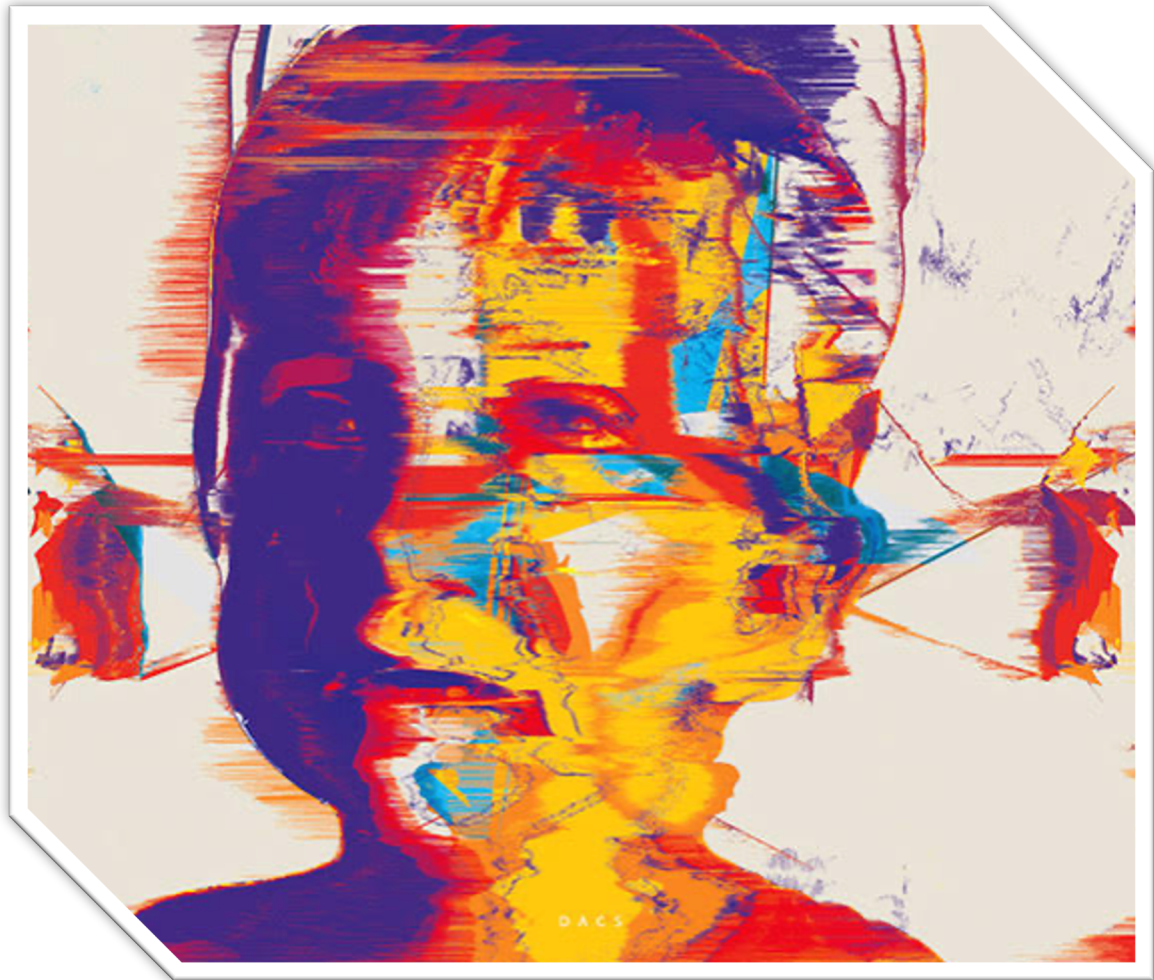


# Considering ACEs

How to  
Build Resilience for  
Youth in Foster Care



**When I think of ACEs, the word(s) that come to mind are...**



Go to [www.menti.com](https://www.menti.com) and use the code 7766 1919

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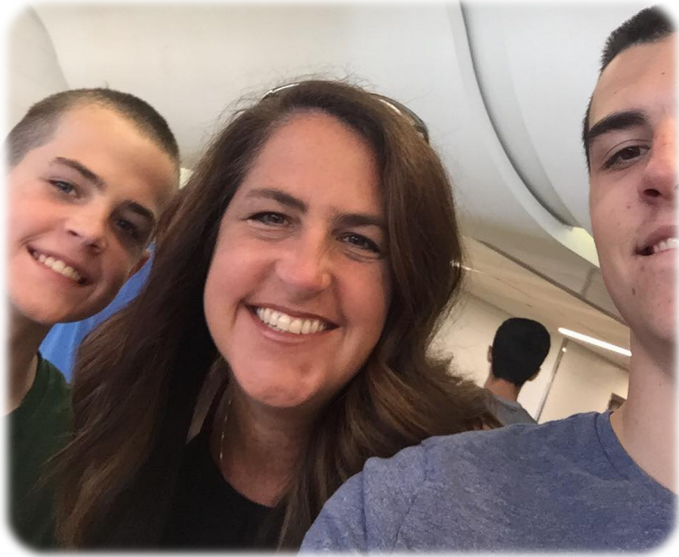
When I think of ACEs, the word(s) that come to mind are...

 Mentimeter

trauma  
children  
abuse



# A Little Bit About Us



Jodi Spicer; MA  
Adverse Childhood Experiences (ACEs) Consultant  
Michigan Department of Health & Human Services  
Email: [spicerj1@michigan.gov](mailto:spicerj1@michigan.gov)



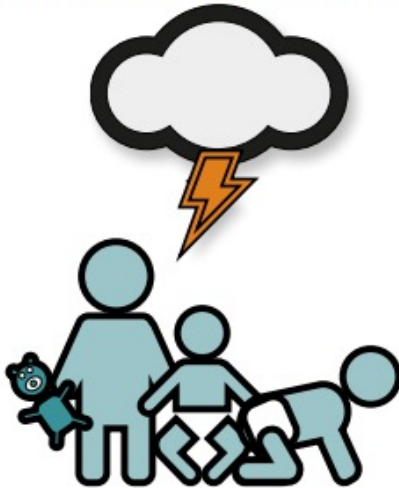
Leigh Moerdyke; LMSW, CPS-M  
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# WHAT ARE ACES?

## AND HOW DO THEY RELATE TO TOXIC STRESS?

“ACEs” stands for “Adverse Childhood Experiences.” These experiences can include things like physical and emotional abuse, neglect, caregiver mental illness, and household violence.



The more ACEs a child experiences, the more likely he or she is to suffer from things like heart disease and diabetes, poor academic achievement, and substance abuse later in life.



# What are ACEs?

**ACEs = Adverse Childhood Experiences**

An adverse childhood experience is a *traumatic event* that happens during childhood (defined as under the age of 18).

The ACE Study identified **ten** unique types of trauma, each of which counts as one point in an individual's ACE score.

# ABUSE



Physical



Emotional



Sexual

# NEGLECT



Physical



Emotional

# HOUSEHOLD DYSFUNCTION



Mental Illness



Incarcerated Relative



Mother treated violently



Substance Abuse



Divorce

# The Adverse Childhood Experiences Study

From 1995 to 1997, a [landmark study](#) by the CDC and Kaiser Permanente uncovered the profound connection between Adverse Childhood Experiences (ACEs) - experiences of abuse, neglect and household dysfunction in childhood - and adults' physical, emotional and social health outcomes.



WATCH VIDEO HERE:

<https://youtu.be/y3cCacGeG8E?t=49>

**Dr. Vincent Felitti**

Kaiser Permanente



# 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

**Background:** The relationship of health risk behavior and disease in adulthood to the breadth of exposure to childhood emotional, physical, or sexual abuse, and household dysfunction during childhood has not previously been described.

**Methods:** A questionnaire about adverse childhood experiences was mailed to 13,494 adults who had completed a standardized medical evaluation at a large HMO; 9,508 (70.5%) responded. Seven categories of adverse childhood experiences were studied: psychological, physical, or sexual abuse; violence against mother; or living with household members who were substance abusers, mentally ill or suicidal, or ever imprisoned. The number of categories of these adverse childhood experiences was then compared to measures of adult risk behavior, health status, and disease. Logistic regression was used to adjust for effects of demographic factors on the association between the cumulative number of categories of childhood exposures (range: 0–7) and risk factors for the leading causes of death in adult life.

**Results:** More than half of respondents reported at least one, and one-fourth reported  $\geq 2$  categories of childhood exposures. We found a graded relationship between the number of categories of childhood exposure and each of the adult health risk behaviors and diseases that were studied ( $P < .001$ ). Persons who had experienced four or more categories of childhood exposure, compared to those who had experienced none, had 4- to 12-fold increased health risks for alcoholism, drug abuse, depression, and suicide attempt; a 2- to 4-fold increase in smoking, poor self-rated health,  $\geq 50$  sexual intercourse partners, and sexually transmitted disease; and a 1.4- to 1.6-fold increase in physical inactivity and severe obesity. The number of categories of adverse childhood exposures showed a graded relationship to the presence of adult diseases including ischemic heart disease, cancer, chronic lung disease, skeletal fractures, and liver disease. The seven categories of adverse childhood experiences were strongly interrelated and persons with multiple categories of childhood exposure were likely to have multiple health risk factors later in life.

**Conclusions:** We found a strong graded relationship between the breadth of exposure to abuse or household dysfunction during childhood and multiple risk factors for several of the leading causes of death in adults.

**Medical Subject Headings (MeSH):** child abuse, sexual, domestic violence, spouse abuse, children of impaired parents, substance abuse, alcoholism, smoking, obesity, physical activity, depression, suicide, sexual behavior, sexually transmitted diseases, chronic obstructive pulmonary disease, ischemic heart disease. (Am J Prev Med 1998;14:245–258) © 1998 American Journal of Preventive Medicine

Department of Preventive Medicine, Southern California Permanente Medical Group (Kaiser Permanente), (Felitti) San Diego, California 92111, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, (Anda, Williamson, Spitz, Edwards, Marks) Atlanta, Georgia 30333, Department of Pediatrics, Emory University School Medicine, (Nordenberg)

Atlanta, Georgia 30333, Department of Family and Community Medicine, University of Arizona Health Sciences Center, (Koss) Tucson, Arizona 85727.

Address correspondence to: Vincent J. Felitti, MD, Kaiser Permanente, Department of Preventive Medicine, 7060 Claremont Mesa Boulevard, San Diego, California 92111.

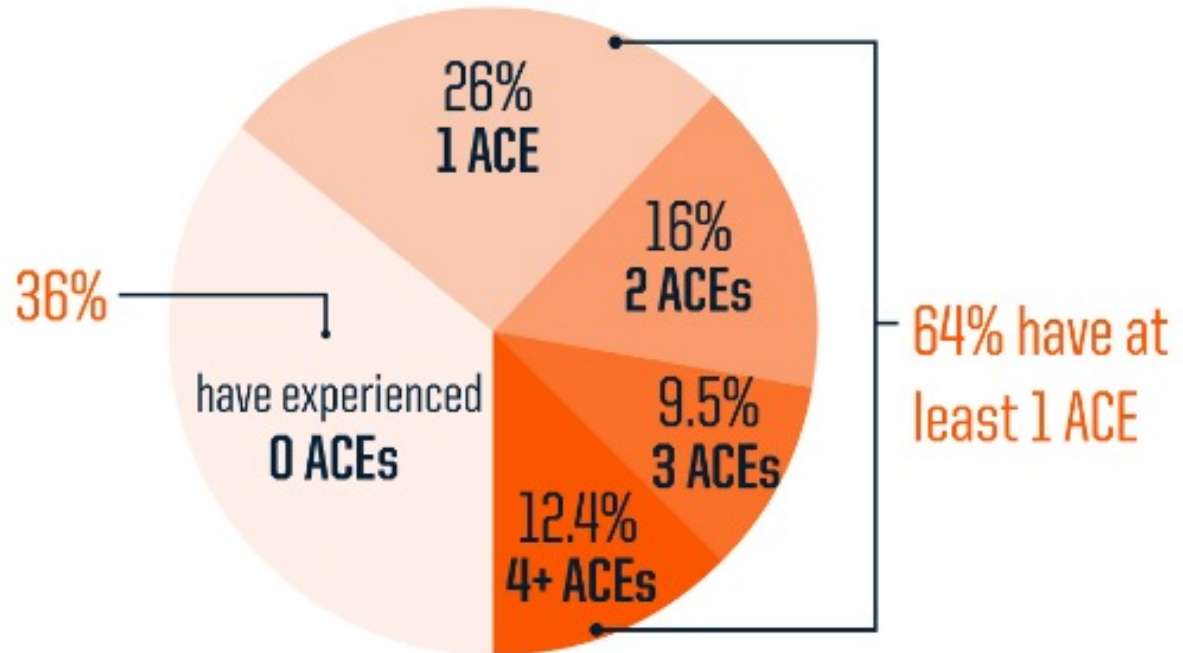




# What Did the ACE Study Find?

ACEs are common, but largely unrecognized.

*Almost two-thirds of adults surveyed reported having at least one adverse childhood experience.*

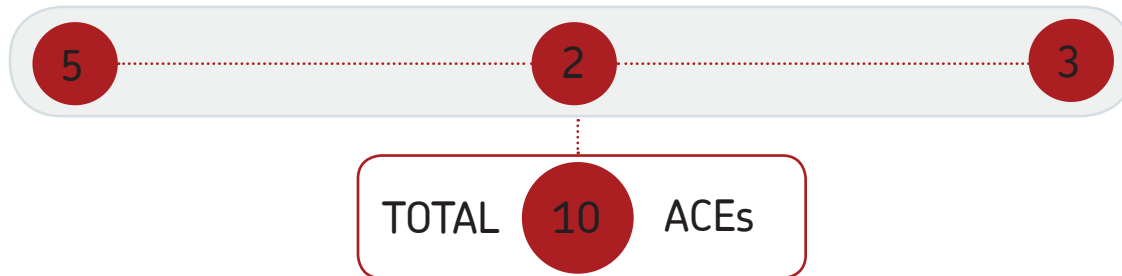


# Adverse Childhood Experiences ARE COMMON

Household Dysfunction	
Substance Abuse	27%
Parental Sep/Divorce	23%
Mental Illness	17%
Battered Mothers	13%
Criminal Behavior	6%

Neglect	
Emotional	15%
Physical	10%

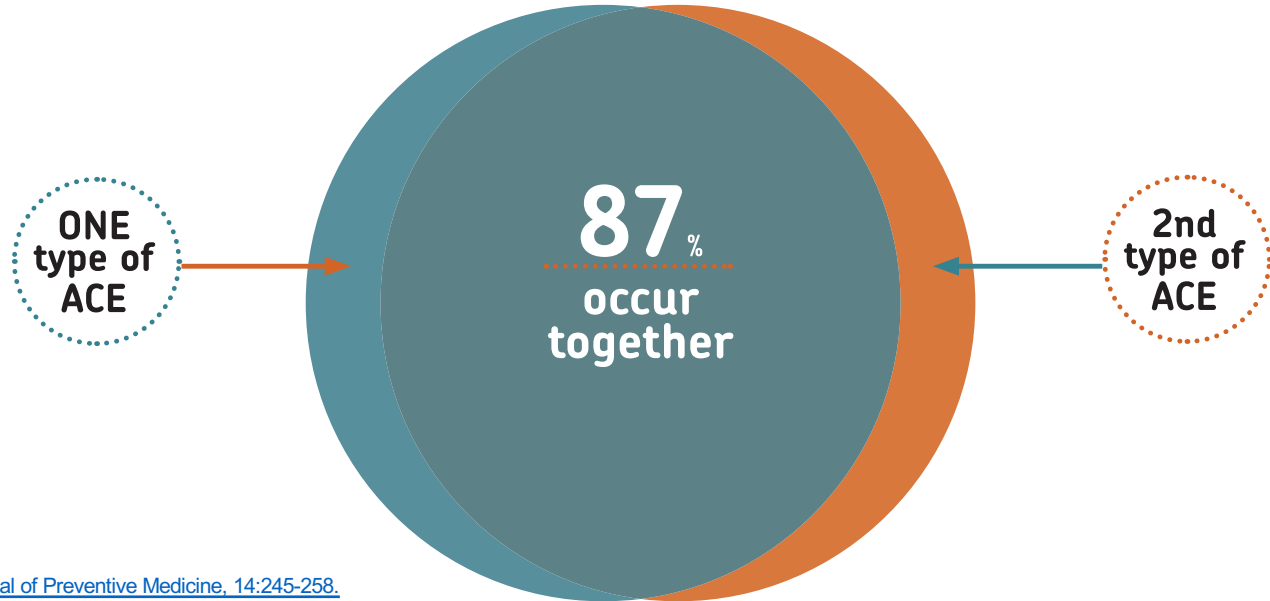
Abuse	
Emotional	11%
Physical	28%
Sexual	21%



# What Did the ACE Study Find?

ACEs rarely occur in isolation, are highly interrelated and tend to occur in clusters.

*If any one ACE is present, there is an 87% chance of at least one other category of ACE present and 50% chance of 3 or more.*



# What Did the ACE Study Find?

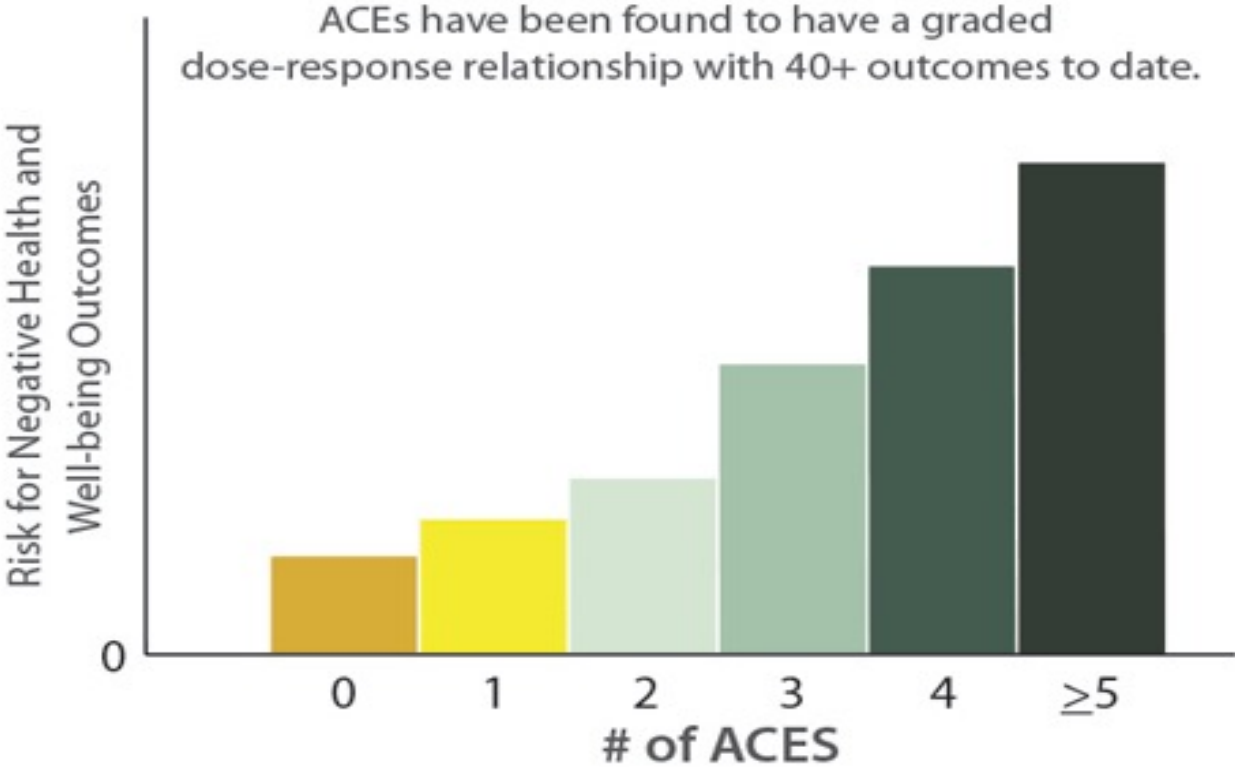
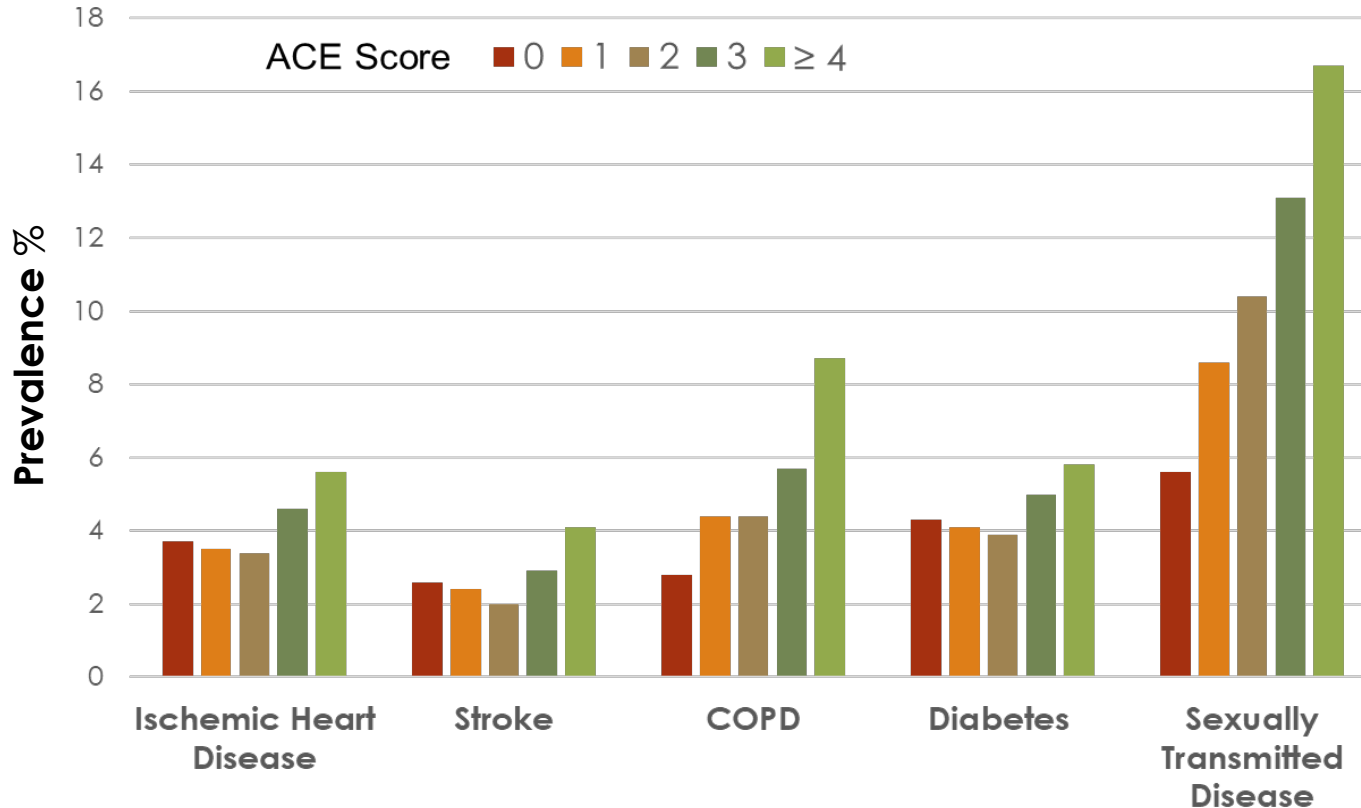
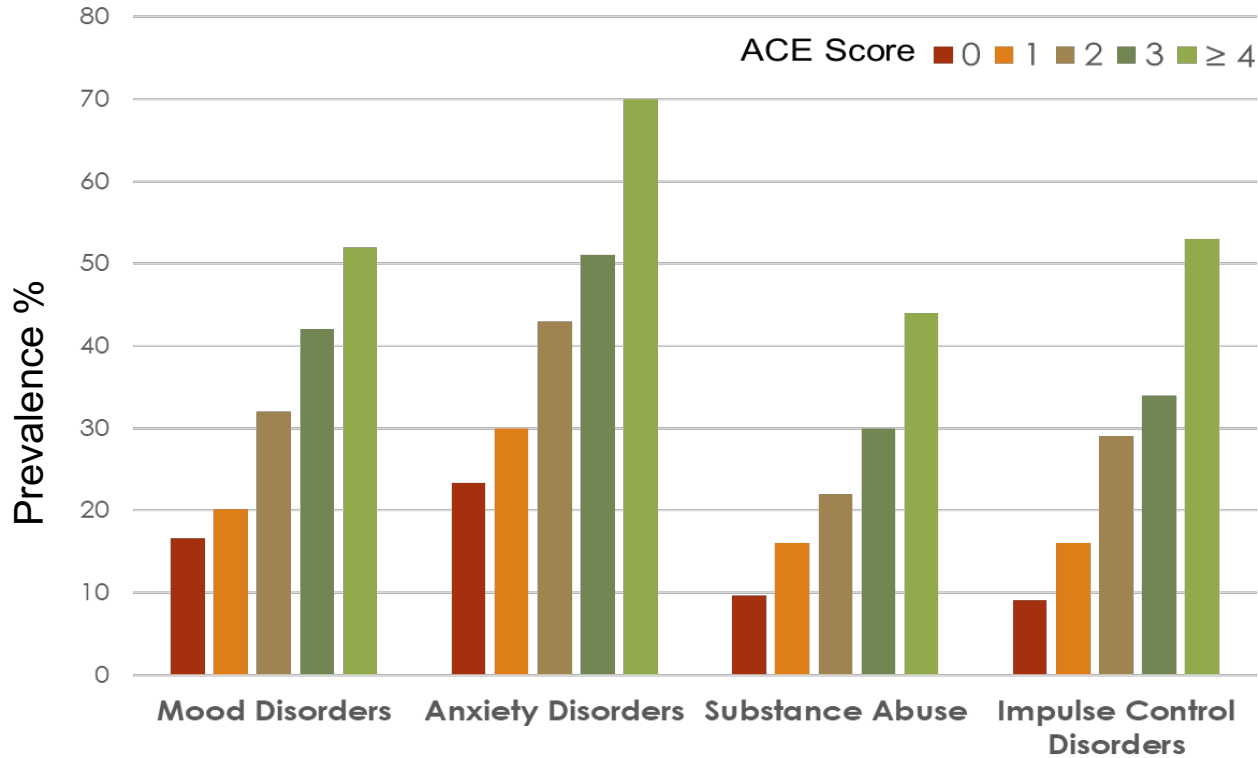


Image Source: [Centers for Disease Control and Prevention](#), [National Center for Injury Prevention and Control](#), [Division of Violence Prevention](#)

# ACEs and Chronic Disease

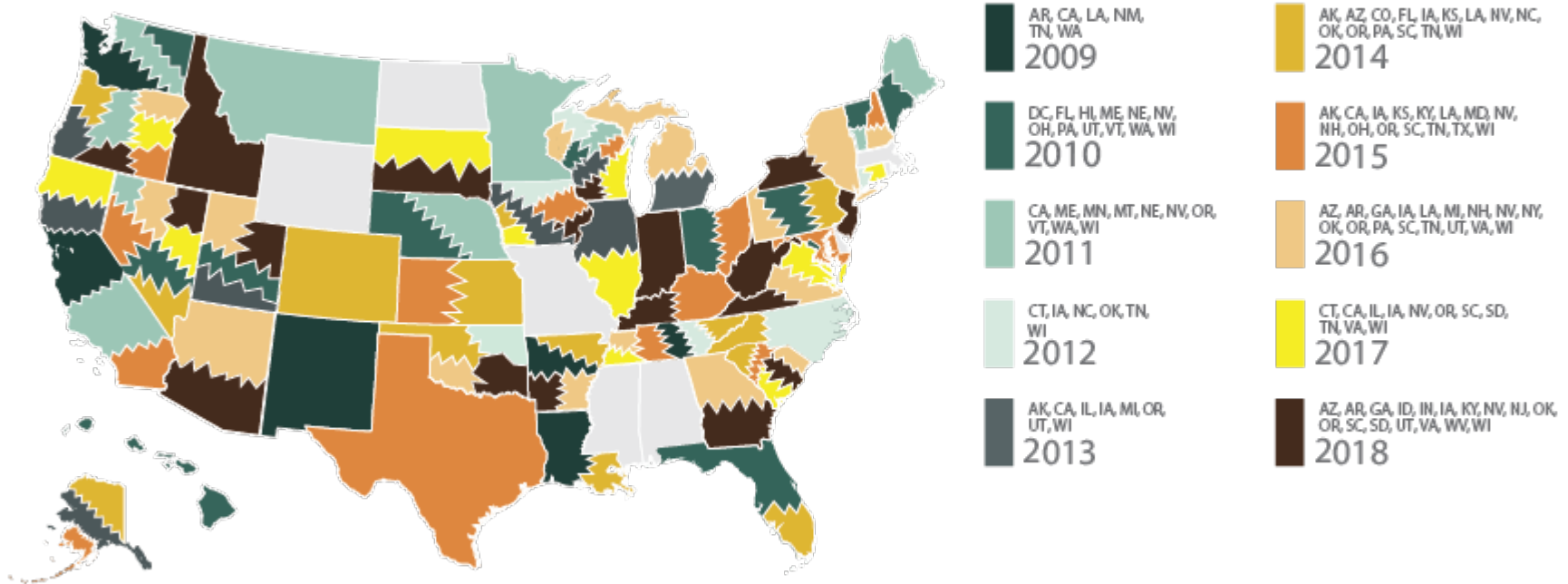


# ACE Score and Mental Health





# Many States are Collecting ACEs Data



Source: Centers for Disease Control and Prevention. *Behavioral Risk Factor Surveillance System Survey ACE Data, 2009-2018*.  
 Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; 2019.

# What Did We Learn about Michigan Adults?

## ADVERSE CHILDHOOD EXPERIENCES

AMONG MICHIGAN ADULTS (2016)

### What Are Adverse Childhood Experiences and How Prevalent Are They?

The Centers for Disease Control and Prevention defines adverse childhood experiences (ACEs) as all types of abuse, neglect, and other potentially traumatic experiences that occur to people under the age of 18. In Michigan, eight specific ACEs are tracked through an annual state-level telephone survey of adults known as the Behavioral Risk Factor Survey. In 2016, two-thirds of Michigan adults (66%) reported having one or more ACEs.

**2.7M** adults (89%) reported being verbally abused one or more times in childhood.

**1.9M** adults (27%) reported having separated or divorced parents.

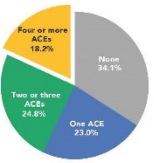
**1.4M** adults (19%) reported being physically abused one or more times as a child.

**1.4M** adults (19%) reported being sexually abused one or more times as a child.

**0.6M** adults (9%) reported having an incarcerated household member.

### ACEs Load Matters.

Generally speaking, the higher a person's ACEs load (the number of ACEs they have), the greater their likelihood of developing risky health behaviors and experiencing poorer health outcomes. In 2016, nearly a quarter of Michigan adults reported experiencing at least one ACE, a quarter reported experiencing two to three ACEs, and nearly one in two experienced four or more.




ACEs Load	Percentage
None	34.1%
One ACE	23.0%
Two or three ACEs	24.8%
Four or more ACEs	18.2%


### ACEs Are Strongly Associated with Health Risk Behaviors and Poor Health Outcomes.

In 2016, 44% of Michigan adults with four or more ACEs had been diagnosed with depression, compared to only 12% with no ACEs. The trend was similar for those with chronic obstructive pulmonary disease (COPD), asthma, poor mental health, poor physical health, and poor overall health.

### 37% of Michigan adults with four or more ACEs reported currently smoking.



ACEs Load	Percentage
None	10%
One ACE	17%
Two ACEs	19%
Three ACEs	22%
Four or more ACEs	37%



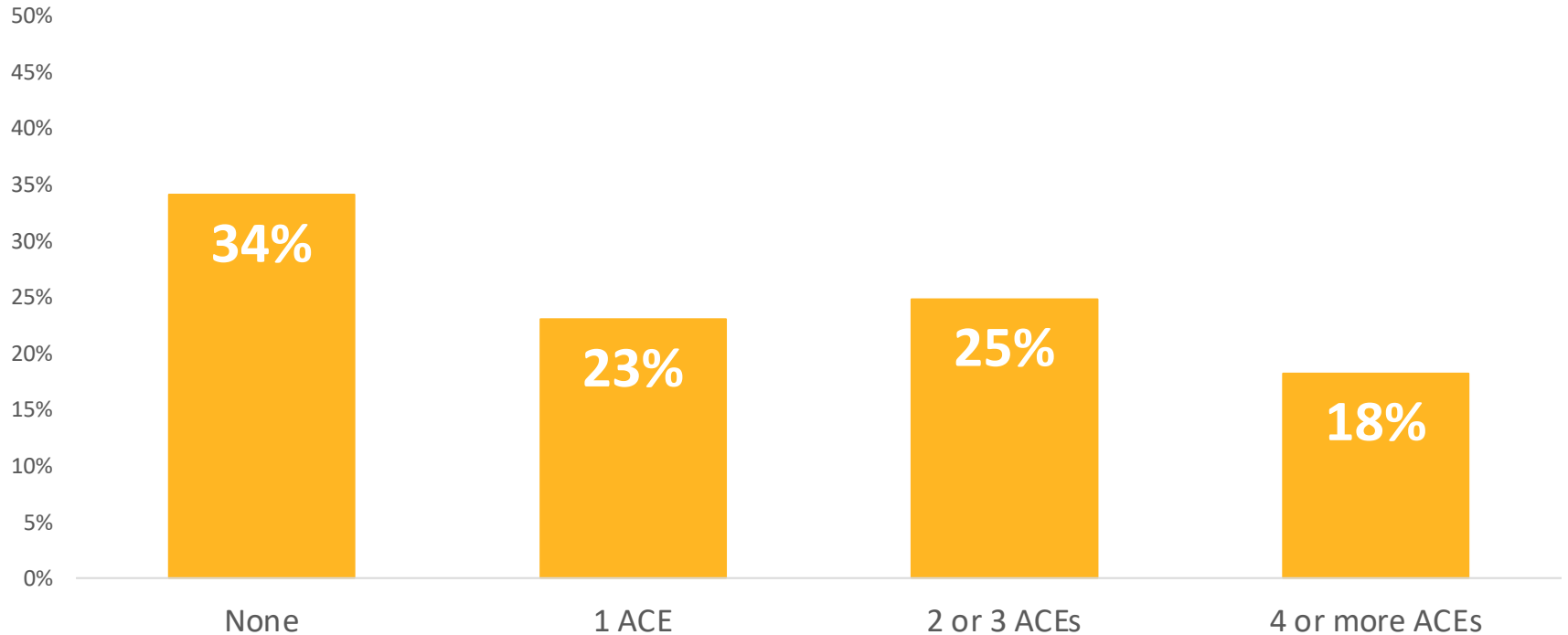
## Adverse Childhood Experiences in Michigan

### Findings from the 2016 Behavioral Risk Factor Survey

October 2019

[www.michigan.gov/ACEsData](http://www.michigan.gov/ACEsData)

# Percent of Michigan Population by ACEs Score

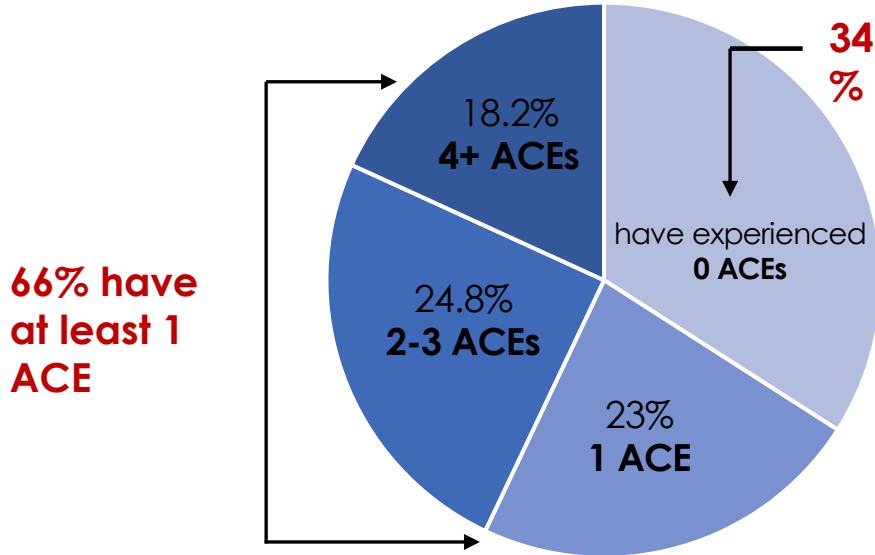


Data Source: Michigan Behavioral Risk Factor Surveillance System, 2016

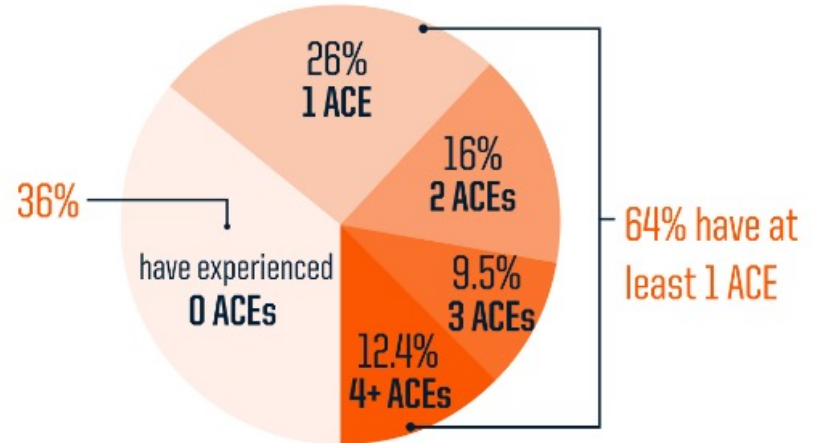
# What Does This Mean?

## ACEs remain common...here in Michigan in 2016!

*In 2016, two-thirds of Michigan adults surveyed reported having at least one adverse childhood experience.*



Michigan Department of Health and Human Services; Behavioral Risk Factor Surveillance Survey (2016)



Felitti et al., (1998) American Journal of Preventive Medicine, 14:245-258.

# ACEs Have Been Shown to Have Lasting Effects on:



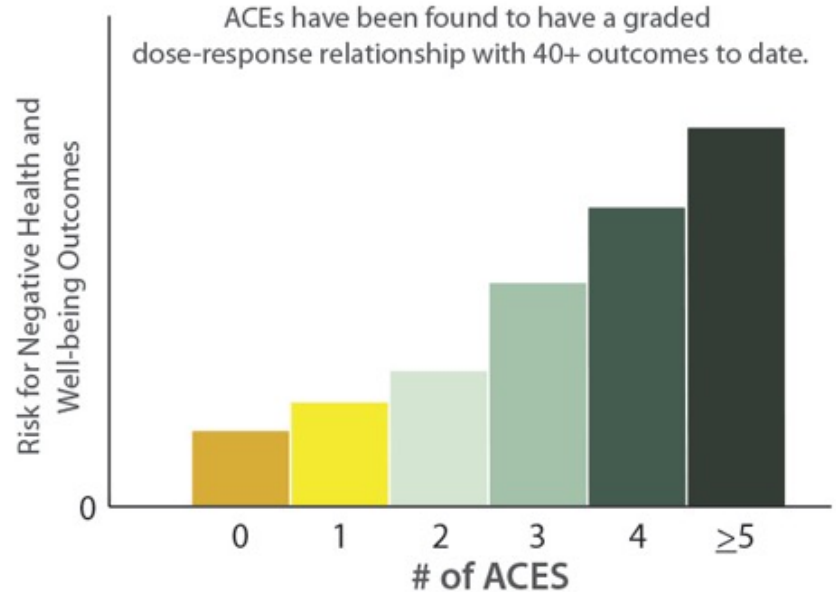
Health (obesity, diabetes, depression, suicide attempts, STDs, heart disease, cancer, stroke, COPD, broken bones)



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.

# ACEs Have a Cumulative Effect

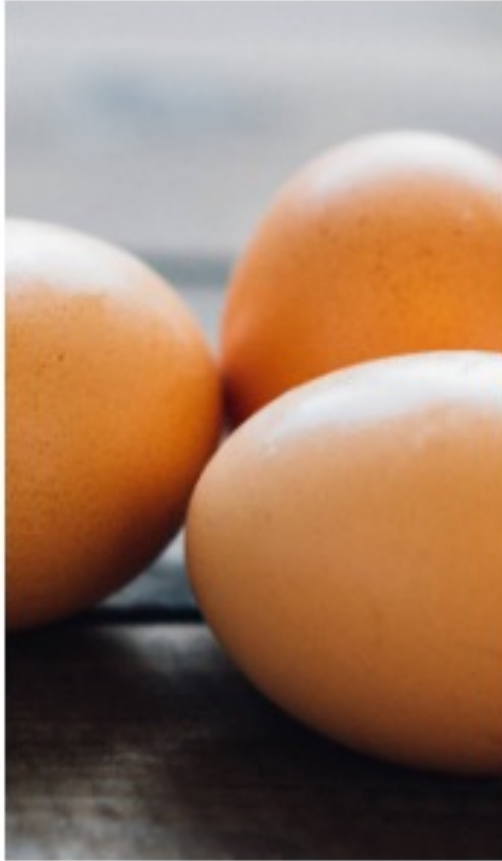
ACEs have a **cumulative** effect – the higher the score, the higher the likelihood of health risk behaviors and poor health outcomes.

This is most likely due to the increased allostatic load or “wear and tear on the body” which grows over time when an individual is exposed to repeated or chronic stress.

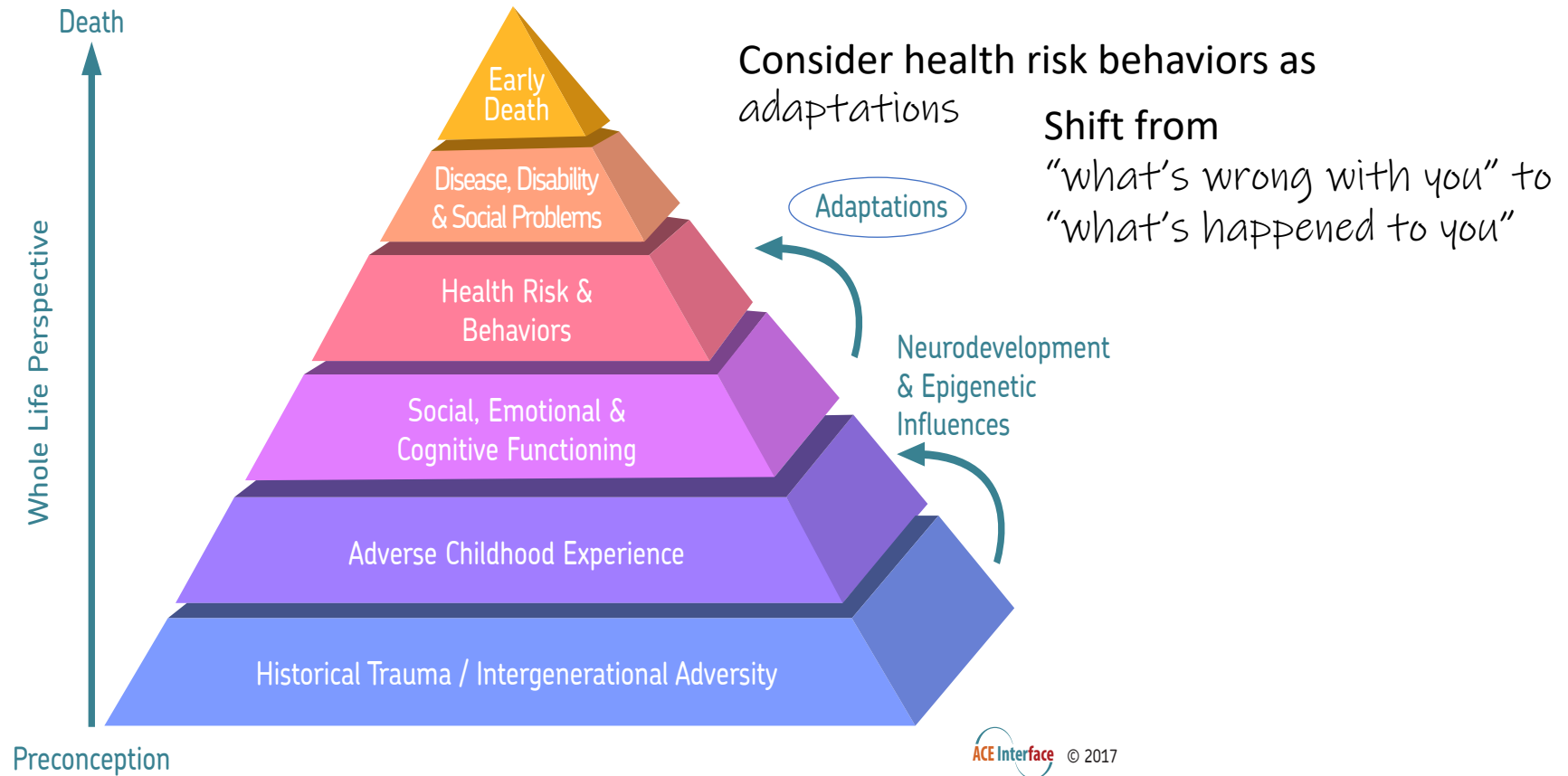




Are you the carrot, the egg or the coffee bean?



# ACE Pyramid: Whole Life Perspective



# Impact of Stress on the Developing Brain

## POSITIVE STRESS

Mild/moderate and short-lived stress response necessary for healthy development

## TOLERABLE STRESS

More severe stress response but limited in duration which allows for recovery

## TOXIC STRESS

Extreme, frequent, or extended activation of the body's stress response without the buffering presence of a supportive adult

Intense, prolonged, repeated and unaddressed

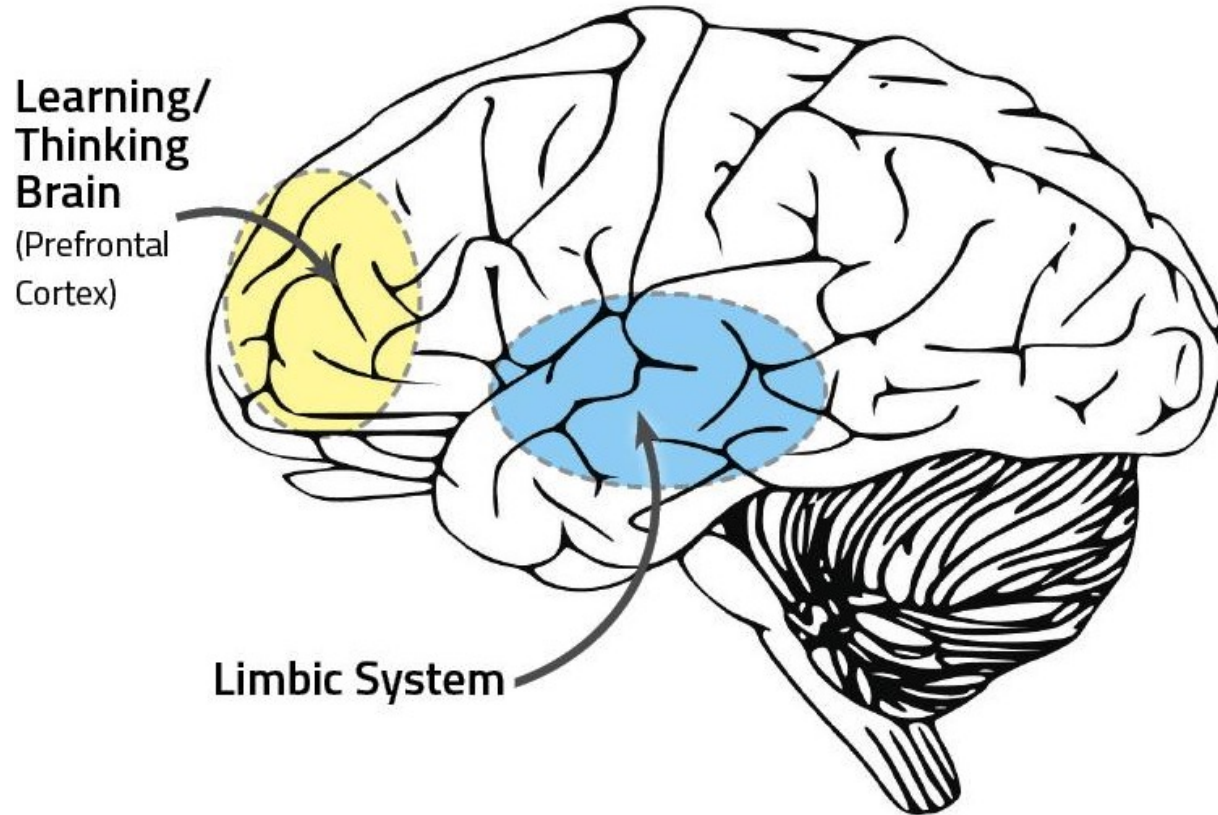
Social-emotional buffering, parental resilience, early detection, and/or effective intervention

Short, stressful events like meeting new people or starting the first day of school. **These are healthy for brain development.** They prepare the brain and body for stressful situations later in life.

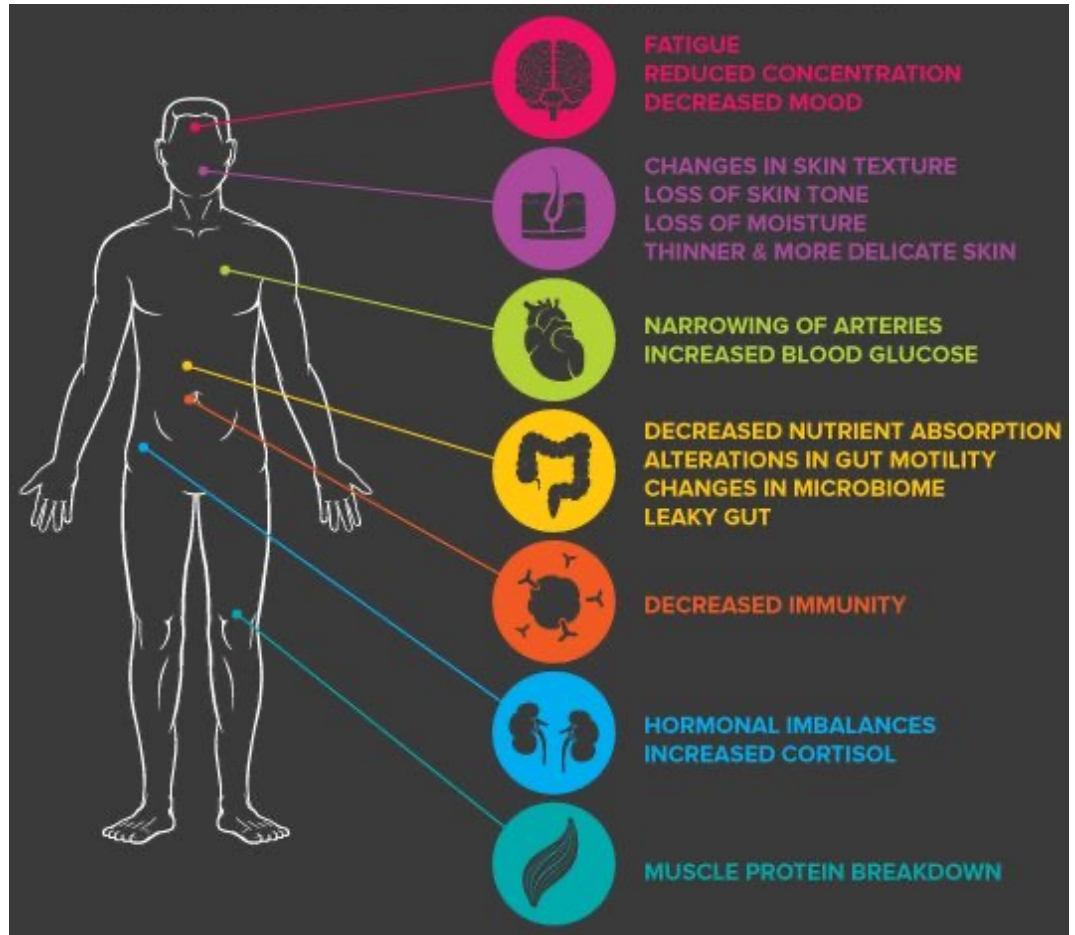
Tragic, unavoidable events like a natural disaster or losing a loved one aren't good for us. But if supportive caregivers are around to buffer the stress response, these events won't do lasting damage to the brain & body.

Ongoing, repeated exposure to abuse or neglect is bad for brain development. If no supportive adults are present to help buffer the stress response, stress hormones will damage developing structures in the child's brain. The result is an increased vulnerability to lifelong problems.

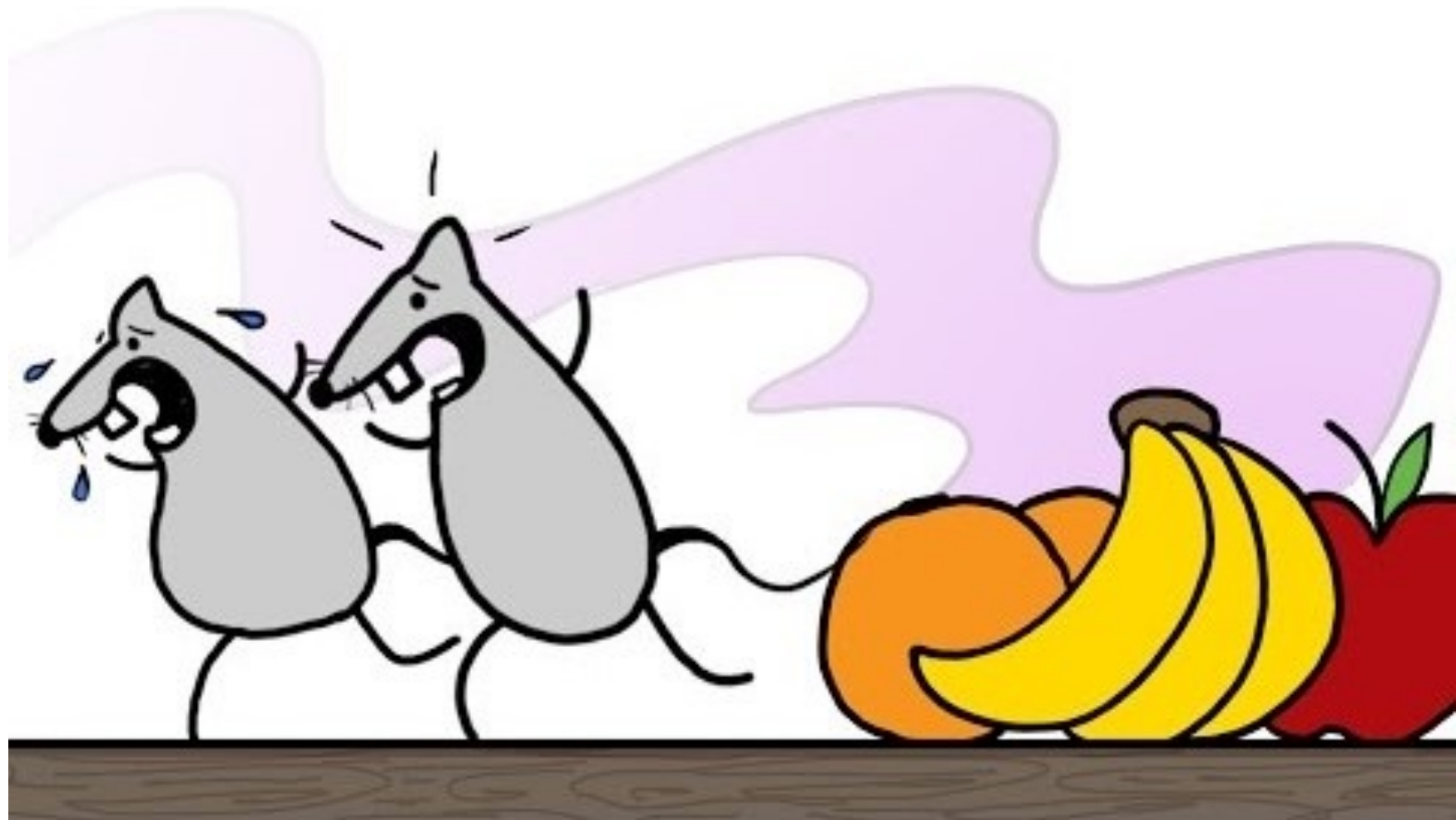
Frontal lobe (Prefrontal cortex) goes offline  
Limbic system / mind and lower brain functions take over



# The Memory of our Experience Gets Stored in Our Bodies







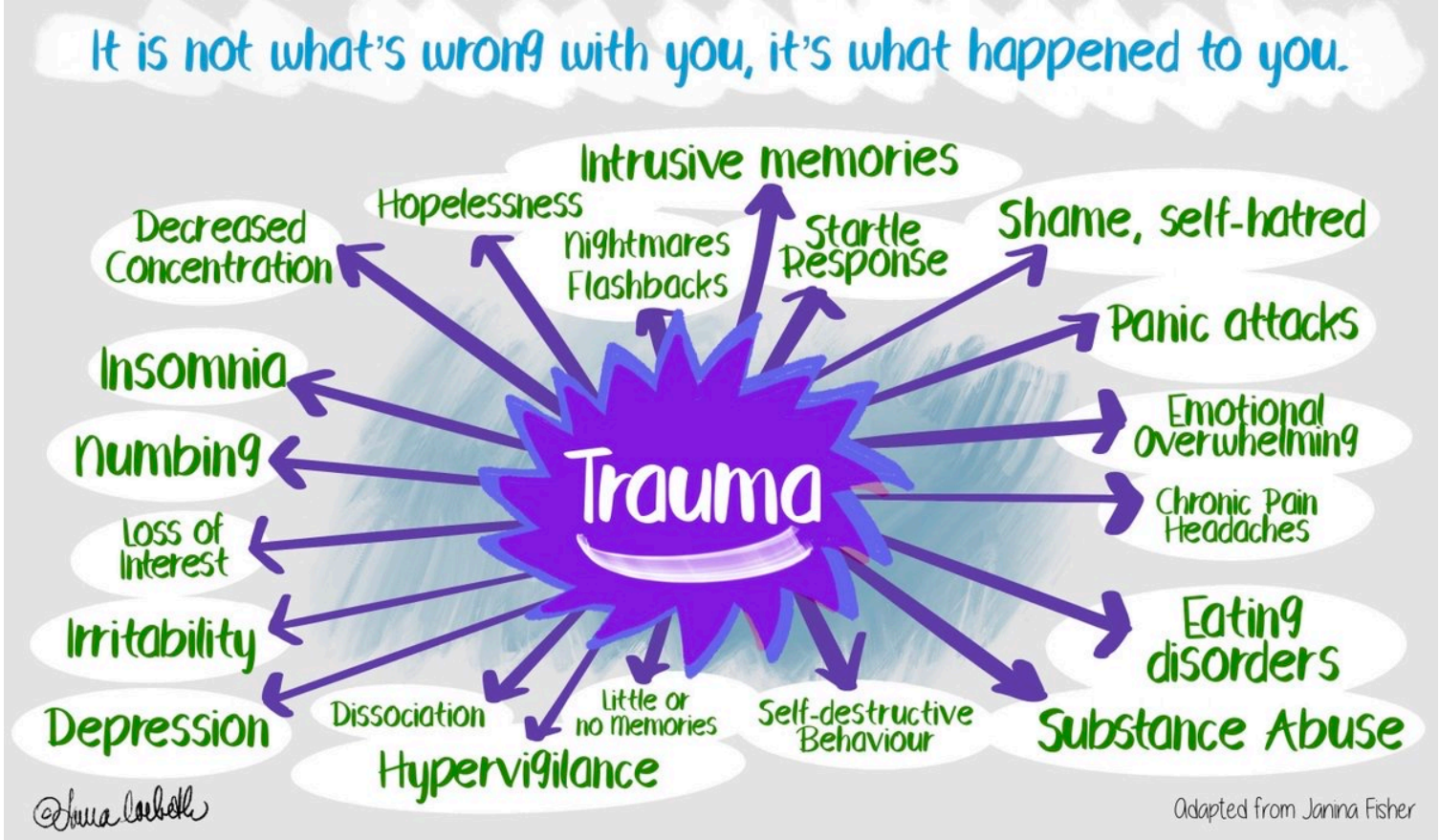


# ACEs are NOT Destiny!

A child who has experienced adversity in their life can be **resilient** and “bounce back.” Creating a positive community ensures they will!



# Start with a Paradigm Shift...





# WHAT HAPPENED TO YOU?

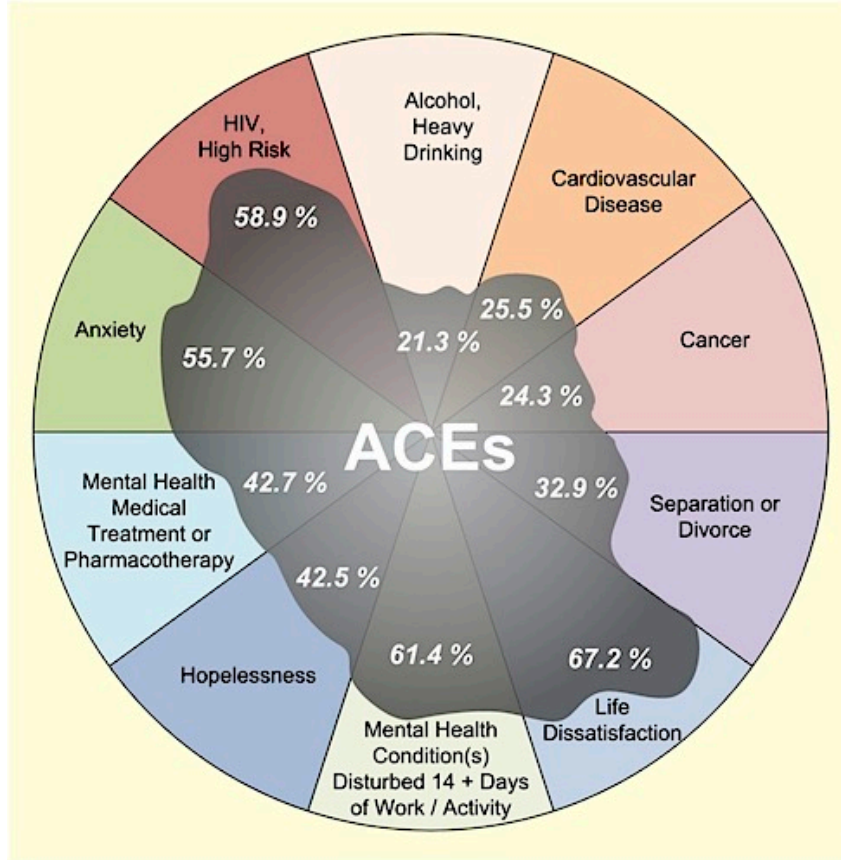
CONVERSATIONS ON TRAUMA,  
RESILIENCE, AND HEALING



BRUCE D. PERRY, MD, PhD  
OPRAH WINFREY



# Magnitude of the Solution



A focus on **ACEs** and **building resilience** can address the many conditions that we are working to improve, and ultimately lead to better outcomes.

# FIVE MINUTE BREAK!

Time for a **ZOO**m break! How many of these can you do?

