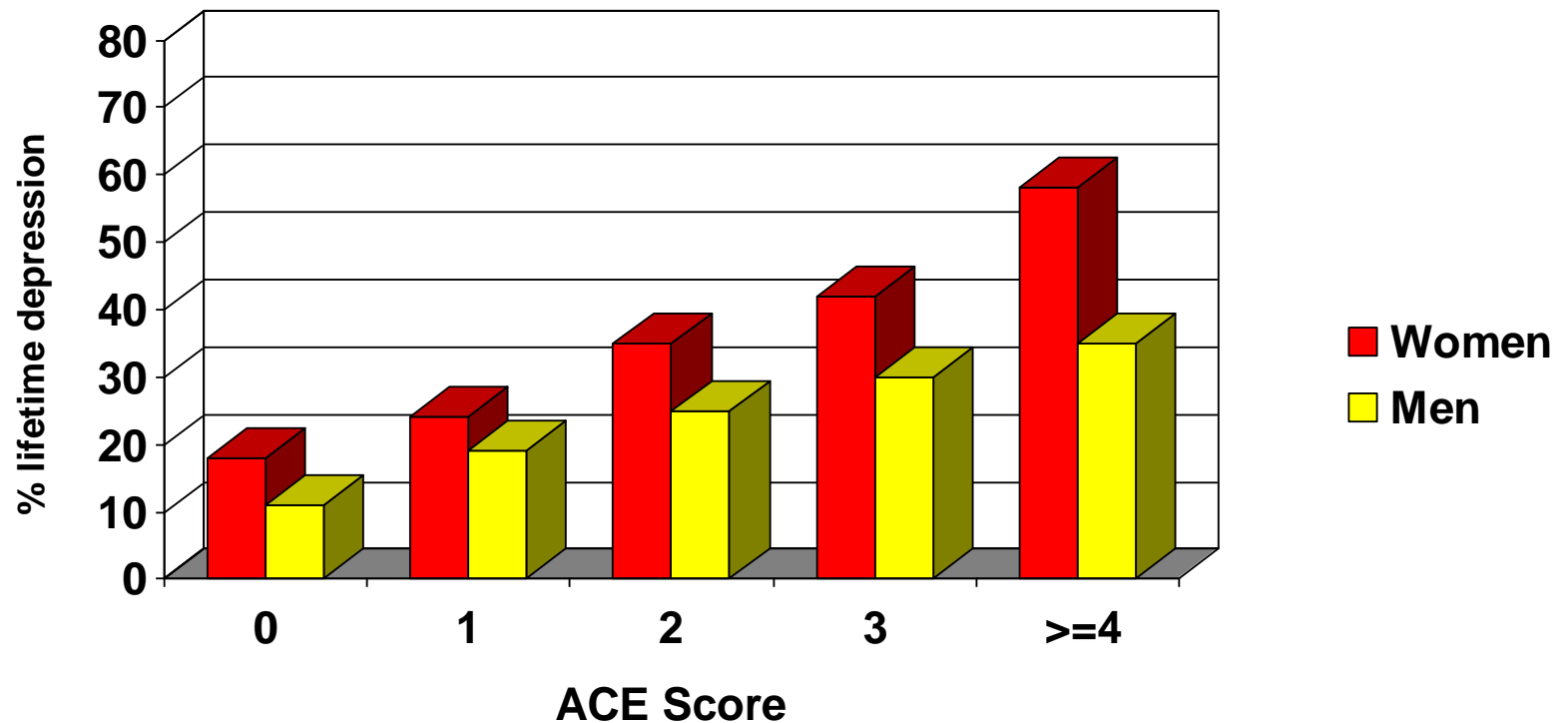


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# ACE Score & Depression

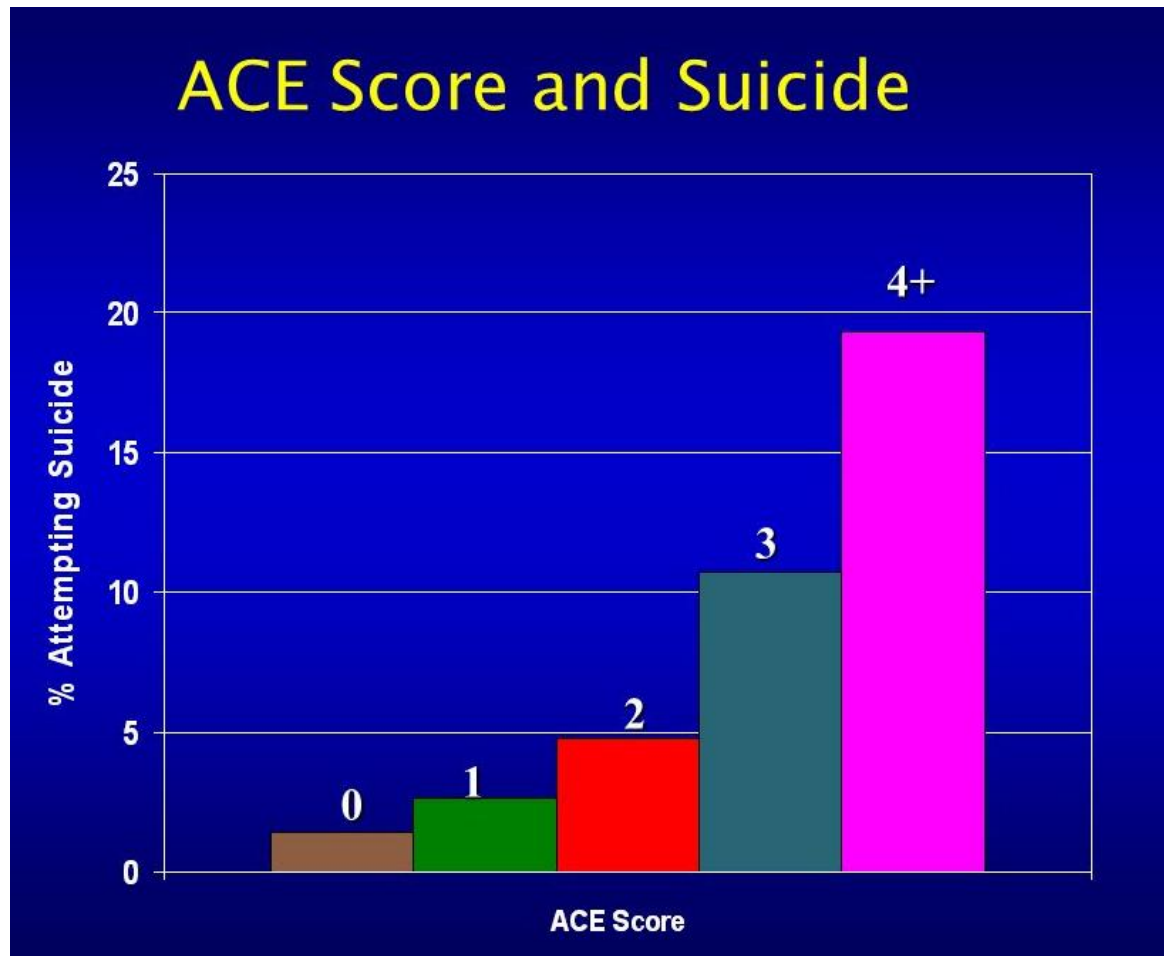


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# ACE Score & Suicide Attempts



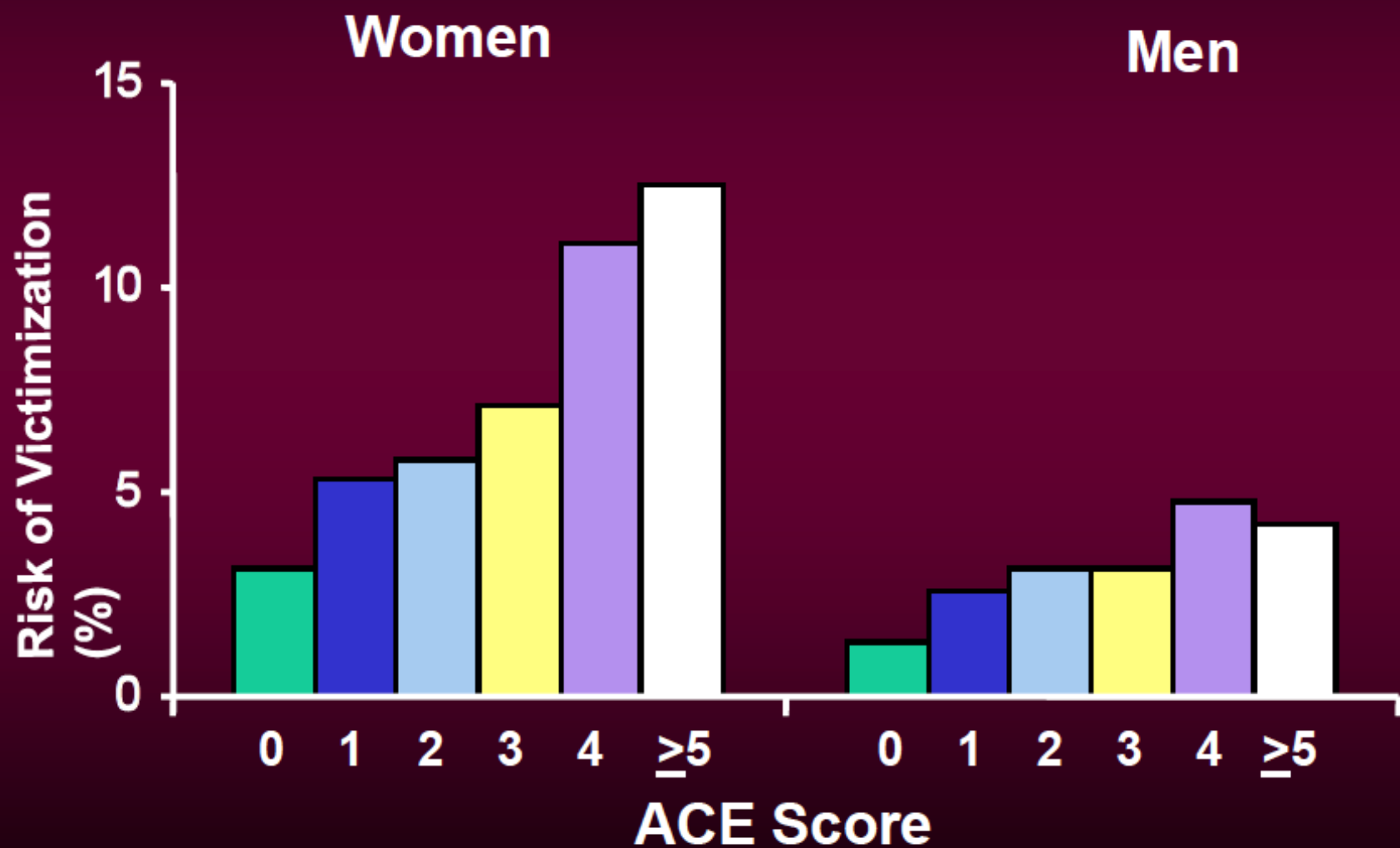
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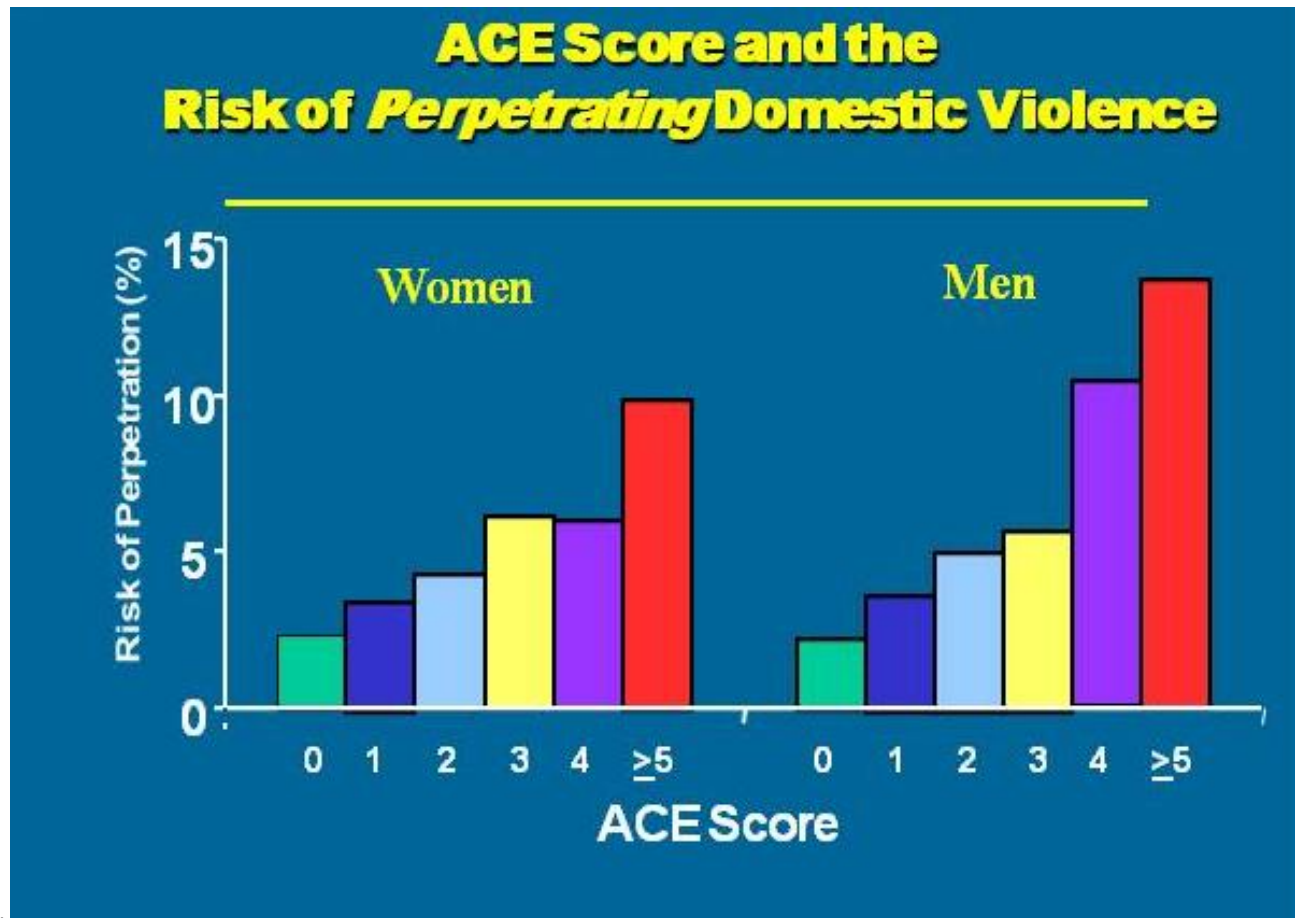
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# ACE Score and the Risk of Being a Victim of Domestic Violence



# ACE Score & Perpetrating DV

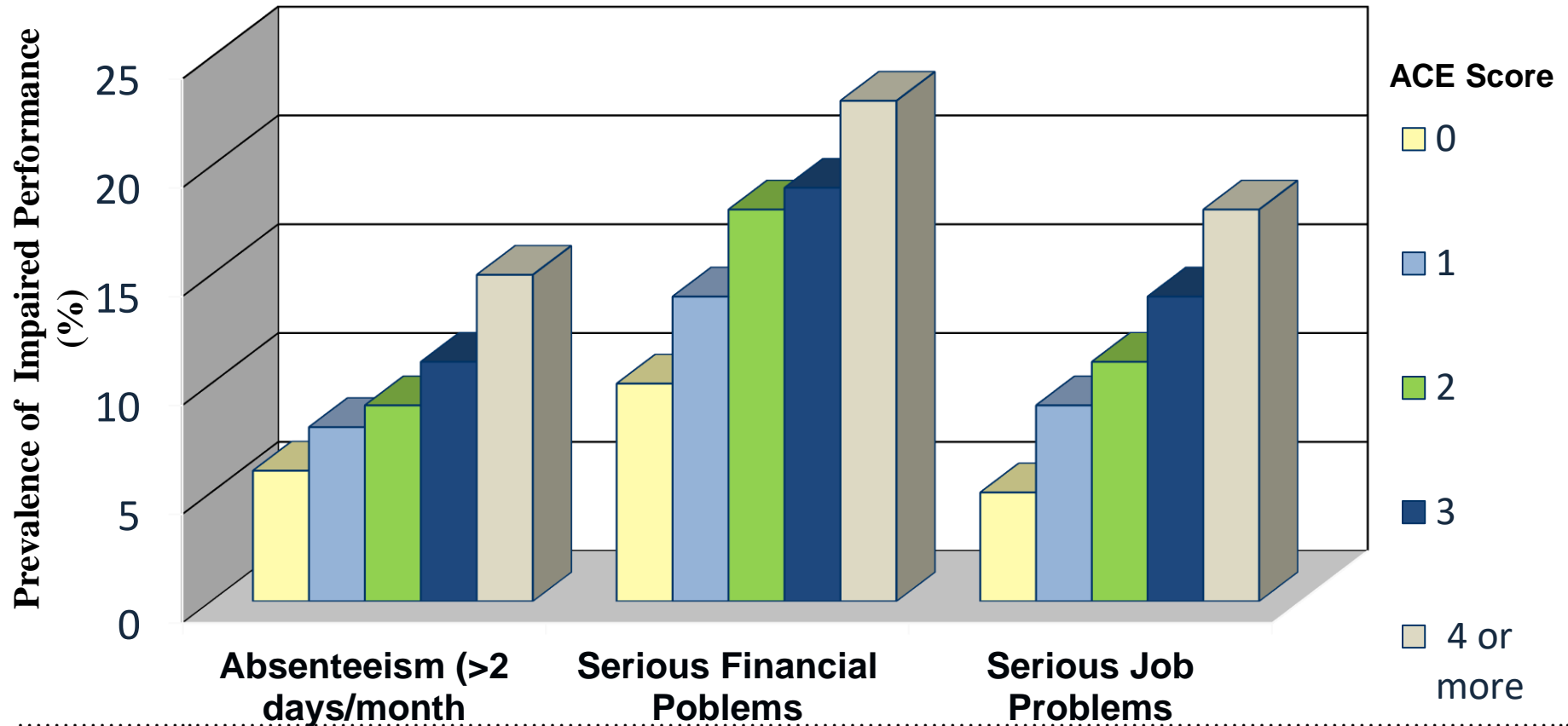


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# ACE Score & Indicators of Impaired Worker Performance

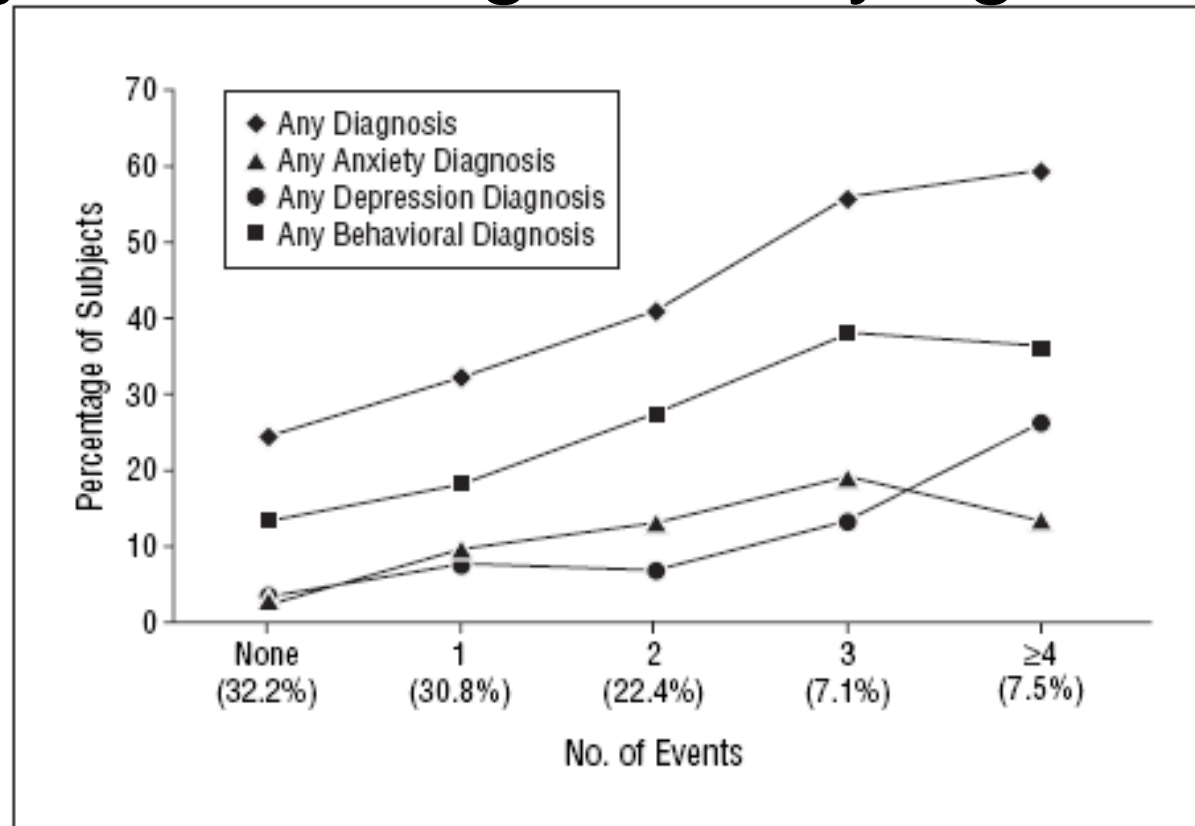


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# Cumulative effects of Childhood Trauma on Psychiatric Diagnoses by age 16 years



**Figure.** Effect of increasing trauma exposures on cumulative rates of psychiatric diagnoses by age 16 years.

Copeland WE, Keeler G, Angold A, Costello EJ. Traumatic events and posttraumatic stress in childhood. Arch Gen Psychiatry. 2007 May;64(5):577-84.



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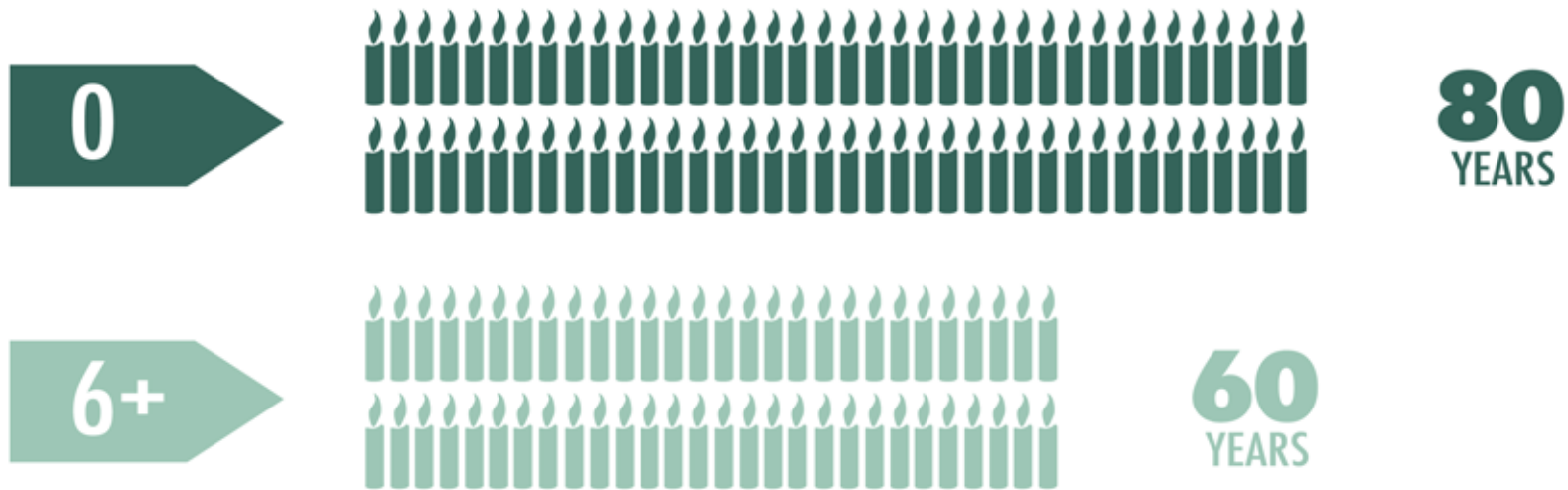


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# ACEs can decrease life expectancy

## LIFE EXPECTANCY

People with six or more ACEs died nearly **20 years earlier on average** than those without ACEs.

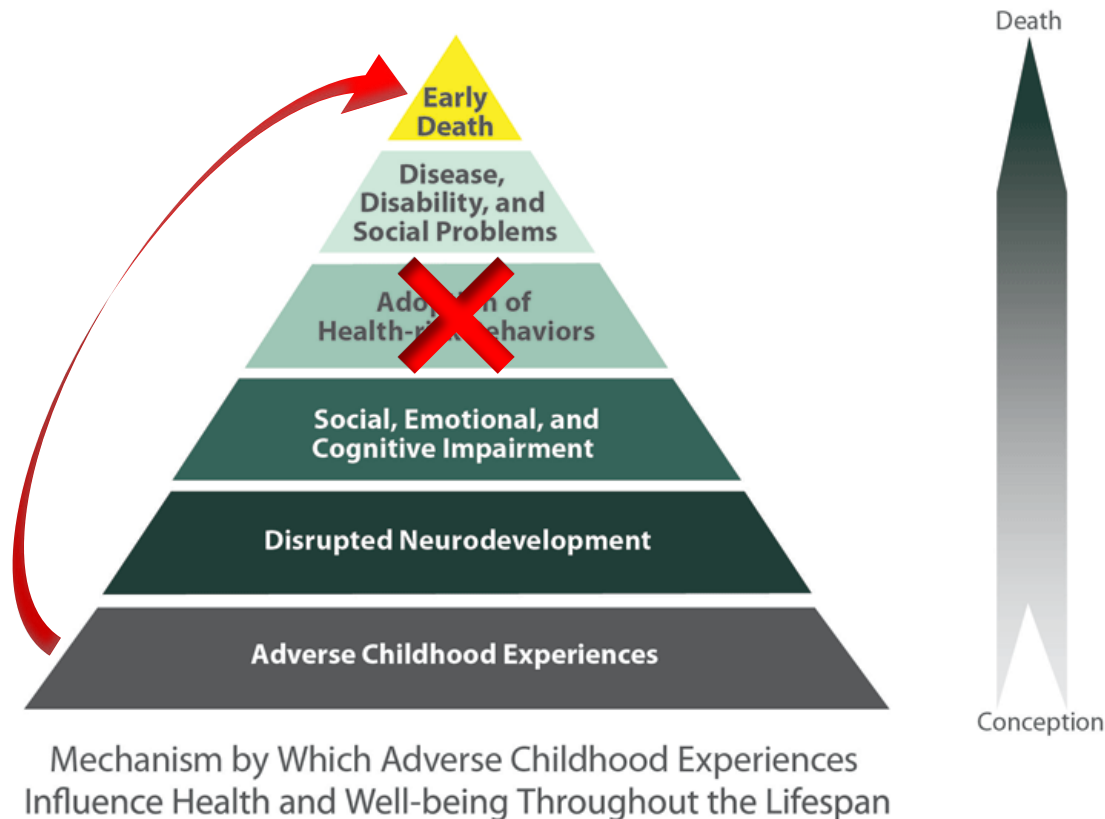


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# ACEs can decrease life expectancy



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# ACEs can decrease life expectancy

- The increase in risk was only partly explained by documented ACE-related health and social problems, suggesting other possible mechanisms by which ACEs may contribute to premature death.”

Brown DW, et al. Adverse Childhood Experiences and the Risk of Premature Mortality. Am J Prev Med 2009.

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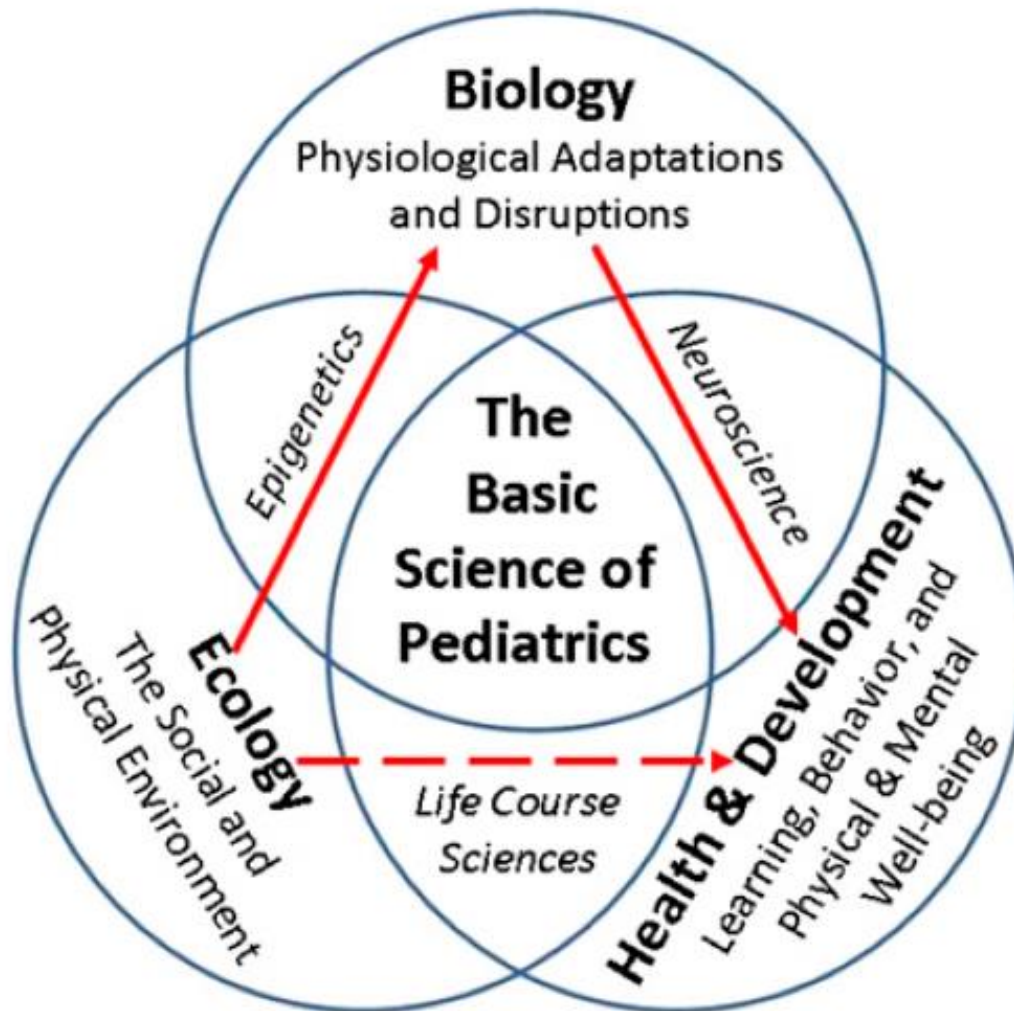
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# Eco-Bio-Developmental (EBD) Framework



# 3 Realms of ACEs



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# Three Levels of Stress Response

## Positive


Brief increases in heart rate,  
mild elevations in stress hormone levels.

## Tolerable

Serious, temporary stress responses,  
buffered by supportive relationships.

## Toxic

Prolonged activation of stress response systems  
in the absence of protective relationships.

Center on the Developing Child  HARVARD UNIVERSITY

Source: <https://developingchild.harvard.edu/science/key-concepts/toxic-stress/>

# Stress Response

- **Positive stress response:**
  - Normal and essential part of healthy development, characterized by brief increases in heart rate and mild elevations in hormone levels
    - Examples: first day with a new caregiver, receiving an immunization
  - Normal, growth-promoting, and necessary to develop appropriate coping skills, adaptive responses to adverse experiences
- **Tolerable stress response:**
  - Activates the body's alert systems to a greater degree as a result of more severe, longer-lasting difficulties (non-normative stressors)
  - If the activation is time-limited and **buffered by relationships** with adults who help the child adapt, the brain and other organs recover from what might otherwise be damaging effects
    - Examples: loss of a loved one, a natural disaster, a frightening injury



# Stress Response

- **Toxic stress response:**
  - Occurs when a child experiences strong, frequent, and/or prolonged adversity, **without adequate adult support**
  - Prolonged activation can disrupt the development of brain architecture and other organ systems, increasing the risk for stress-related disease and cognitive impairment
    - Examples: ongoing physical or emotional abuse, chronic neglect, caregiver substance abuse or mental illness, exposure to violence, and/or the accumulated burdens of family economic hardship



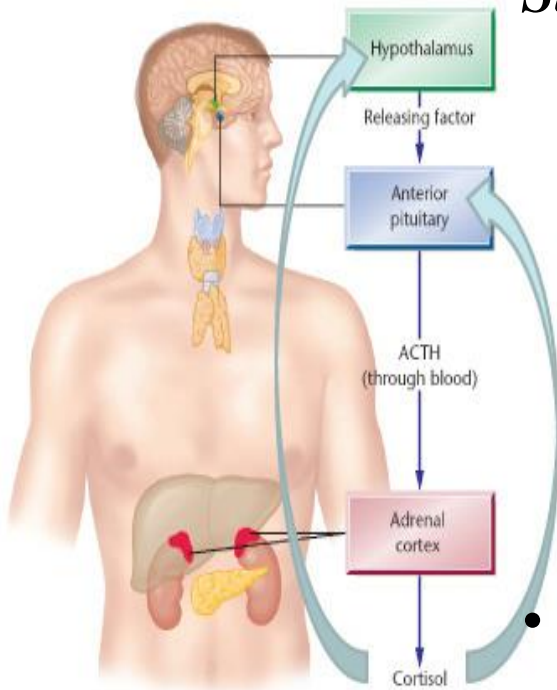
# Toxic Stress Response

- More *adverse experiences in childhood* correlates with more developmental delays and later health problems (heart disease, diabetes, substance abuse, depression)
  - ACEs are just like any other stressor to the body



# The Hypothalamic-Pituitary-Adrenal Axis

*Stress* causes...



- **CRH** (corticotropin releasing hormone) from Hypothalamus
- **ACTH** (adrenocorticotropin hormone) from Pituitary
- **Glucocorticoids** (GC, cortisol) from Adrenal Glands

• *Chronic Glucocorticoids* cause structural changes in the brain.





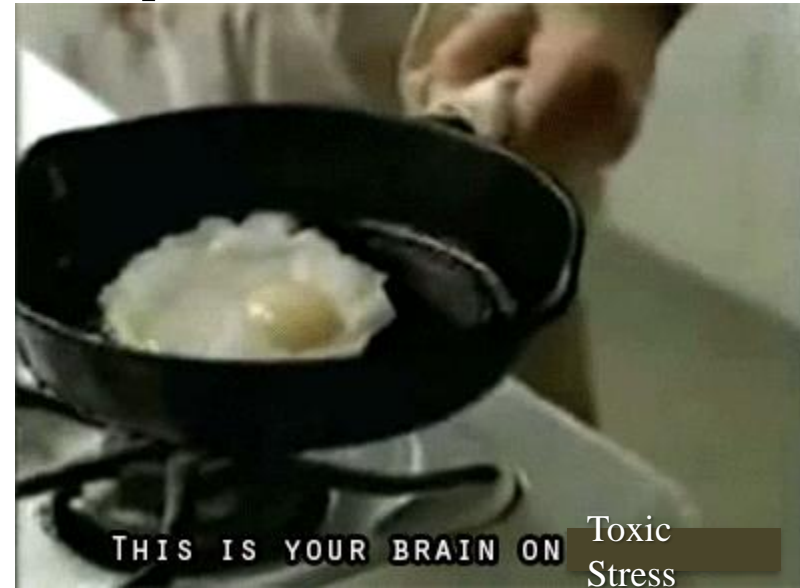
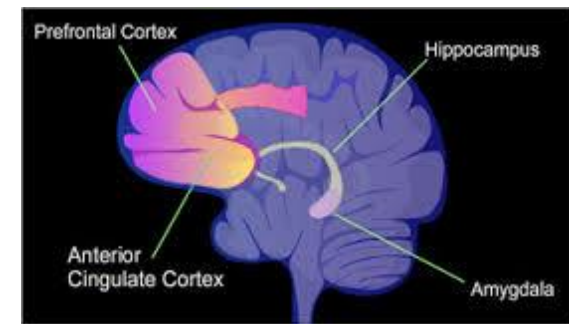
# What that means...

- **Impairment of *Executive Functioning* (PFC)**

- Ability to problem solve
- Self-control
- Self confidence
- Ability to calm self
- Ability to delay gratification
- Follow directions
- Persist on task
- Adapt to change
- Ability to plan
- Ability to manage temper if provoked

- **Amygdala Dominance**

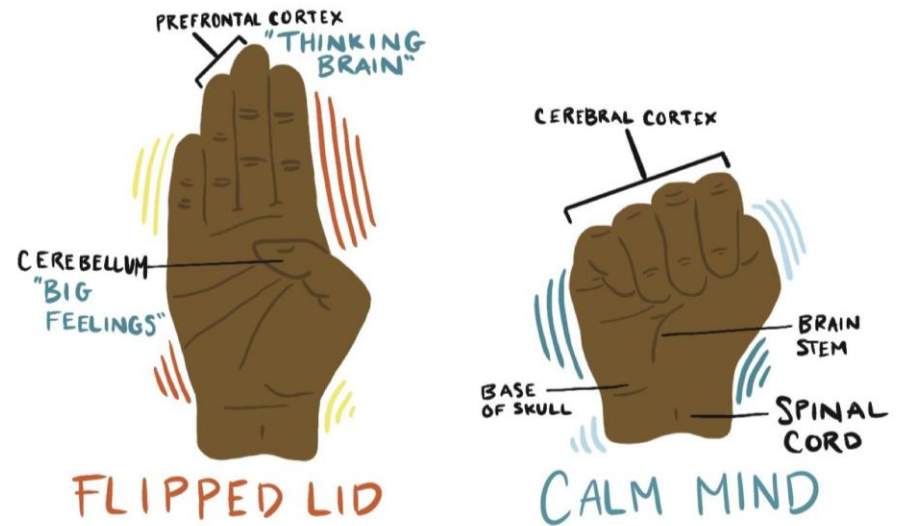
- Impaired memory
- Inability to concentrate
- Harder to follow directions
- Hard to sit still
- Constantly on edge
- Easily provoked
- Impulsive



# FLIPPING *your lid*

## Hand brain model – Dr. Dan Siegel (2011)

<https://www.asset-edu.org/recognizing-stress>



You lose access to your prefrontal cortex, your "thinking brain." Your amygdala activates the fight, flight, freeze response, and you operate from a place of fear.

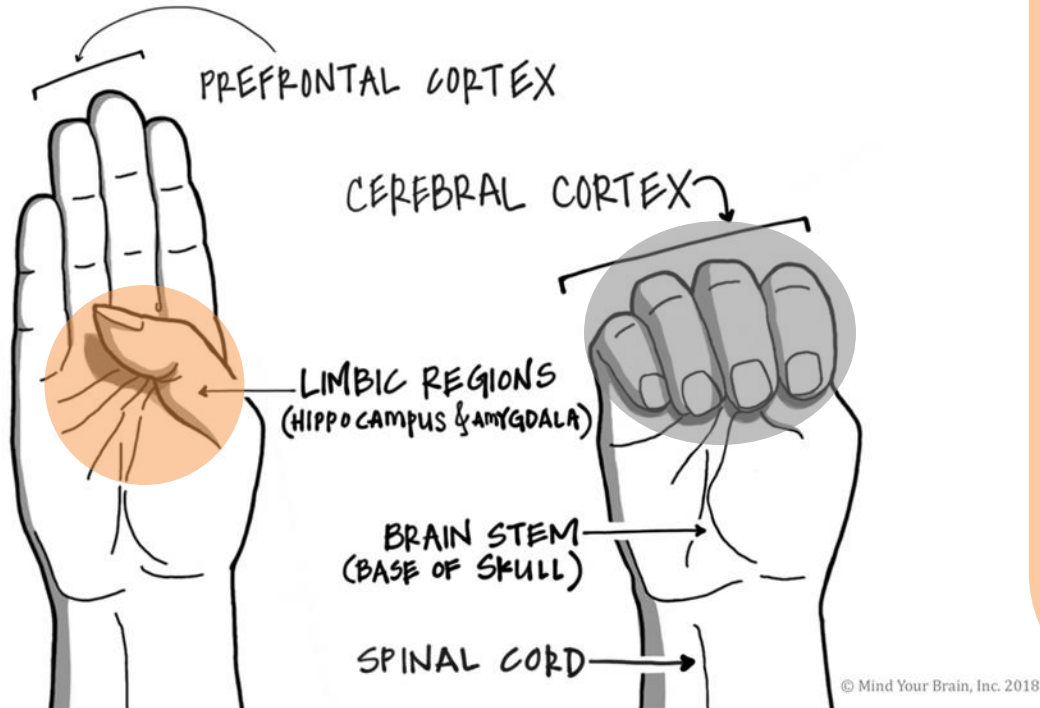
Since all of the parts of your brain are working in harmony, you feel calm, balanced, and alert yet relaxed.



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# Hand Model of the Brain



## Flipping Our Lids

When we experience big emotions or stressful situations, we can “flip our lids”.

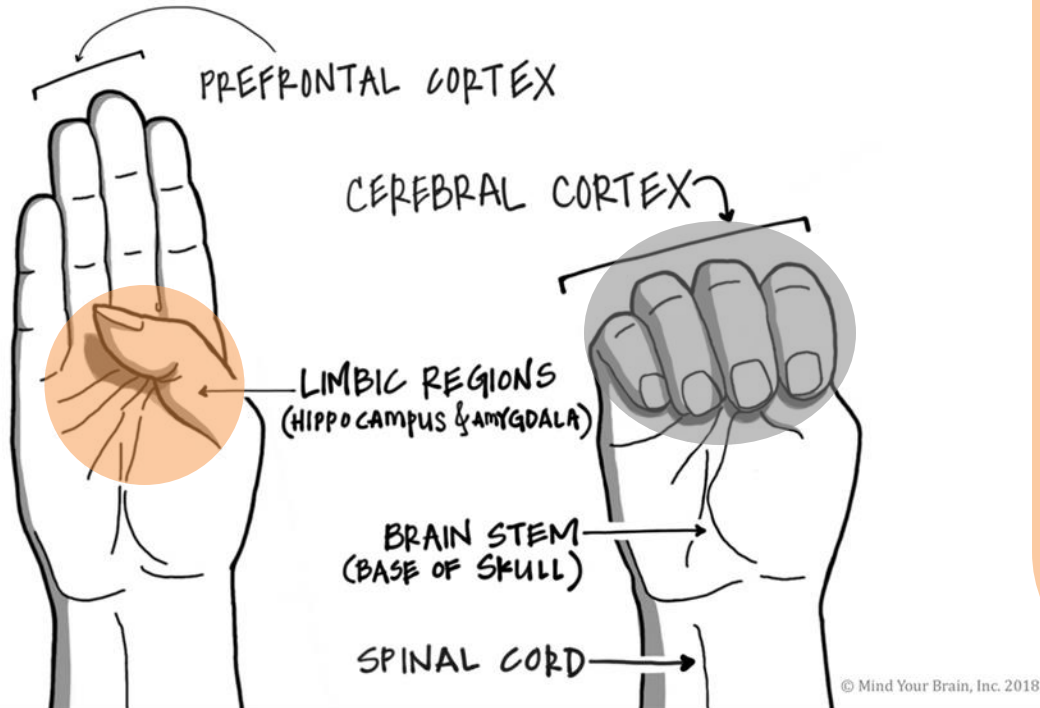
Our fear center takes control, helping us to survive.

Our thinking brain goes “offline”.

We don’t have conscious control over this activation.

Content Sources: Dan Siegel Mindsight (2011); Polyvagal Theory – Stephen Porges (2010); Finding Hope Consulting LLC

# Hand Model of the Brain

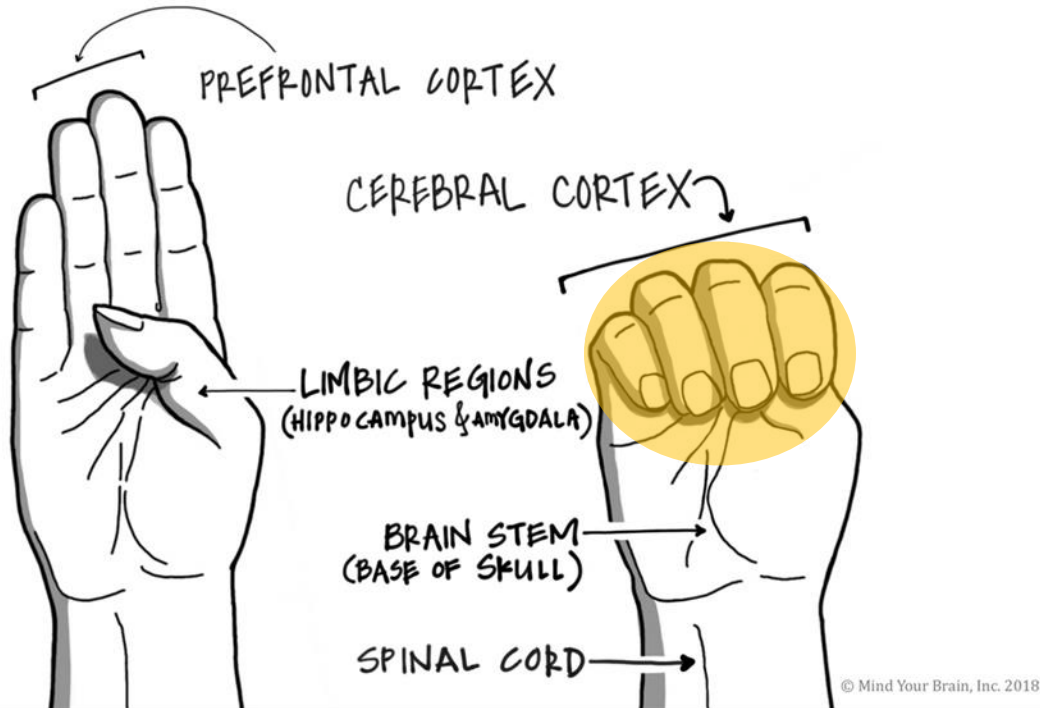


## Flipping Our Lids

- ✓ Sensory overload
- ✓ May experience:
  - Emotional rollercoaster
  - Feel out of control
  - Not aware of actions
  - “I don’t know”
- ✓ Repeated activation

Content Sources: Dan Siegel Mindsight (2011); Polyvagal Theory – Stephen Porges (2010); Finding Hope Consulting LLC

# Hand Model of the Brain



In order for our thinking brains to be “online” we need...

✓ **Felt Safety (Regulate)**- comfortable, relaxed, mutually enhancing connection

✓ **Safe Connection (Relate)** -someone we can build/ maintain trust with

... before we can **Reason!**  
(Perry, 2017; Szalavitz, Perry, 2010)

Content Sources: Dan Siegel Mindsight (2011); Polyvagal Theory – Stephen Porges (2010); Finding Hope Consulting LLC

# Toxic Stress:

## Overall effects on child development

### 1. Early brain changes

- Active amygdala and quiet prefrontal cortex
- Failure to correctly differentiate threats from non-threats
- Exaggerated fight / flight / freeze
- Increased anxiety and mental health diagnoses

### 2. Poorly functional immune system

- Illness
- Early death

### 3. Epigenetic changes to DNA *expression*

- Shape who we become, who we are, and how we function
- Can be passed on to next generation



## ECONOMIC TOLL

The lifetime cost of non-fatal child maltreatment (which covers 5 of 10 ACEs) incurred annually in the United States is **\$401 billion**.

**\$366.3 BILLION**

## QUALITY-ADJUSTED LIFE YEAR REDUCTION

GENERIC MEASURE OF DISEASE BURDEN INCLUDING BOTH THE QUANTITY AND QUALITY OF LIFE LIVED.

\$22.4 BILLION

## HEALTH CARE

\$4.2 BILLION

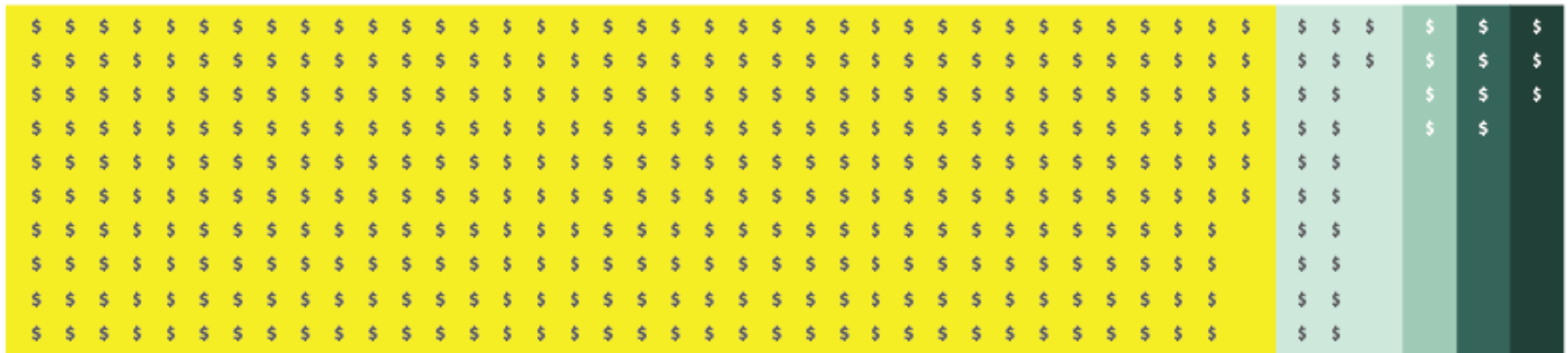
## SPECIAL EDUCATION

\$4.1 BILLION

## CHILD WELFARE

\$3.5 BILLION

## CRIMINAL JUSTICE



Peterson, C., Florence, C., & Klevens, J. (2018). The economic burden of child maltreatment in the United States, 2015. *Child abuse & neglect*, 86, 178-183.

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

2015 non-fatal child maltreatment estimates



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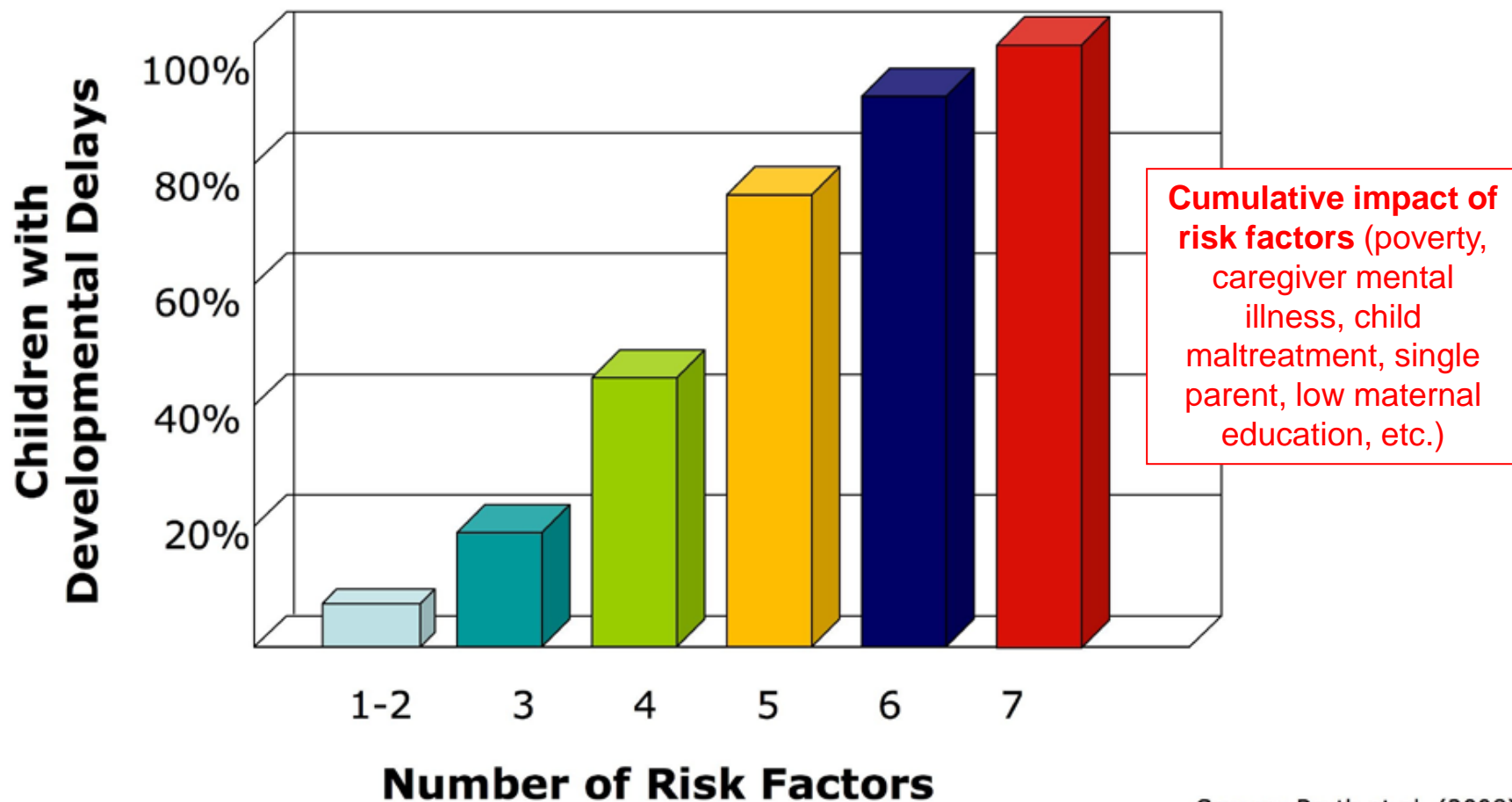


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## Significant Adversity Impairs Development in the First Three Years





# Effects of Toxic Stress

## Infancy

- Child is met with threat/anger, no or inconsistent soothing:
  - No frame of reference to interpret communication experiences, so the child may increase or minimize communication
  - Overly vigilant/clingy, sensitivity to noise/startle response, avoidance of contact/restriction of emotional expression, sleep problems
  - Confusion about what's dangerous and what's not; avoidance of exploration and threat, or overly independent
  - Self soothing is primitive



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# Effects of Toxic Stress

## Preschool to Early School-Aged

- Separation anxieties, affective and behavioral dysregulation, general insecurity
  - Fearful, teary, clingy
  - Nightmares/sleep disturbances
  - Rigid anxiety control strategies (bossiness, manipulative, lying)
  - Aggression
  - Hesitancy to separate from parent/caregivers
  - Traumatic play—reenacting events over and over again



# Effects of Toxic Stress

## School Aged

- Limitations of skills, restricted circles of functioning, coping with or expressing experiences through behaviors
  - Emotional swings, poor frustration tolerance, separation issues
  - Specific anxieties/fears, sense of failure/incompetence
  - Attention seeking/regressive behaviors; somatic problems; sleep problems
  - Peer problems and inflexible interpersonal approach (mistrust or overly solicitous, bullying, withdrawing, etc.)
  - Academic challenges; attention/learning problems
  - Rigid belief system; difficulties managing safety/danger discriminations and accommodation/assimilation of new experiences

# Effects of Toxic Stress Adolescence

- Difficulties managing extreme emotions, self-critiques
  - Perfectionism, constricting emotional experiences and relationships
  - Inappropriate aggression or using external means to modulate emotions (cutting, substance use, sensation seeking, sexual interactions, reckless/self destructive behavior, eating dx)
  - Attention and academic problems, sleep problems, somatic concerns
  - Peer problems
  - Over/underestimating danger, difficulty imagining/planning a future
  - Dissociative coping, depersonalization, and de-realization are strategies to manage stress
  - Sense of separateness from others and the world, sublimate own needs/goals



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# Resmaa Menakem MSW, LICSW, SEP



**“Trauma decontextualized in a person looks like personality. Trauma decontextualized in a family looks like family traits. Trauma in a people looks like culture.”**

*- Psychotherapist, Artist, and Author of*

*“My Grandmother’s Hands: Racialized Trauma and the Pathway to Mending our Hearts and Bodies”*



Becoming  
Trauma  
Responsive

Asking “*What’s  
happened to you?*”  
AND “*What did you  
do to survive?*”

Engaging in power  
**with** relationships  
based on resilience.

# “Kids are Resilient”

What resilience is NOT:

- “Pull yourself up by your bootstraps & get over it.”
- Extreme independence / perfectionism
- “You’re so strong, nothing keeps you down.”
- “Positive vibes only”
- “I made it through worse – it builds character”



# What *is* Resilience?

- When hardships, traumas, stressors happen, we honor our survival and the tools we develop along the way
- We can add new tools to create a buffer / shield to build greater tolerance for stress.
  - Leads to less frequent, less significant dysregulation
  - More felt safety / attachment / regulation in the limbic areas
  - More cortical growth / activity (healing)

# Top 5 Resilience Factors

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## Autonomy (Agency)

Where do you have a voice?

When do you feel in control?

- What decisions can I make for my life?
- How do you define power and control?
- Is it **power over** or **power with** to have power to make things happen?

How do you create power with others, so together you have the power to contribute to the greater good?



# Top 5 Resilience Factors

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## Self Esteem

### Sense of Self

- Personal Preferences (likes & dislikes)
- How do you express your creativity?

### Sense of Self-Worth

- What gives you a sense of accomplishment?
- When do you feel loved and valued?

### Sense of Self-Efficacy

- How do you effect change?
- How do I make things happen?
- How do I use and how do I want to use my power of influence?



# Top 5 Resilience Factors

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## External Support Systems

Can be a person, pet, fantasy (positive imagining), mindfulness practice or spiritual/ other belief system.

What is my system of meaning?

- How do I make sense of my world?



# Top 5 Resilience Factors

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## Affiliation

Affiliation with a cohesive, supportive group that works together toward a positive goal

- What groups do I belong to?
  - Family, socially, school, faith, extra curricular activities, sports, creative expression, community associations
- Circles of connection?
  - How am I connected to those in my environment?
  - Are they safe, healthy individuals?



# The Most Important Resilience Factor?

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## Healthy safe relationships

Safe, healthy adults are the most important factor in healthy development for individuals who have experienced trauma.

People who have experienced trauma need experiences with healthy people outside of their abusive environment, especially people in positions of authority.



# Columbus CARE Coalition Collaboration

## Community Resilience Certification (I/II)

8 session certification series on aspects of trauma responsive practice, including foundational information, bio-based fear responses, and compassion resilience.

- Resilience Organizers (Level I)
- Resilience Ambassadors (Level II)





# Ideas for Next Steps

- Examine your own perspectives, assumptions, and interactions
- Talk to others about the impact of trauma
- Keep learning!
  - <https://kpjrfilms.co/resilience/>
  - National Child Traumatic Stress Network:  
[www.NCTSN.org](http://www.NCTSN.org)
  - National Center on Domestic Violence, Trauma & Mental Health:  
<http://www.nationalcenterdvtraumamh.org>

# Resources

- CDC Aces Study

- Dr. Nadine Burke- Harris (2014). Ted Talk, “How Childhood Trauma Affects Health Across A Lifetime”. Available at: [https://www.ted.com/talks/nadine\\_burke\\_harris\\_how\\_childhood\\_trauma\\_affects\\_health\\_across\\_a\\_lifetime/discussion?CMP](https://www.ted.com/talks/nadine_burke_harris_how_childhood_trauma_affects_health_across_a_lifetime/discussion?CMP)
- Ellis WR, Dietz WH. (2017) A New Framework for Addressing Adverse Childhood and Community Experiences: The Building Community Resilience (BCR) Model. *Academic Pediatrics*.17 (2017) pp. s86-s93. [http://www.academicpediatrics.net/article/S1876-2859\(16\)30552-6/fulltext](http://www.academicpediatrics.net/article/S1876-2859(16)30552-6/fulltext)
- “What’s Your Resilience Score?” PDF prepared by [online] acestoohigh.com. Available at: <https://www.tjtd.texas.gov/regionaltraining/webinars/resilience-score.pdf>

- Trauma Responsive Principles & People

- Finding Hope Consulting, LLC & Tri- State Trauma Network. Available at: <http://www.findinghopeconsulting.com/> | <http://www.tristatetraumanetwork.org/>
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