

**Building Self-Healing  
Communities**



Understanding

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**N. E. A. R.**

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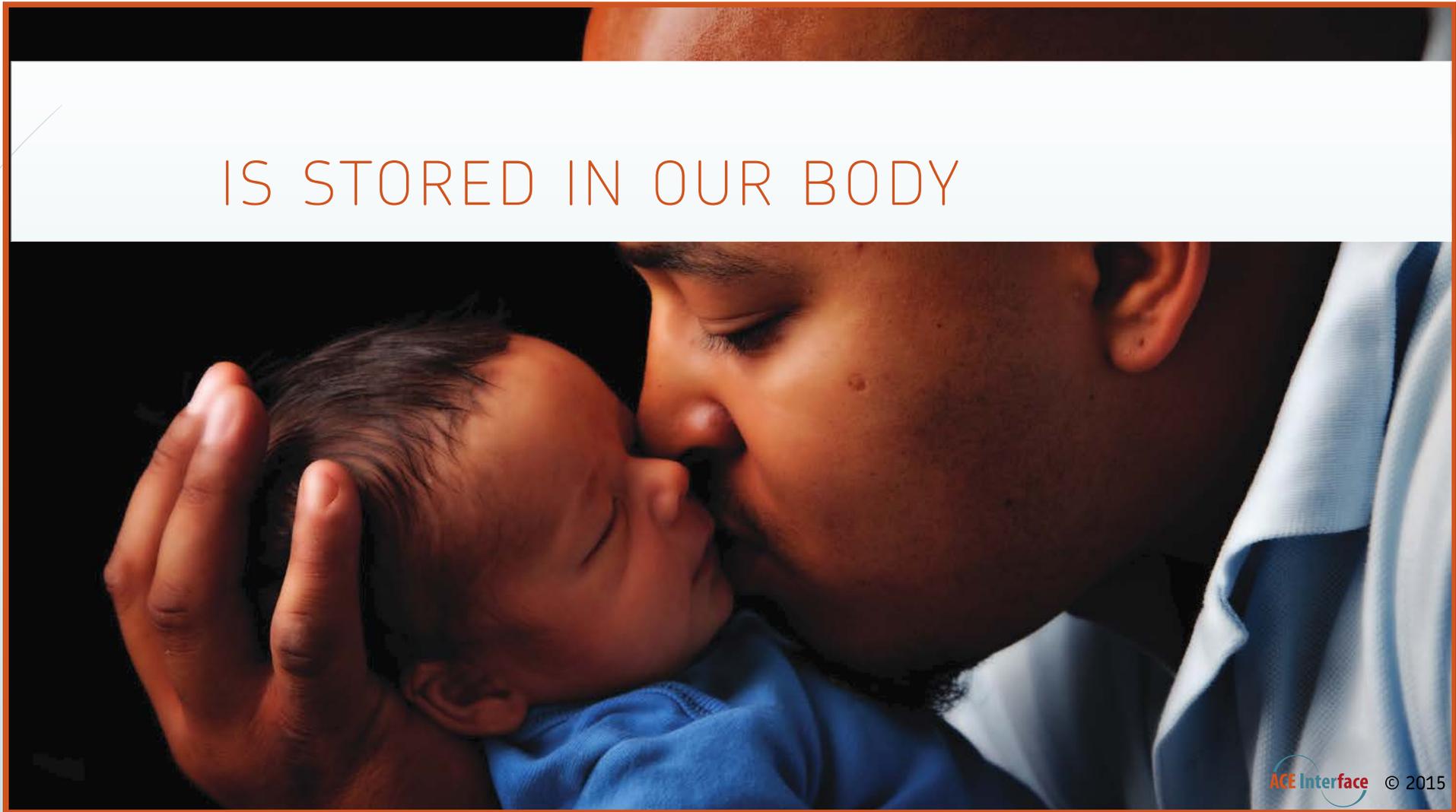
Neuroscience

Epigenetics

Adverse Childhood Experiences

Resilience

IS STORED IN OUR BODY



**DISCOVERY**



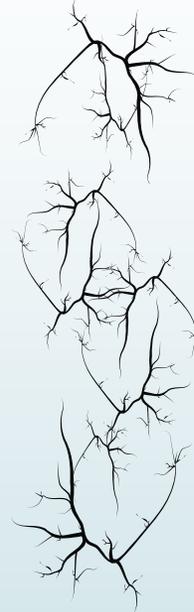
# SYNAPTIC DENSITY



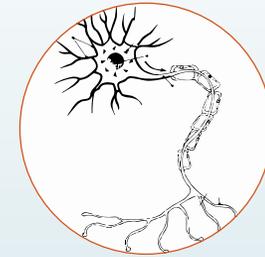
At Birth



Elementary Age



Puberty



Neuron



CONCEPTION



Childhood Experience



Adaptation

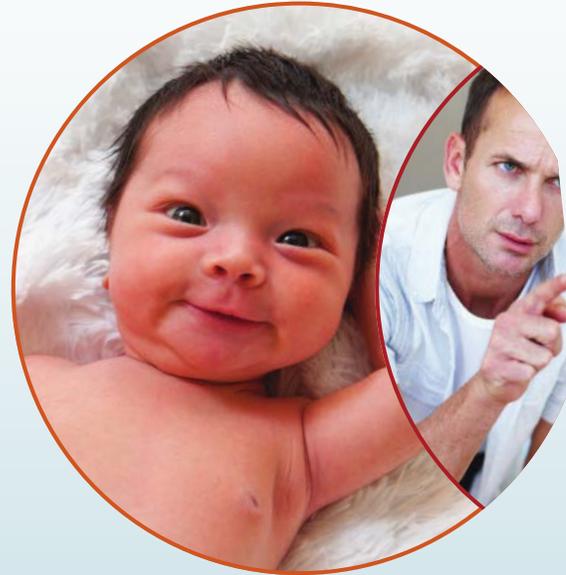


Adult Functioning



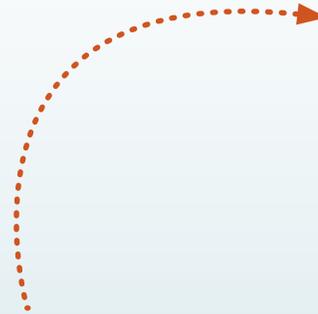
Best Conditions - Vulnerable in Worst

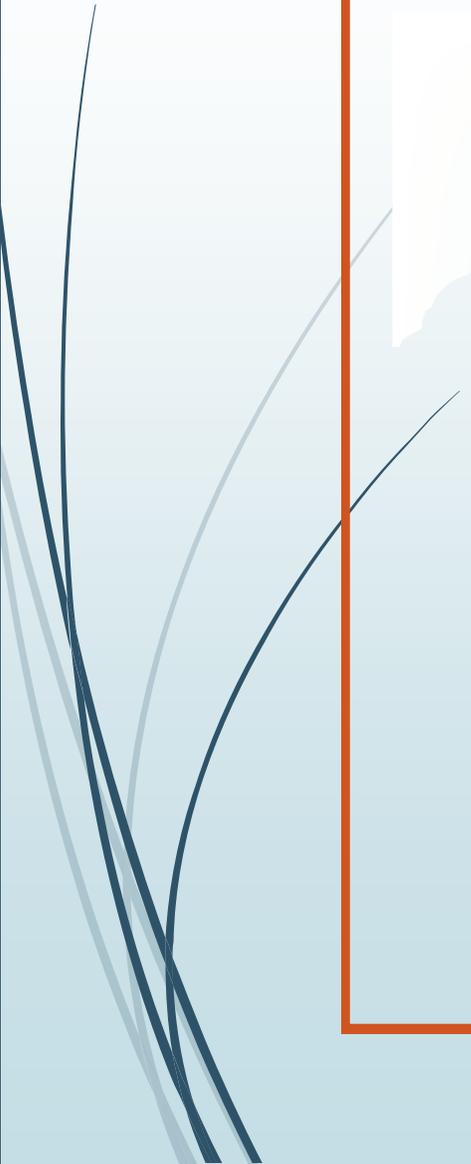
# ADAPTATIONS VS EXPECTATIONS



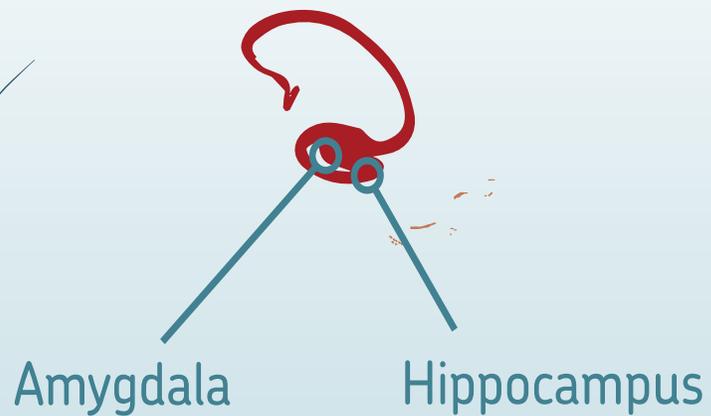


# Cause-Effect

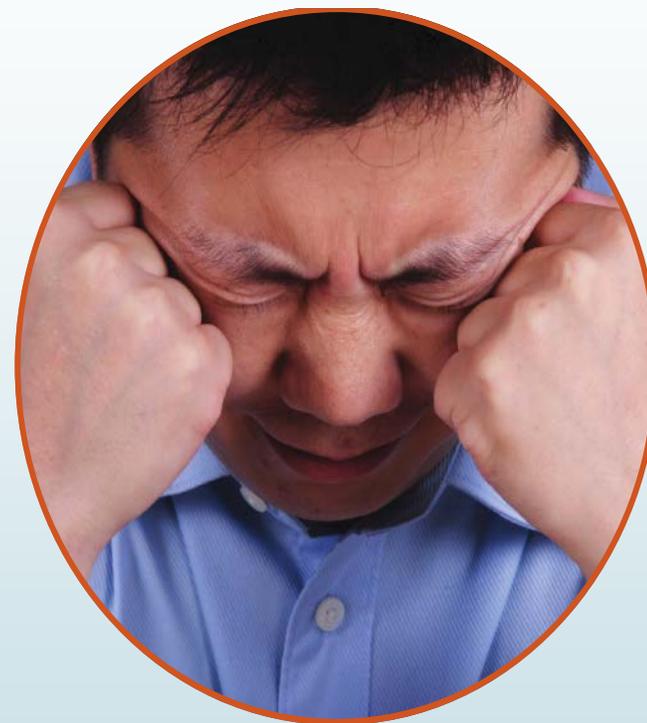




# THE HIPPOCAMPUS AND AMYGDALA



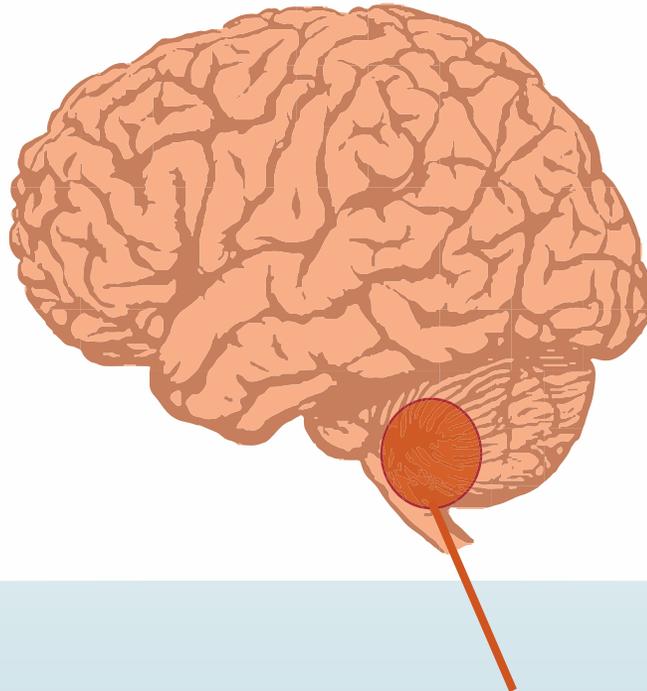
Panic & Fear | Attention | Memory | Social Cues



## POSITIVE FEELINGS

Perception

**Attention**



## ADDICTION

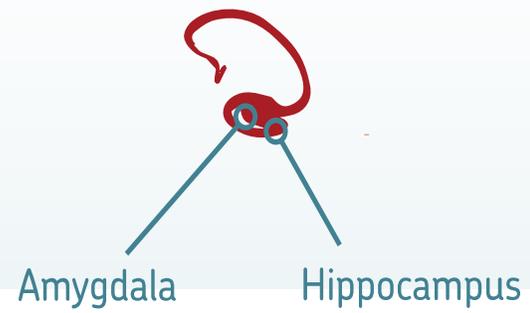
Attention Problems

**Mental Illness**

Cerebellar Vermis

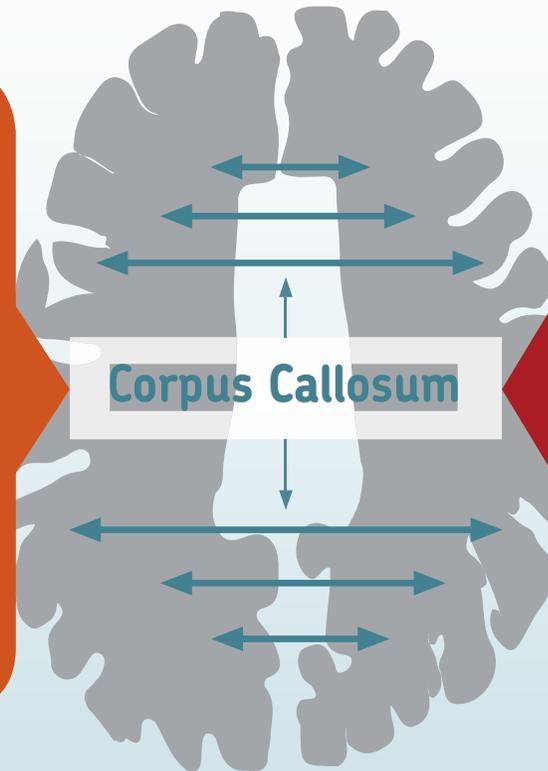


**CONNECTIONS**  
between trauma-induced  
adaptations in the Vermis  
—— and ——  
serious and persistent  
**MENTAL ILLNESS**

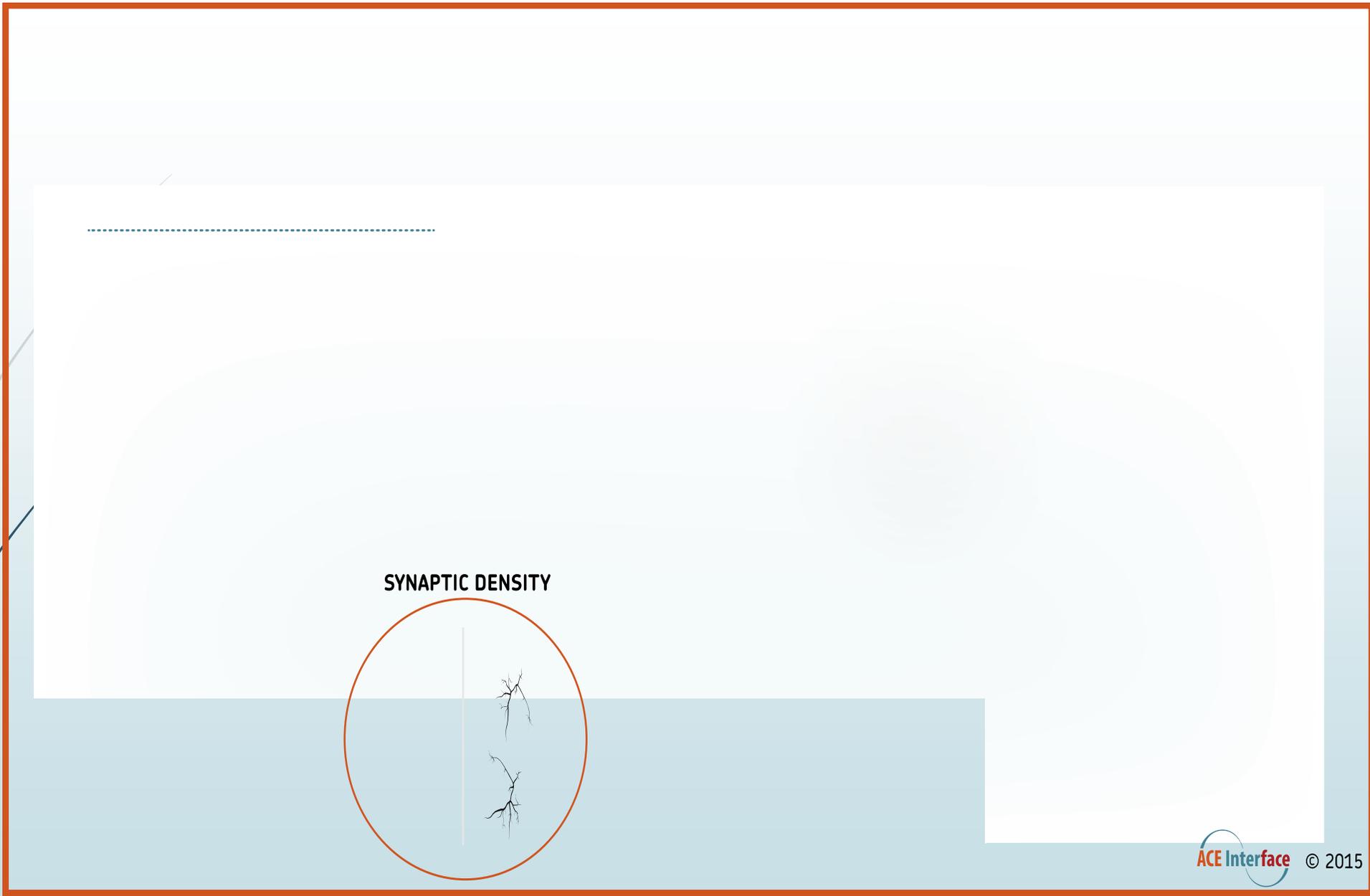
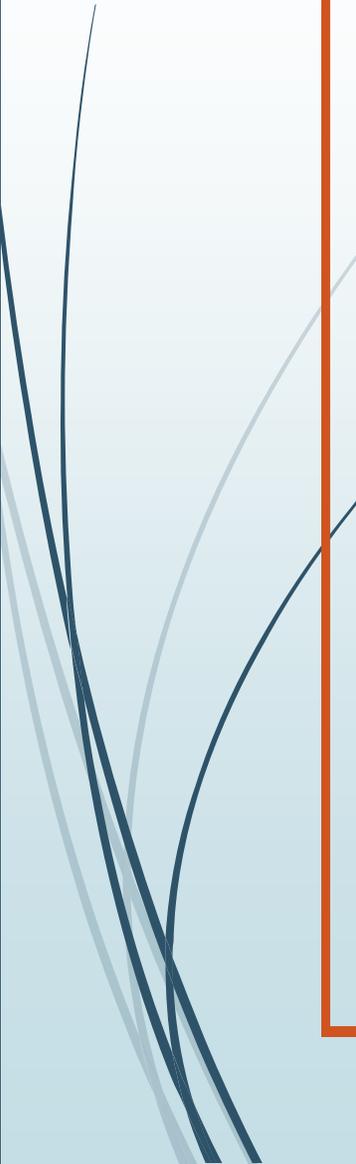


# The Corpus Callosum

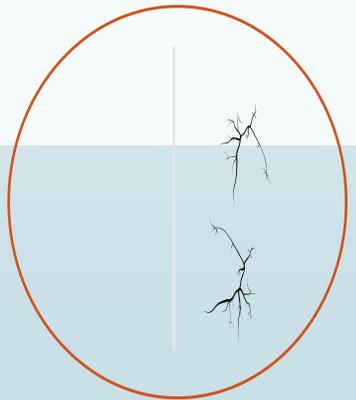
**LEFT HEMISPHERE**  
Spatial Patterns  
Math Calculation  
& Fact Retrieval  
Grammar &  
Vocabulary  
Processing Routine  
Situations

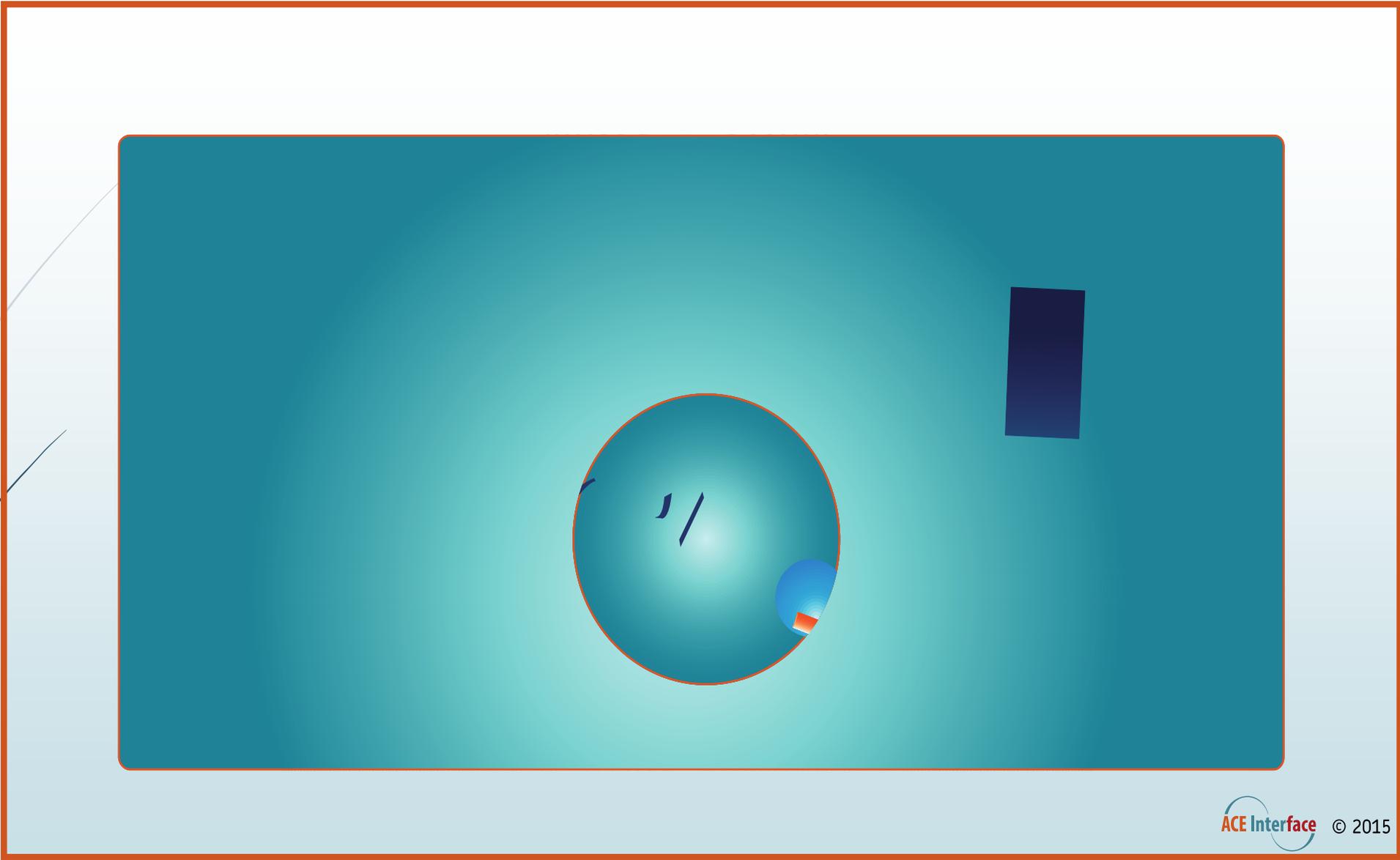
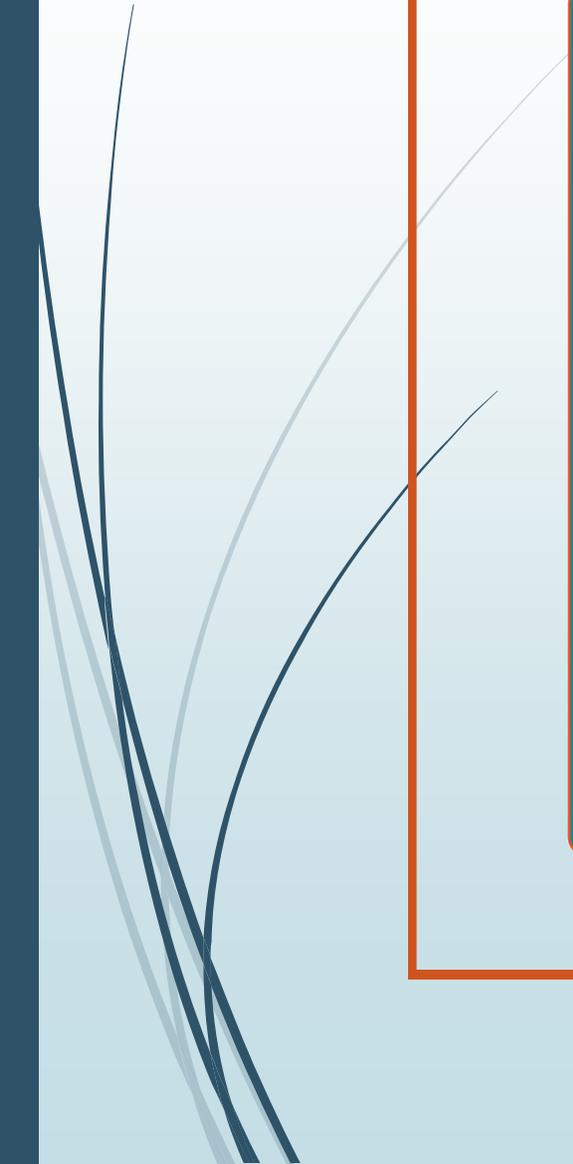


**RIGHT HEMISPHERE**  
Visual & Auditory  
Processing  
Prosaic Language  
Facial Perception  
Processing Novel  
Situations



**SYNAPTIC DENSITY**







01/12/14

**NEWS**

## **Early Adversity Increases Physical, Mental, Behavioral Problems, Scientists Report**

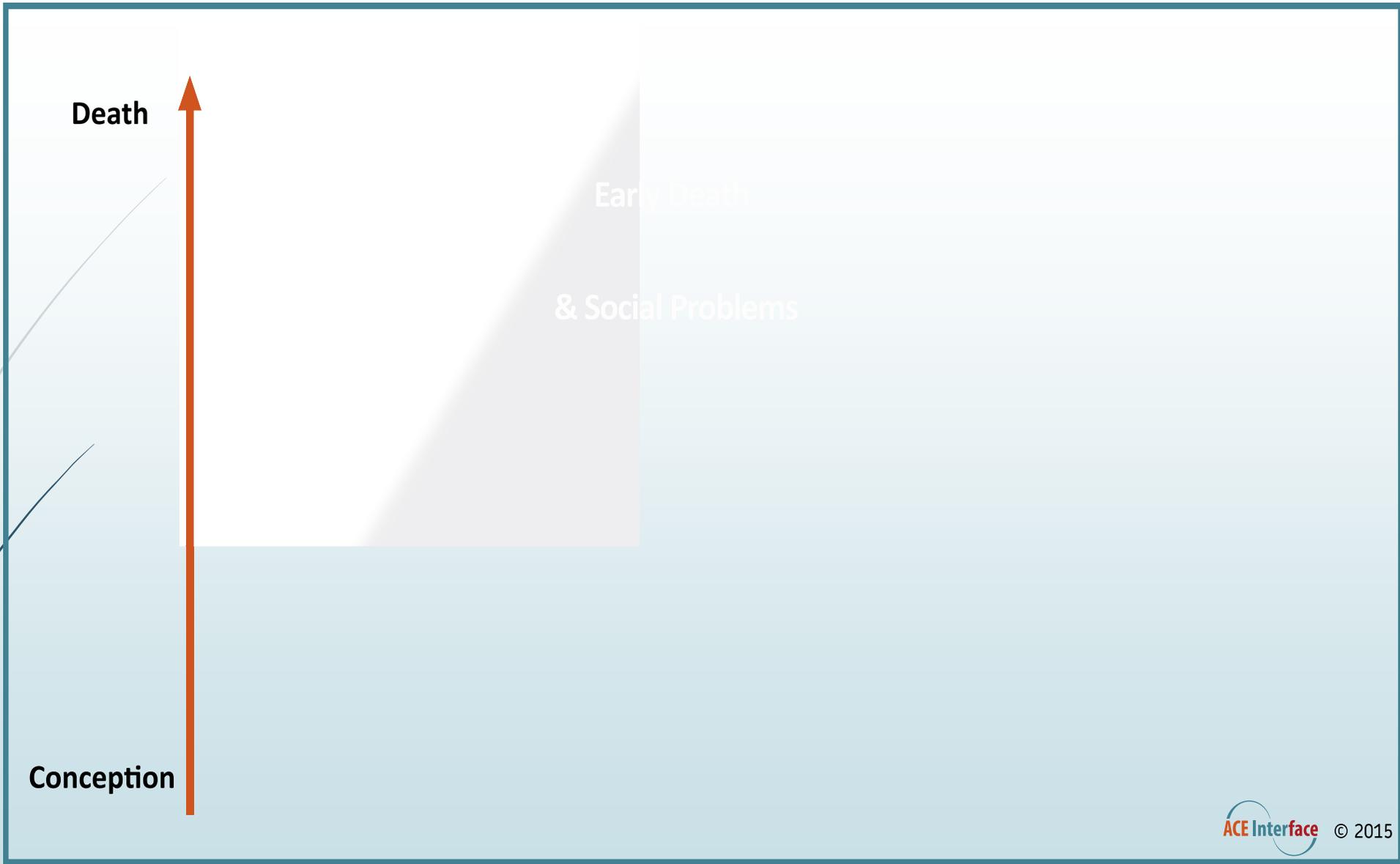


**Dr. Robert Anda & Dr. Vincent Felitti**  
Investigators

Centers for Disease Control & Prevention,  
Kaiser Permanente Study

Over 17,000 study participants

The ACE Study confirms, with scientific evidence, that adversity early in life increases physical, mental and behavioral problems later in life.



# Adverse Childhood Experiences **ARE COMMON**

## Household Dysfunction

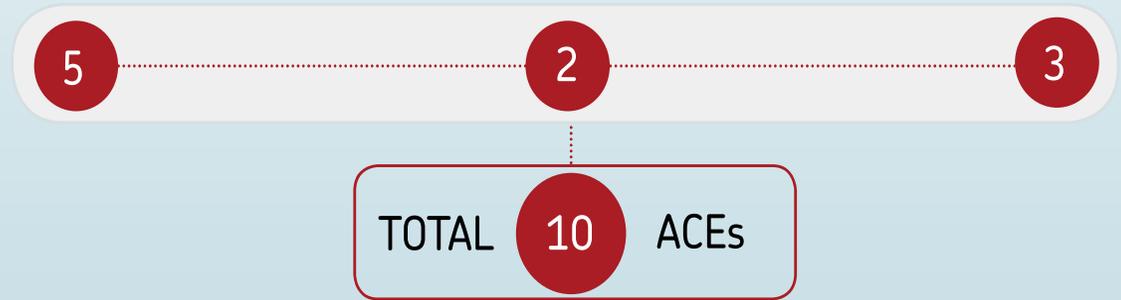
Substance Abuse	27%
Parental Sep/Divorce	23%
Mental Illness	17%
Battered Mothers	13%
Criminal Behavior	6%

## Neglect

Emotional	15%
Physical	10%

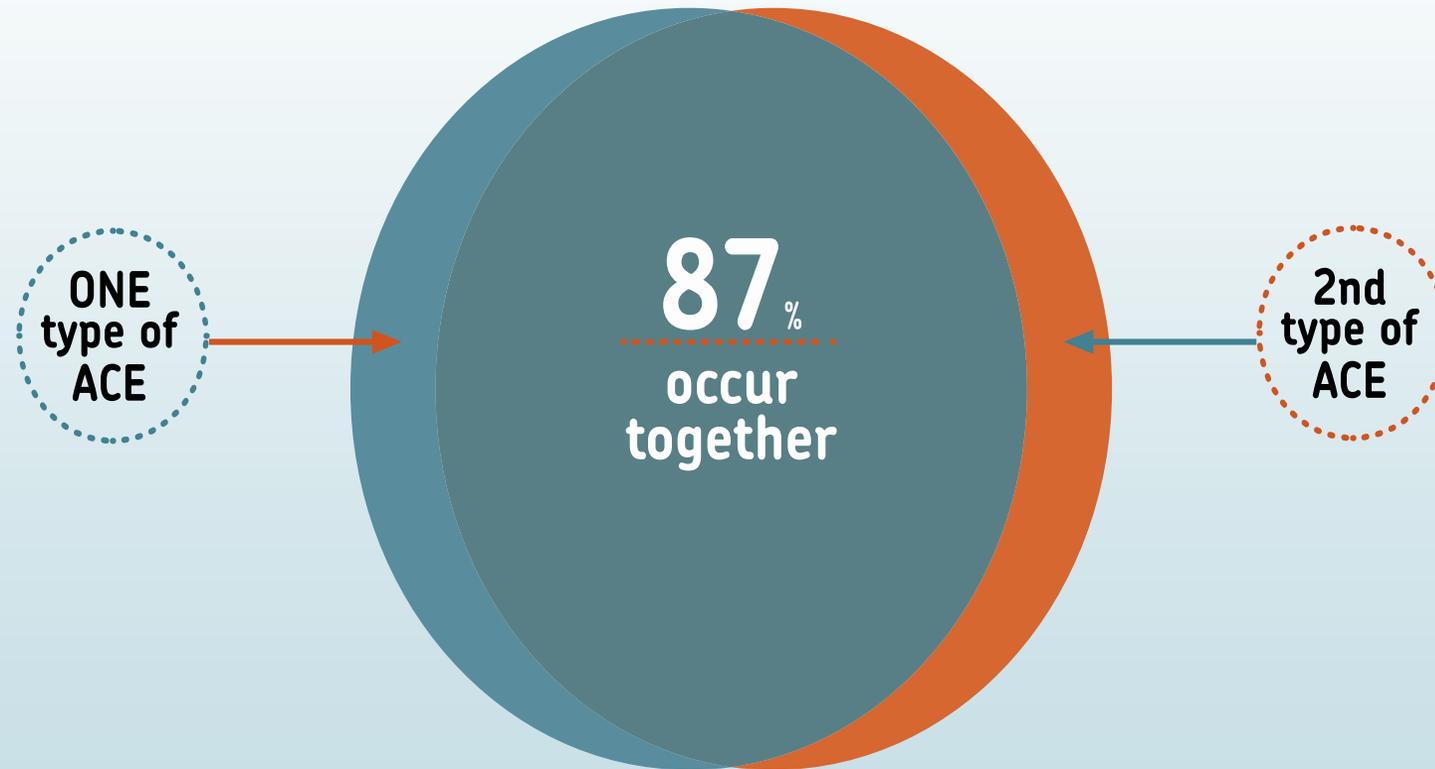
## Abuse

Emotional	11%
Physical	28%
Sexual	21%

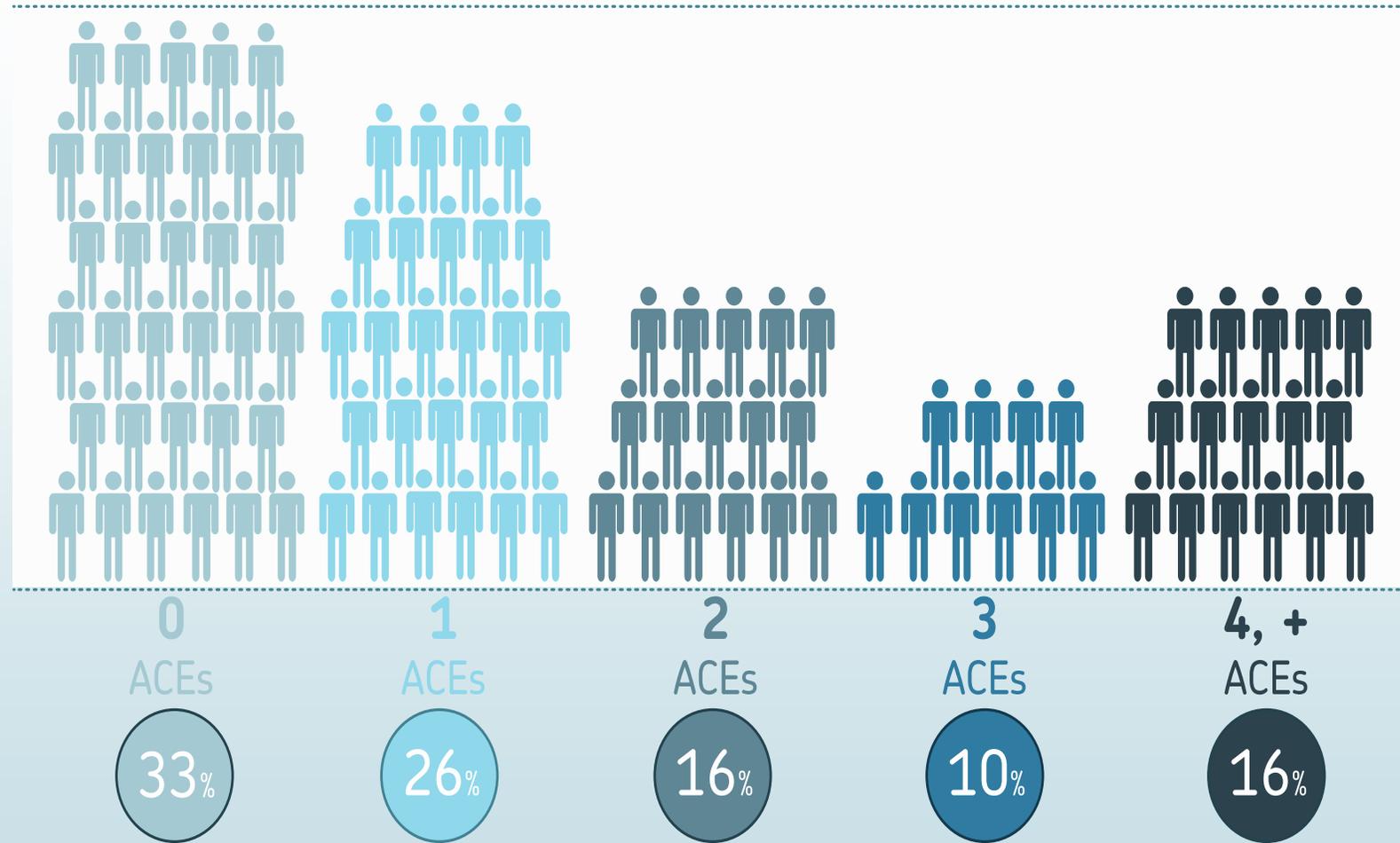


## ACEs are Highly Interrelated:

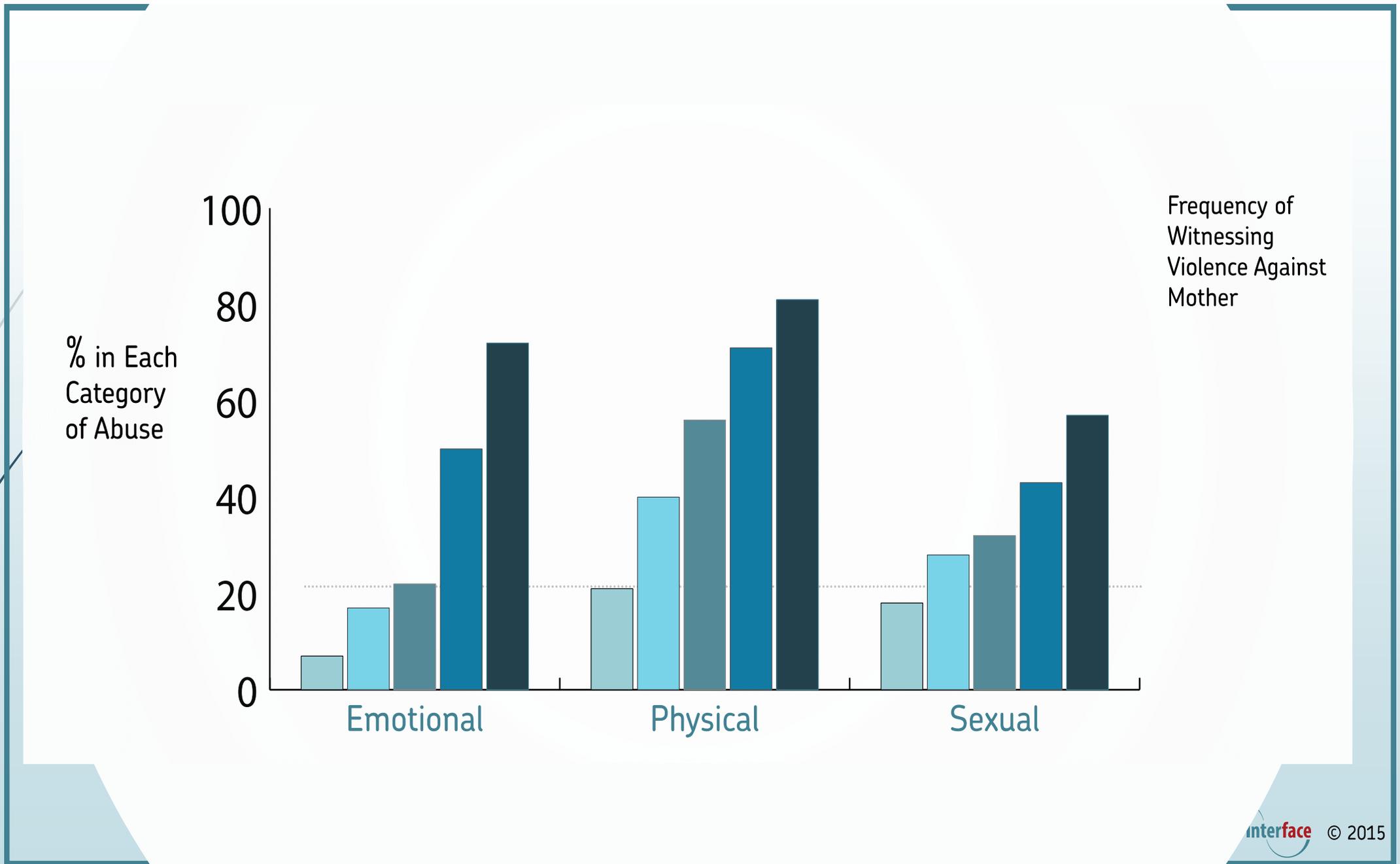
Where One ACE Occurs,  
There are Usually Others



# ACE Score = Number of ACE Categories



ACE Scores Reliably Predict Challenges During the Life Course



# Domestic Violence In Wyoming (2015 data)





# Data

- ▶ In Wyoming in 2016 we had 974 substantiated cases of abuse and neglect
- ▶ Of the substantiated cases, the three top reasons for entry into the system are
  - ▶ Substance abuse by adult care givers
  - ▶ Domestic Violence
  - ▶ Mental health issues of the adult care giver

# ADVERSITY





## Difficulty Concentrating

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## EXAMPLES OF ACE-ATTRIBUTABLE PROBLEMS

Alcoholism & Alcohol Abuse

Chronic Obstructive  
Pulmonary Disease

Coronary Heart Disease

Depression

Drug Abuse & Illicit Drug Use

Fetal Death

Intimate Partner Violence

Liver Disease

Mental Health Problems

Obesity

Sexual Behavior Problems

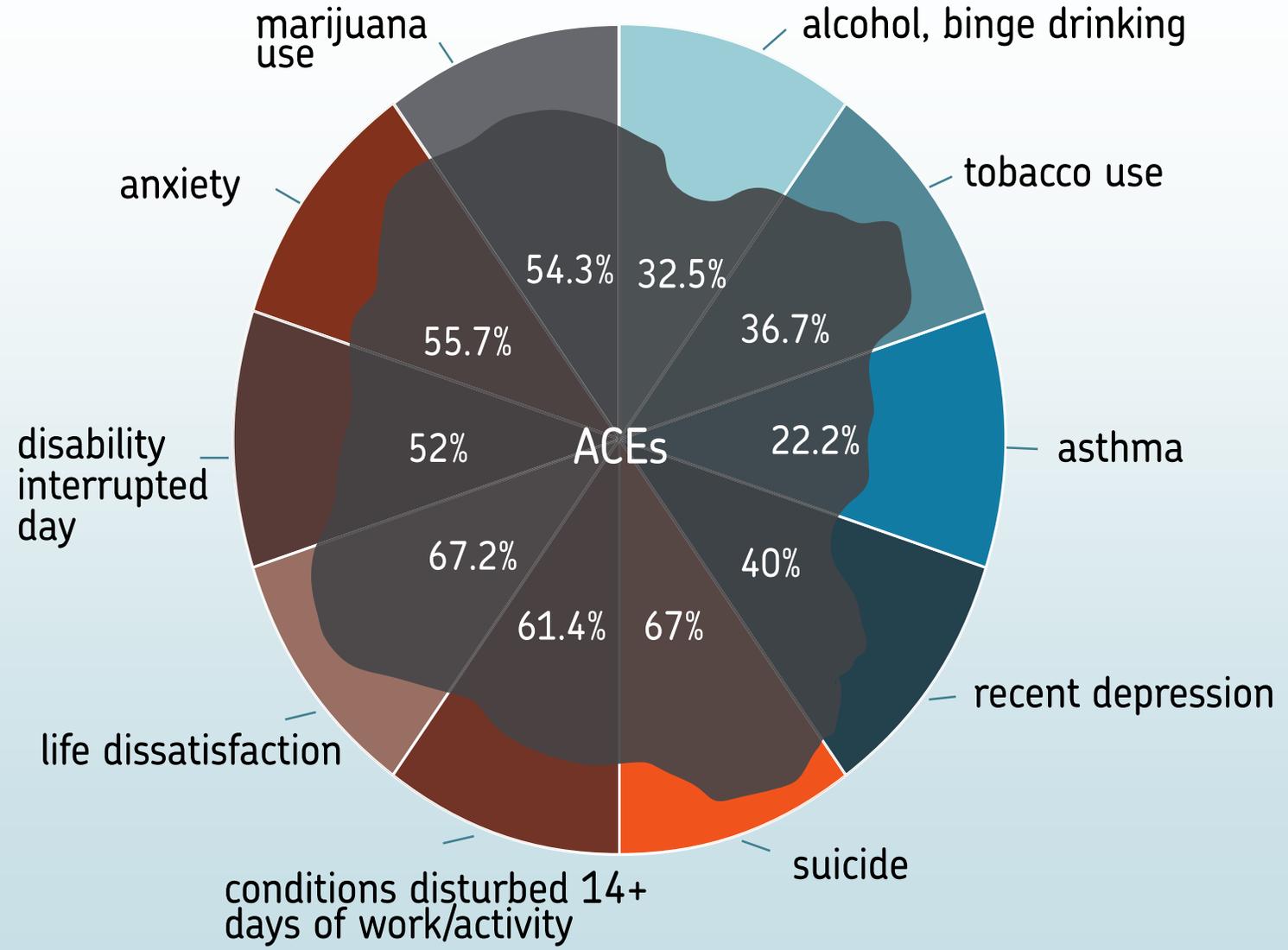
Smoking

Unintended Pregnancy

Violence

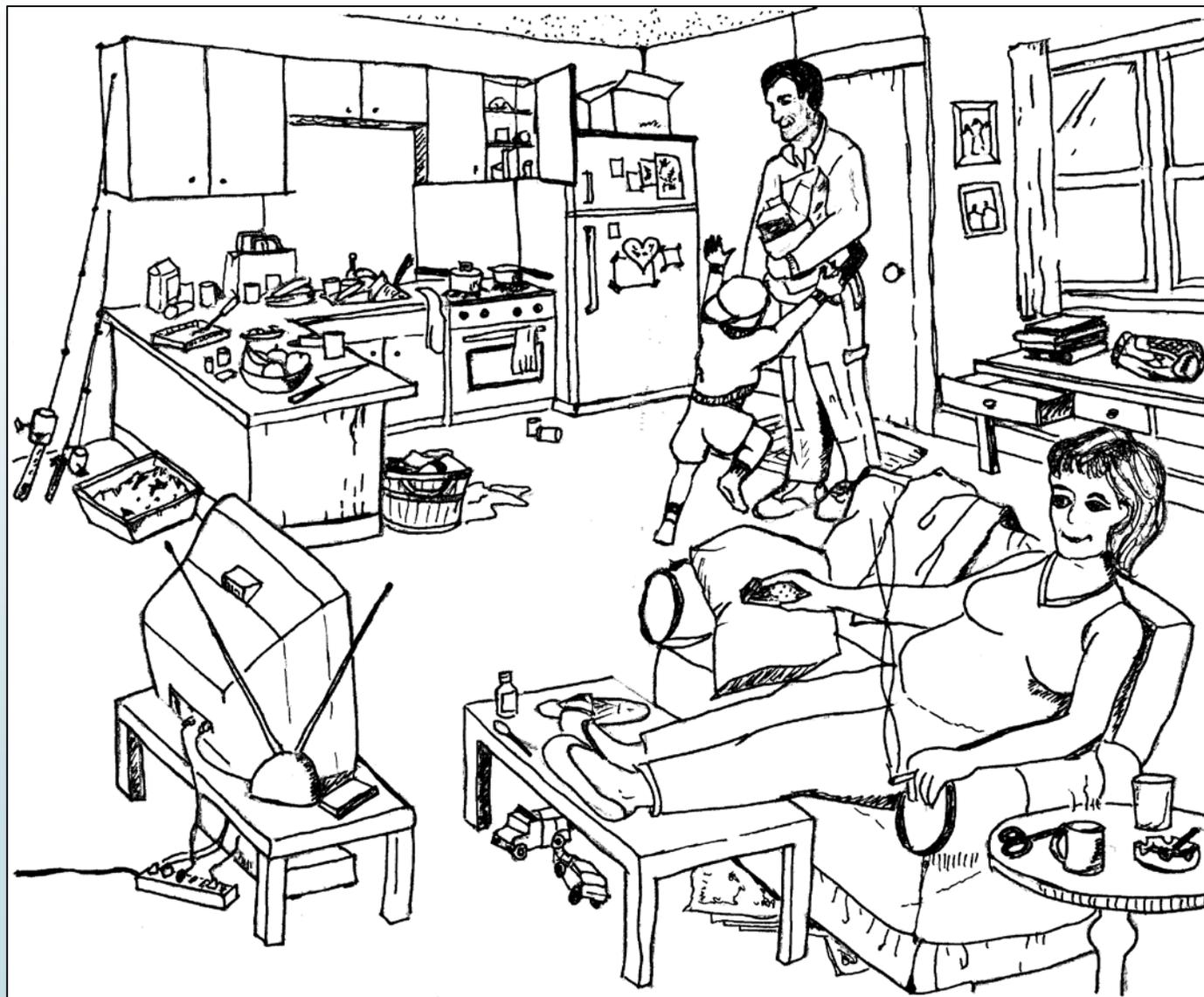
Workplace Problems

# Population Attributable Risk



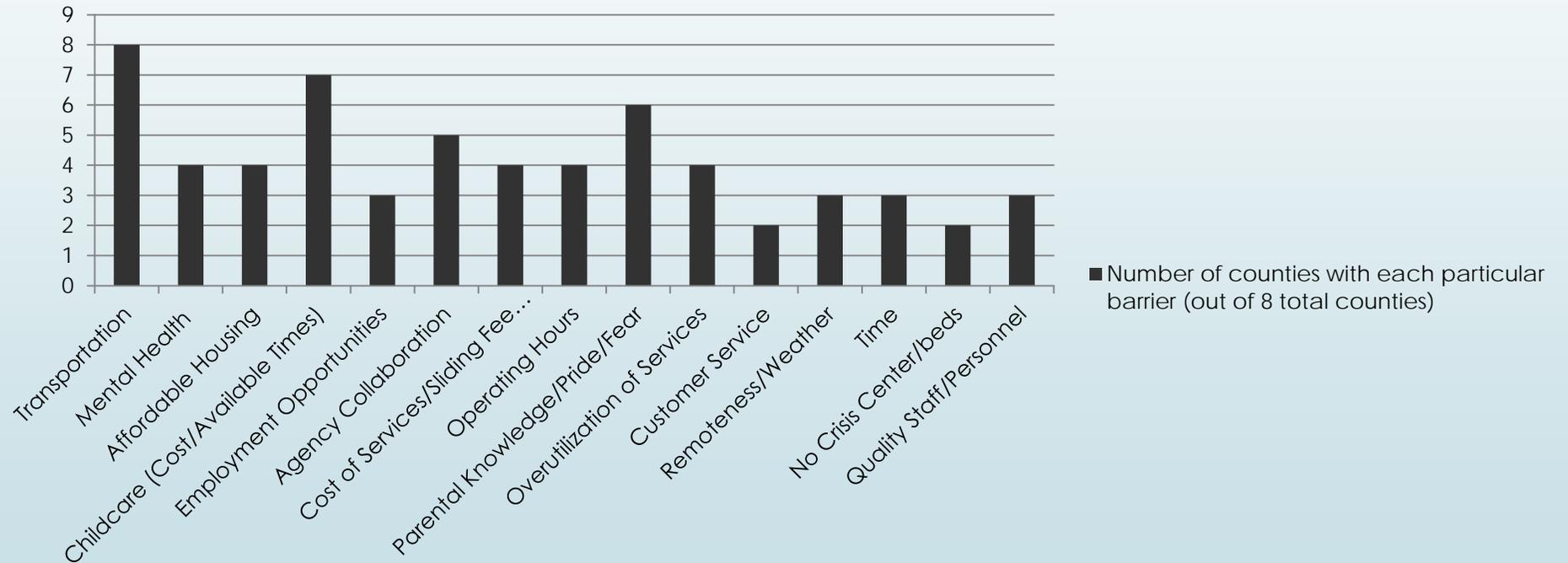
Controls: gender, age, income, education, race-ethnicity

# Risk and Protective Factors Cartoon



# Communities in Wyoming

## Community Cafe Barrier Trends





# Strengthening Families Protective Factors

- ▶ Parental Resilience
- ▶ Concrete Supports in Time of Need
- ▶ Social and Emotional Competence of Children
- ▶ Social Connections
- ▶ Knowledge of Parenting and Child Development

We

have a collective  
**CHOICE**





# H.O.P.E.

## Health Outcomes from Positive Experiences

- ▶ Dr. Robert Sege from Boston
  - ▶ Building Strong Connections for Families based on positive experiences
  - ▶ Two main points of his findings
    - ▶ Communities need to accept mutual responsibility
    - ▶ At some point we all need help and empowering people to ask for it

# CHANGE is up to US



the way we relate with one another in relationships, in families, and in communities.

Thank You!!

QUESTIONS

