



Understanding

N. E. A. R.

Neuroscience

Epigenetics

Adverse Childhood Experiences

Resilience



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NEAR science: a cluster of fields of study that include **N**euroscience, **E**pigenetics, **A**CEs and **R**esilience ...

The term NEAR science gives a better, holistic picture of a person's experiences over his or her lifetime; it also incorporates resilience, which is an important factor in the outcomes of a person's life.

JOY STORY



HUMAN NERVOUS SYSTEM

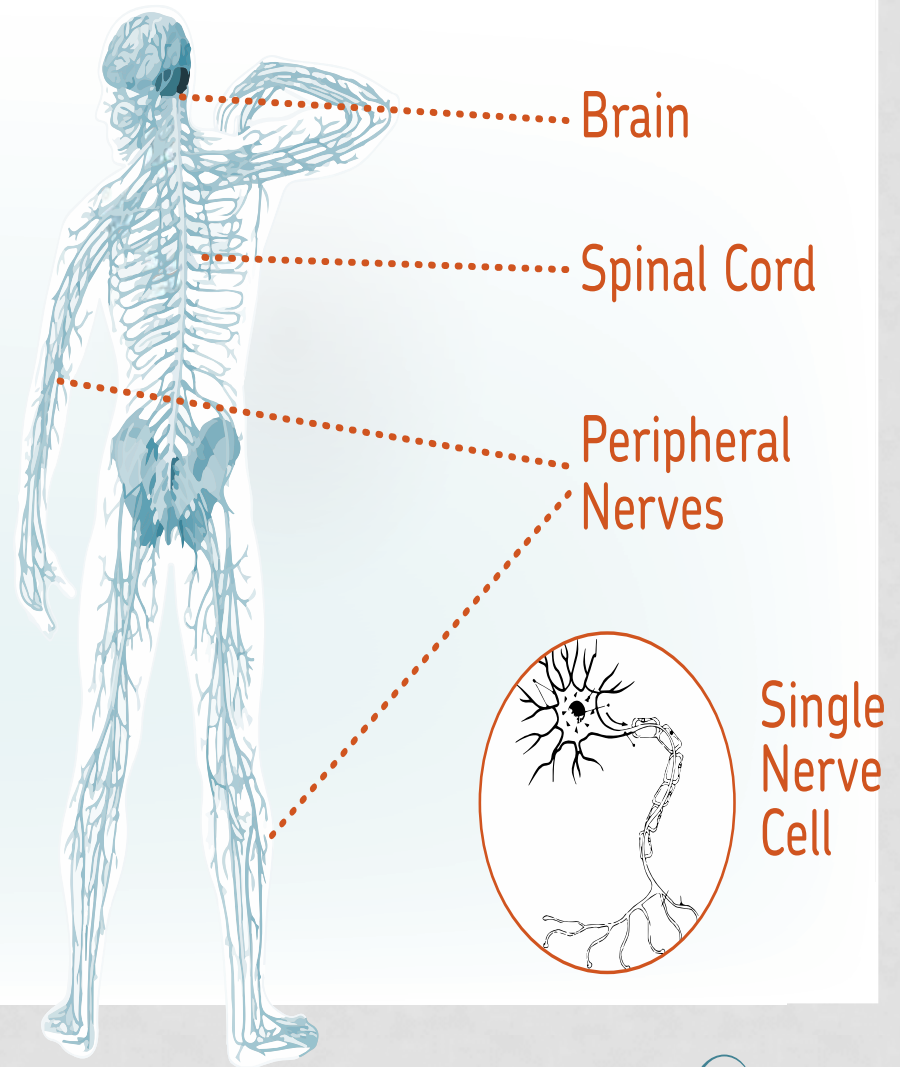
Nervous system

ORCHESTRATES BODY
FUNCTIONS & PERCEPTIONS

Neuroscience

HELPS US UNDERSTAND WHY

A C E s
ARE SO POWERFUL



SYNAPTIC DENSITY



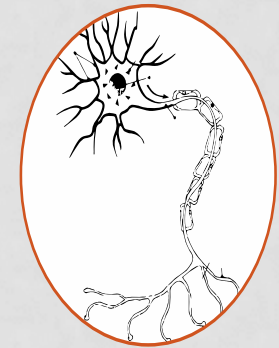
At Birth



Elementary Age

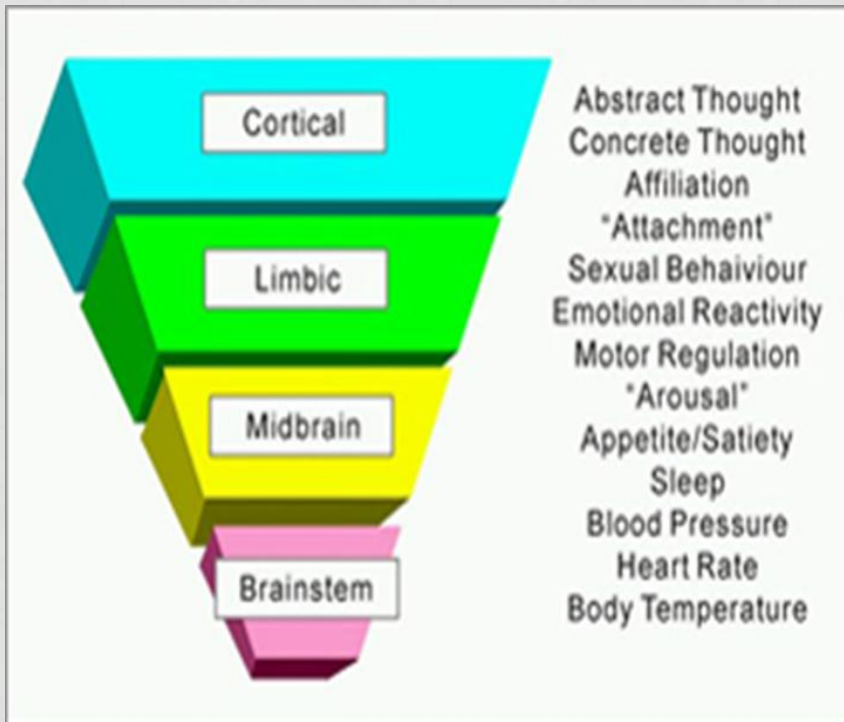


Puberty



Single
Neuron

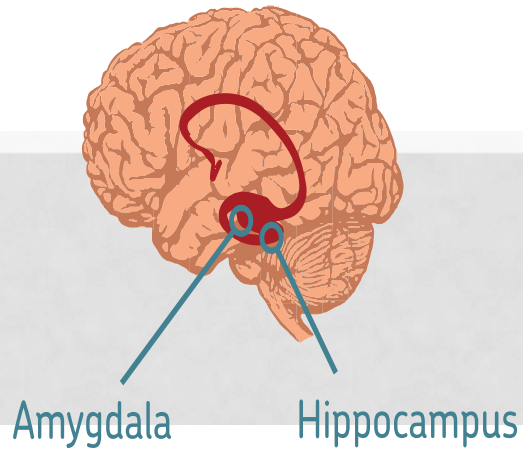
BRUCE PERRY'S MODEL OF THE BRAIN



- Thinking - Reason
- Feeling - Relate
- Reacting - Regulate

MALTREATMENT
0-3

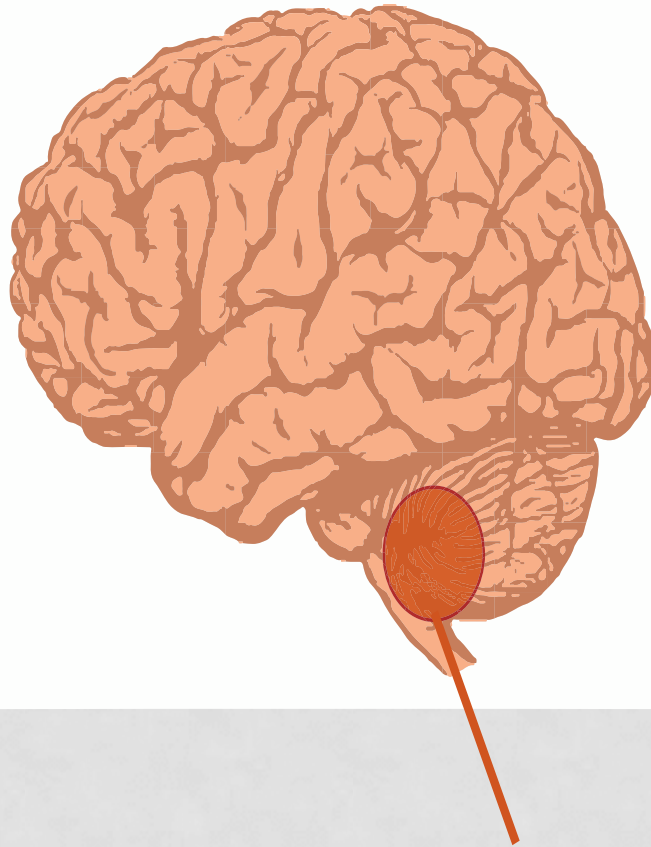
SEXUAL ABUSE
Age 0-5



POSITIVE FEELINGS

Perception

Attention



ADDICTION

Attention Problems

Mental Illness

Cerebellar Vermis

BRINGING BRAIN SCIENCE INTO THE LIBRARY

- Offer regulating activities/spaces
 - Build a compassionate climate
 - Ask what people need
 - Practice self care
 - Create a safe environment
-
- Consider reasons why patrons violate library rules
i.e. bring books back damaged, talk loudly on the phone, or different ways to respond??

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 Study

Largest Study of its Kind

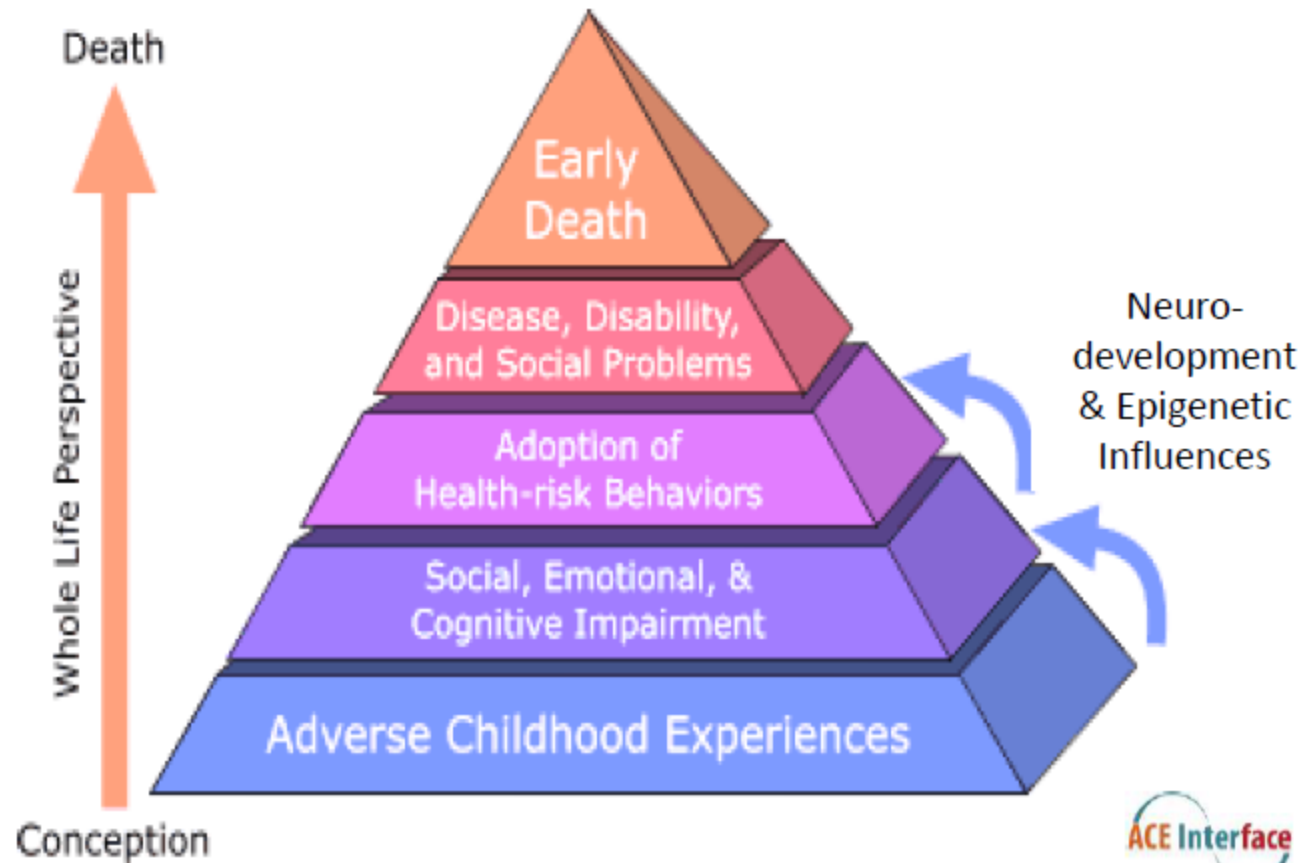
Over 17,000 participants

Both Retrospective and Prospective

Over 100 Peer-Reviewed Journal Articles

Shifting the Paradigm

Helps Us Understand Drivers of Population Health and Wellbeing



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%

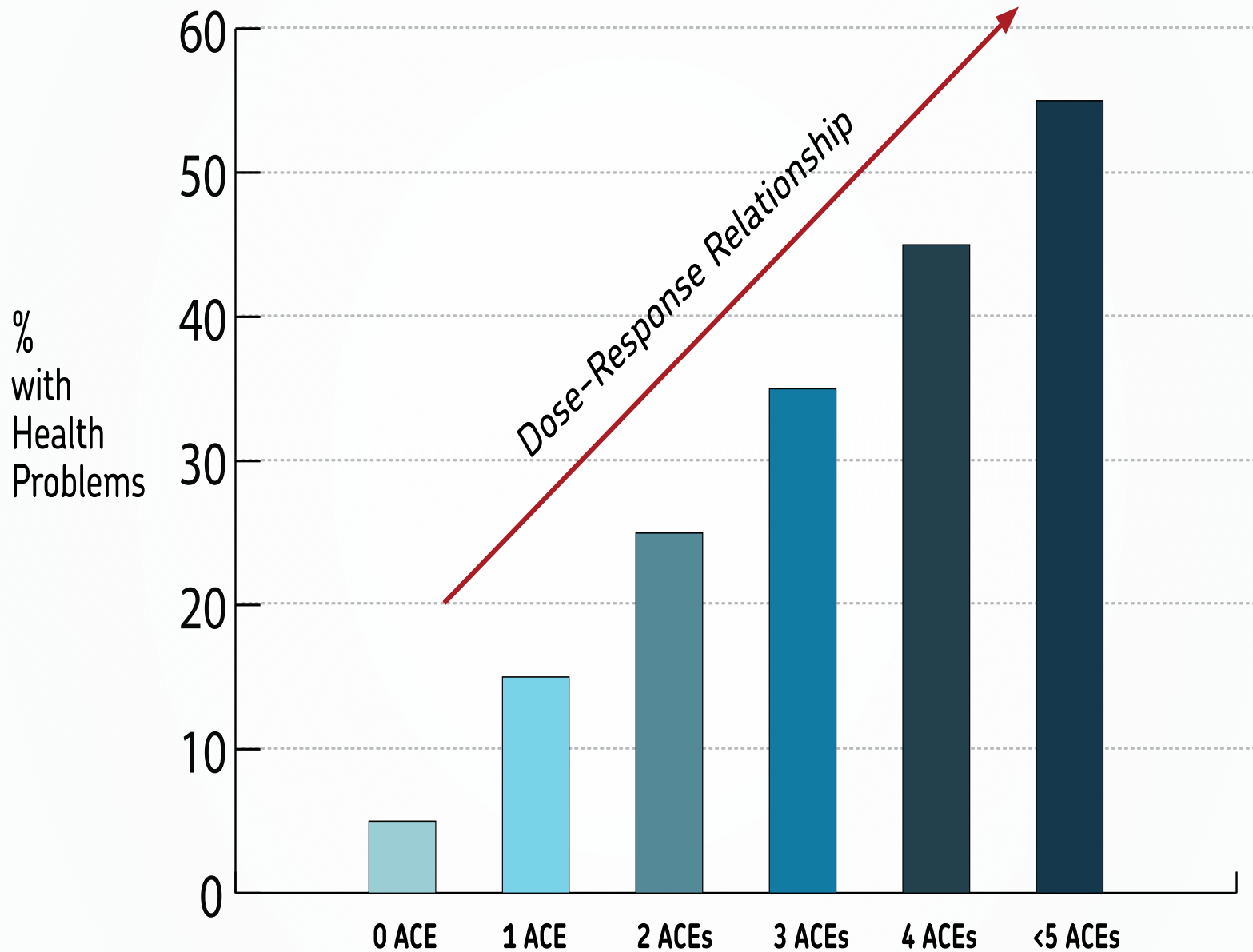
5

2

3

TOTAL 10 ACEs

ACE Score and Health Problems



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

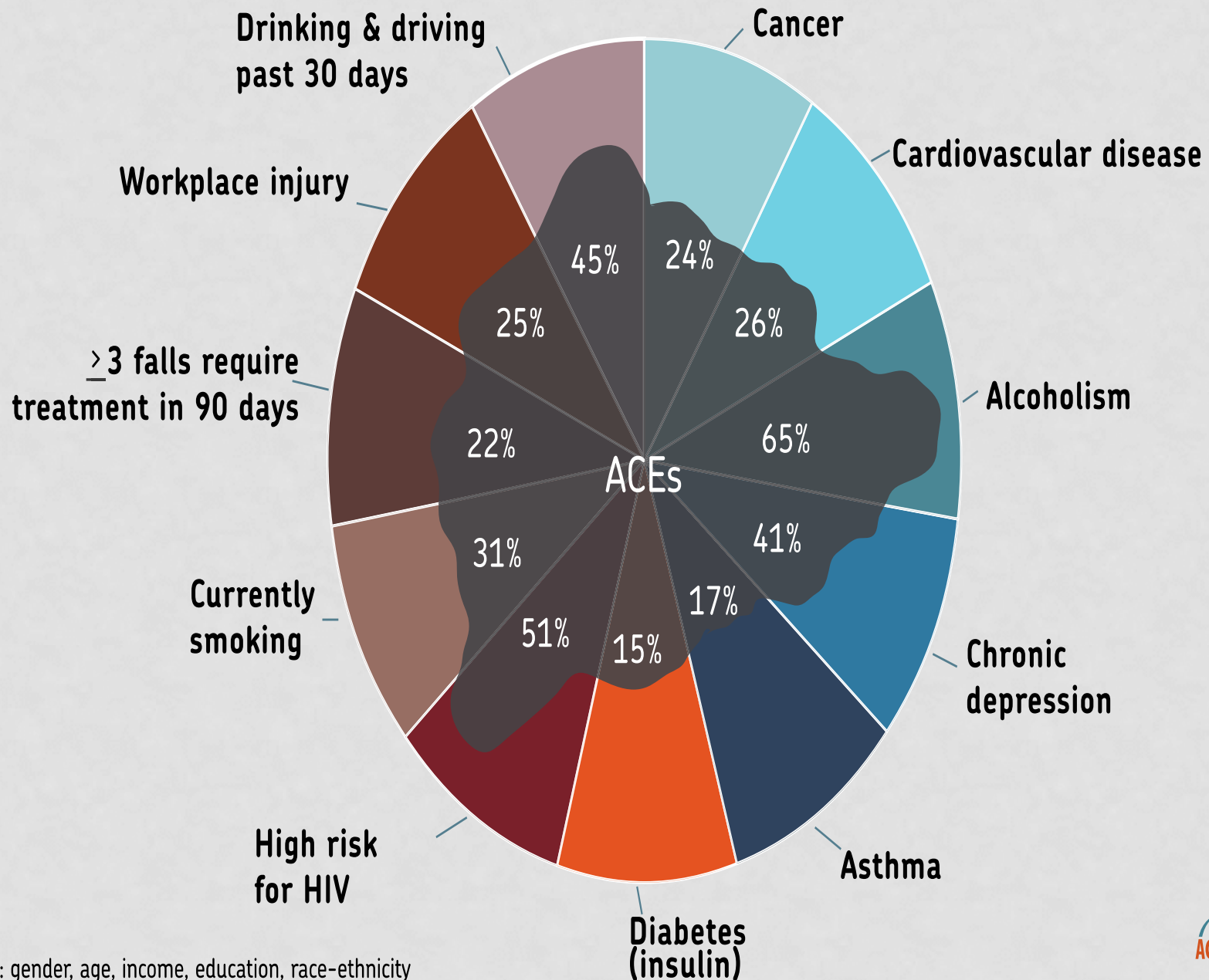
Smoking

Unintended Pregnancy

Violence

Workplace Problems

Population Attributable Risk



Pathways to Poverty and Homelessness

Adaptations To Toxic Stress

Cognition
Attention
Behavior

Risks

Academic Failure
Early Substance
Use/Abuse
Kicked Out
Dropped Out
Adult Adversity

Productivity

Low Wage Jobs
Worker Injury/Illness
Disabilities
Chronic Health
Problems

PAUSE AND PONDER

- How will knowing this information about ACEs change the way you interact with library patrons and staff?



We

have the power to
shift the dynamics
that lead to
high ACE scores.



Core Protective Systems

Capabilities

Attachment
&
Belonging

Community
Culture
Spirituality

“Nurturing the healthy development of these protective systems affords the most important preparation or ‘inoculation’ for overcoming potential threats and adversities in human development. Similarly, damage or destruction of these systems has dire consequences for the positive adaptive capacity of individuals.”

Ann Masten, 2009

PAUSE AND PONDER

- Think about how you've been able to weather life's storms. What helped you to build your resilience?
 - Personal attributes?
 - Relationships?
 - Community activities, spirituality?



Attachment & Belonging

RELATIONSHIPS

with caring and competent

people are

—VITAL—

contributors to
resilience & recovery





Culture Change

We create culture
in our
moment by moment
interactions
with one another



Community, Faith &
Cultural Processes

WE

foster
thriving
communities

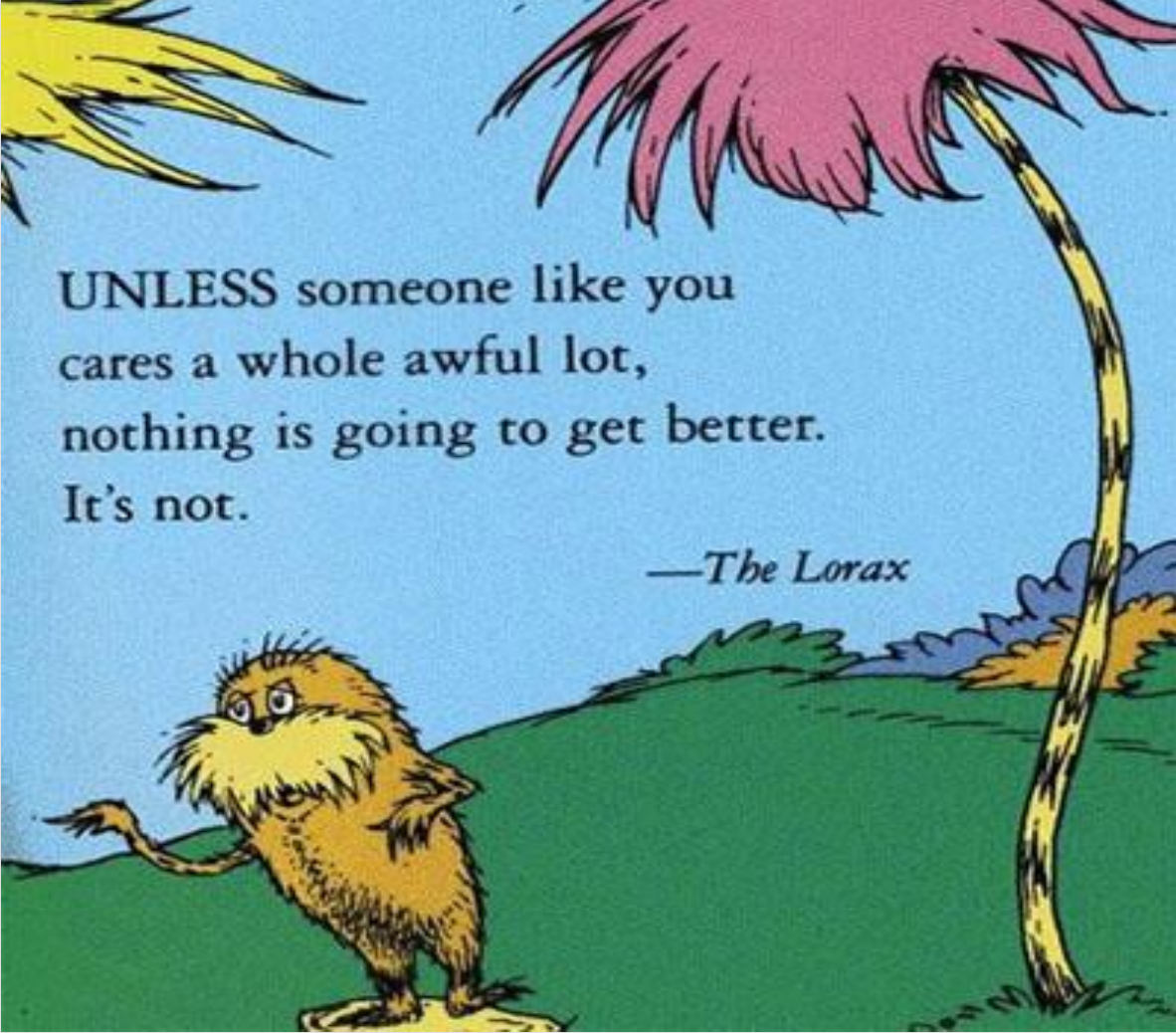
“Social support is the most powerful protection against becoming overwhelmed by stress and trauma. The critical issue is reciprocity: being truly heard and seen by the people around us, feeling that we are held in someone else’s mind and heart.”

PAUSE AND PONDER

- Think about a challenging patron:
 - Imagine what adversities that person may have faced
 - Recognize the amount of strength and resiliency that person must possess to make it into the library and continue to move through life.
 - What ways can you respond that will enhance their resilience?

BUILDING RESILIENCE IN LIBRARIES

- Put on your trauma lens
- Build relationships
- Accentuate the positive
- Be Inclusive
- Offer resources, supports and access to local services
- Consider additional staff training i.e. BFC-VT, Mental Health First Aid



UNLESS someone like you
cares a whole awful lot,
nothing is going to get better.
It's not.

—*The Lorax*

WHAT IS ONE
THING YOU WILL
DO AS A RESULT OF
WHAT YOU HEARD
TODAY?

SOURCES

- Self healing Communities – Laura Porter, Kimberly Martin, PhD. & Rob Anda , MD, MS
- Bruce Perry www.BDPerry.com