

# **Fight,** *Flight,* FREEZE

The Life-long Impact of Childhood Stress & Trauma

Bethany Brand, Ph.D.

## The EVOLUTION of PTSD

DRINK  
COLUMBIA  
MICROSOFT  
CARTOONS  
2/10

WWI

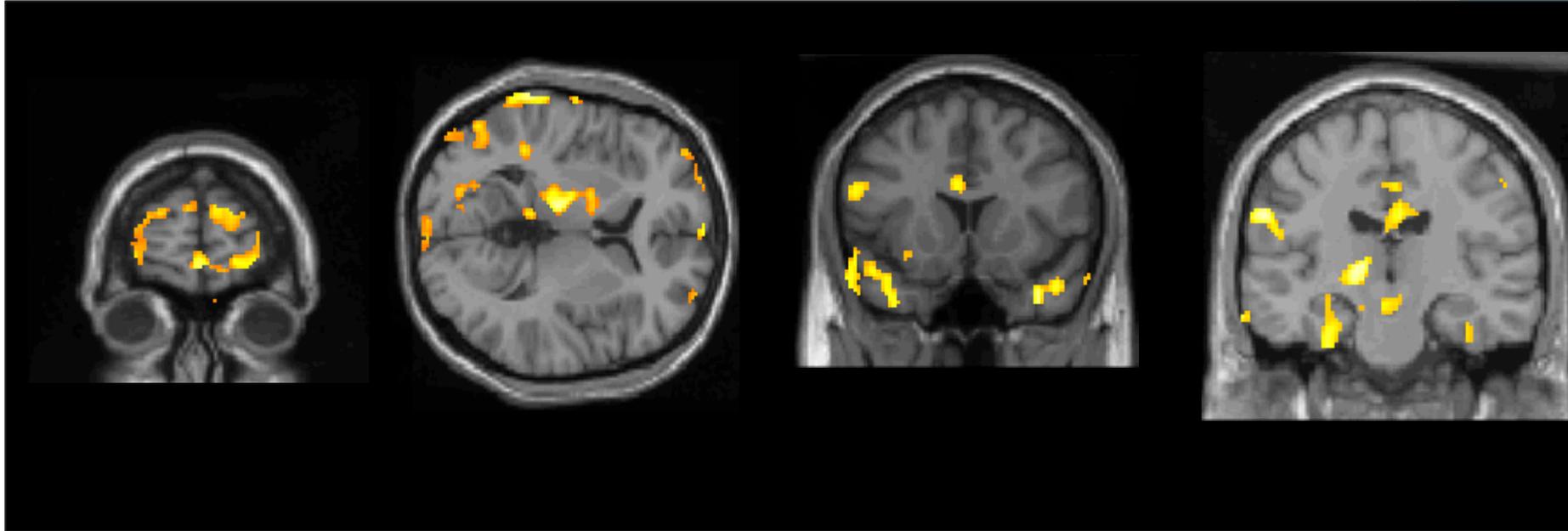
VIETNAM

CLASSROOMS



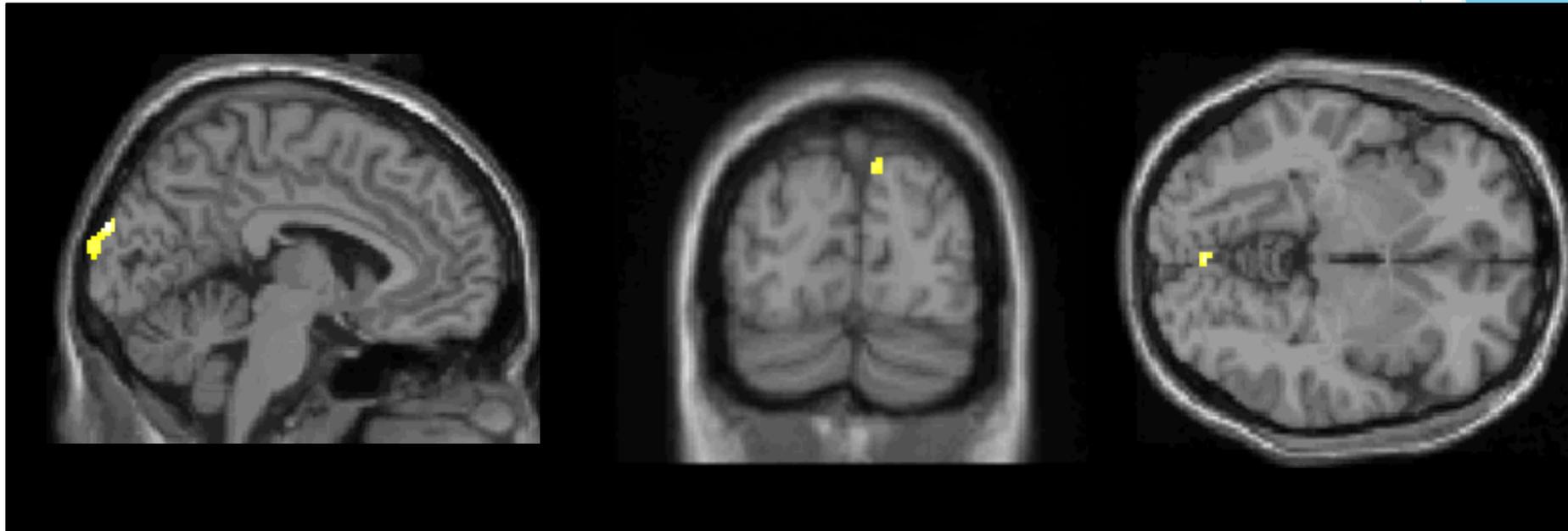


# Husband's Brain Scan



Lanius et al., 2003

# Wife's Brain Scan



Lanius et al., AJP, 2003

**The Effects of Childhood**

**Trauma Can**

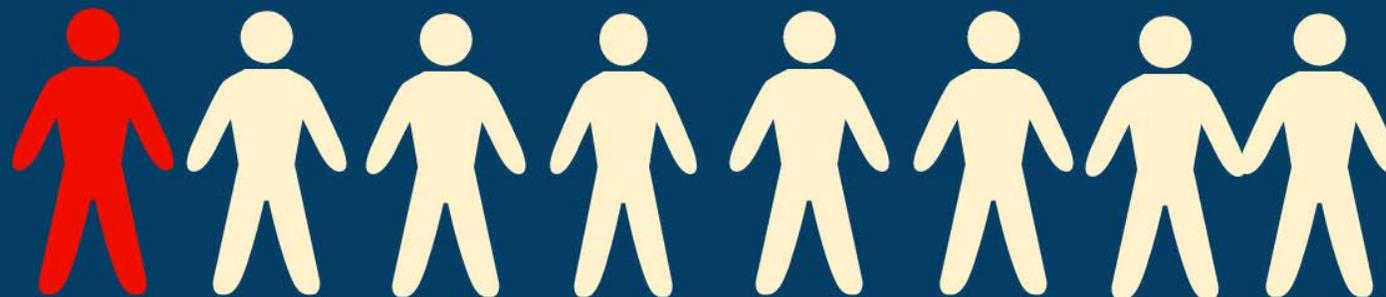
**Last a Lifetime**

**What smoking is to cancer,  
trauma is to  
psychiatric problems.**

Steven Sharfstein, M.D.

# How Common is Child Abuse?

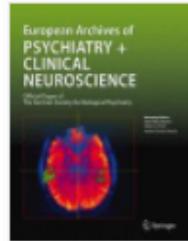
1,000 - 2,000 children in the United States die each year due to abuse or neglect



**1 OUT OF 8 CHILDREN**

Experience neglect, or emotional, physical or sexual abuse

# Adverse Childhood Experiences Scale (ACE) Study



[European Archives of Psychiatry and Clinical Neuroscience](#)

April 2006, Volume 256, [Issue 3](#), pp 174–186 | [Cite as](#)

## The enduring effects of abuse and related adverse experiences in childhood

R. F. Anda, V. J. Felitti, J. D. Bremner, J. D. Walker, Ch. Whitfield, B. D. Perry, Sh. R. Dube, W. H. Giles



# Adverse Childhood Experiences Study (ACE)

## 8 ACEs:

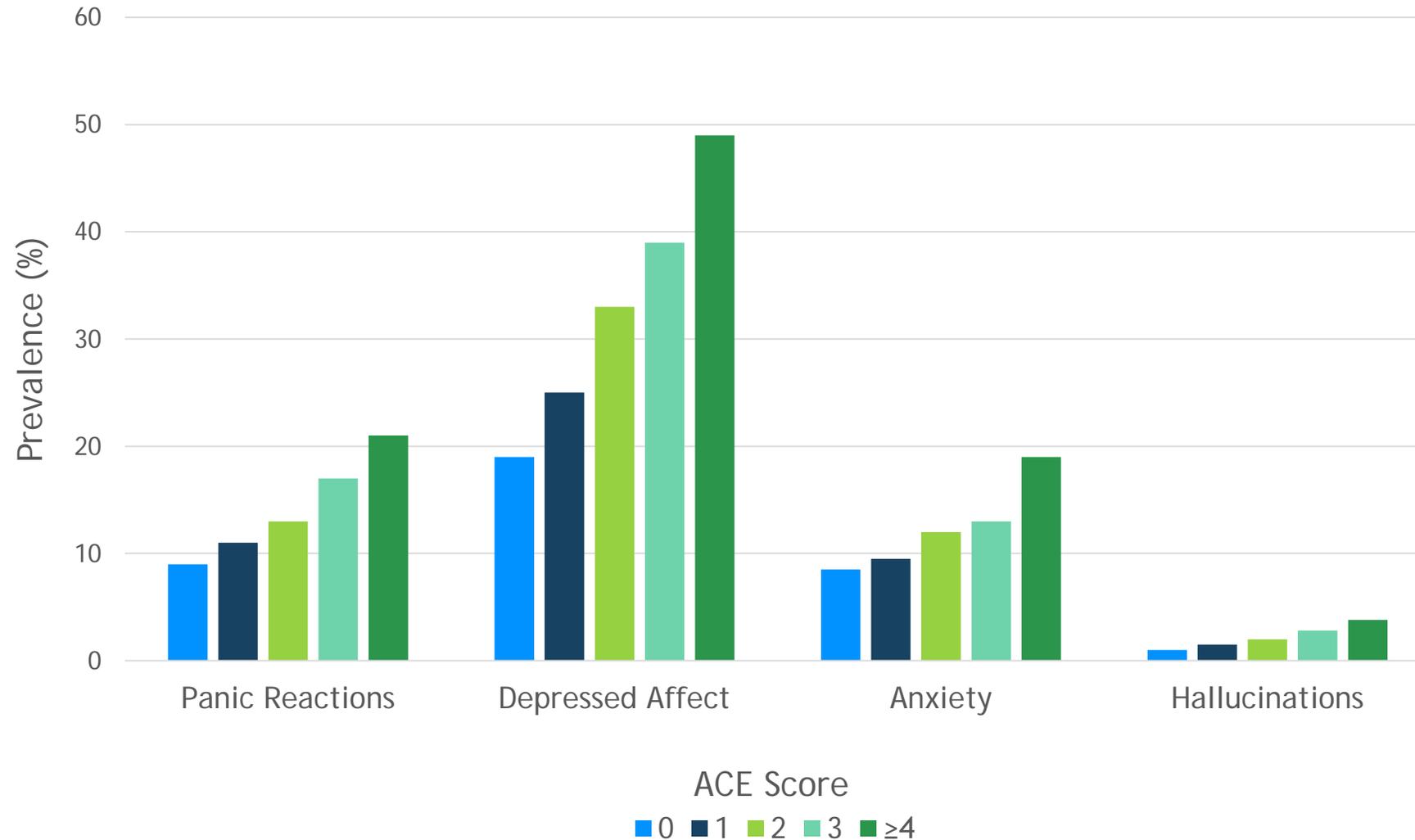
1. Emotional abuse
2. Physical abuse
3. Sexual abuse
4. Witnessing domestic violence
5. Parental marital discord
6. Growing up with mental illness
7. Substance abuse
8. Criminal household members

## Definition and prevalence of each category of adverse childhood experience and the ACE score

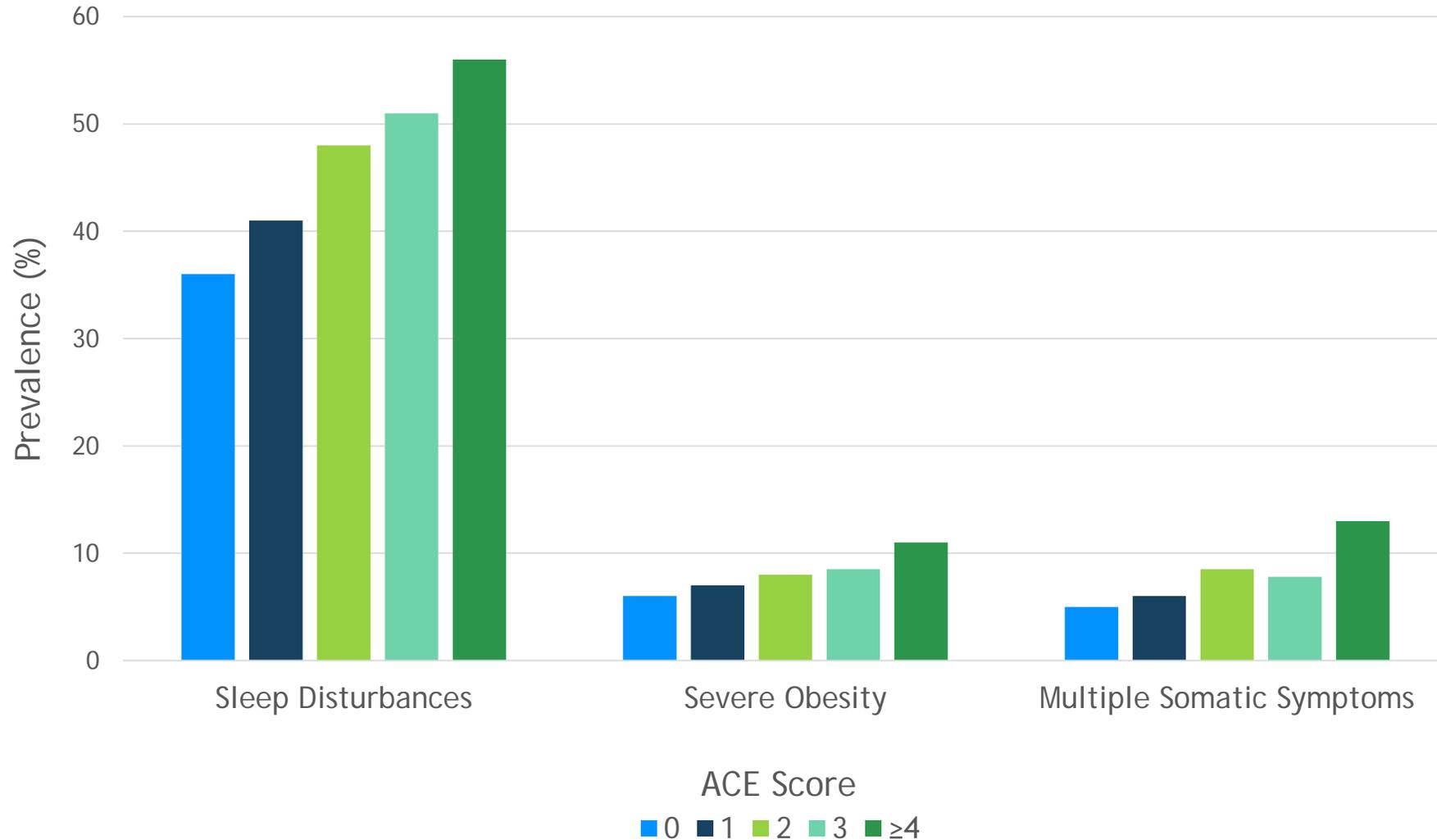
<b>Childhood abuse</b>	<b>Total N = 17,337</b>
Emotional (Did a parent or other adult in the household...) 1. Often or very often swear at you, insult you, or put you down? 2. Sometimes, often, or very often act in a way that made you fear that you might be physically hurt?	10.6
Physical (Did a parent or other adult in the household...) 1. Often or very often push, grab, slap, or throw something at you? 2. Often or very often hit you so hard that you had marks or were injured?	28.3
Sexual (Did an adult or person at least 5 years older ever...) 1. Touch or fondle you in a sexual way? 2. Have you touch their body in a sexual way? 3. Attempt oral, anal, or vaginal intercourse with you? 4. Actually have oral, anal, or vaginal intercourse with you?	20.7

- ▶ The number of ACEs added to create the ACE score
- ▶ At least 1 ACE reported by 64% of respondents.
- ▶ **Dose Response:** as ACE score increased, the risk of problems increased

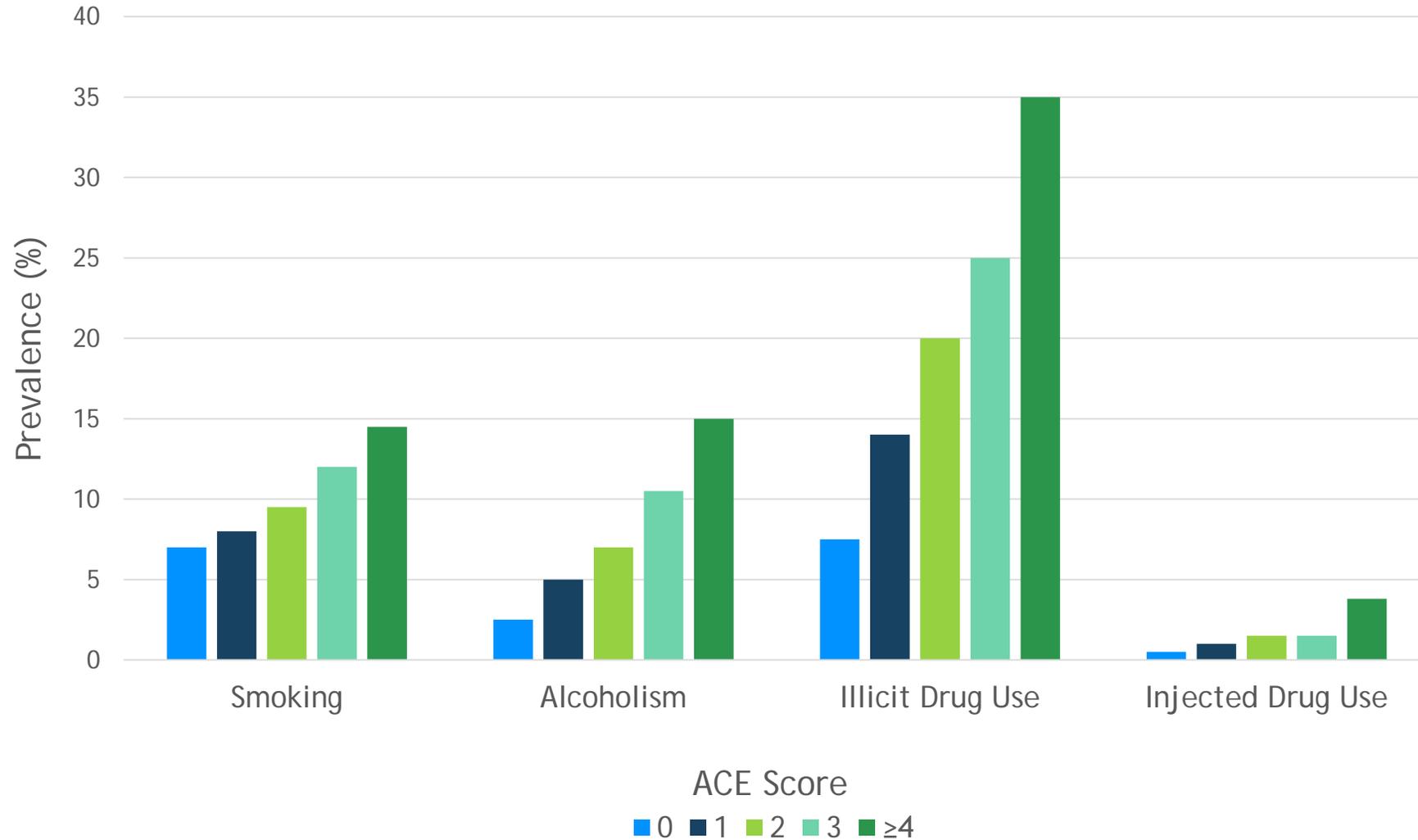
# Mental Health Problems



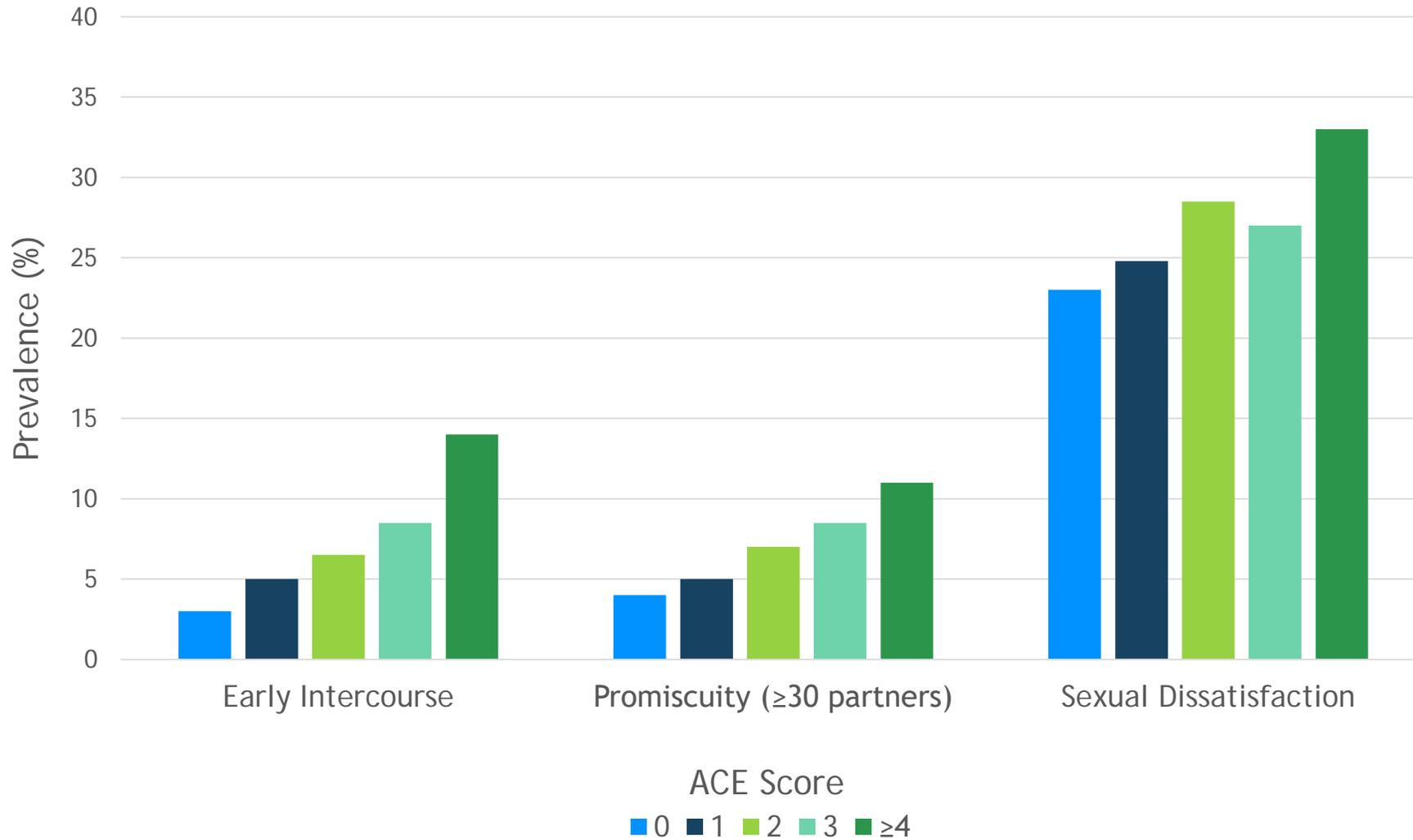
# Health Problems



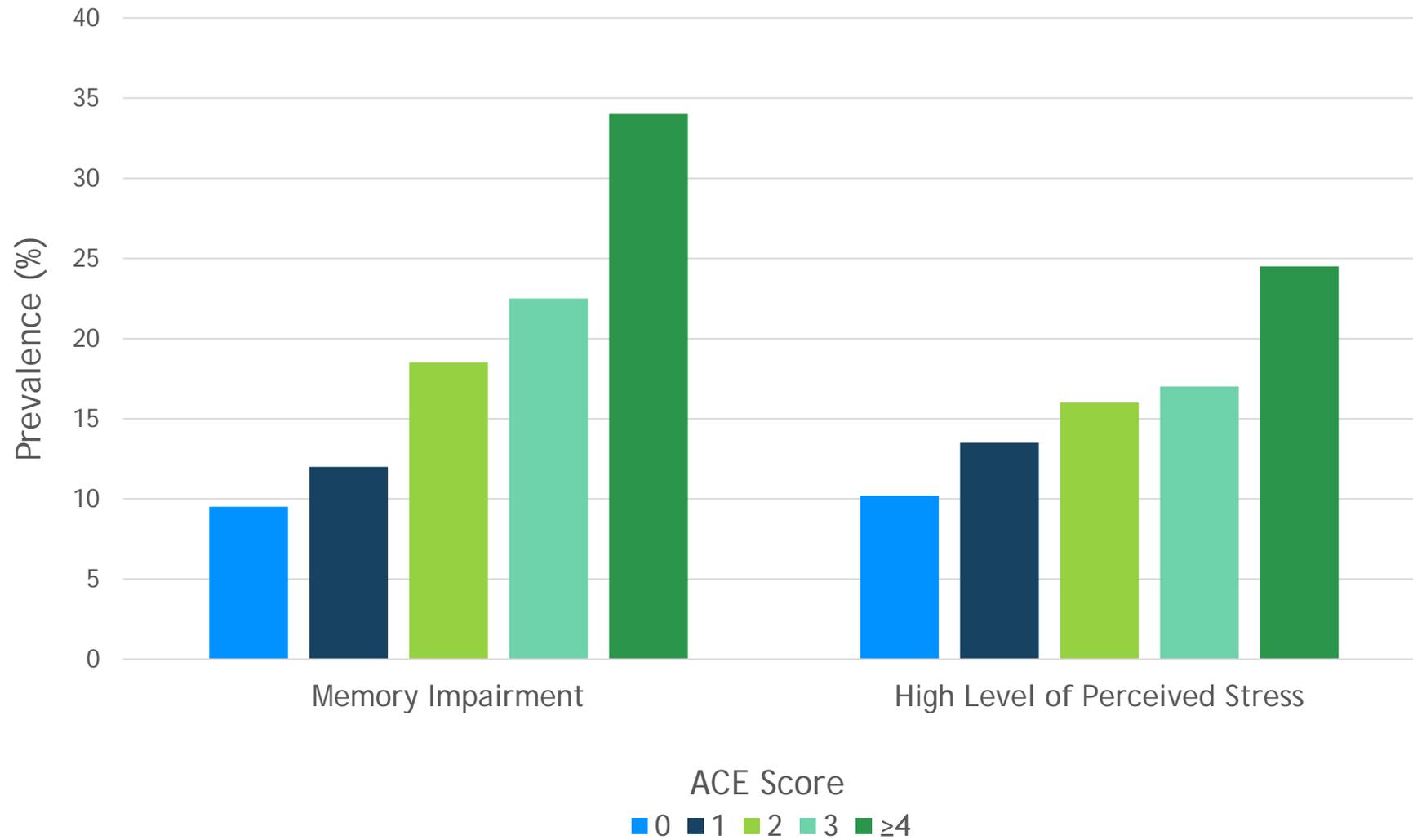
# Substance Abuse



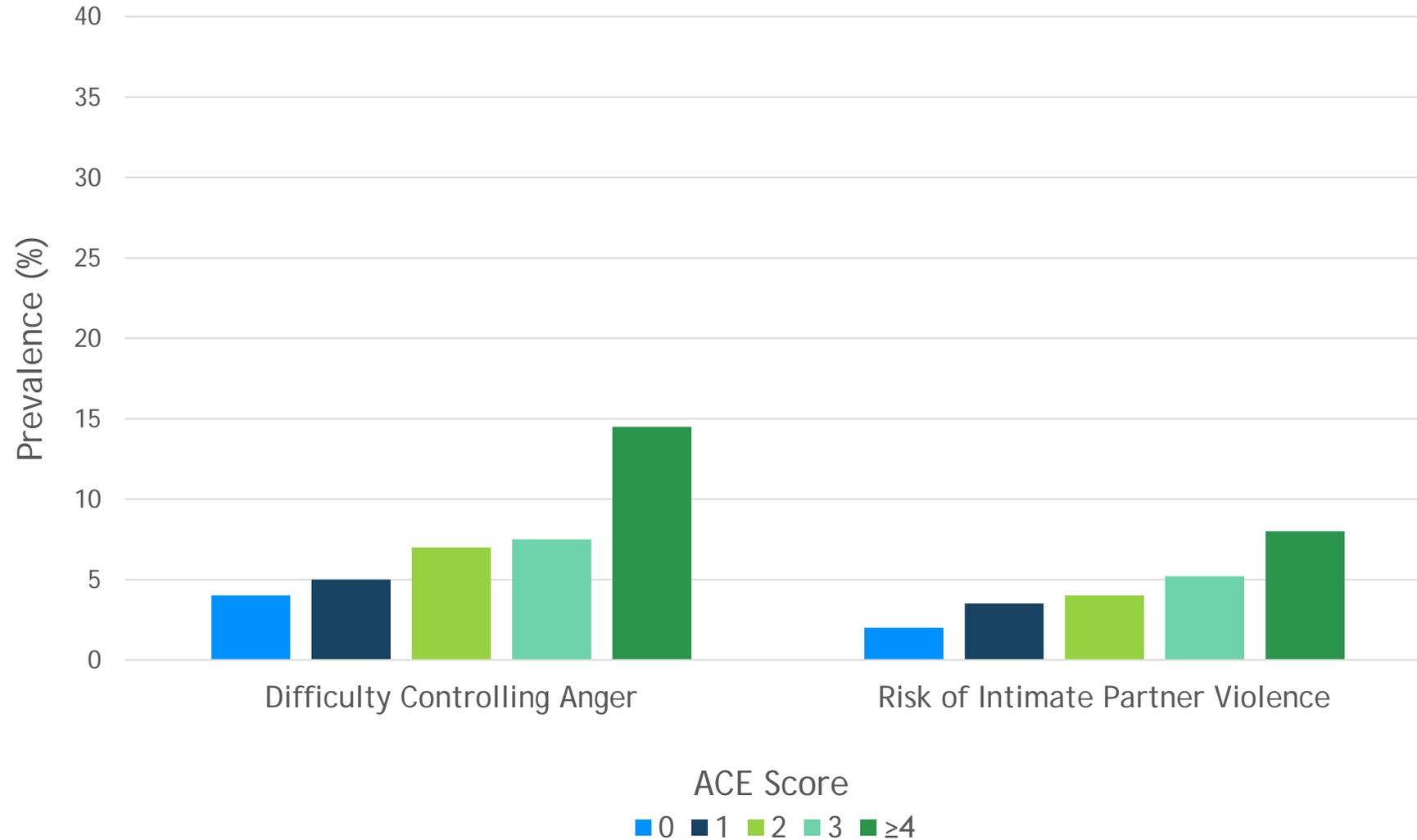
# Sexuality



# Memory & Stress



# Anger



# Why Does Severe, Repeated Childhood Trauma Cause So Many Problems Later in Life?

It Changes the Brain's Response to  
Stress



# High Stress causes **Impaired** Brain

Logical brain goes “off line”

We can't:

focus our attention

think logically

remember well

**conditioned stress response**

# The Prefrontal Cortex



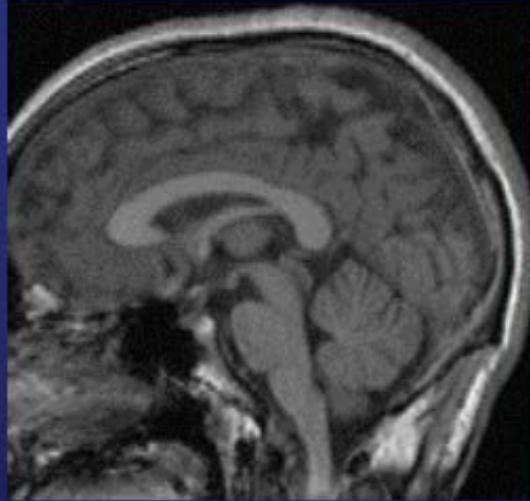
# High Stress = Impaired Prefrontal Cortex

- Stress chemicals basically **turn it off**
- Old and primitive brain structures take control
- **We can't...**
  - Control our attention
  - Remember important information
  - Think logically
  - Over-ride emotional reflexes or habits
- Evolutionary origins: Stop to think – you're lunch

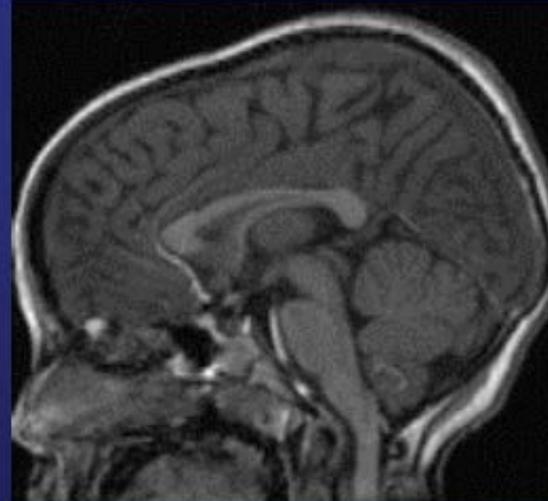
# Brain Changes Related to Trauma

- ⦿ Smaller hippocampus, corpus callosum, prefrontal cortex
- ⦿ Heightened reactivity
- ⦿ Different patterns of brain activation

# Childhood abuse affects corpus callosum



**Control**



**Neglect**

The morphology of the corpus callosum is significantly affected by early neglect (as well as physical abuse and sexual abuse).

*Teicher et al. (2004) Biological Psychiatry 56, 80-85*

# Emotion Dysregulation in PTSD

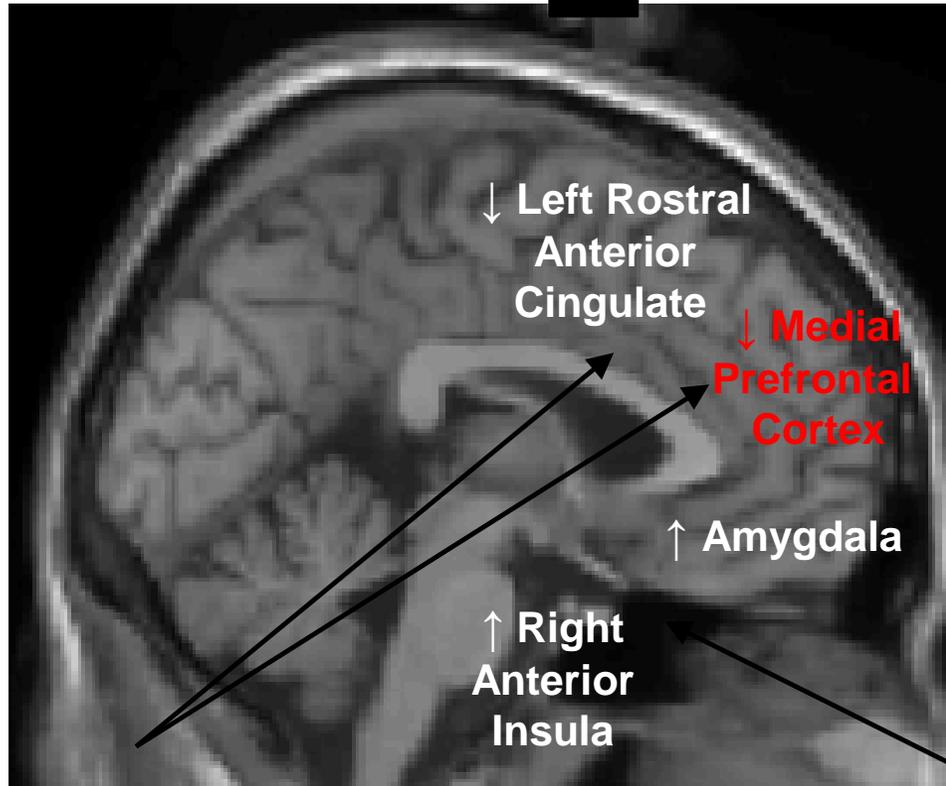
**Emotional Undermodulation**

**Emotional Overmodulation**

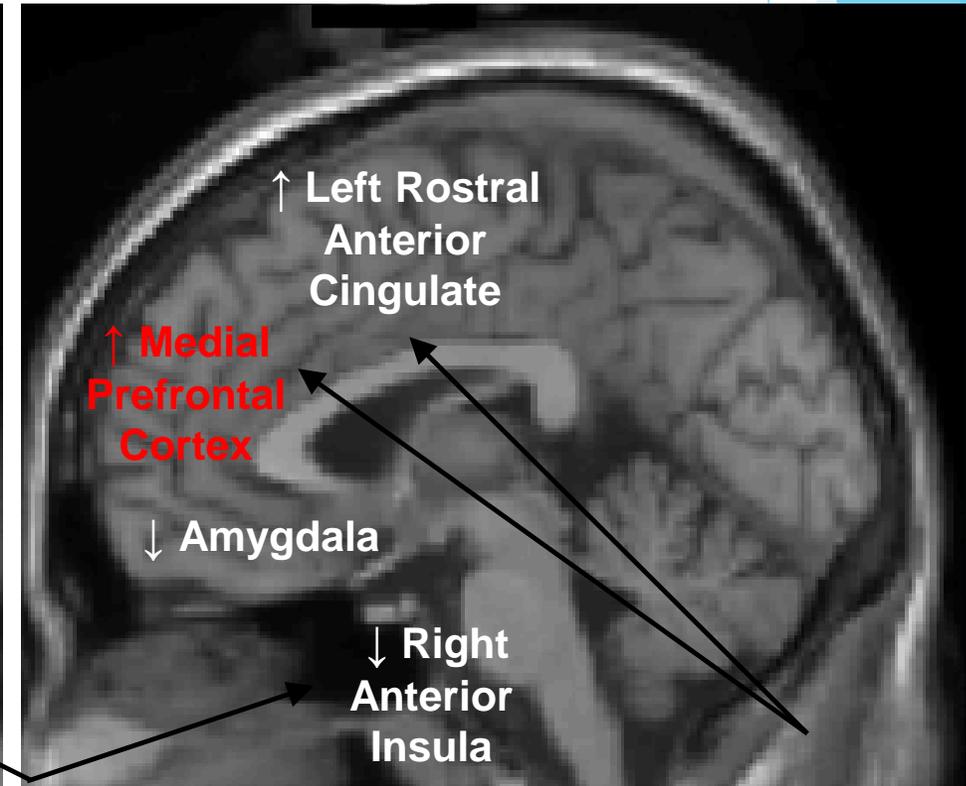


**Reexperiencing**

**Dissociation**



Regions implicated in regulation of emotion and arousal



Region implicated in awareness of bodily states

Regions implicated in regulation of emotion and arousal



# Executive Functioning

- ▶ Impulse control
- ▶ Decision making & judgement
- ▶ Emotion regulation
- ▶ Managing transitions
- ▶ Keeping organized & planning ahead
- ▶ Focusing attention
- ▶ Working memory
- ▶ Many others

(Mugge, 2012; Fox et al., 2015; Zou et al. 2013)

# What Happens to Kids with So Many ACEs?

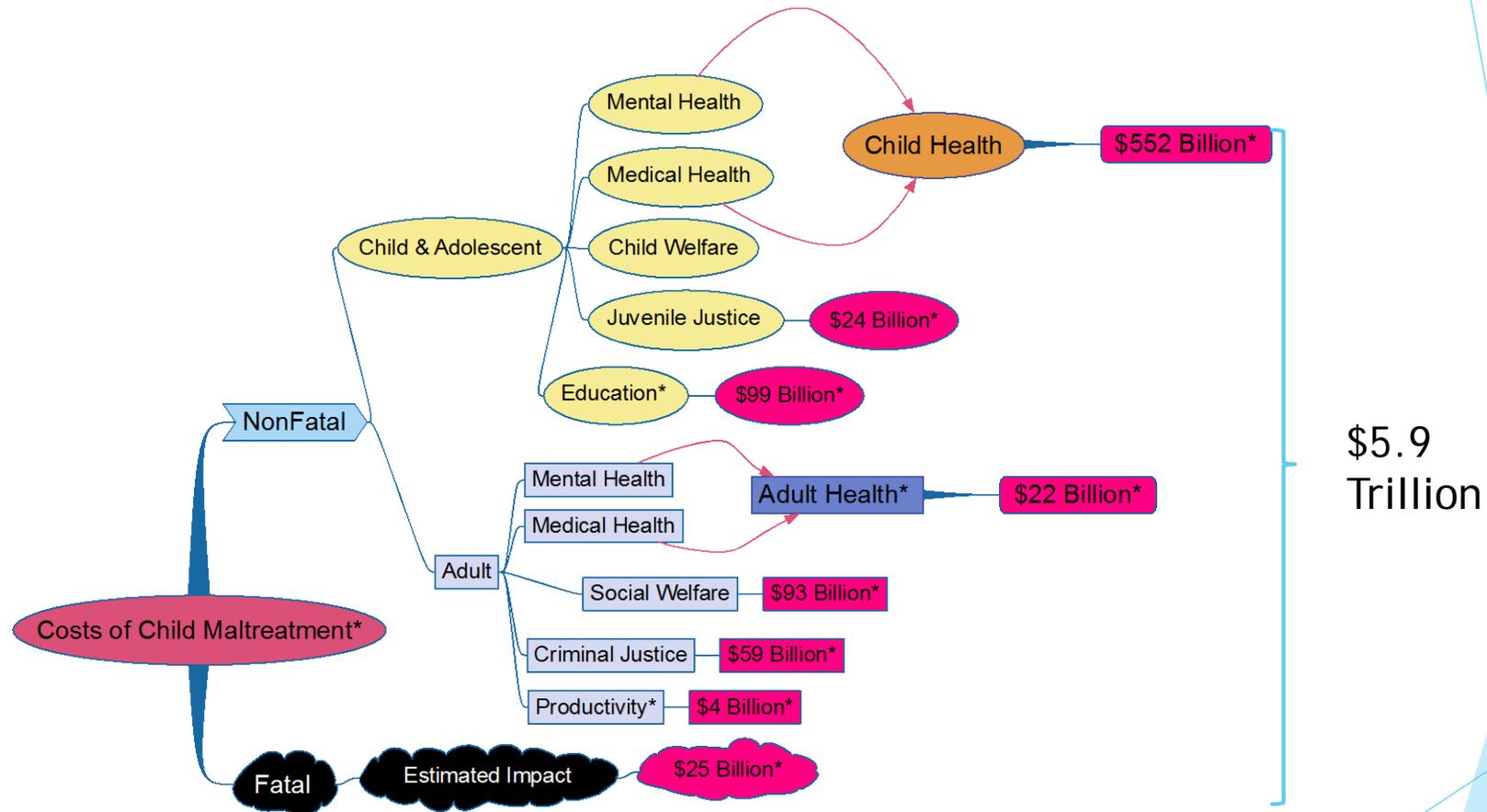
- ▶ Brain & stress system is changed:
  - ▶ brain highly sensitized to threat;
  - ▶ easily triggered;
  - ▶ less able to think and feel at the same time
- ▶ Behavior:
  - ▶ acting out trauma: violence; self-harm; suicidal
  - ▶ impulsive,
  - ▶ feel so helpless that they seek control in unhealthy ways (become the aggressors; they challenge authority figures)

# What Happens to Kids with So Many ACEs?

- ▶ Thinking - dissociation, poor decision making, illogical thinking, hopeless about the future
- ▶ Relationships - profound mistrust; tend to be victimized or victimizer; get left out

# What does it cost to do nothing?

Estimated Lifetime Costs for all 2014 First Time Victims = \$5.9 Trillion\*



\*Suffer the Little Children: An Assessment of the Economic Costs of Child Maltreatment

The Perryman Group, [info@perrymangroup.com](mailto:info@perrymangroup.com)

Dissociation:

*The Escape When There is No Escape*

# Response to Severe Danger

- ▶ Fight
  - ▶ Flight
  - ▶ Freeze = dissociation
- 
- ▶ With repeated exposure to danger, the brain adapts and becomes sensitized ....*more reactive to danger*

# What is Dissociation?



## Disruption:

- ▶ Emotion - "went numb"
- ▶ Memory - amnesia
- ▶ Cognition - intrusive thoughts
- ▶ Behavior - re-enact father's murder

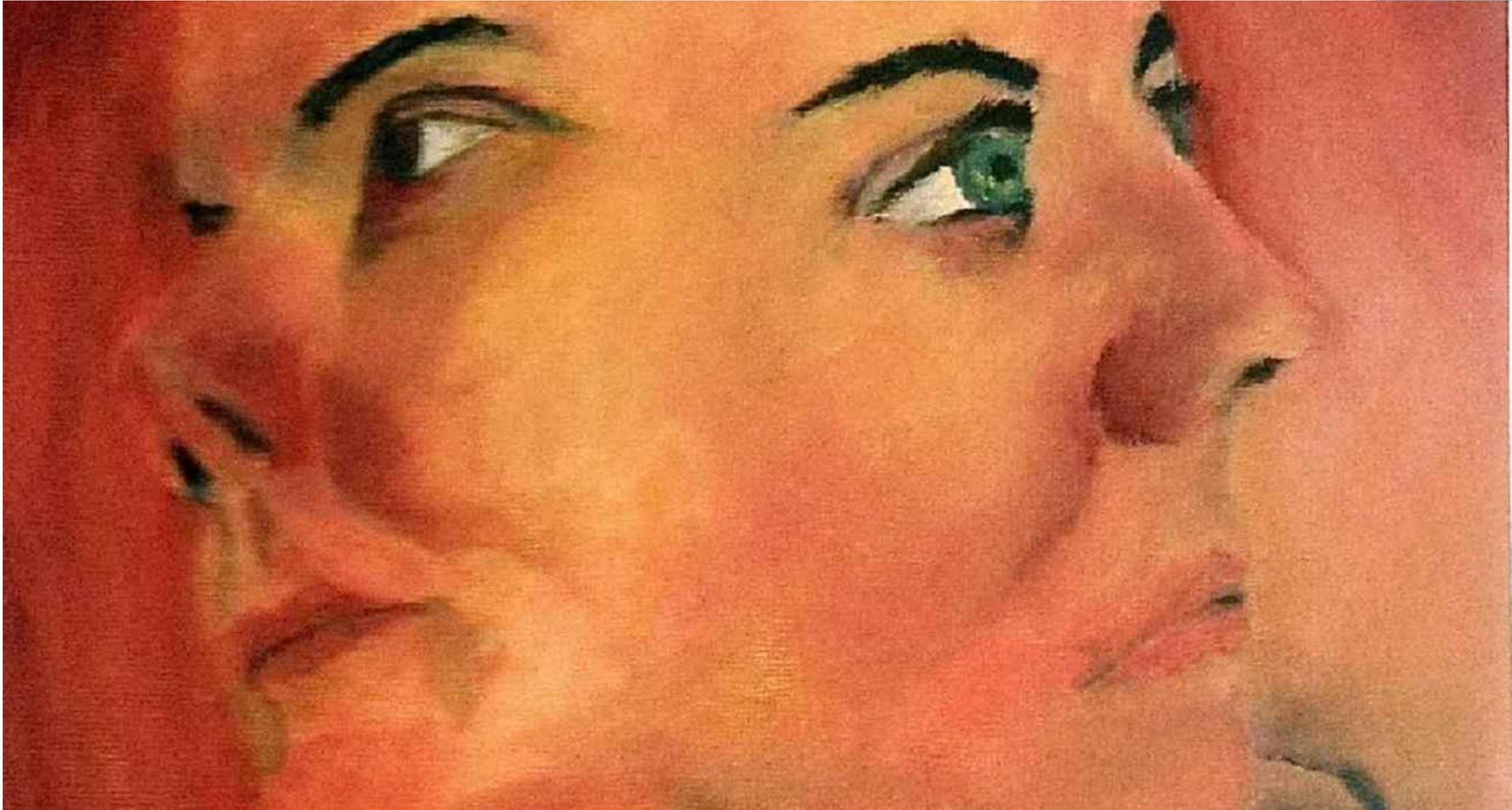
(Diagnostic & Statistical Manual of Mental Disorders-5)

(Artwork by Rachel Elise, TU class of 2010)

# How Do Kids with So Many ACEs Survive?

- ▶ They ***dissociate***
  - ▶ Disconnect from painful memories - amnesia
  - ▶ Disconnect from their bodies and emotions - see themselves like in a movie, look dazed & emotionless
- ▶ Dissociation later causes big problems, although helped survival:
  - ▶ Emotions: highly reactive; feel too much or too little - can look like they have no feelings or extreme feelings
  - ▶ Behavior: feel unable to control their behavior when in a dissociated state

# Severe Childhood Trauma: Fragmented Identity



Artwork by Rachel Elise (TU class of 2010)

# Dissociative Identity Disorder



How Can We Help?

# How to Help Traumatized People

Understand

Kids survive by: dissociating, taking it out on themselves, pushing others away, mistrusting everyone, denying trauma & its impact

Encourage

Convey respect, belief in them.  
Support safe connections.

# How to Help Traumatized People

Slow down  
breathing

Allow as  
much  
control  
now as  
possible

Grounding  
use senses  
to get in  
the present

Orient  
current  
date, place  
*safe now*



## THE IMPACT OF TRAUMA

### What is the impact of trauma?

Trauma can impact individuals in many ways, including socially, psychologically, academically, neurophysiologically, and socioeconomically, and can impair physical health as well [1].

### Traumatized individuals, particularly those who are

traumatized in childhood and adolescence are at increased

## MENU

### Information About Trauma

[What is Trauma?](#)

[The Importance of Teaching Trauma](#)

### Types of Trauma

[Sexual Assault](#)

[Child Maltreatment](#)

# Resources

## ▶ Books

- ▶ *The Boy Who Was Raised as a Dog*, Bruce Perry
- ▶ *Trauma and Recovery*, Judith Herman
- ▶ *The Body Keeps the Score*, Bessel van der Kolk
- ▶ *Neuroscience of Human Relationships: Attachment and the Developing Brain*, Louis Cozolino

# Resources

## Websites

- ▶ TeachTrauma [www.teachtrauma.com/](http://www.teachtrauma.com/)
- ▶ National Child Trauma Stress Network, [www.nctsn.org](http://www.nctsn.org)
- ▶ Child Abuse Narrative [www.canarratives.org/](http://www.canarratives.org/)
- ▶ ISTSS - [www.istss.org/](http://www.istss.org/)
- ▶ Children's Bureau - [www.acf.hhs.gov/programs/cb](http://www.acf.hhs.gov/programs/cb)
- ▶ SAMHSA - [www.samhsa.gov/ebp-web-guide](http://www.samhsa.gov/ebp-web-guide)

# Thank you!

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