



ACES 101

Intro to the Health Impact of Trauma on the Child

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Stress and Trauma Are Public Health Issues

- Stress linked to 6 leading causes of death
 - Heart disease, cancer, lung ailments, accidents, cirrhosis of the liver, and suicide
- Trauma impacts more than just the individual
 - Ripple effect to others
- Some communities disproportionately affected:
 - Bigotry + Urban Poverty + Trauma = Toxic
- Intergenerational transmission of trauma
- Systemic, preventative approach needed

ACE Study: Background

Felitti: mid-1980s obesity clinic at KP San Diego

Unexpected clinical observations

- Patients losing the most weight (“successes”) were dropping out

Inquiry—overeating and resultant obesity were often unconscious coping strategies for problems originating in childhood

Led to ACE study by KP and CDC

- Felitti, MD, FACP, Robert Anda

N=17,000 in initial wave

ACEs Research

Adverse
Childhood
Events
Examined:

Sexual Abuse

Physical Abuse

Neglect

Incarcerated Family Member

Verbal Abuse/Emotional Abuse

Witness to Domestic Violence

Caregiver Mental Illness/In household

Drug use in household

Separated/Divorced Parent

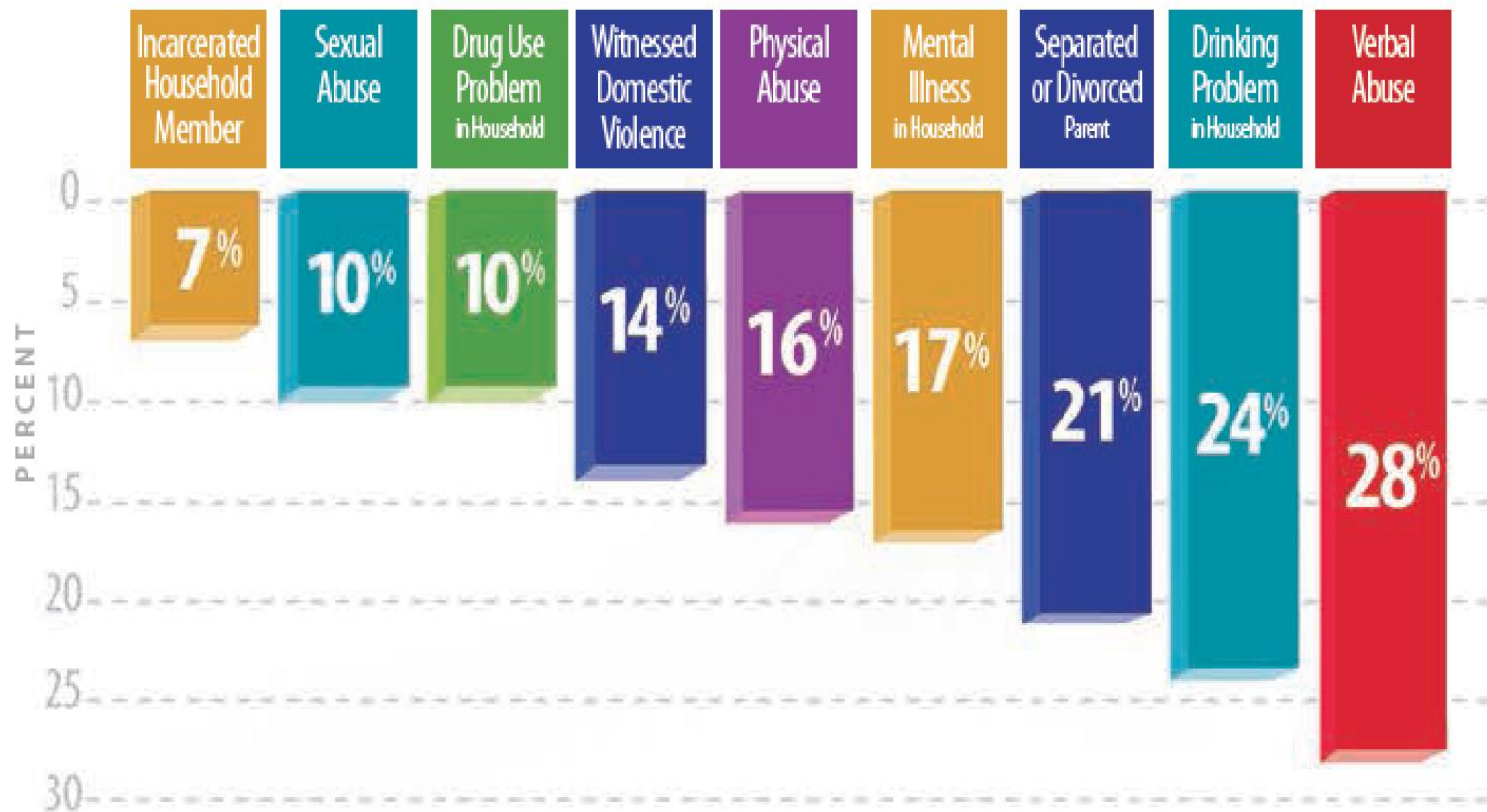
ACE Study Research

Number of Adverse Childhood Experiences (ACE Score)	Women	Men	Total
0	34.5	38.0	36.1
1	24.5	27.9	26.0
2	15.5	16.4	15.9
3	10.3	8.5	9.5
4 or more	15.2	9.2	12.5

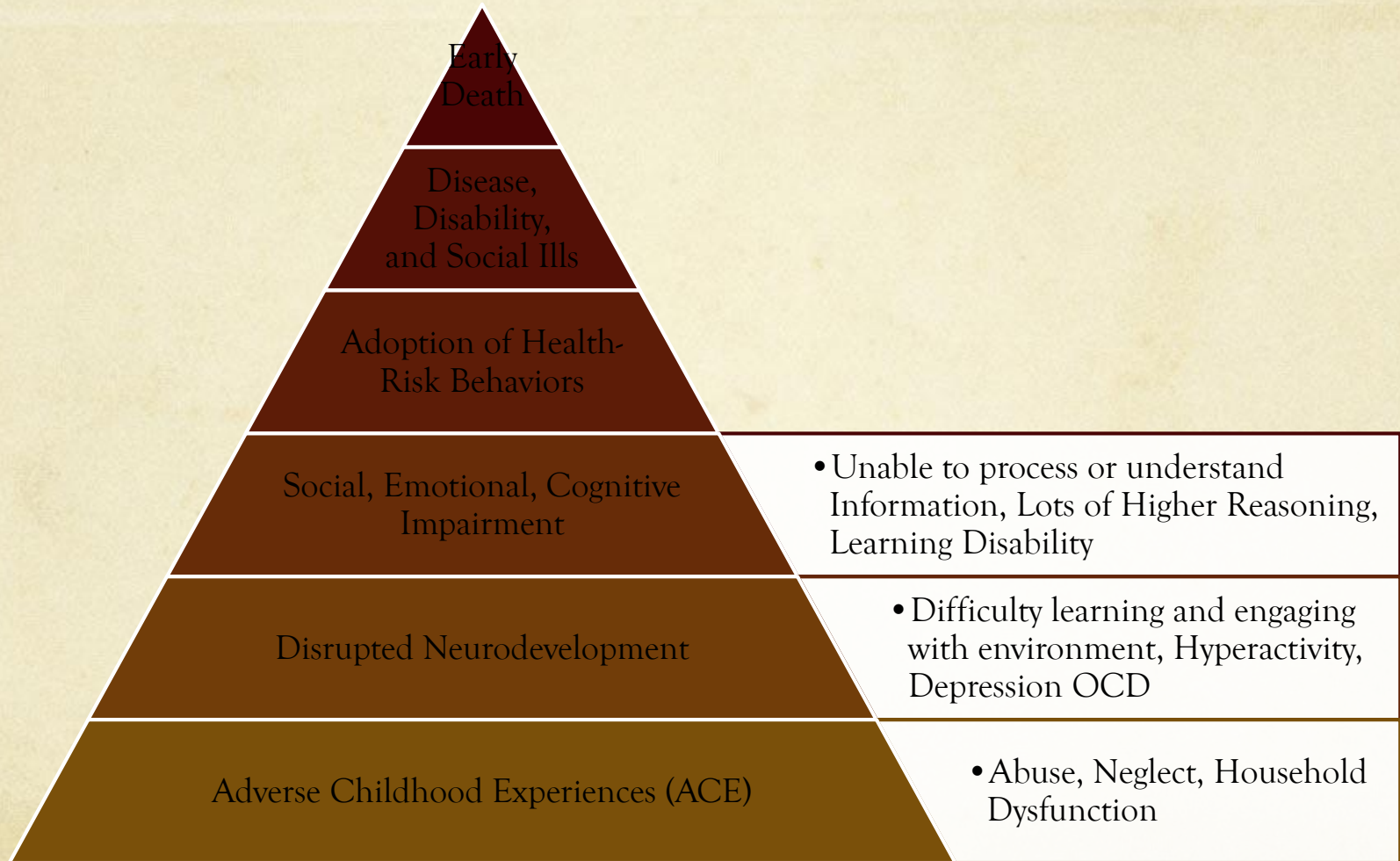
ACEs Research

PREVALENCE OF INDIVIDUAL ACES

MINNESOTA 2011



ACEs Research

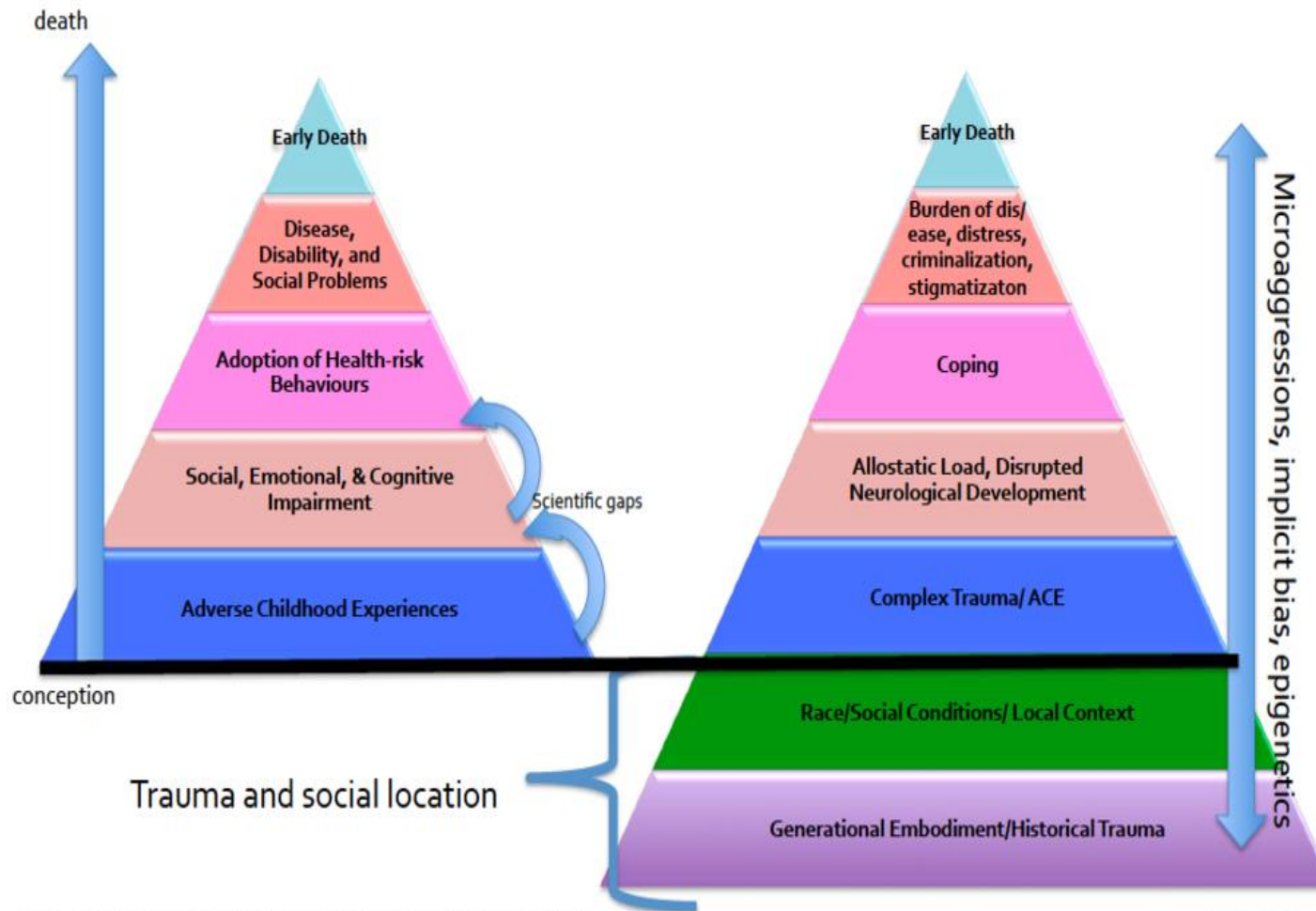


Trauma and Social Location



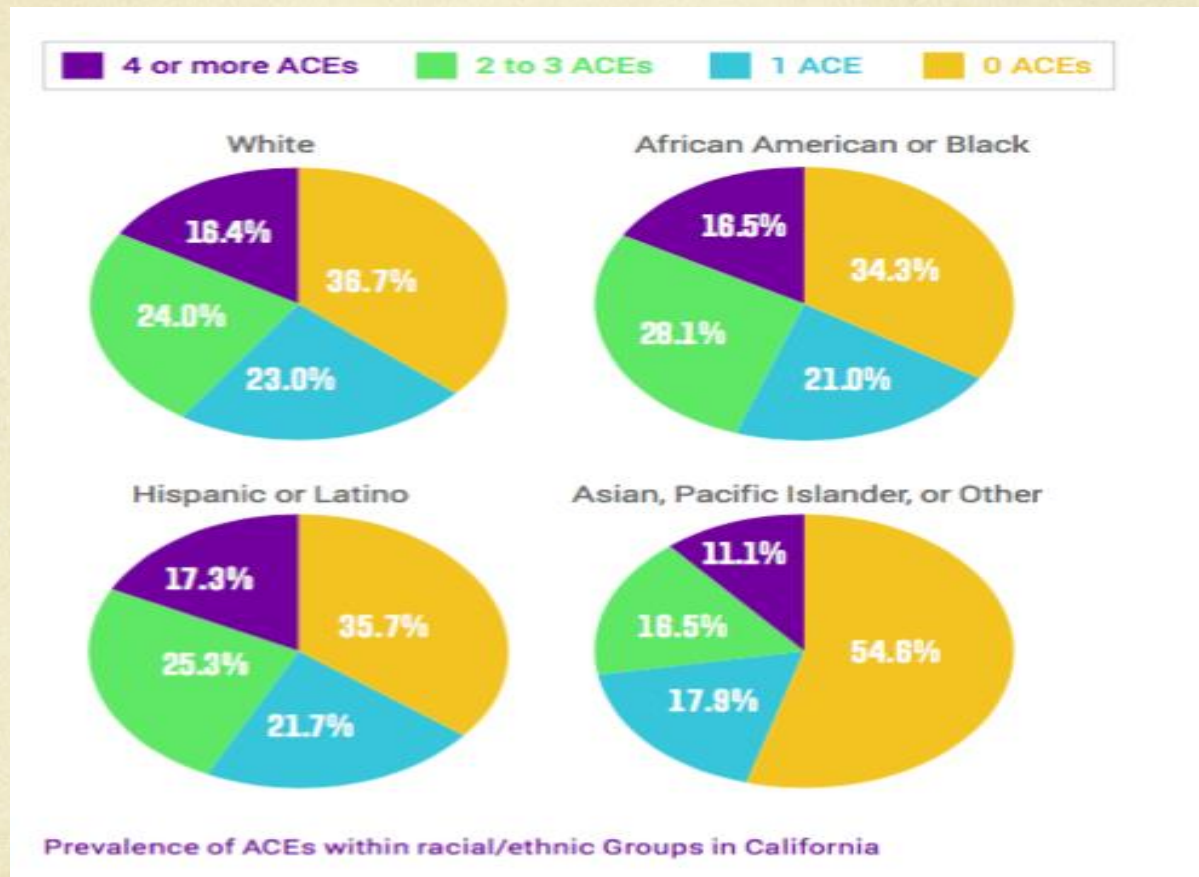
Adverse Childhood Experiences*

Historical Trauma/Embodiment



*<http://www.cdc.gov/violenceprevention/acestudy/pyramid.html>

ACEs California



ACEs Increase

	2008		2009		2011		2013	
Before age 18...	n	%	n	%	n	%	n	%
Experienced verbal abuse ^a	1,587	32.5	1,489	32.2	3,489	37.3	1,037	38.4
Parents divorced or separated	1,336	27.2	1,170	25.8	2,249	25.4	820	28.9
Household member abused substances ^b	1,349	27.0	1,131	22.8	2,568	27.1	822	27.6
Experienced physical abuse ^c	913	19.2	853	17.9	1,868	20.7	630	22.1
Witnessed domestic violence ^d	706	15.7	627	14.9	1,635	18.8	564	21.3
Household member mentally ill ^e	749	14.3	680	13.6	1,520	16.1	469	16.4
Experienced sexual abuse ^f	591	11.0	476	8.6	1,336	11.8	449	14.5
Parent or adult caretaker ever fail to provide for basic needs ^g	241	9.0	372	8.9	-	-	290	10.0
Household member in jail, prison, or convicted to serve time	241	6.7	193	5.4	442	6.9	198	7.4

Table A: Prevalence of ACEs in 2008, 2009, 2011 and 2013

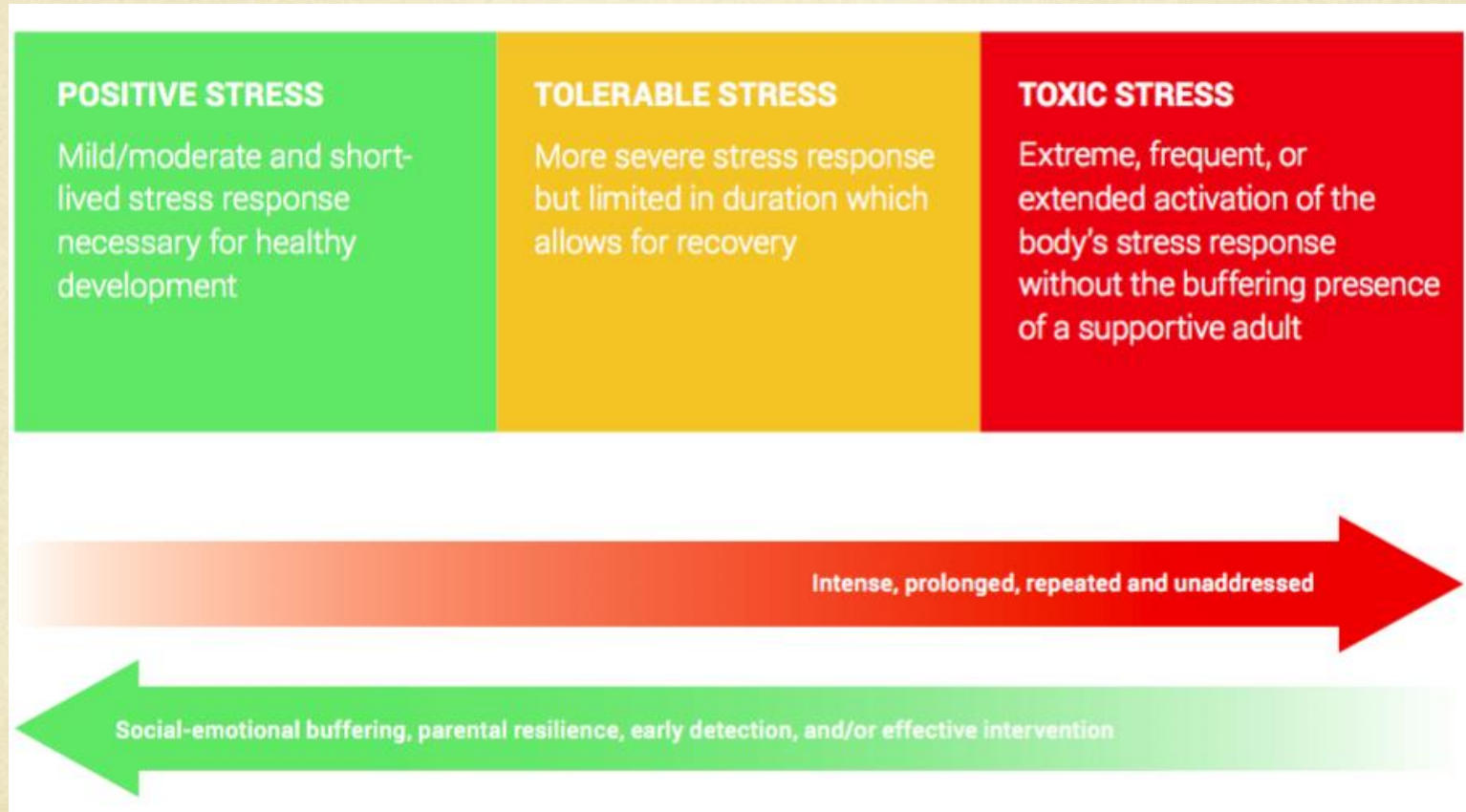
ACEs Prevalence

County	n	%	n	%	n	%	n	%
Alameda	381	43.0	218	19.1	227	25.4	116	12.5
Butte	78	23.5	60	26.3	57	19.9	54	30.3
Fresno	215	39.6	132	25.0	117	18.3	99	17.1
Imperial ^c	44	42.7	--	--	--	--	--	--
Kern	212	37.5	147	28.5	118	19.3	85	14.7
Los Angeles	1302	39.3	792	22.6	790	24.6	436	13.5
Marin	98	39.0	50	21.3	56	20.7	42	19.0
Orange	758	40.7	411	22.9	376	22.1	215	14.2
Riverside	525	35.5	297	20.4	310	24.6	238	19.5
Sacramento	394	37.5	214	20.0	248	22.8	188	19.6
San Bernardino	435	37.5	257	20.0	270	23.0	206	19.4
San Diego	849	41.0	439	20.3	472	24.2	300	14.5
San Francisco	209	44.1	142	25.3	140	21.5	71	9.0
San Joaquin	171	38.6	95	25.4	74	16.1	60	19.9

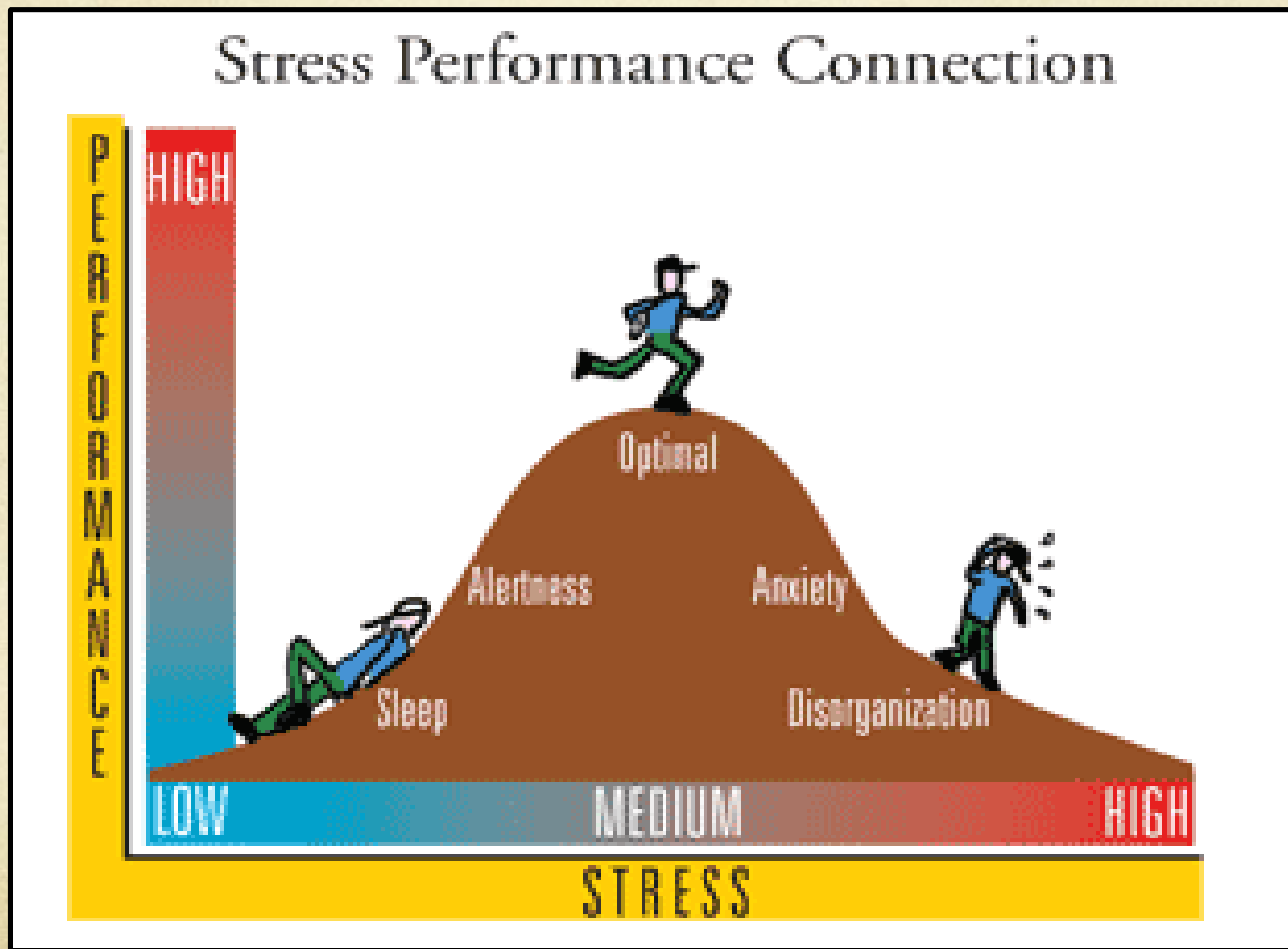
Butte ACEs

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Variable Stress Impacts



How Stress Affects Our Job Performance: The Yerkes-Dodson Law



Dysregulation

- Dysregulation is difficulty controlling the influence of stress arousal on how we think, feel, behave and interact with others
- This can happen when we are “triggered” into Survival Brain



Shift Your Perspective

from

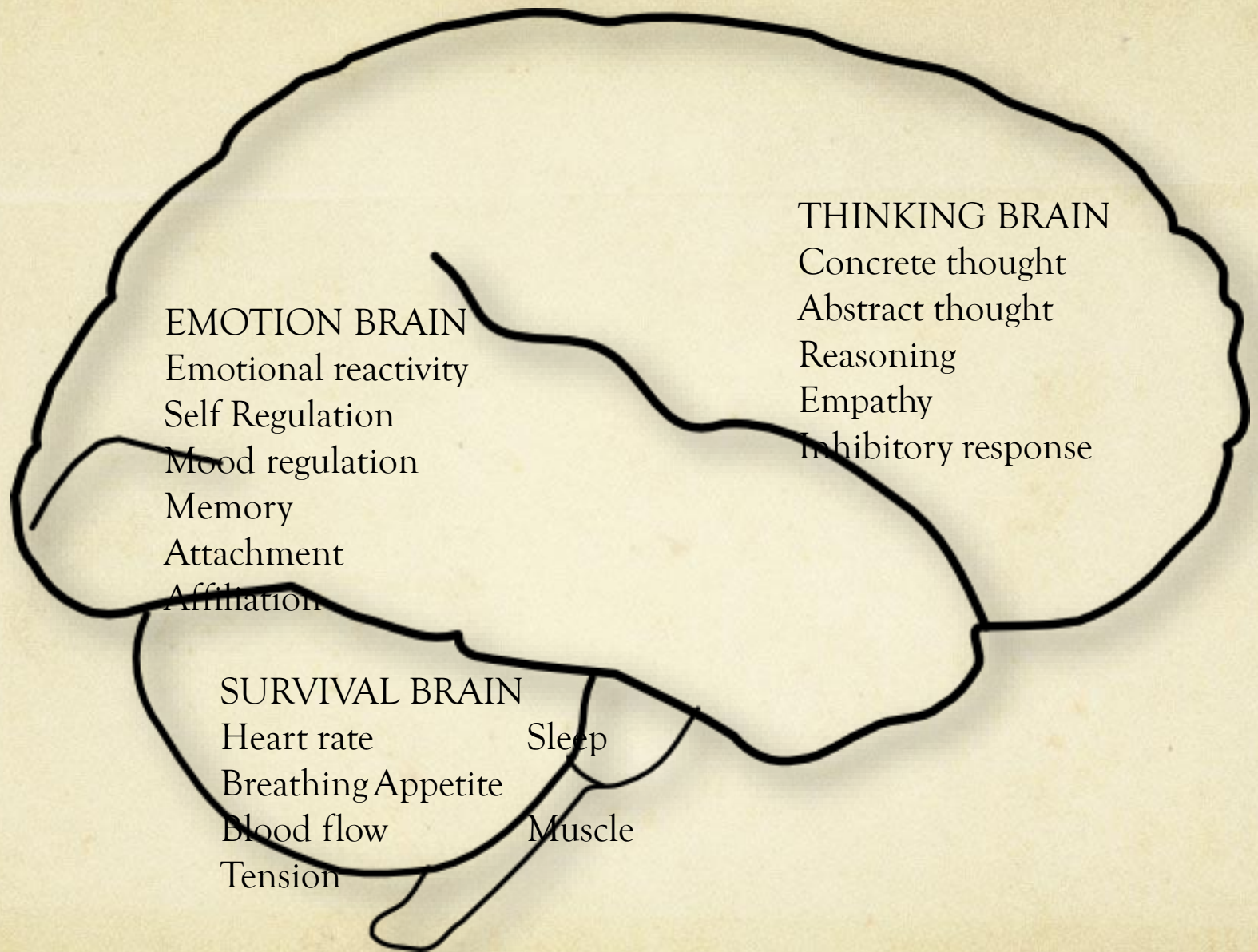
"What is wrong with you?"

to

"What has happened to you?"

(from Wisconsin Dept. of Health Services www.dhs.wisconsin.gov/tic)

Provides **context**, fosters **compassion**,
helps us to see **strengths** in face of adversity



Challenge

Threat



Perceived
resources

Perceived
stressor



Perceived
resources

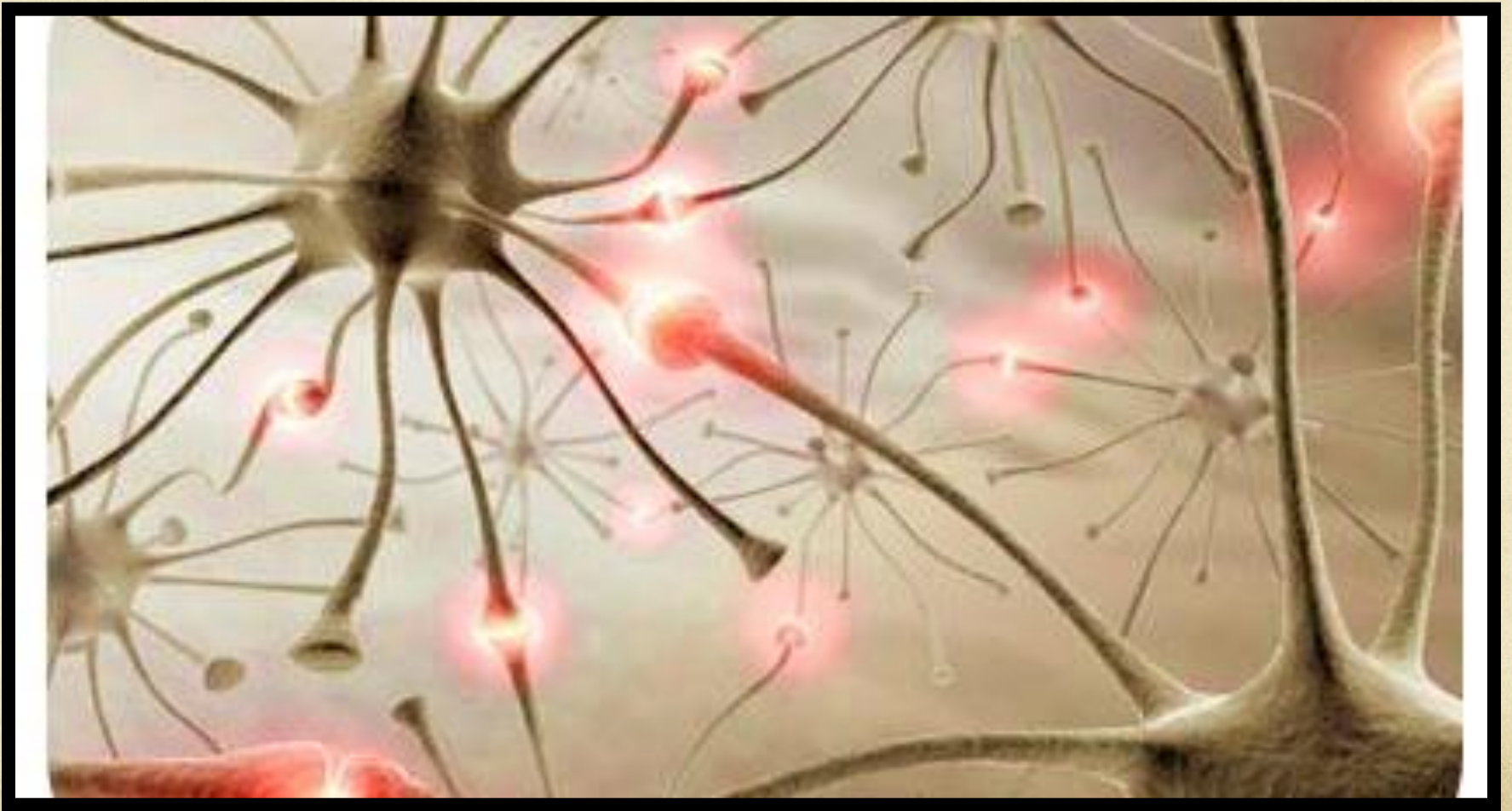
Perceived
stressor

Normal Alarm-Developed Brain

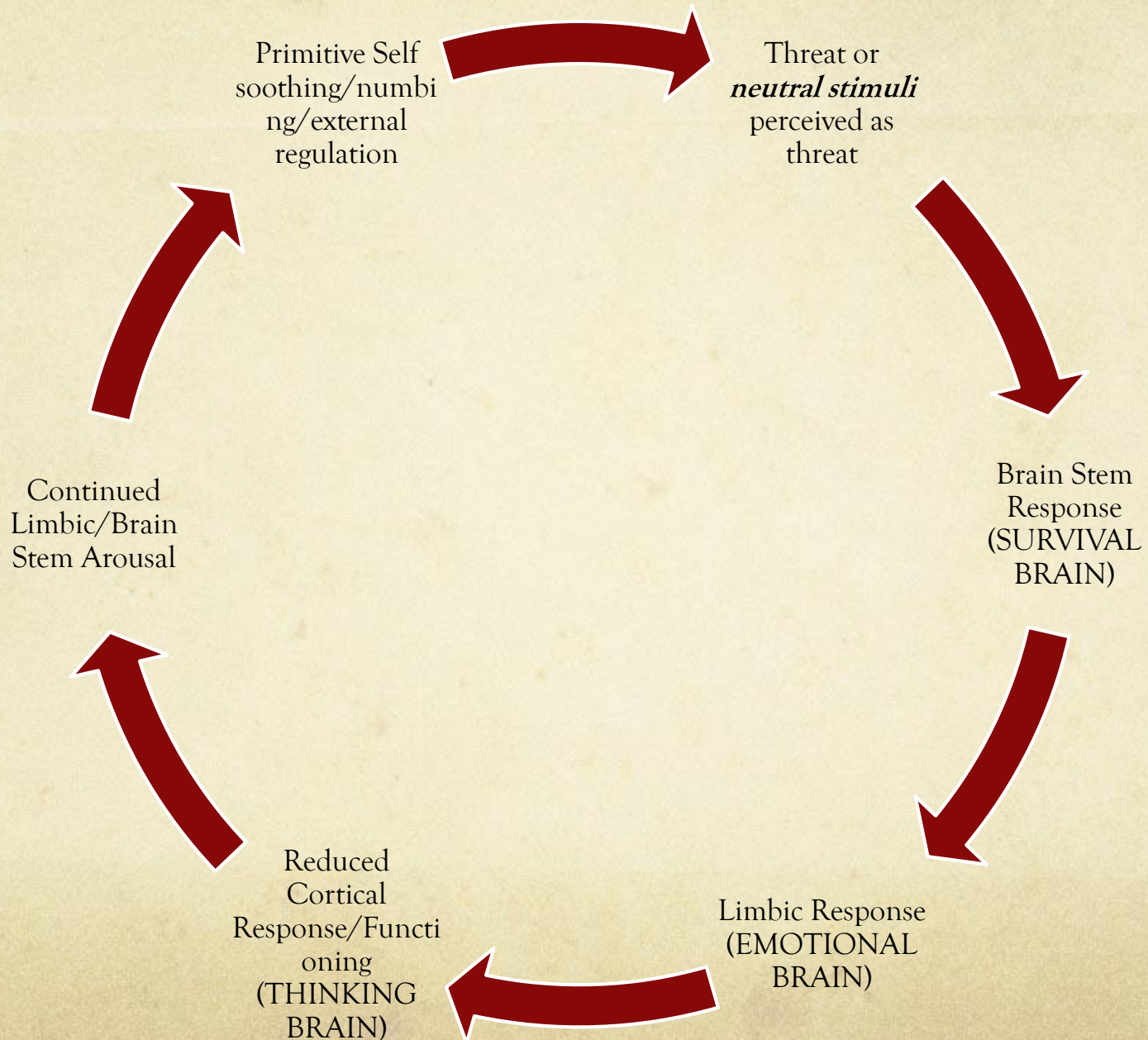
Alarm in the Brain

- Threat perceived in the environment
- Signal to the brainstem
- Signal to the amygdala
- Front brain goes “off-line”
- Front brain online enough to evaluate threat
- Front brain inhibits threat response, if not threat

Neurons that fire together wire together (Hebb's Rule)

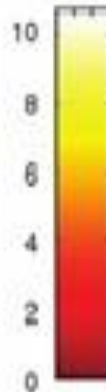
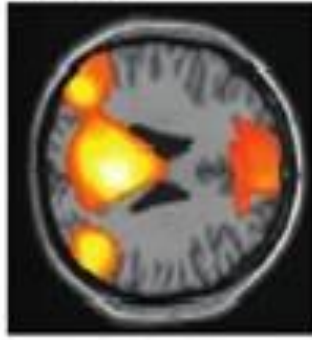
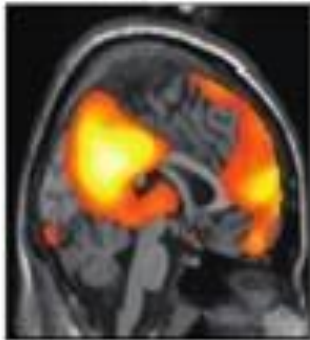


Over-Sensitive Alarm Cycle

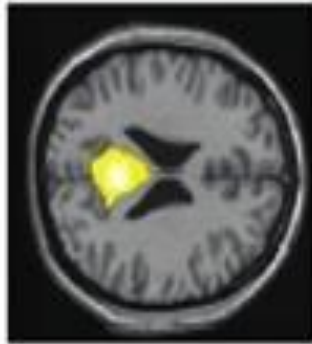
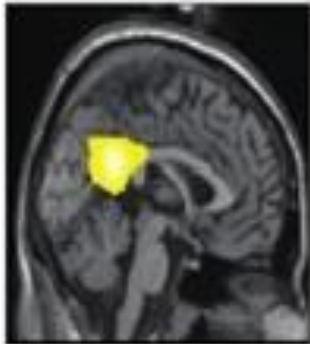


Overactive Alarm

Controls: positive correlation 0, -56, 20



PTSD: positive correlation 0, -56, 20



Chronic Activation of the threat response system in childhood causes changes in the connectivity of neural systems

This is seen as chronic hyper arousal of the threat response system and decreased functioning of the frontal cortex

Lanius, et al 2009

Thinking Brain and Survival Brain

- **Thinking Brain = Rider**
 - Makes informed, rational decisions
- **Survival Brain = Horse**
 - Protective instincts based on feelings
- **When triggered, the rider falls off the horse**



(Van der Kolk)(Ford, 2009)

Self-Regulation Adaptations

In attempts to regain homeostasis the traumatized child often seeks primitive or external methods of self regulation to make up for the lack of internal ability

- Cutting (self-harm)
- Burning self (self-harm)
- Breaking things/throwing
- Stealing
- Weed and other sub.
- Alcohol
- Rocking
- Biting
- Scratching
- Hyperactivity

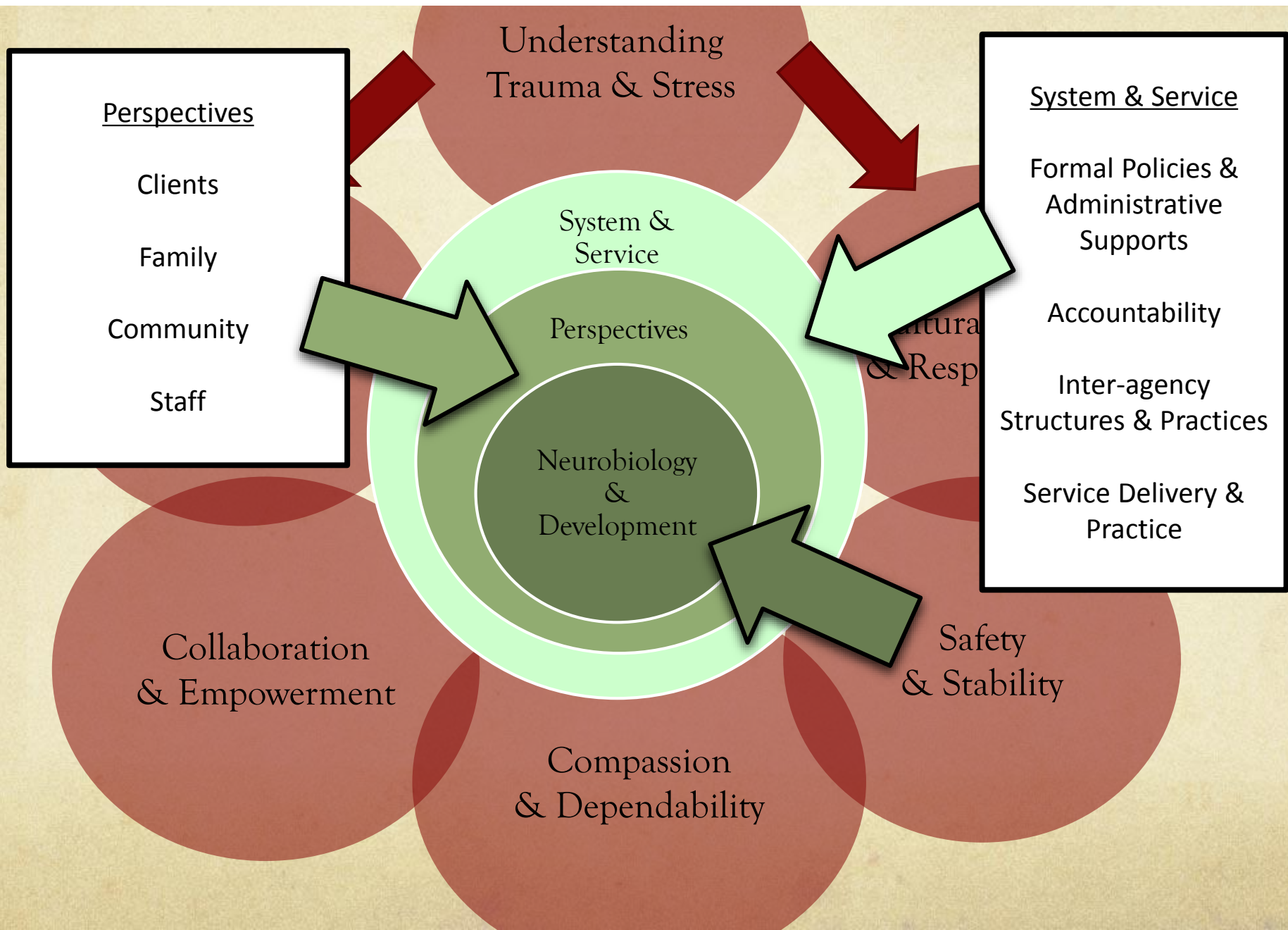
Key Tool:

Get Your Rider on Your Horse

- Aggravating behavior is “a cause for a pause”
- Pause and take a breath
- Ask yourself
 - “What has happened to you?”
 - “What is happening here?”
 - “What is the need behind this behavior?”
 - “How can I respond to this need?”



Trauma-Informed Principles for Promoting Wellness and Resilience



Trauma Informed Care Slides

