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*Unpacking Toxic Stress, ACEs, and
the Hidden Power of Resilience & Relationships*



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The Policy Equity Group

Session Overview



How our bodies and brains respond to stress



Adverse childhood experiences (ACEs)



Effects of stress on development and learning



Resilience: The other side of the coin



The power of relationships



Caregiver well-being



Putting the science into action



How Our Brains *and* Bodies Respond *to* Stress



TOXIC STRESS & RESILIENCE

What *is* Stress?

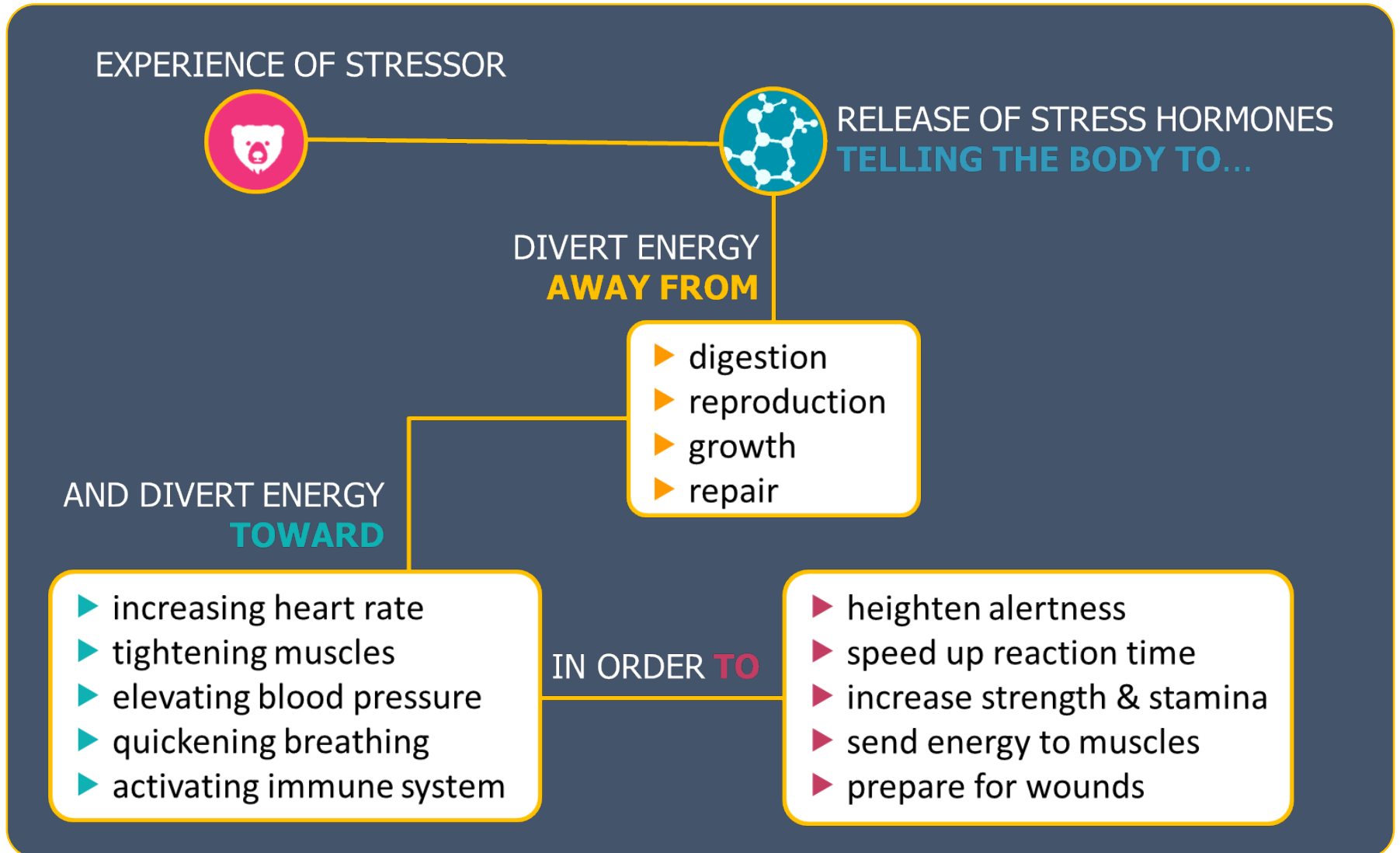


Stress

When we feel that the **DEMANDS** placed on us outweigh the **RESOURCES** we have to meet them

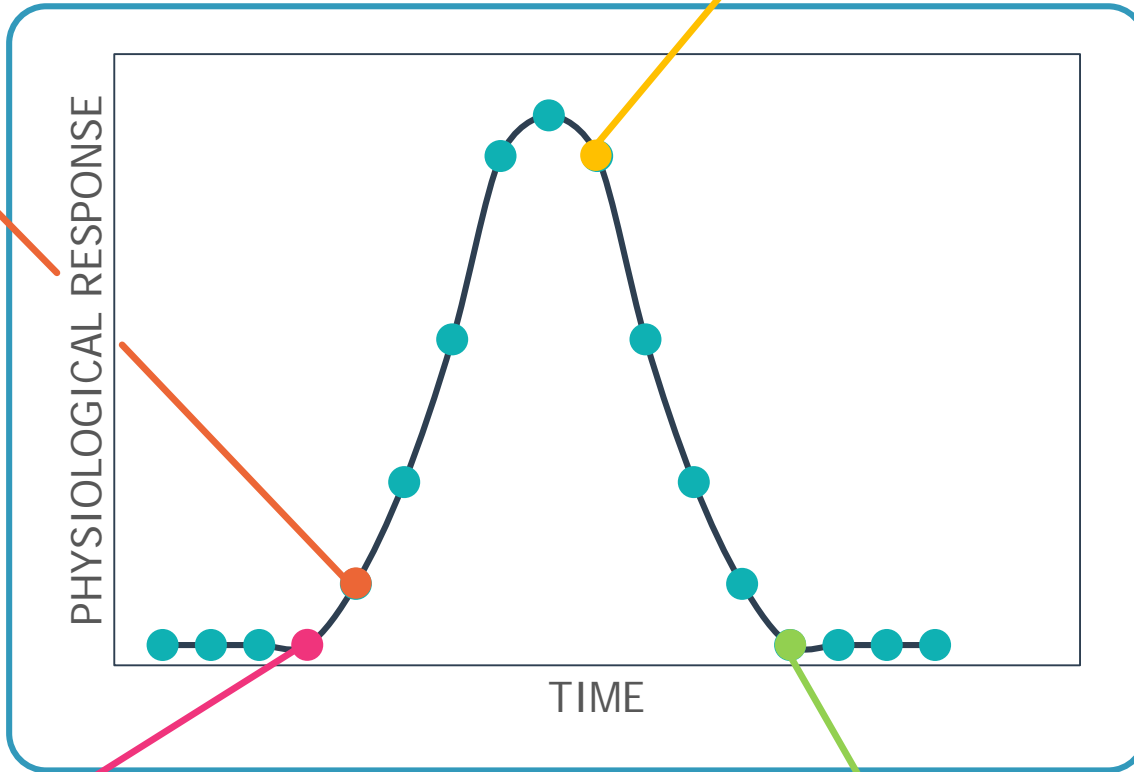


How Our Bodies Respond *to* Stress



How Our Bodies Respond *to* Stress

ACTIVATION OF STRESS
RESPONSE SYSTEMS



STRESSOR ENDS OR COPING
STRATEGIES ENGAGED



ONSET OF STRESS



FULL RECOVERY TO
BASELINE

What *about* Chronic Stress?

Repeated, frequent "hits" of stress over time

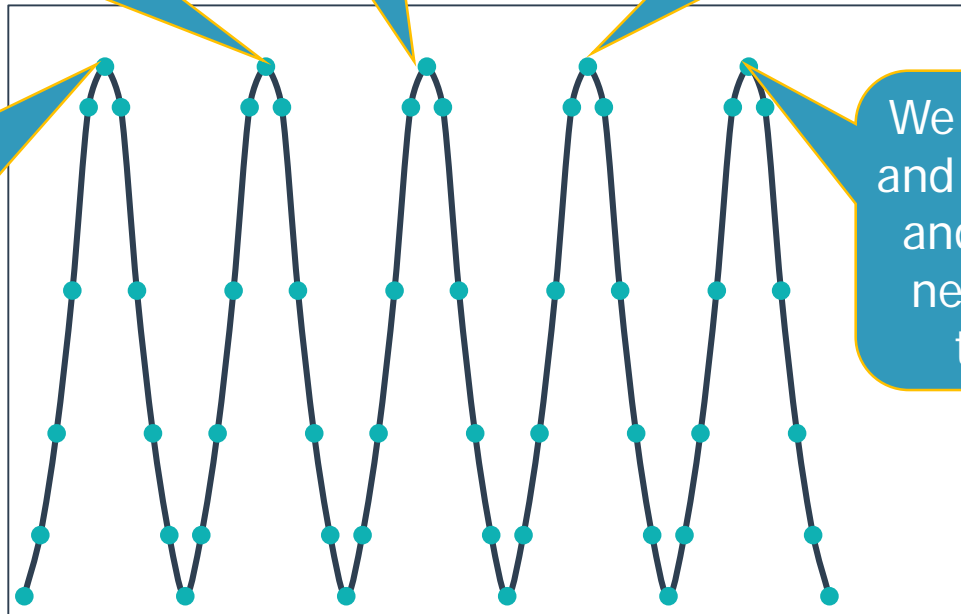
Dad came home in a scary mood again. How do I keep my little sister safe?

No one's home to make dinner for me.

I couldn't sleep again because of the gun shots outside.

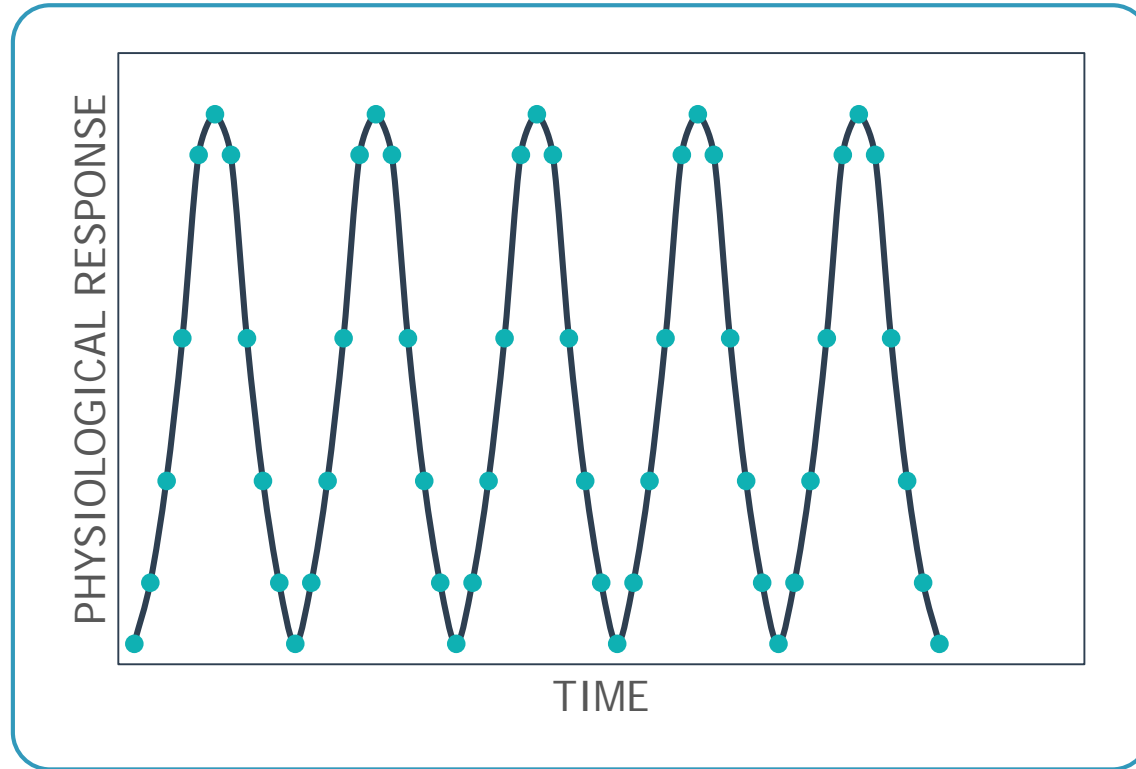
My mom and step mom are fighting. Will the police come again?

We had to move again and I miss my grandma and my old teacher. I never know who will take care of me.



What *about* Chronic Stress?

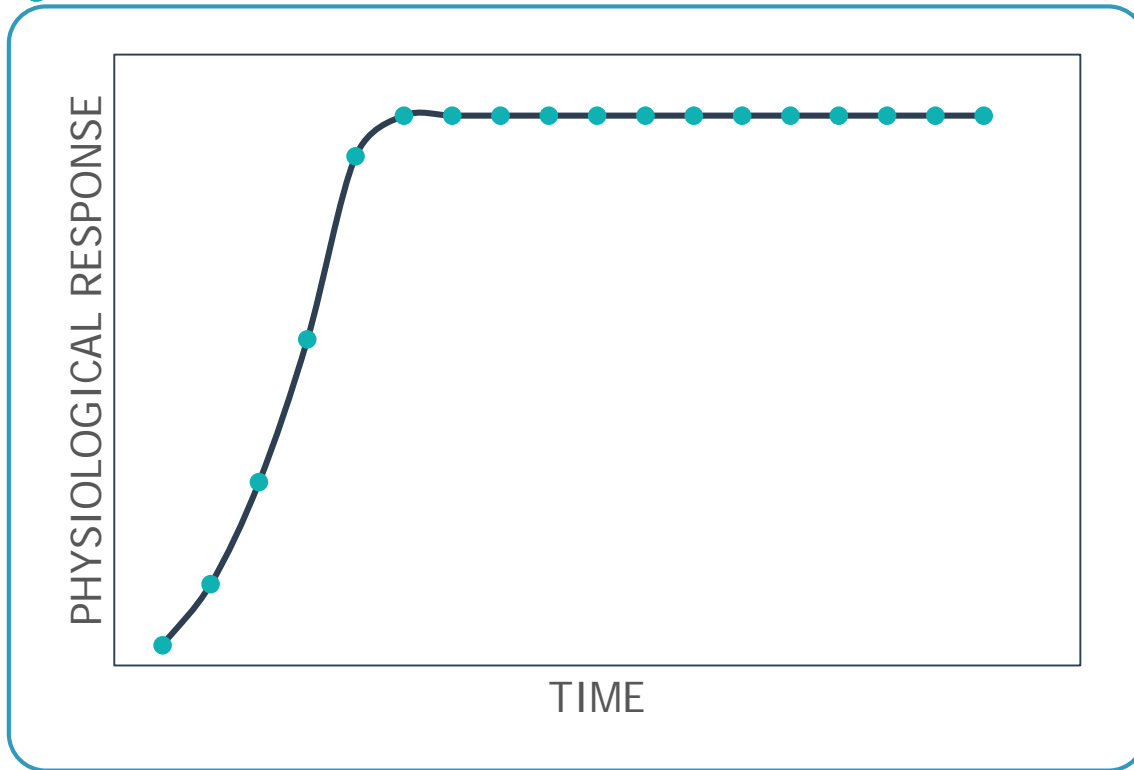
Repeated, frequent “hits” of stress over time



FIRE ALARM GOING OFF CONSTANTLY
TRUCKS SENT OUT FREQUENTLY

What *about* Chronic Stress?

Stress hormones never fully clear out of system
Eventually becomes more efficient to be “on” all the time



FIRE TRUCKS CONSTANTLY PATROLLING
DO NOT RETURN TO STATION FOR RECUPERATION
MORE LIKELY TO RESPOND TO FALSE ALARMS

The Lasting Damage *of* Stress



Without rest and maintenance, equipment failure and firefighter burnout likely

- ▶ In extreme cases, stress response system may “shut down”
- ▶ Body not able to mount adequate response to stressors



Tremendous wear-and-tear on the body

- ▶ Smashing windows, breaking down doors, soaking carpets
- ▶ High cost of emergency services at expense of other long-term initiatives



The Lasting Damage *of* Stress

- ▶ **Over-active** stress response system
 - Typically associated with far from optimal but essentially adequate conditions
 - Highly reactive behavior patterns
- ▶ **Under-active** stress response system
 - Tends to be seen in children who experience neglect or severe disruptions in caregiving
 - Unresponsive, withdrawn, does not seek help
- ▶ **Dysregulation in either direction is maladaptive**



Adverse Childhood Experiences



TOXIC STRESS & RESILIENCE

The Adverse Childhood Experiences Study

ACEs

ADVERSE CHILDHOOD EXPERIENCES (ACEs) include abuse, neglect, and other traumatic experiences that occur to individuals under the age of 18



A landmark study asked **17,000** people about these types of childhood experiences and examined the relationship between ACEs and **health and wellness outcomes** later in life

ACEs

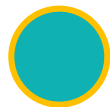
- ▶ Incarcerated household member
- ▶ Mother treated violently
- ▶ Mental illness of household member
- ▶ Parental divorce
- ▶ Household member substance abuse
- ▶ Emotional abuse
- ▶ Sexual abuse
- ▶ Physical abuse
- ▶ Emotional neglect
- ▶ Physical neglect



ZERO *adverse childhood experiences*



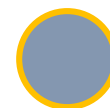
SEVERE
OBESITY



DIABETES



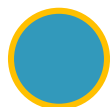
STROKE



DEPRESSION



CANCER



COPD



HEART DISEASE



DRUG USE

ONE *adverse childhood experience*



SEVERE
OBESITY



DIABETES



STROKE



DEPRESSION



CANCER



COPD

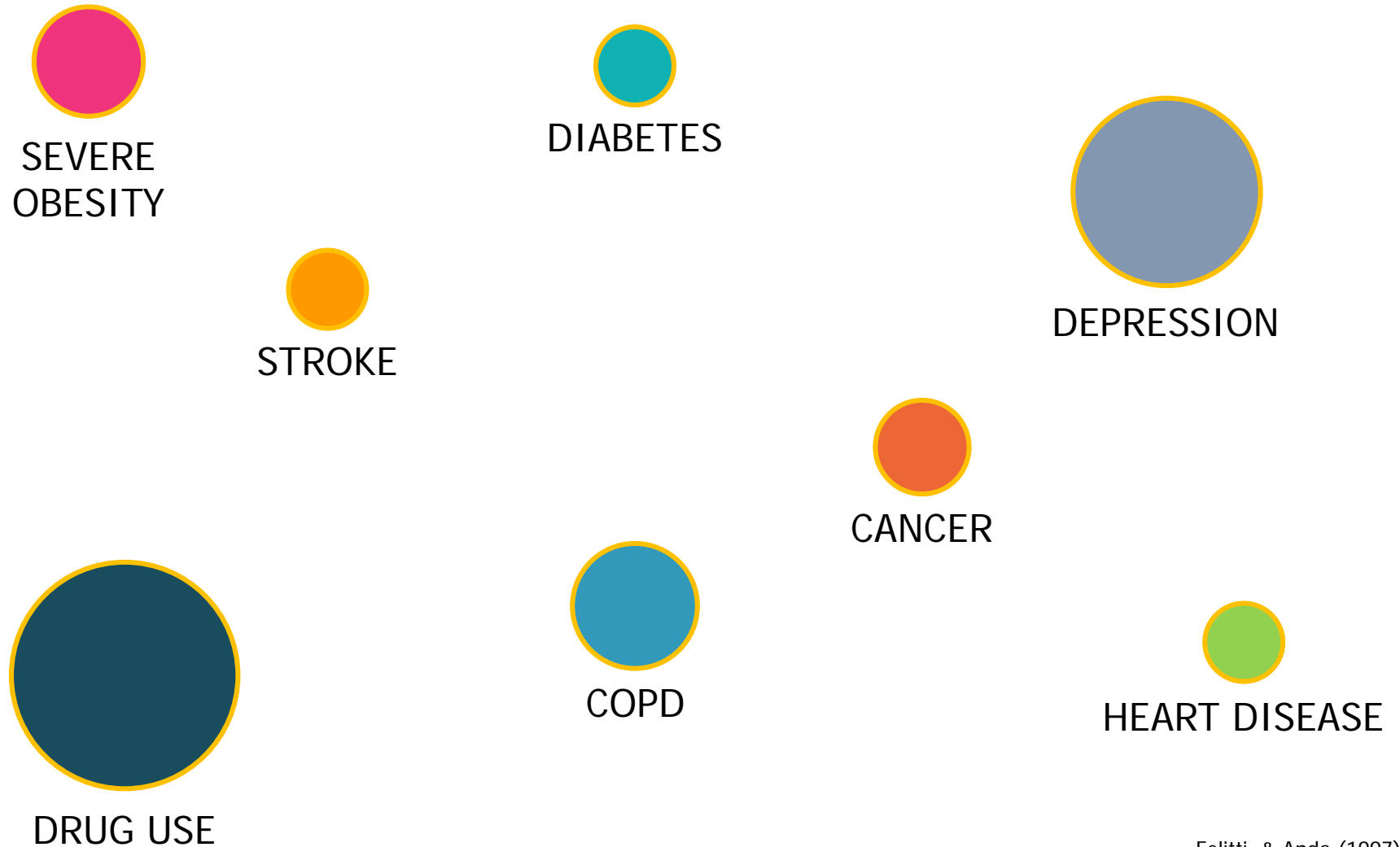


HEART DISEASE

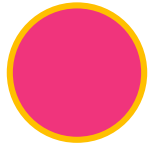


DRUG USE

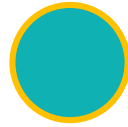
TWO *adverse childhood experiences*



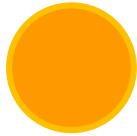
THREE *adverse childhood experiences*



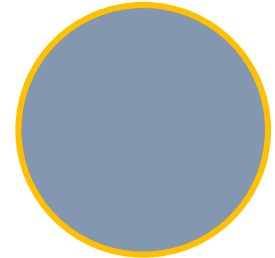
SEVERE
OBESITY



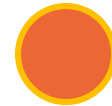
DIABETES



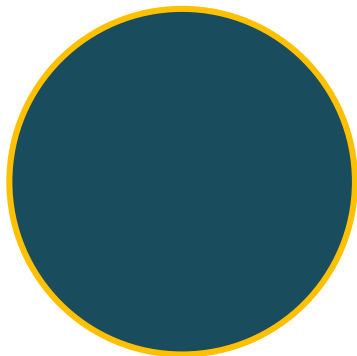
STROKE



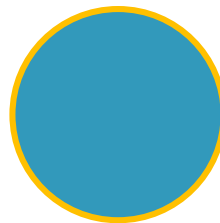
DEPRESSION



CANCER



DRUG USE

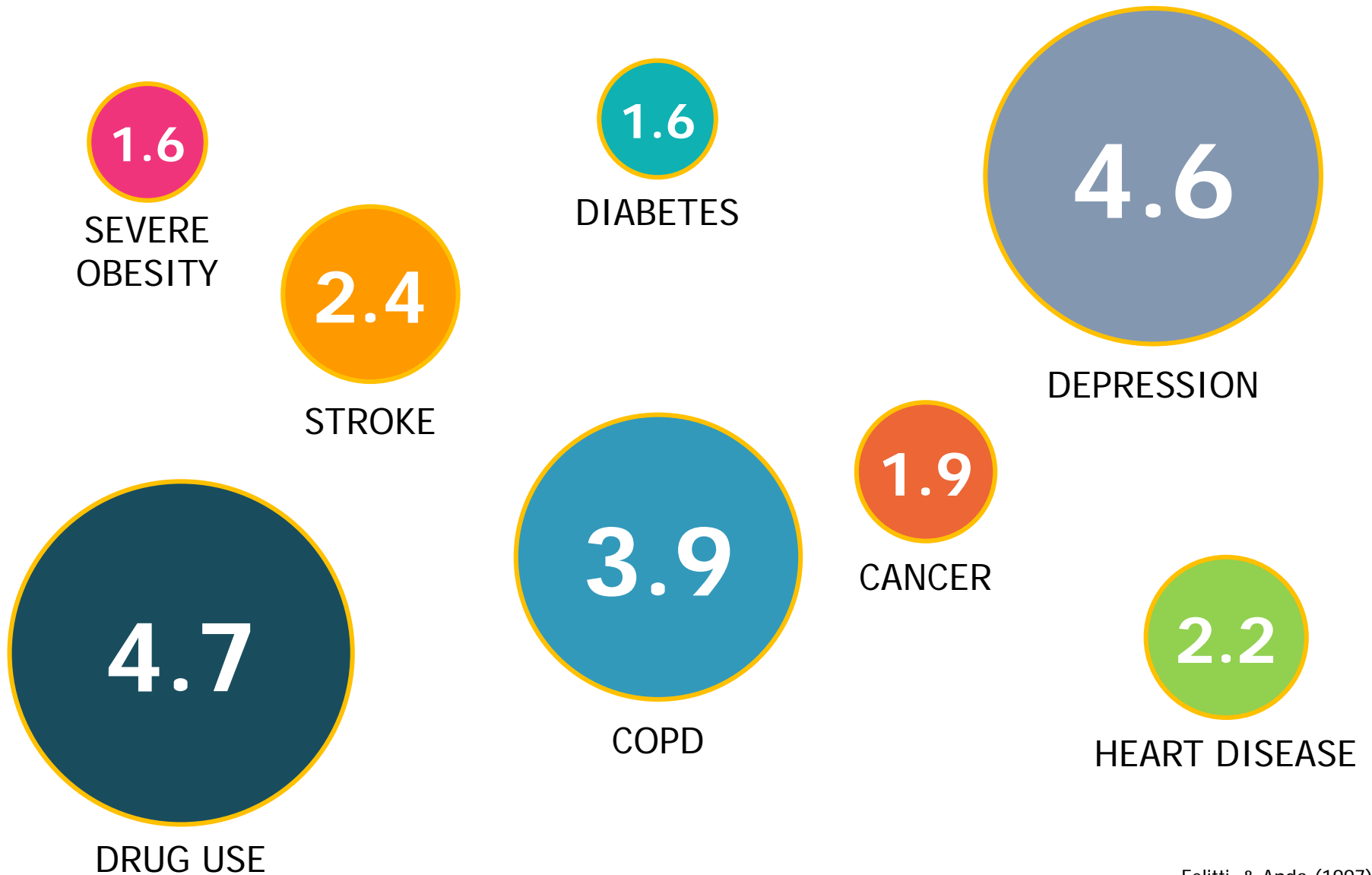


COPD



HEART DISEASE

FOUR *adverse childhood experiences*



Effects *of* Risk Factors *on* Life Expectancy

SMOKING



-10 YEARS

OBESITY



-7 YEARS

**HIGH BLOOD
PRESSURE**



-5 YEARS

DIABETES



-8 YEARS

**EARLY LIFE
STRESS**



-20 YEARS

6 or more ACEs



TOXIC STRESS & RESILIENCE

Effects *of* Stress *on* Brain Development *and* Learning



TOXIC STRESS & RESILIENCE

Effects *of* Stress *on* Early Brain Development

PREFRONTAL CORTEX

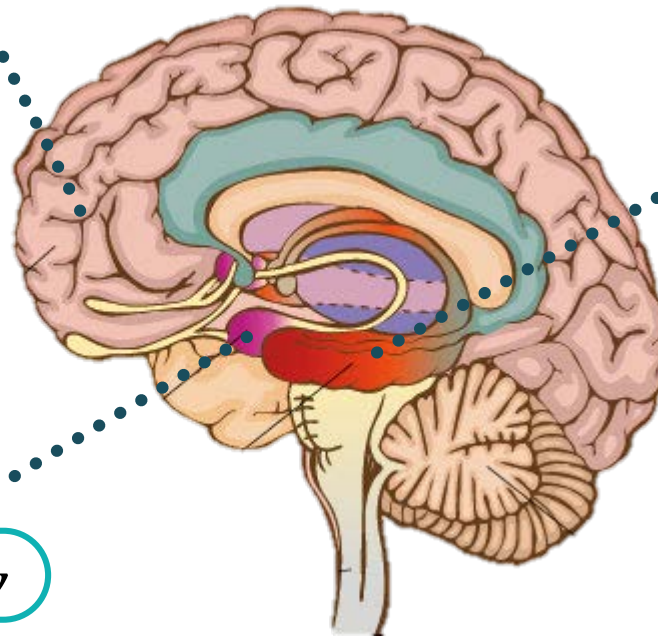
↓ *size & activity*

- ↓ Self-regulation
- ↓ Decision making
- ↓ Memory & reasoning

AMYGDALA

↑ *size & activity*

- ↑ Emotion—fear & anxiety
- ↑ Threat detection & response



HIPPOCAMPUS

↓ *size & activity*

- ↓ Mood regulation
- ↓ Memory formation



Core Life Skills



now ←-----→ later

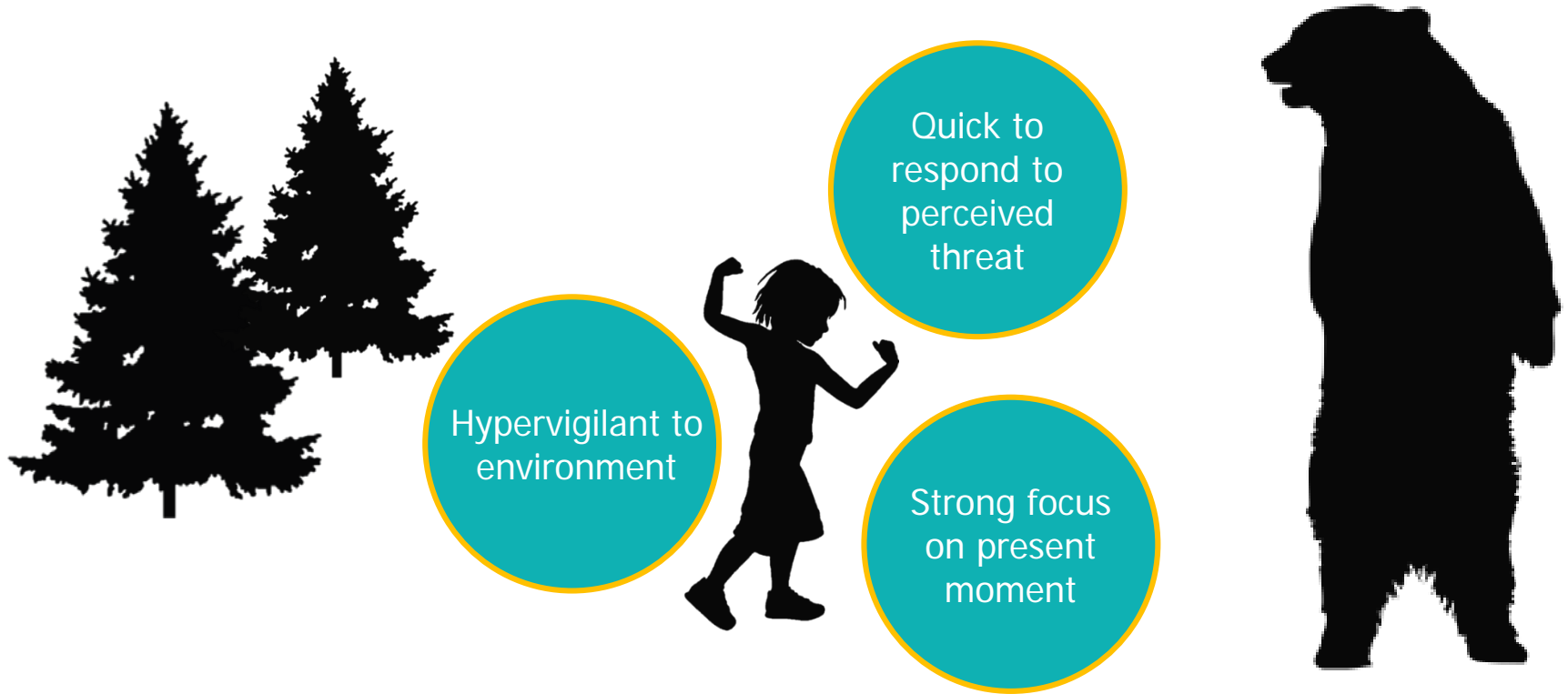
one factor ←-----→ many factors

self ←-----→ others



Implications *for* Learning *and* Behavior

With these patterns of brain functioning, we might see...



May be **ADAPTIVE** in an unpredictable, dangerous environment!



TOXIC STRESS & RESILIENCE

Implications *for* Learning *and* Behavior



Hypervigilant to environment

Quick to respond to perceived threat

IMPULSIVE & AGGRESSIVE

Strong focus on present moment



INATTENTIVE

MEMORY & PLANNING DIFFICULTIES

May be **MALADAPTIVE** in different contexts



TOXIC STRESS & RESILIENCE

Resilience: The Other Side *of the* Coin



TOXIC STRESS & RESILIENCE



K P J R
FILMS

RESILIENCE

THE BIOLOGY OF STRESS & THE SCIENCE OF HOPE

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fig1

Key Takeaways *from* “Resilience”

1

“We need to put to bed forever the sense that **children who are born under disadvantaged circumstances are doomed** to poor life outcomes. Science is saying that is not true.”

2

“Scientific research points to the **presence of a stable, caring adult in a child’s life** as the key to building the skills of resilience.”

3

“If we want to produce dramatic impacts on the outcomes for kids experiencing toxic stress, we have to **transform the lives of the adults** who are taking care of them.”



ACEs *are* Not Destiny



TOXIC STRESS & RESILIENCE

The Quiet Power of Resilience

Six out of ten children who experience ≥ 4 ACEs will...



re·sil·ience (*n.*)

the ability to thrive, adapt, and cope despite tough and stressful times



Benevolent Childhood Experiences (BCEs)

When you were growing up, did you...

- ▶ have at least one caregiver with whom you felt safe?
- ▶ have at least one good friend?
- ▶ have beliefs that gave you comfort?
- ▶ like school?
- ▶ have at least one teacher who cared about you?
- ▶ have good neighbors?
- ▶ have an adult (not a parent or caregiver) who could provide you with support or advice?
- ▶ have opportunities to have a good time?
- ▶ like yourself or feel comfortable with yourself?
- ▶ have a predictable home routine, like regular meals and bedtime?

Higher levels of BCEs predicted less stress exposure and PTSD symptoms in adulthood, above and beyond ACEs.

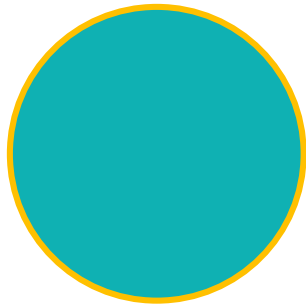
Positive Childhood Experiences (PCEs)

Before you were 18, how often did you...

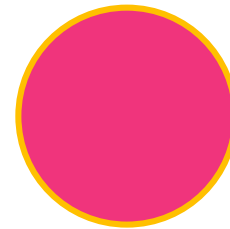
- ▶ feel your family stood by you during difficult times?
- ▶ feel that you were able to talk to your family about your feelings?
- ▶ feel there was an adult in your household who made you feel safe and protected?
- ▶ enjoy participating in your community's traditions?
- ▶ feel supported by your friends?
- ▶ feel that you belonged at your high school?
- ▶ feel there were at least two adults, other than your parents, who took a genuine interest in you?



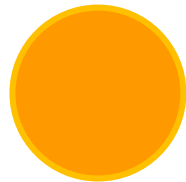
Three or more ACEs



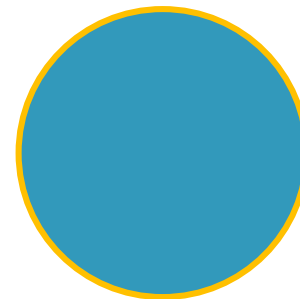
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ADULT SMOKING



POOR/FAIR
HEALTH

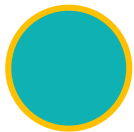


DEPRESSION

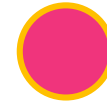
Three or more ACEs

PLUS

“My family stood by me during hard times.”



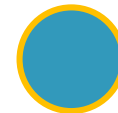
OBESITY



ADULT SMOKING

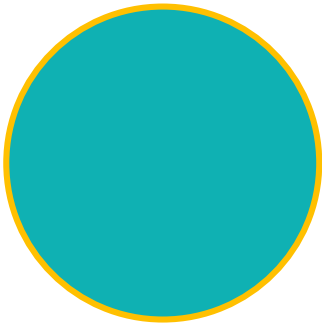


POOR/FAIR
HEALTH

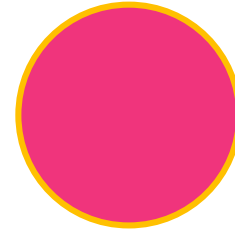


DEPRESSION

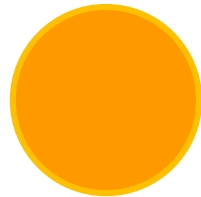
Three or more ACEs



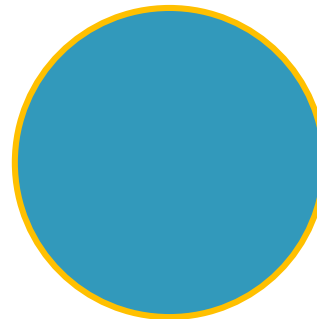
OBESITY



ADULT SMOKING



POOR/FAIR
HEALTH



DEPRESSION

Three or more ACEs

PLUS

“I felt supported by friends during childhood.”



OBESITY



ADULT SMOKING

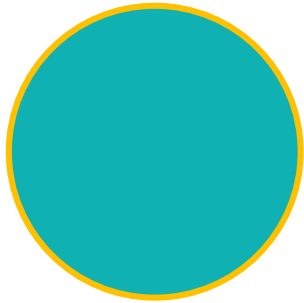


POOR/FAIR
HEALTH

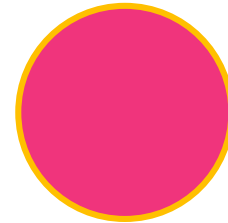


DEPRESSION

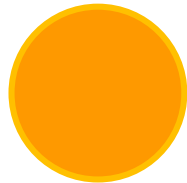
Three or more ACEs



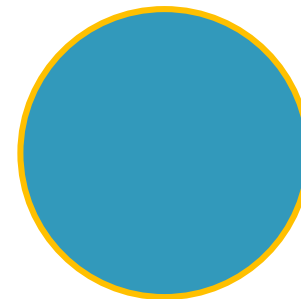
OBESITY



ADULT SMOKING



POOR/FAIR
HEALTH



DEPRESSION

Three or more ACEs

PLUS

“I felt a sense of belonging at school.”



OBESITY



ADULT SMOKING



POOR/FAIR
HEALTH



DEPRESSION

The Power *of* Relationships



TOXIC STRESS & RESILIENCE

Adults *as* Key Resources

Benevolent Childhood Experiences

- ▶ have at least one caregiver with whom you felt safe?
- ▶ have at least one good friend?
- ▶ have beliefs that gave you comfort?
- ▶ like school?
- ▶ have at least one teacher who cared about you?
- ▶ have good neighbors?
- ▶ have an adult (not a parent or caregiver) who could provide you with support or advice?
- ▶ have opportunities to have a good time?
- ▶ like yourself or feel comfortable with yourself?
- ▶ have a predictable home routine, like regular meals and bedtime?

Positive Childhood Experiences

- ▶ feel your family stood by you during difficult times?
- ▶ feel that you were able to talk to your family about your feelings?
- ▶ feel there was an adult in your household who made you feel safe and protected?
- ▶ enjoy participating in your community's traditions?
- ▶ feel supported by your friends?
- ▶ feel that you belonged at your high school?
- ▶ feel there were at least two adults, other than your parents, who took a genuine interest in you?

The Importance *of* Relationships

“Every child needs at least one adult who is irrationally crazy about him or her.”

▶ Urie Bronfenbrenner (1991)



The Power *of* Relationships



tox•ic stress (n.)

the experience of strong, frequent, and/or prolonged adversity...
without adequate adult support.



Interventions that support positive caregiving relationships can actually **reverse some of the physiological effects** of chronic stress.



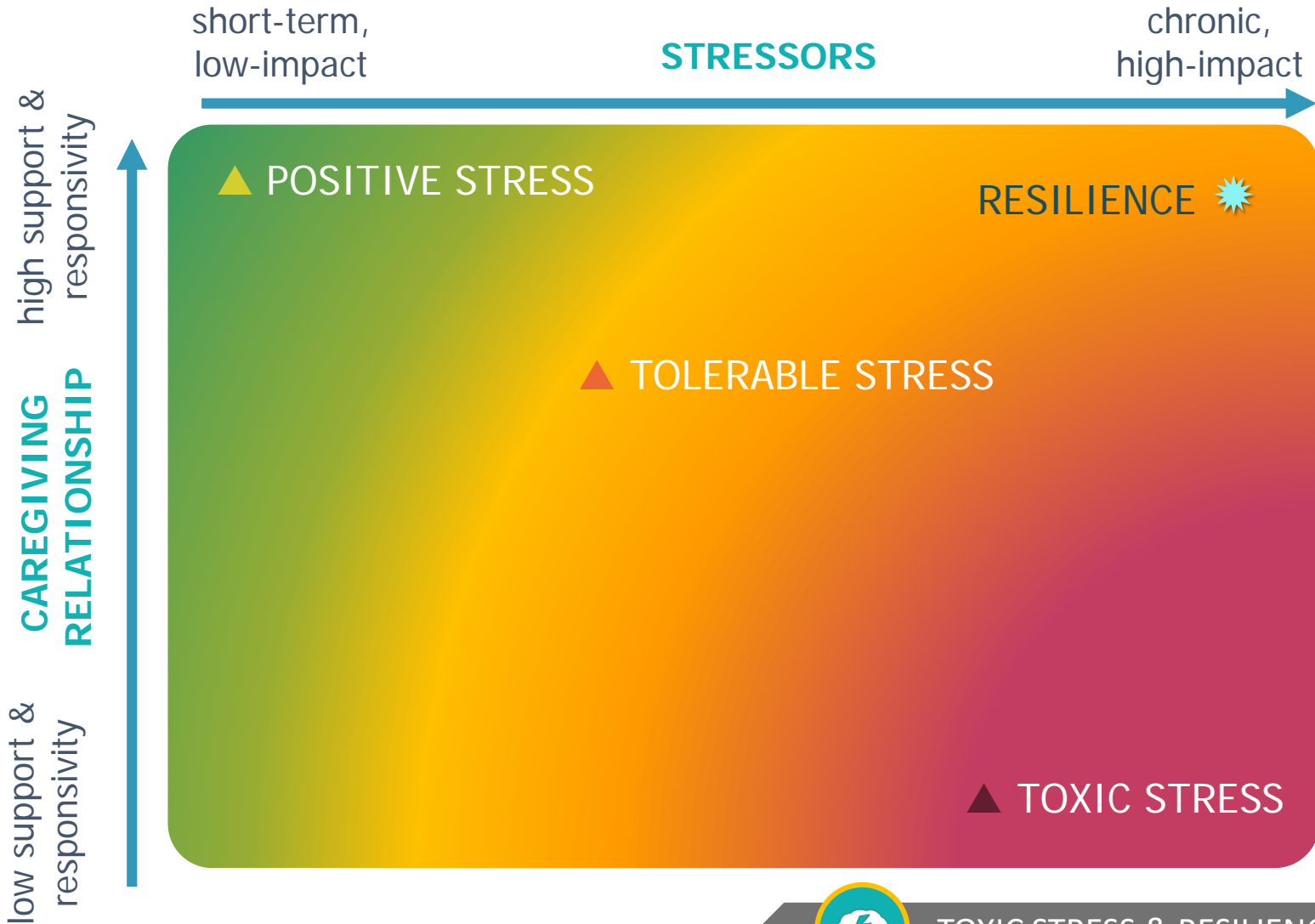
Children's relationships with adults can serve as either **resources or demands** with social and biological implications.



The single most common factor among children who do well ***despite*** experiencing adversity is the presence of at least **one supportive, responsive adult in their life.**



Conditions *for* Toxic Stress



TOXIC STRESS & RESILIENCE

Caregiver Well-Being *and* Relationships *with* Children



TOXIC STRESS & RESILIENCE

What Gets in the Way *of* Strong Relationships?



TOXIC STRESS & RESILIENCE

Caregivers' Capacity *for* Strong Relationships



**Past experiences
being cared for**

History of adversity or unhealthy relationships as a child



**Current experiences
as caregiver**

Current life stressors

Psychological and physiological effects

Capacity to engage in sensitive and responsive caregiving relationships

Caregivers *and* Previous Experiences *of* Stress



**Past experiences
being cared for**

“Ghosts in the Nursery”

- ▶ Caregivers' experiences and relationship patterns from their own childhood may “haunt” current caregiving relationships
- ▶ May affect how caregiver views child, how care is delivered, and response to child's behaviors
- ▶ “Angels in the nursery” can serve protective function



Caregivers *and* Current Experiences *of* Stress

Typical Day-to-Day Challenges for Families

- ▶ Child care arrangements
- ▶ Providing nutritious meals
- ▶ Bills to be paid
- ▶ Transportation
- ▶ Lack of sleep for new parents
- ▶ Providing safe, stable housing
- ▶ Own health and health of family members
- ▶ Changing adult roles & relationships



Additional Challenges for Some Families

- ▶ Domestic abuse
- ▶ Witnessing violence
- ▶ Mental illness
- ▶ Substance abuse
- ▶ Unsafe neighborhood
- ▶ Arduous work schedules
- ▶ Applying for & accessing support services
- ▶ Involvement in child welfare system and fear of losing child
- ▶ Child with disability

Core Life Skills



self-control
flexibility
self-awareness
focus

Financial Stability

- ▶ Identifying steps to conduct job search
- ▶ Managing household budget
- ▶ Getting a bank account
- ▶ Managing child care arrangements
- ▶ Maintaining a job

Parenting

- ▶ Providing consistent care and routines
- ▶ Being attuned to child's needs
- ▶ Responding appropriately and flexibly
- ▶ Staying engaged in interactions
- ▶ Ability to manage own emotions

Core Life Skills



- ▶ Finite mental resources that can be overwhelmed by stressors
- ▶ “Spending” resources depletes stock needed for other tasks
- ▶ Context of poverty strains and drains cognitive resources

Effects on Parenting

- ▶ Less attunement to child’s signals
- ▶ More negative response to children’s cries or other attention-seeking behavior
- ▶ Be withdrawn, respond with little energy or emotion, or become intrusive and hostile in interactions
- ▶ Cycles of mutual dysregulation and stress

Reflection

Activity: *Reflecting on Your Own Experiences*

- 1 Sometimes processing the information we've been talking about brings up personal associations for people. Take a silent moment to acknowledge anything that has come up for you.
- 2 If you would like, complete the ACEs and PCEs
- 3 Spend a few minutes journaling or quietly reflecting on:
 - ▶ What do you need now as a caregiver?
 - ▶ What did you need as a child?
 - ▶ Can you identify any "ghosts" or "angels" from your nursery?

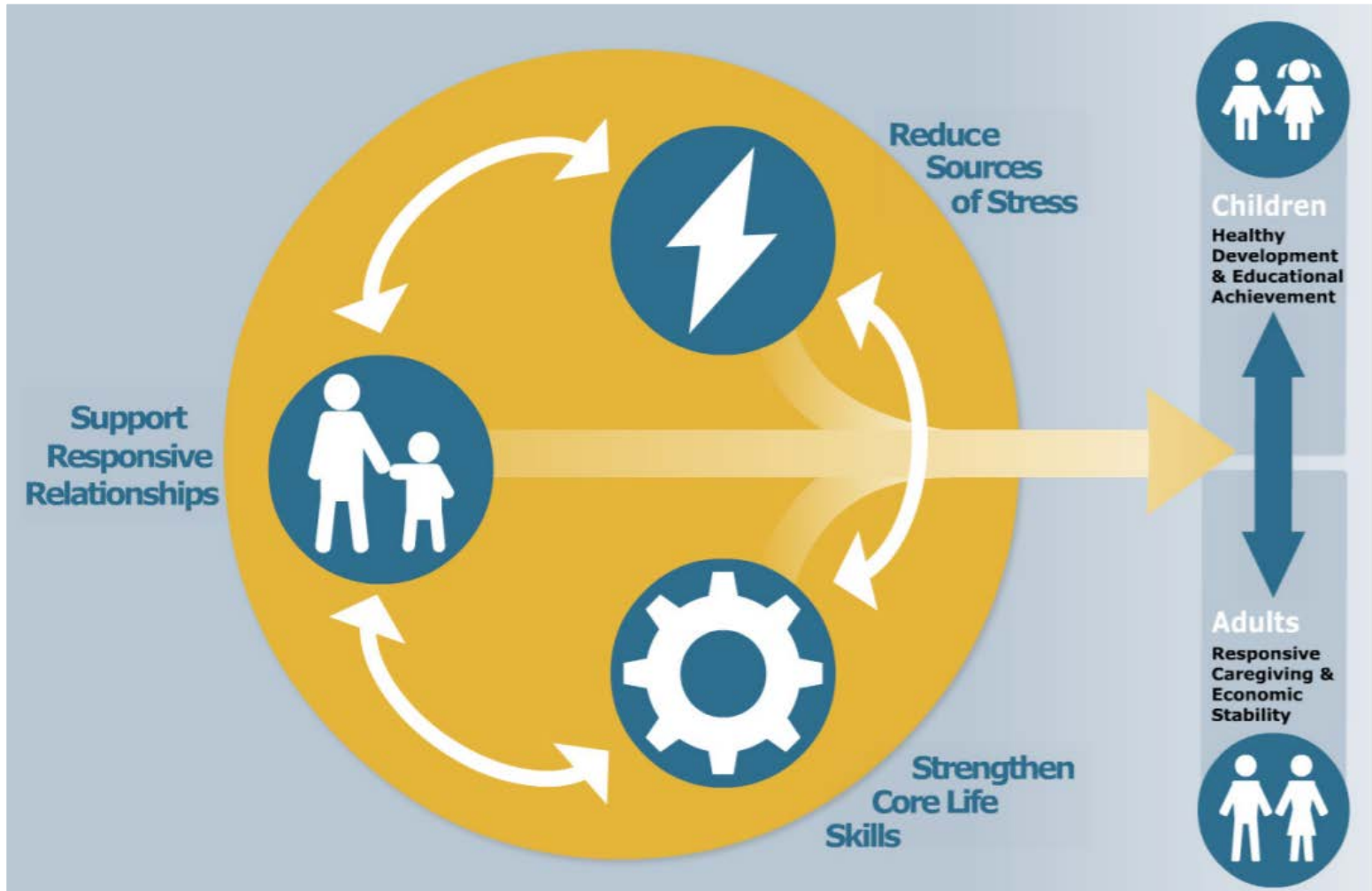


Putting *the* Science *into* Action



TOXIC STRESS & RESILIENCE

3 Principles *to* Improve Outcomes *for* Children *and* Families



Adapted from: Harvard Center for the Developing Child



TOXIC STRESS & RESILIENCE



Reducing Sources *of* Stress

- ▶ Meeting basic needs
- ▶ Promoting upward mobility
- ▶ Enhancing social capital
- ▶ Supporting family health & well-being
- ▶ Improve delivery of support services



Adult–Child Interactions

- More positive parent–child interactions



Child Outcomes

- Improved child achievement and health outcomes



Caregiver Well-Being

- Lower parent stress
- Improved parent physical and mental health



Stress Response System

- More normative cortisol patterns for children *and* mothers



Strengthening Core Life Skills

- ▶ Promoting caregiver self-awareness, recognizing and overriding automatic responses
- ▶ Teaching mindfulness approaches (i.e., awareness of and attention to what one is thinking and feeling in the moment)
- ▶ Supporting stress-management techniques
- ▶ Teaching strategies for reassessing stressful situations
- ▶ Supporting planning, follow-through, and problem-solving



Adult–child interactions

- Improved parent–child relationships
- More attuned caregiving



Caregiver Well-Being

- Reduces frustration & stress
- Better parent mental health



Child Outcomes

- Improved cognitive outcomes



Stress Response System

- More normative cortisol patterns for children

Supporting Responsive Relationships

- ▶ Supporting attunement with child behavior and needs
- ▶ Exploring understanding of a child, building empathy, and responding to needs in new ways
- ▶ Offering concrete, effective behavior management strategies
- ▶ Promoting caregiver reflection, particularly around own upbringing
- ▶ Supporting caregiver relationships with other adults



Adult-child interactions

- Improved caregiver sensitivity
- Stronger attachment relationships



Child Outcomes

- Improved social-emotional, behavior, and cognitive outcomes



Caregiver Well-Being

- Improved parent mental health



Stress Response System

- More normative cortisol patterns for children

Final Reflections

- ▶ What I still wonder about is...
- ▶ The most important take home point for me is...
- ▶ One thing I can use or apply in my work is...
- ▶ An “ah-ha moment” I had was...



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