

# Early Childhood Brain Development- What Does the Research Tell Us?



A Conversation for the Early Childhood Collaborative of Southington



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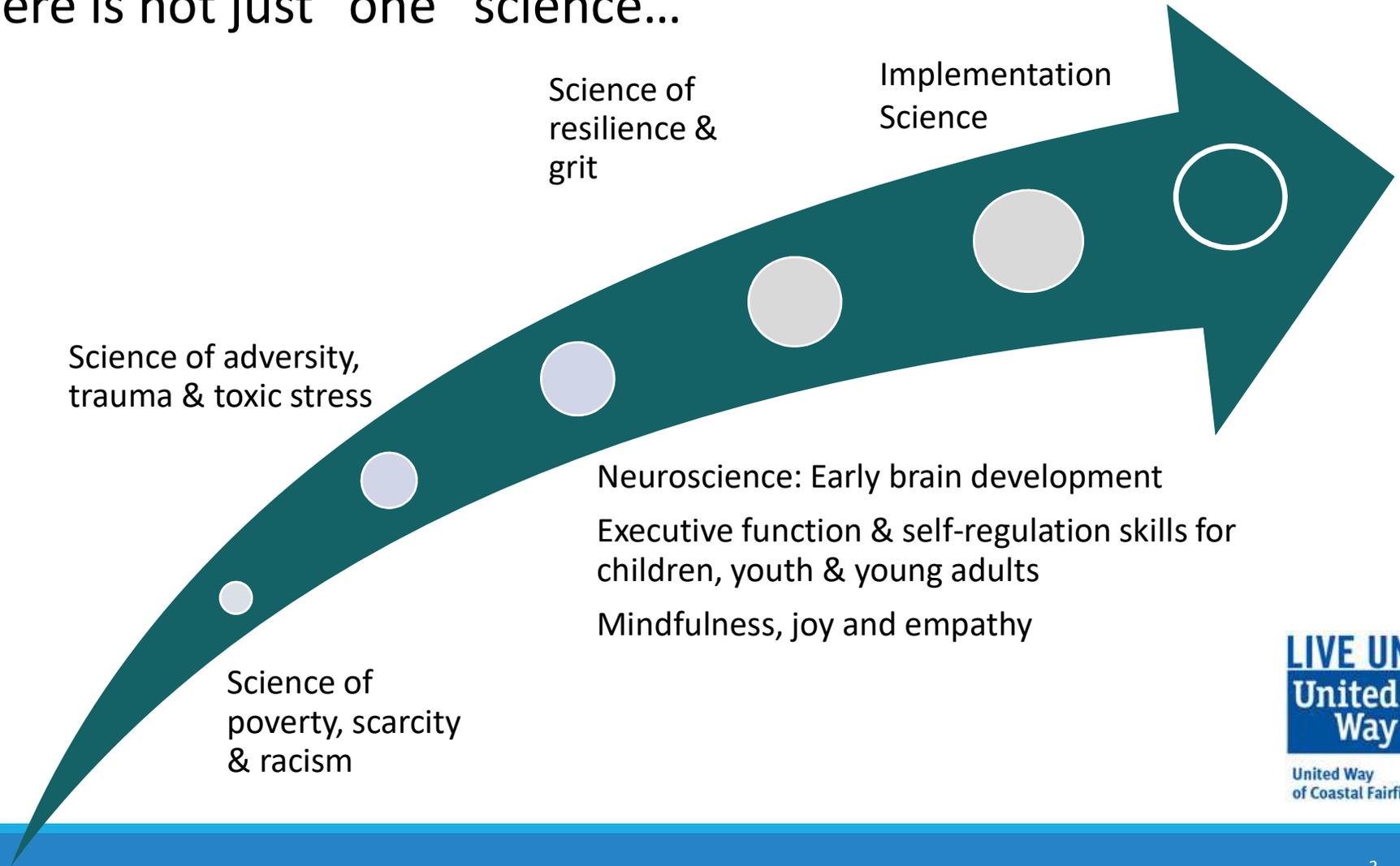
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## Informed by science, we know a lot about the early years....

- Brain growth begins before birth and is explosive in the early years
- Brains grow through a “serve and return” relationship with primary caregivers, including parents, extended families and early child care providers
- Chronic, high levels of stress negatively impacts these relationships and hurts brain development
- A child’s developmental delays, language, social-emotional and behavioral challenges can reduce school readiness
- Exposure to chronic, toxic stress and adversity has lifelong impacts that can cross generations
- Responsive, reciprocal positive parenting can buffer adversity
- Communities can buffer adversity through “protective factors”
- Parents, teachers and other primary caregivers need help, too



But there is not just “one” science...



## Key Concepts: Experiences Build Brain Architecture



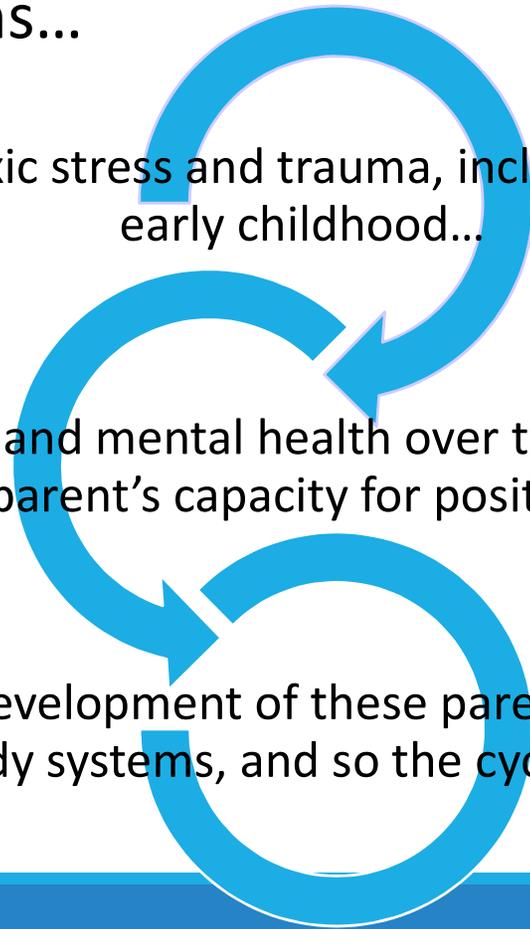
*Key Concepts: Brain Architecture.* Harvard Center on the Developing Child,  
Retrieved July 2015

The neuroscience *really* matters because negative effects of toxic stress and trauma can impact our neurologic, genomic and hormonal systems across generations...

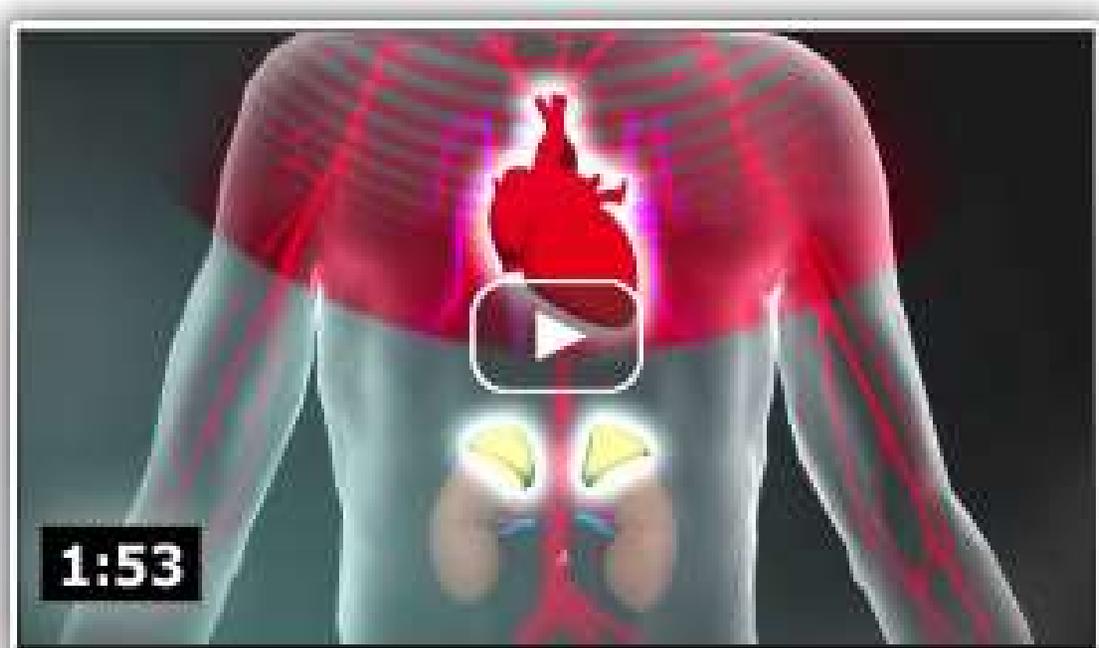
Adversity, toxic stress and trauma, including poverty, in early childhood...

Can impact adult health and mental health over the lifetime and can negatively impact a parent's capacity for positive parenting...

Which impact the development of these parents young children's brains and body systems, and so the cycle continues...



# Key Concepts: Toxic Stress



Key Concepts: Toxic Stress. Harvard Center on the Developing Child, Retrieved July 2015

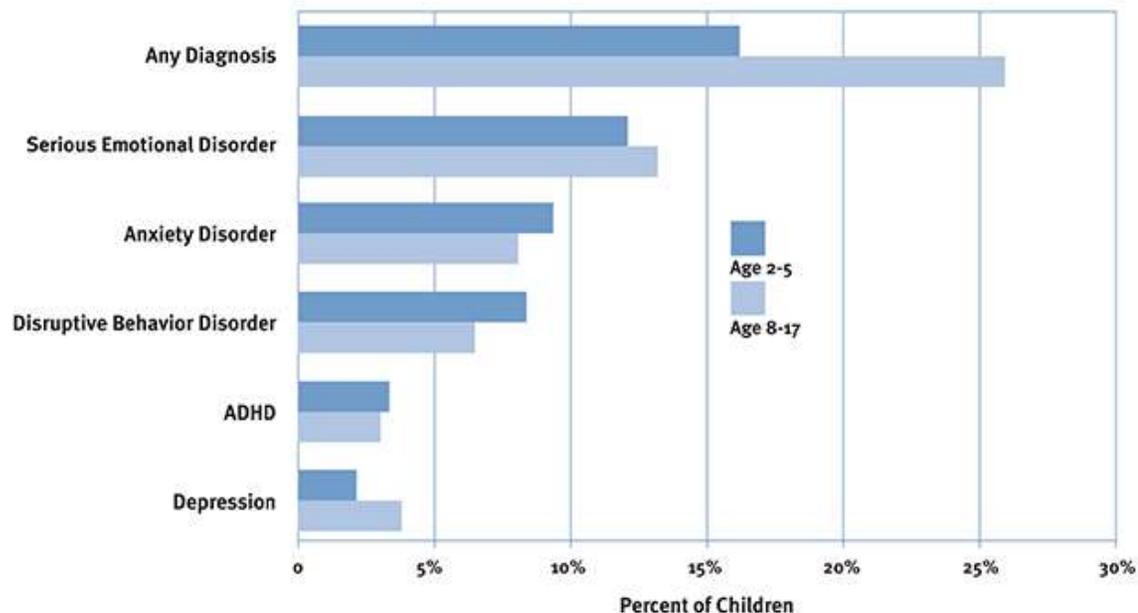


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## The Facts:

# Significant mental health problems can and do occur in young children.

Mental Health Problems Can Occur Across Childhood



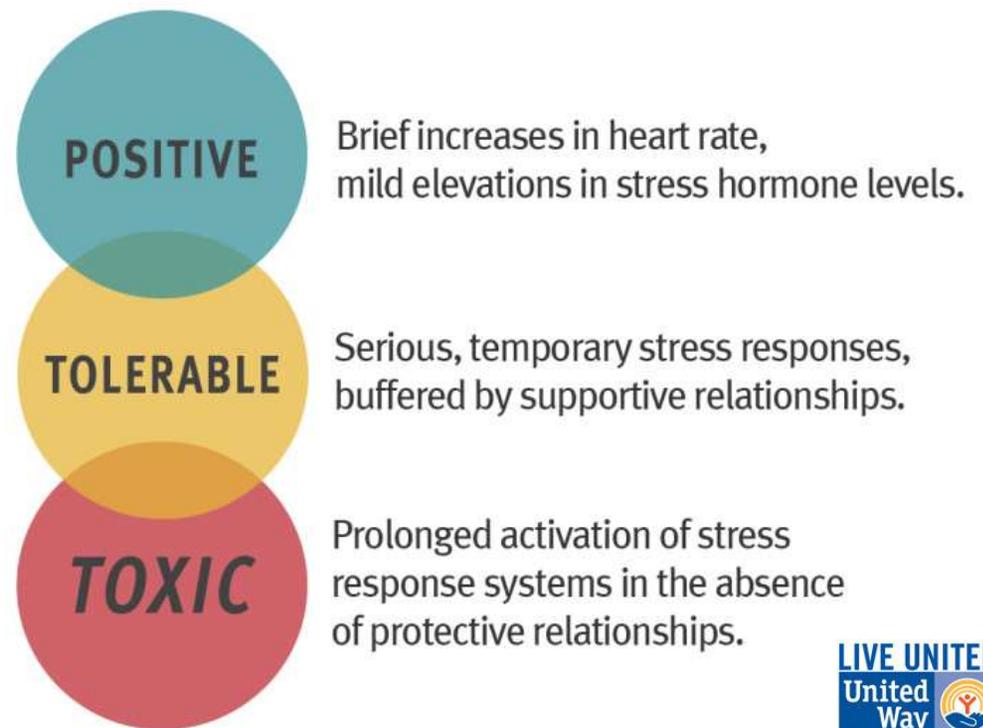
- Impairment occurs as a result of the interaction between a child’s genetic predispositions and his or her exposure to significant adversity in their environment.
- Our genes contain instructions that tell our bodies how to work, but the environment leaves a “signature” on the genes that authorizes or prevents those instructions from being carried out—or even speeds up or slows down genetic activity.

*Egger & Angold: Center for the Developing Child*

## The Facts:

### Experiencing toxic stress can increase the likelihood of mental health issues.

- Can damage the architecture of the developing brain
- Life circumstances associated with family stress, such as persistent poverty, threatening neighborhoods, homelessness and very poor child care conditions elevate the risk of serious mental health problems.
- Significant mental health problems may emerge quickly or years later.
- Can impair school readiness and academic achievement.
- Lasting effects on self-regulation, emotional adaptability, relating to others and self understanding can linger into adulthood.



*Center for the Developing Child*

# Discussion Time!

Toxic Stress in Urban settings  
VS Suburban-

What is different? What is similar?



## Key Concepts: Serve and Return

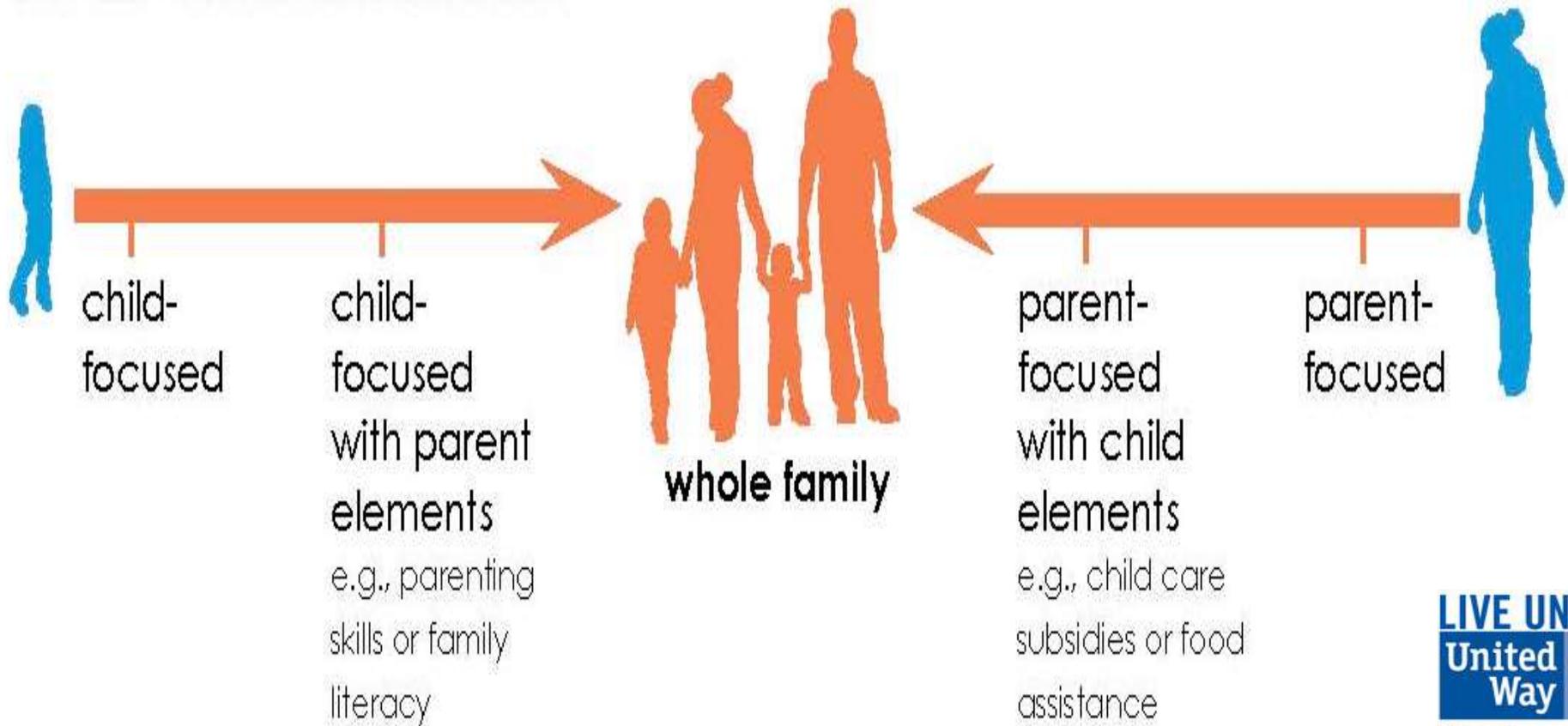


*Key Concepts: Serve and Return.* Harvard Center on the Developing Child, Retrieved July 2015



There is a lot of attention to ways of better meeting the needs of young children and their parents or other primary caregivers (including childcare providers!), together.

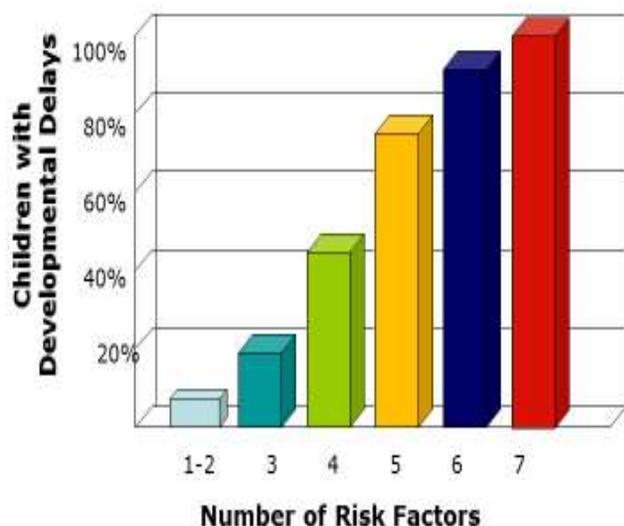
# The Two-Generation Continuum



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If we don't:

### Significant Adversity Impairs Development in the First Three Years



Source: Barth, et al. (2008)

Center on the Developing Child  HARVARD UNIVERSITY

We will continue to see:

- ❑ Too many babies born into circumstances where families struggle to meet their needs
- ❑ Racial, ethnic, income, health and education disparities that continue across generations
- ❑ 40% of our children entering kindergarten without the expected knowledge, skills and behaviors they need to be successful
- ❑ Chronic attendance problems that begin in early care and education settings and continuing into elementary school
- ❑ Preschool and early elementary school suspensions and expulsions at a “way too high” level
- ❑ Lagging indicators for children’s reading proficiency and learning success at the end of 3<sup>rd</sup>
- ❑ The need for huge amounts of intervention and remediation later in school and later in life.

# Handout Review:

- 8 Things to Remember about Child Development
- Buffering the Brain from Toxic Stress
- Everyday Ways to Support Your Baby and Toddler's Early Learning
- What Parents Can Do
- What Childcare Can Do



# Questions? Comments?

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Thank you!!!!!!!!!!

