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# Adverse Childhood Experiences (ACEs)



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# Adverse Childhood Experiences (ACEs)

## ABUSE



Physical



Emotional



Sexual

## NEGLECT



Physical

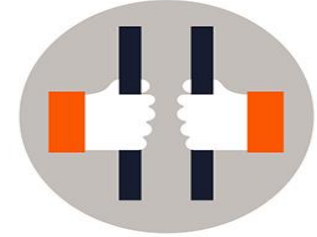


Emotional

## HOUSEHOLD DYSFUNCTION



Mental Illness



Incarcerated Relative



Mother treated violently



Substance Abuse



Divorce

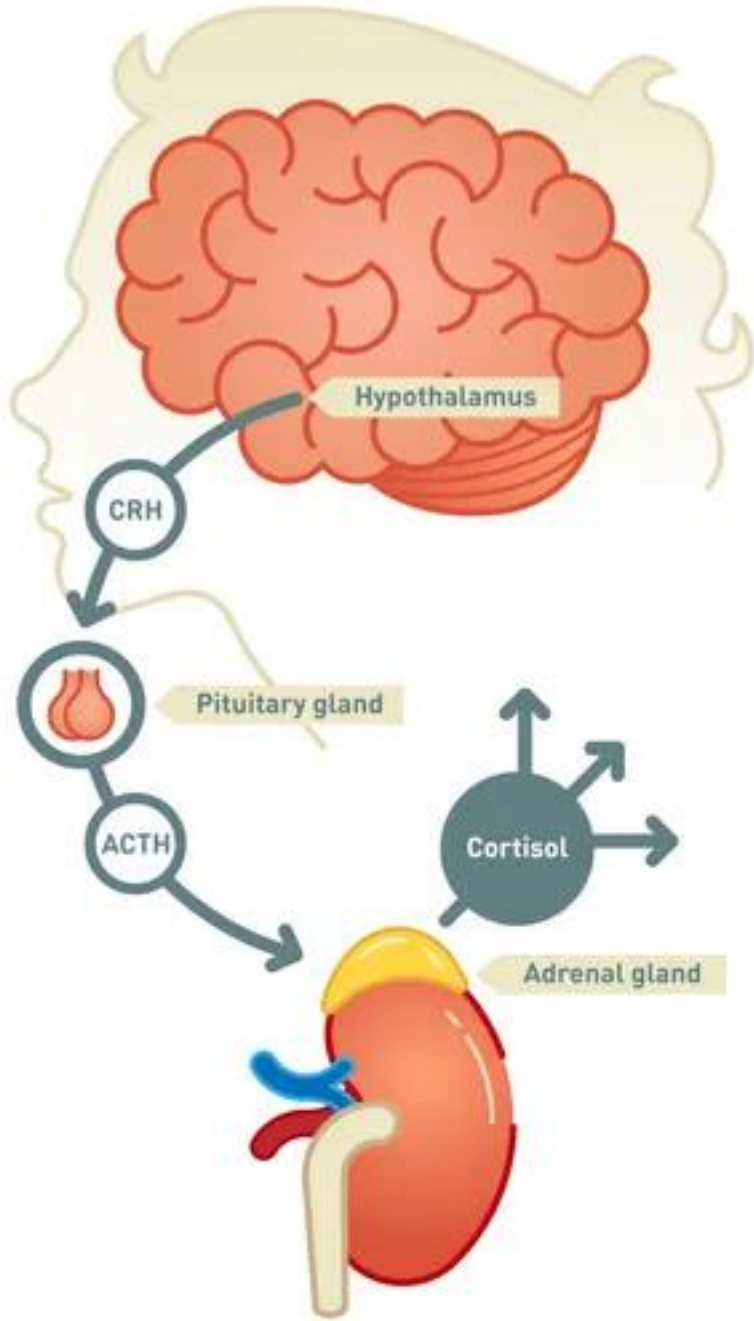
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# Early Childhood Adversity - Impact on Brain, Body and Behavior



80%  
of a child's brain is formed  
between birth and age 3

1. Early experiences influence the developing brain.
  2. Chronic stress can be toxic to developing brains.
  3. Significant early adversity can lead to lifelong problems.
  4. Early intervention can prevent the consequences of early adversity.
  5. Stable, caring relationships are essential for healthy development.
- ❖ Critical Period – Some experiences are more impactful early in life than later in life, and therefore it argues for investing in what happens in the first 3-5 years.
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# Toxic Stress Changes Brain Architecture

Normal



Typical  
neuron with many  
connections



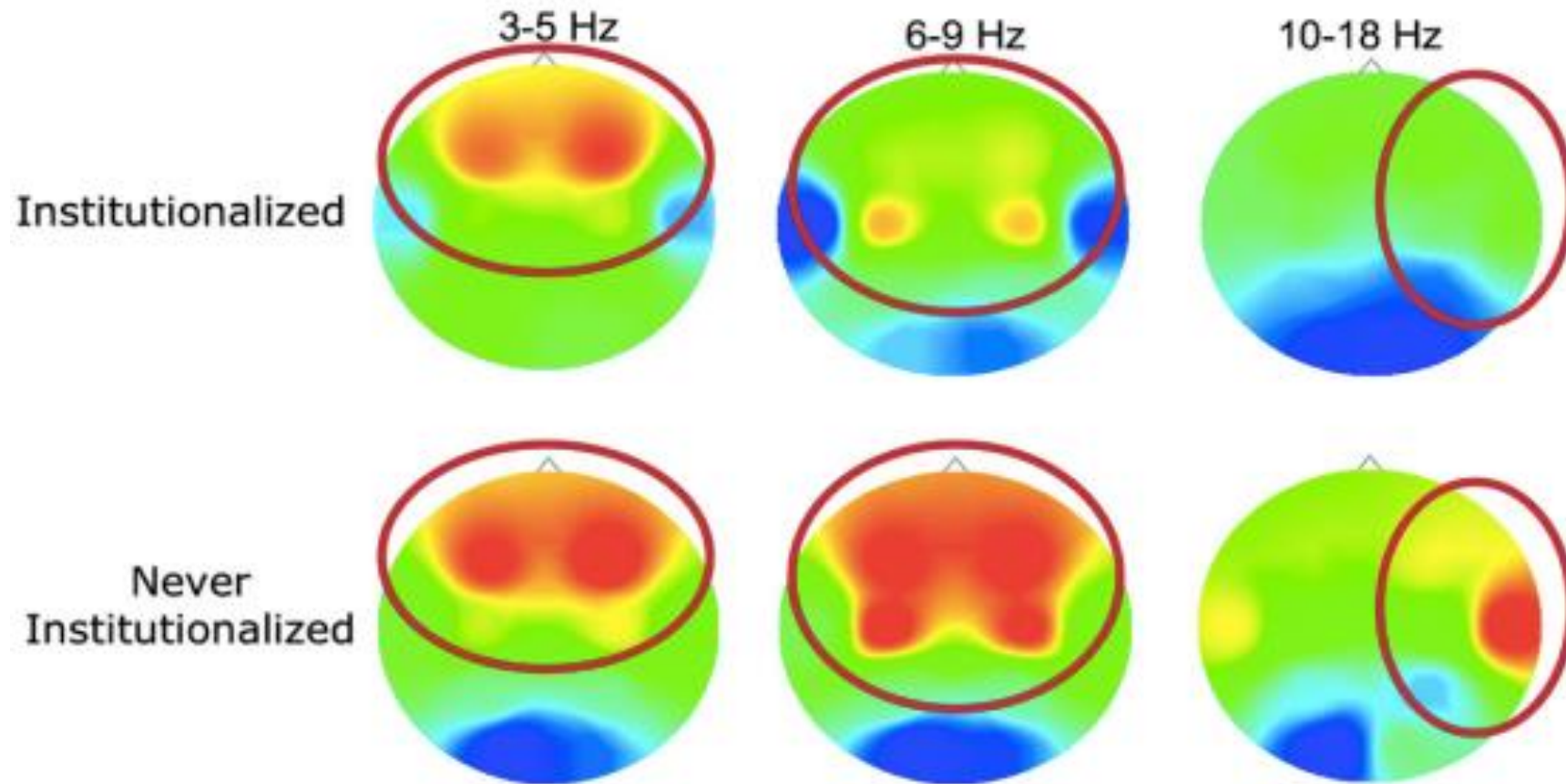
Toxic  
Stress



Neuron damaged by  
toxic stress --  
fewer connections

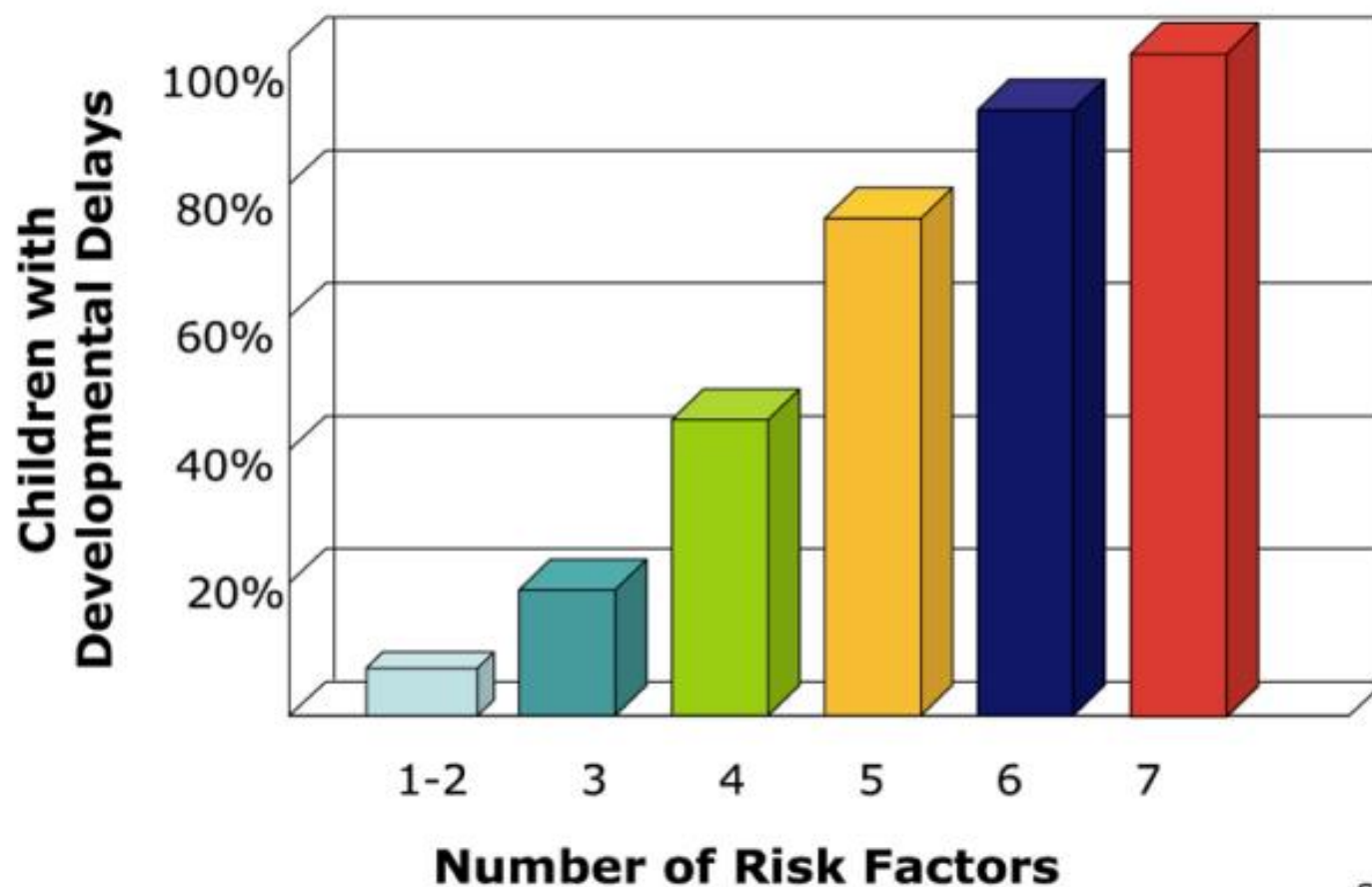


## Extreme Neglect Diminishes Brain Power

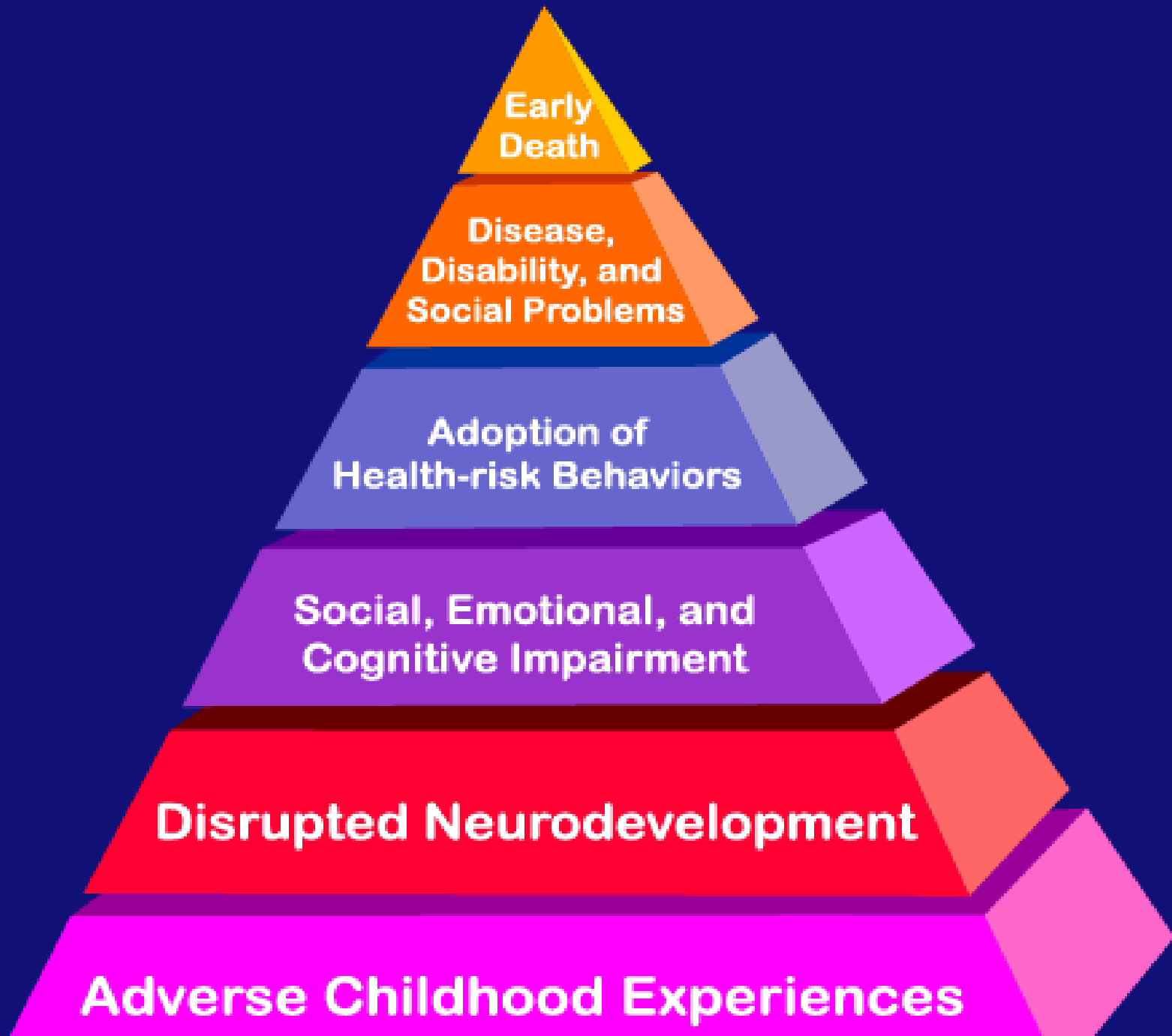
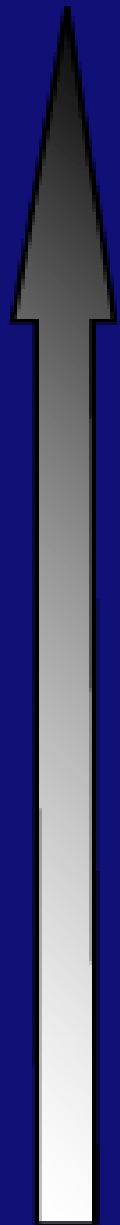




## Significant Adversity Impairs Development in the First Three Years



**Death**





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# The Adverse Childhood Experiences Study

- ❖ The largest study of its kind ever done to examine the health and social effects of adverse childhood experiences over the lifespan (Felitti & Anda).
- ❖ **Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, Koss MP, Marks JS.** Relationship of Child Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study. *Am J Prev Med.* 1998; 14(4).

# Categories of Adverse Childhood Experiences

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## Abuse, by Category

## Category

## Prevalence (%)

- Psychological (by parents) 11%
- Physical (by parents) 11%
- Sexual (anyone) 22%

## Household Dysfunction, by Category

- Substance Abuse in family 26%
- Mental Illness in family 19%
- Domestic Violence 13%
- Imprisoned Household Member 3%
- Loss of parent 23%

# Adverse Childhood Experiences Score

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**Number of categories of childhood experiences are summed**

## **ACE Score**

**Prevalence** (after Wave 2)

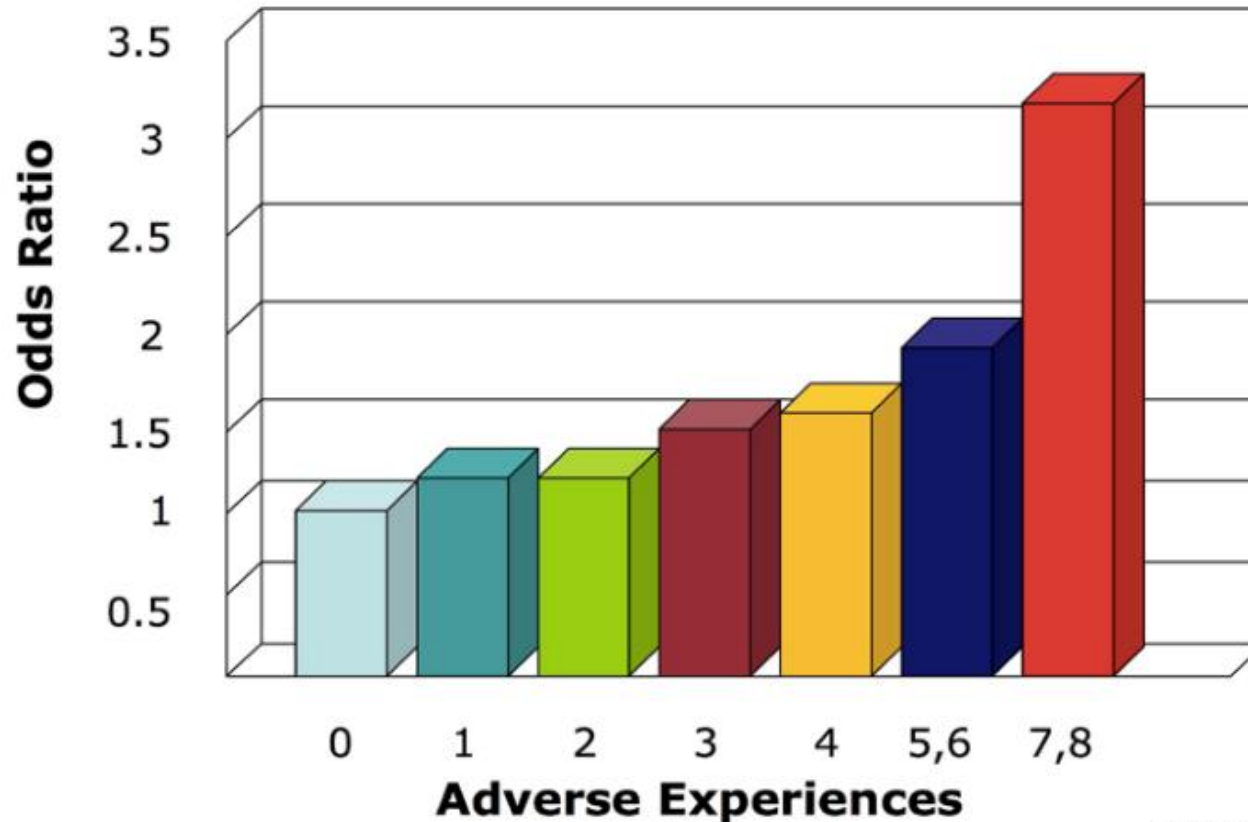
|                  |            |
|------------------|------------|
| <b>0</b>         | <b>33%</b> |
| <b>1</b>         | <b>25%</b> |
| <b>2</b>         | <b>15%</b> |
| <b>3</b>         | <b>10%</b> |
| <b>4</b>         | <b>6%</b>  |
| <b>5 or more</b> | <b>11%</b> |

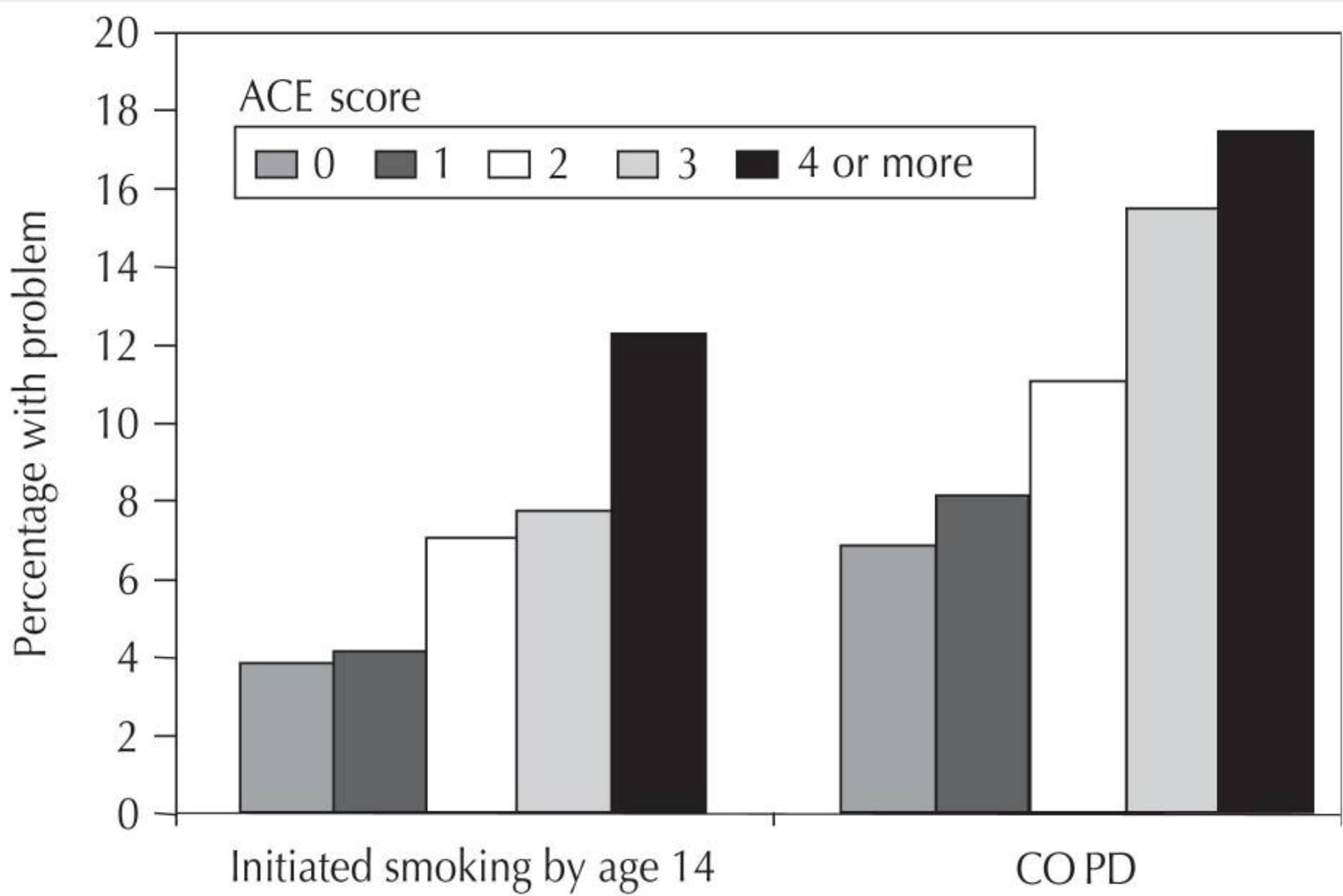


- Approximately *two-thirds* have at least one ACE
  - More than *one-third* have experienced 2 – 4 ACE categories
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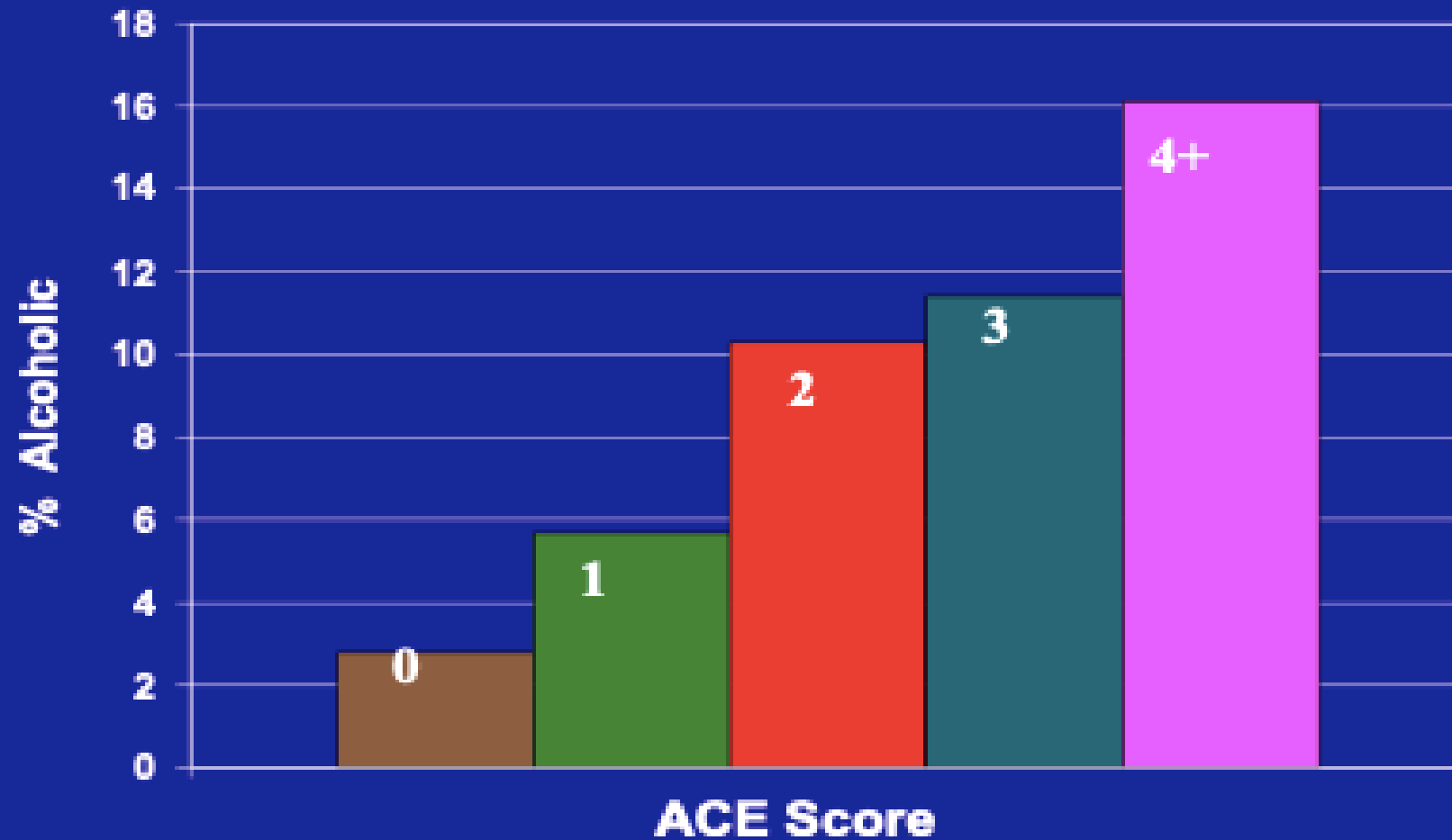


## Risk Factors for Adult Heart Disease are Embedded in Adverse Childhood Experiences

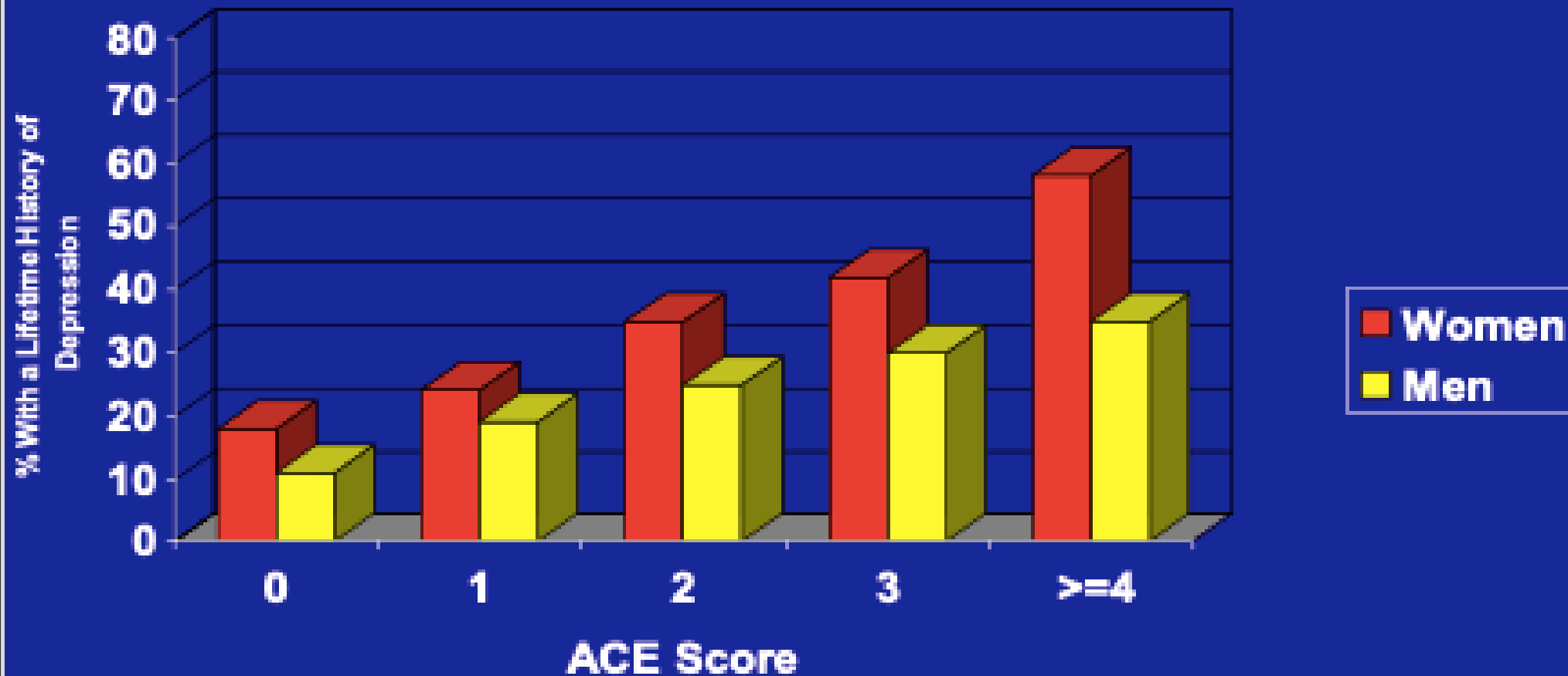




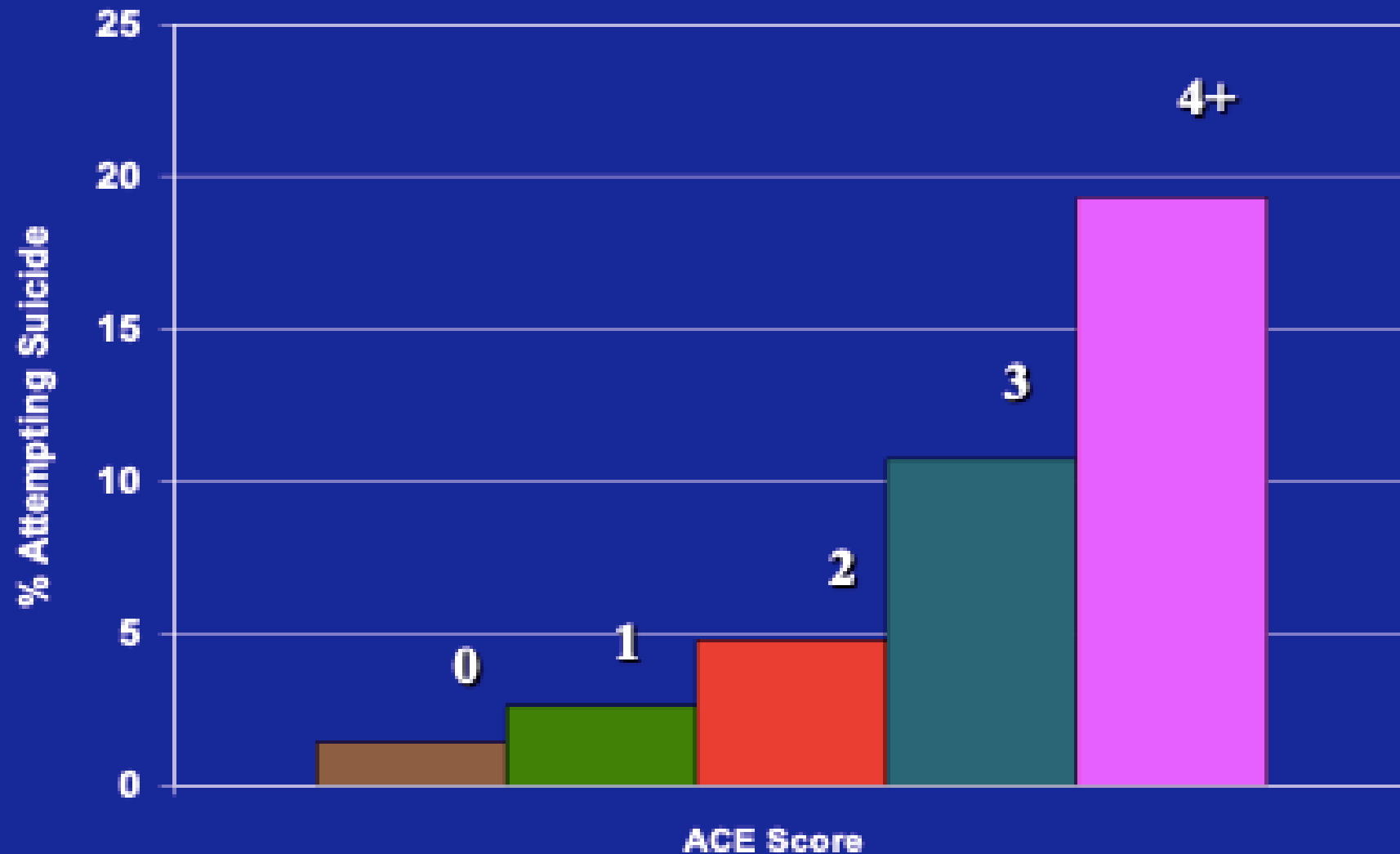
# Childhood Experiences and Adult Alcoholism



# Childhood Experiences Underlie Chronic Depression

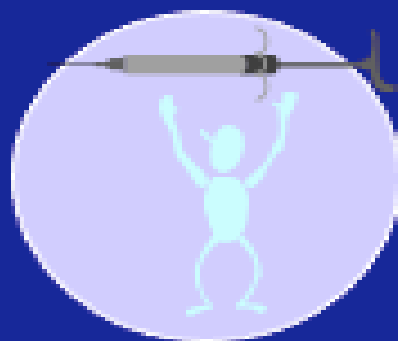
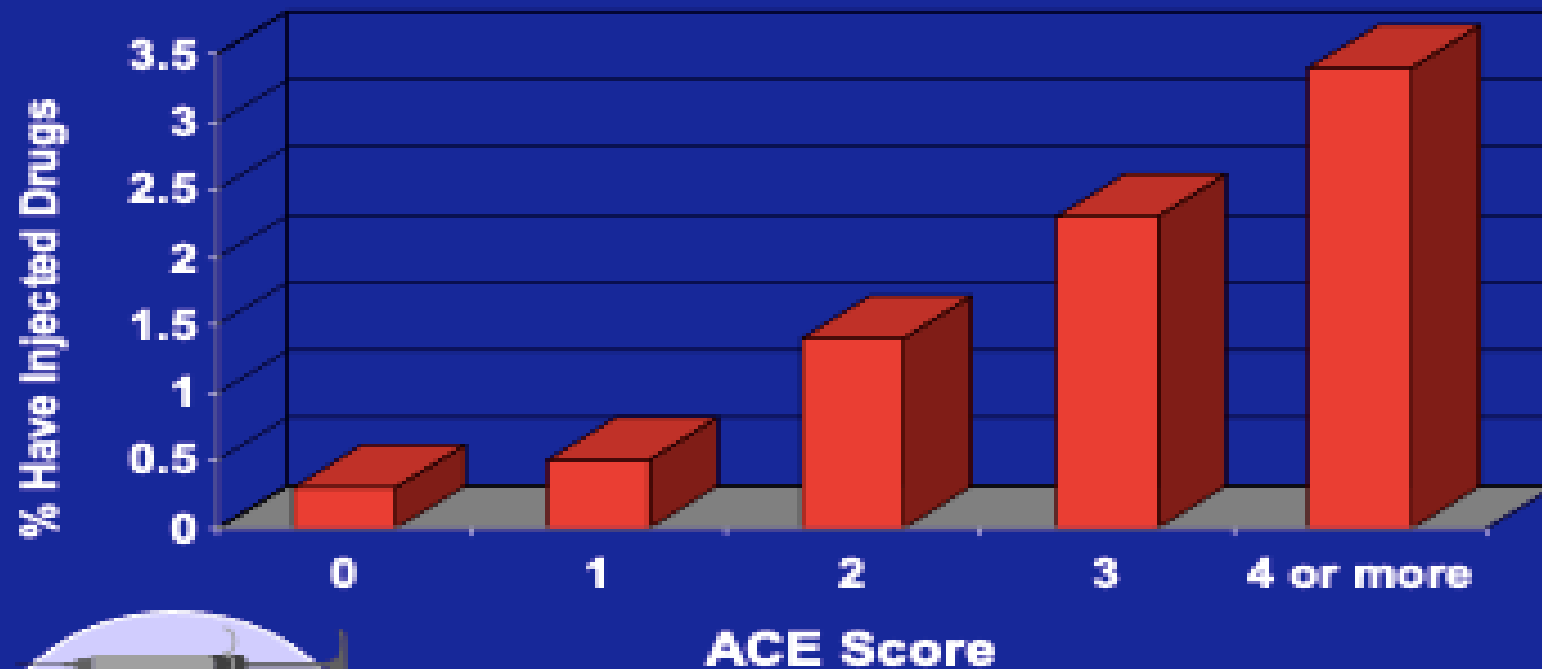


# Childhood Experiences Underlie Suicide



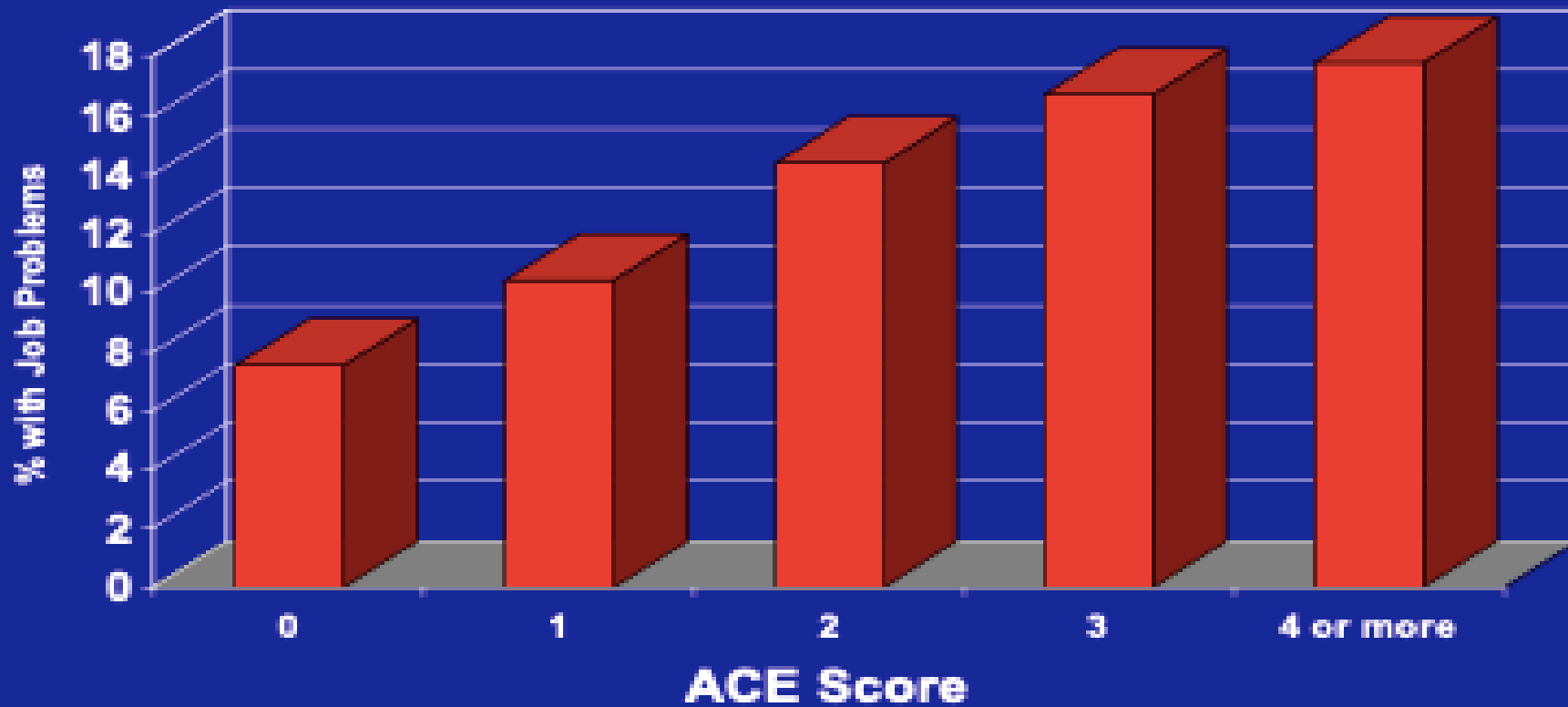


# ACE Score and Intravenous Drug Use

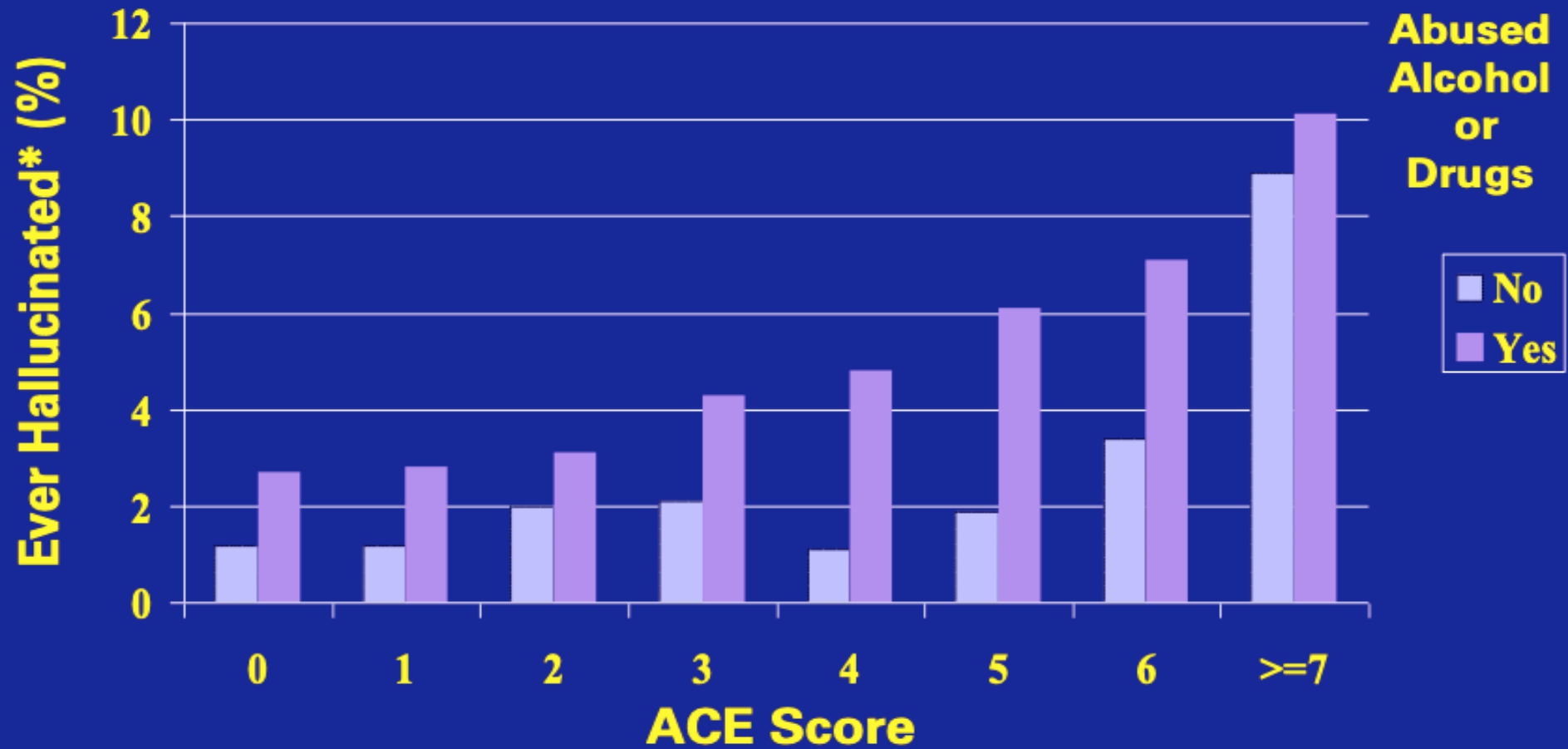


**N = 8,022**    **p < 0.001**

# ACE Score and Serious Job Problems



# ACE Score and Hallucinations



\*Adjusted for age, sex, race, and education.

# ACE Response: Individually

## ❖ **Safe, Stable, Nurturing Relationships**

1. Safe : Free from harm
2. Stable: Degree of consistency
3. Nurturing: Compassionate, responsive caregiver(s)





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# Factors that counteracts the overactive stress response:

1. Sleep
2. Regular exercise
3. Nutrition
4. Mindfulness
5. Mental health

## **6. Healthy relationship**



**\*\*\*IT IS POSSIBLE TO HEAL**

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There is no keener revelation  
of a society's soul than the way  
in which it treats its children.

~ Nelson Mandela

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# Information & Resources

- ACE Study findings and information
  - [www.cestudy.org](http://www.cestudy.org) or [www.cdc.gov](http://www.cdc.gov)
- National Scientific Council on the Developing Child at Harvard University
  - [www.developingchild.net](http://www.developingchild.net)
- Academy of Pediatrics
  - [www.brightfutures.aap.org](http://www.brightfutures.aap.org)





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Thank you!!

