Within the past 12 months, I have had no financial relationships with proprietary entities that produce health care goods and services.

# Objectives

**At completion of the lecture, participants will:**

- Understand early childhood brain architecture and recognize the impact of early childhood experiences on future health and education outcomes

- Examine the impact of current global events on social emotional development

- Appreciate community level interventions and strategies for collaborative work in early childhood mental health promotion

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# The Basics of Early Childhood Brain Development
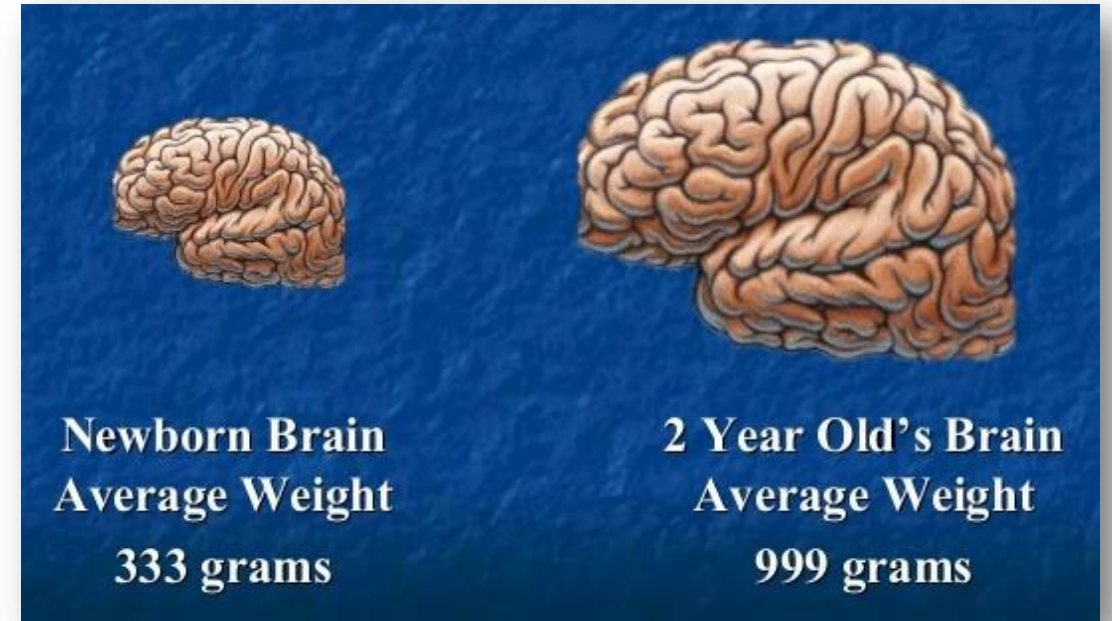
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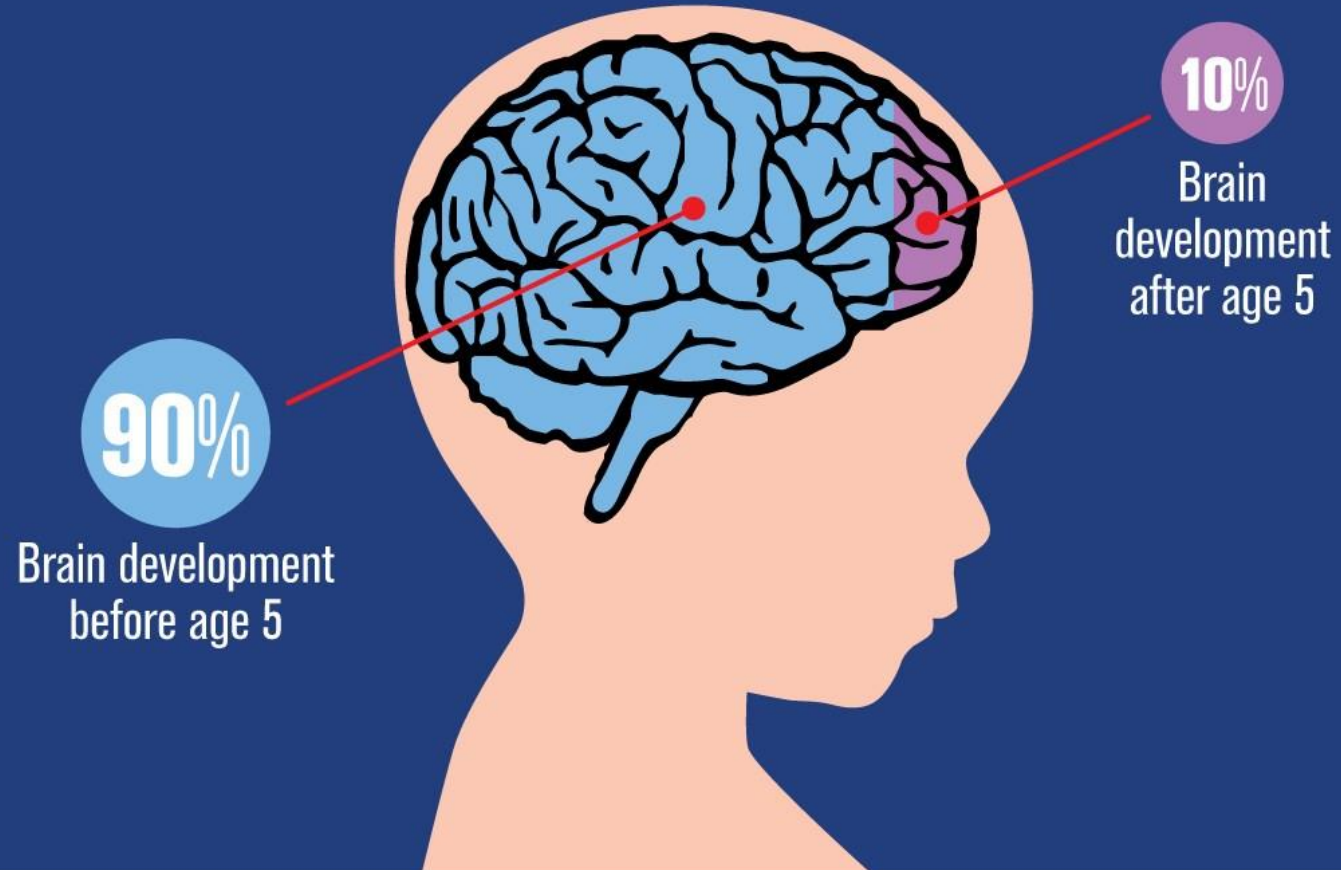
# Building a Strong Foundation

Brain development begins *in the prenatal period* and lays the foundation for

- Healthy development
- Physical health
- Social-emotional health
- School achievement
- Executive functioning



Newborn Brain
Average Weight
333 grams

2 Year Old's Brain
Average Weight
999 grams

# Synapses: Blooming and Pruning

**Human Brain at Birth**
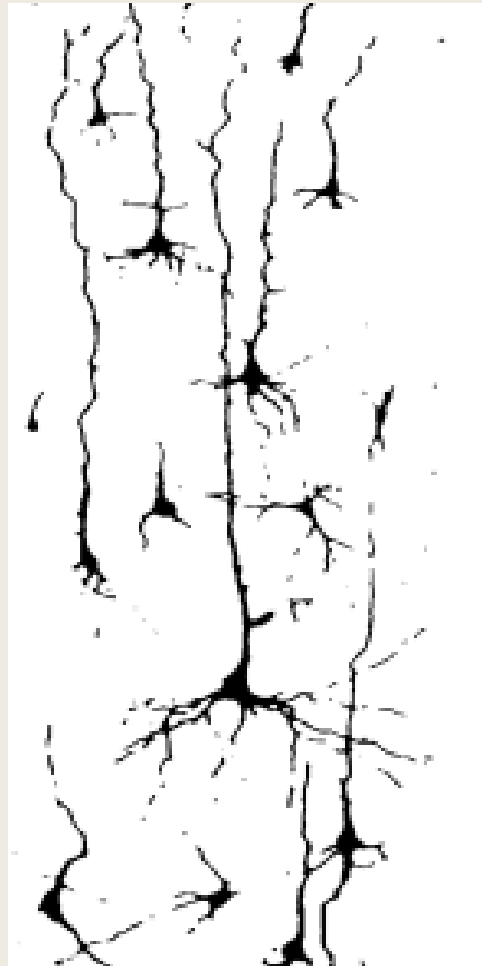
**6 Years Old**

**14 Years Old**

Influences on Early Brain Development

Source: The Center on The Developing Child

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# Early Childhood Development – Key Concepts

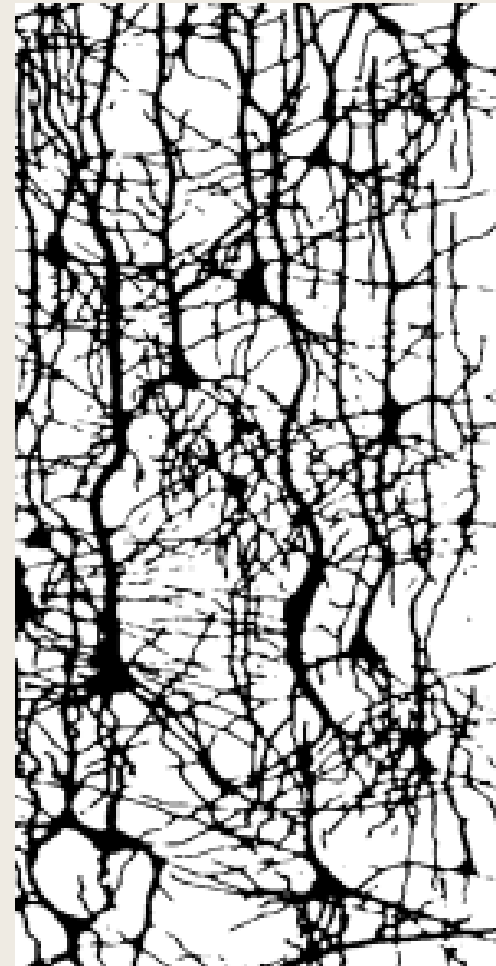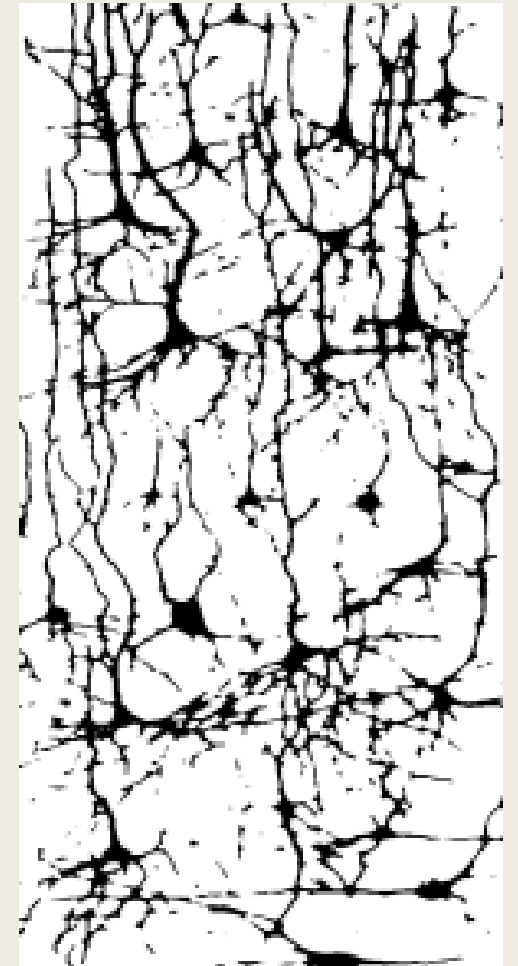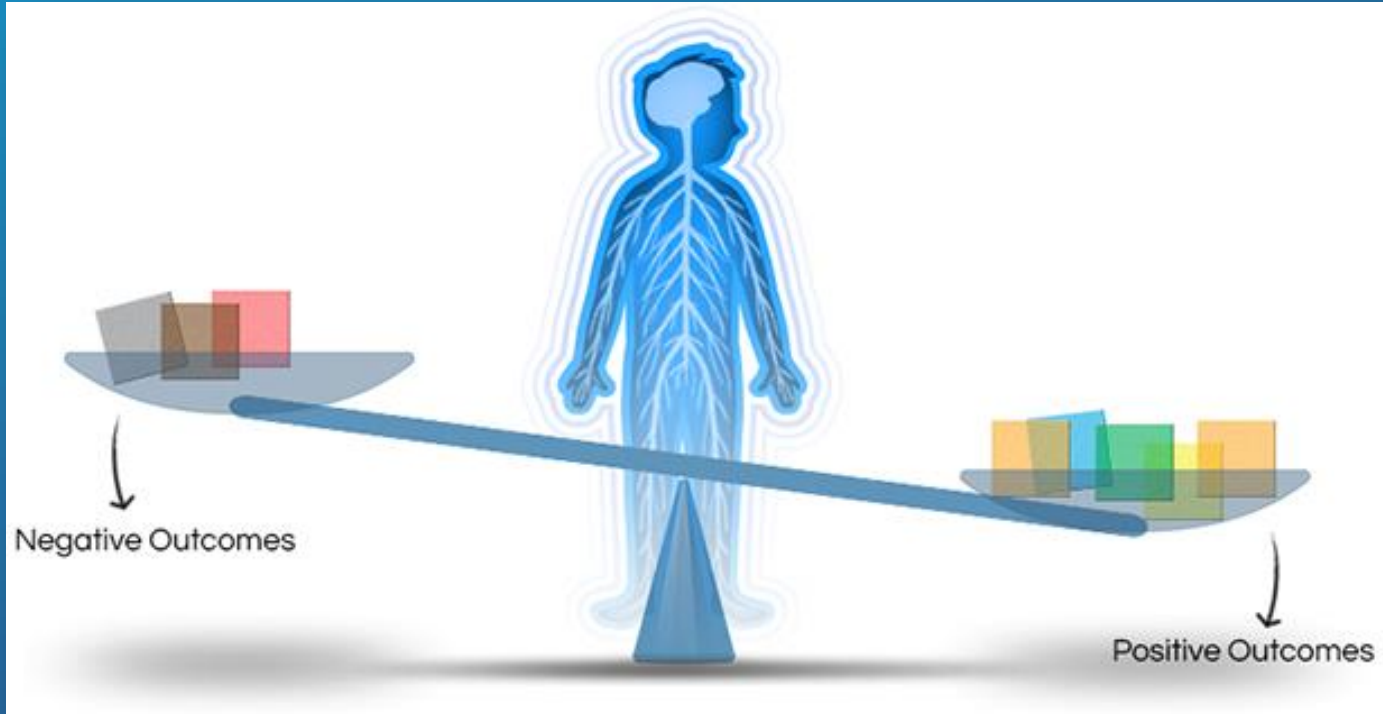- ***Interaction between genes and environment –*** Early experiences shape cognitive, social and emotional development
  - Early, positive, interactive relationships and experiences promote healthy development over a lifetime
  - Persistent and/or toxic stress can damage developing brain architecture and inhibit lifelong healthy development
- ***Effectiveness of intervention –*** Development can be positively affected and impact of adverse experiences reduced
  - Early intervention matters
  - Effective intervention is based in culturally responsive and loving relationships, and multi-generational approaches

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# Early Childhood Development–
# A Conceptual Model

## Healthy Developmental Trajectory

## Significant Adversity and Toxic Stress

Can counter adversity
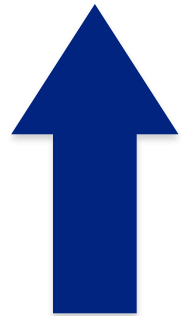
- Supportive Relationships
- Stimulating Experiences
- Health-Promoting Environments
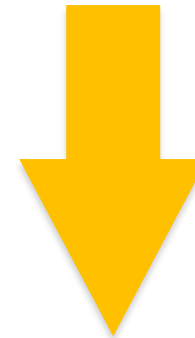
- Impaired Health and Development
- Lifelong impacts

# What is Toxic Stress?

**POSITIVE** — Brief increases in heart rate, mild elevations in stress hormone levels.

**TOLERABLE** — Serious, temporary stress responses, buffered by supportive relationships.

*TOXIC* — Prolonged activation of stress response systems in the absence of protective relationships.

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https://developingchild.harvard.edu/science/key-concepts/toxic-stress/

# What Causes Toxic Stress?
## Adverse Childhood Experiences

### CDC-Kaiser Adverse Childhood Experiences Study

- Abuse
  - Physical
  - Sexual
  - Emotional
- Neglect
  - Physical
  - Emotional
- Household dysfunction
  - Mental illness
  - Domestic Violence
  - Divorce
  - Substance abuse
  - Incarceration

### Subsequent Literature

- Immigration/refugee status
- Neighborhood violence
- Racism
- War and conflict
- Poor housing conditions
- Living in poverty
- Gender discrimination

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# Percentage of children with 2 or more ACEs

**United States**

| | |
|---|---|
| White NH | 19% |
| Black NH | 33% |
| Asian NH | 5% |
| Other NH | 26% |
| Hispanic | 21% |

**Mountain**

| | |
|---|---|
| White NH | 19% |
| Black NH | 46% |
| Asian NH | 7% |
| Other NH | 37% |
| Hispanic | 28% |

**West North Central**

| | |
|---|---|
| White NH | 19% |
| Black NH | 21% |
| Asian NH | 7% |
| Other NH | 39% |
| Hispanic | 27% |

**East North Central**

| | |
|---|---|
| White NH | 19% |
| Black NH | 38% |
| Asian NH | 9% |
| Other NH | 29% |
| Hispanic | 22% |

**New England**

| | |
|---|---|
| White NH | 16% |
| Black NH | 13% |
| Asian NH | 10% |
| Other NH | 20% |
| Hispanic | 30% |

**Mid-Atlantic**

| | |
|---|---|
| White NH | 15% |
| Black NH | 27% |
| Asian NH | 3% |
| Other NH | 22% |
| Hispanic | 20% |

**South Atlantic**

| | |
|---|---|
| White NH | 20% |
| Black NH | 30% |
| Asian NH | 4% |
| Other NH | 25% |
| Hispanic | 24% |

**Pacific**

| | |
|---|---|
| White NH | 16% |
| Black NH | 26% |
| Asian NH | 4% |
| Other NH | 22% |
| Hispanic | 17% |

**West South Central**

| | |
|---|---|
| White NH | 22% |
| Black NH | 48% |
| Asian NH | 6% |
| Other NH | 24% |
| Hispanic | 20% |

**East South Central**

| | |
|---|---|
| White NH | 24% |
| Black NH | 31% |
| Asian NH | 3% |
| Other NH | 33% |
| Hispanic | 20% |

NH=Non-Hispanic

Yellow shading = Percentage is higher than white non-Hispanic children at a statistically significant level.
Blue shading = Percentage is lower than white non-Hispanic children at a statistically significant level.
Red shading = Estimate should be interpreted with caution, because the relative confidence interval is greater than 120 percent. See the "About the data used in this report" section for more information.

# Adverse Childhood Experiences and Children of Color

- Overall, ACEs are more prevalent in Hispanic and Black Non-Hispanic children, as compared to White children
  - There is regional variation in these disparities
- Children experience and/or observe racial discrimination from very early ages, which can cause toxic stress
- Structural racism creates unequal opportunity and access, which compounds risk for ACEs

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www.childtrends.org/publications/prevalence-adverse-childhood-experiences-nationally-state-race-ethnicity

# Impact of Early Toxic Stress
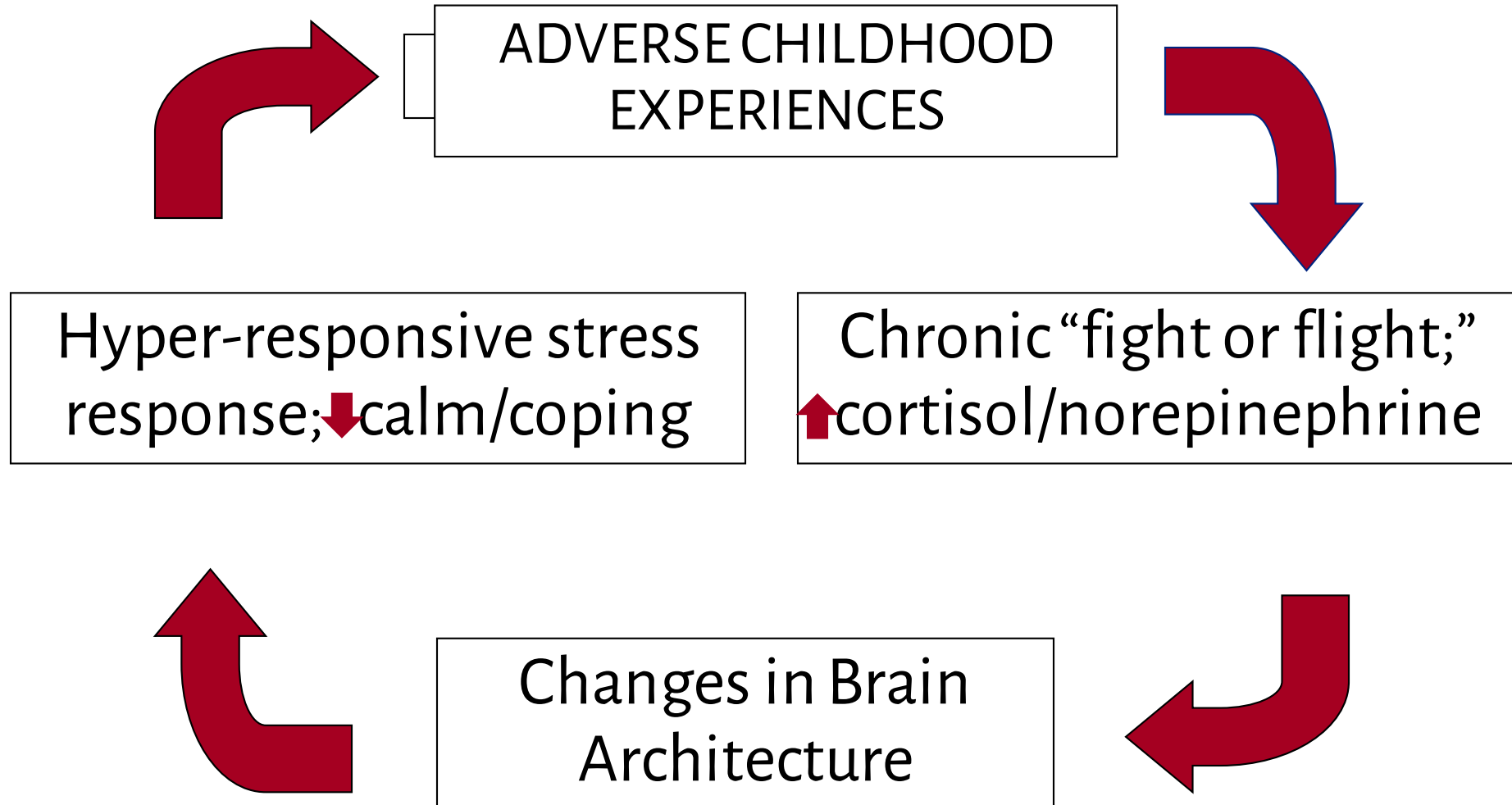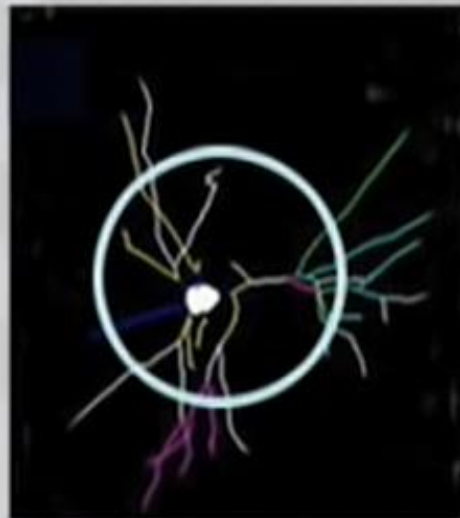
# Toxic Stress Changes Brain Architecture

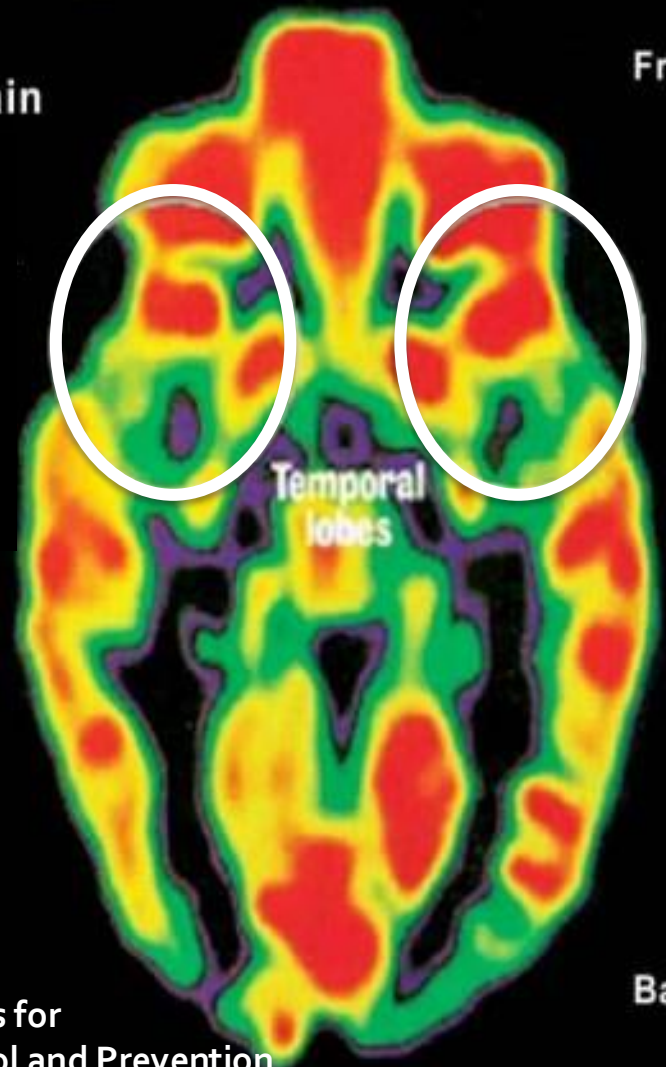Normal — Typical neuron with many connections

Toxic Stress — Neuron damaged by toxic stress -- fewer connections

**Prefrontal Cortex and Hippocampus**

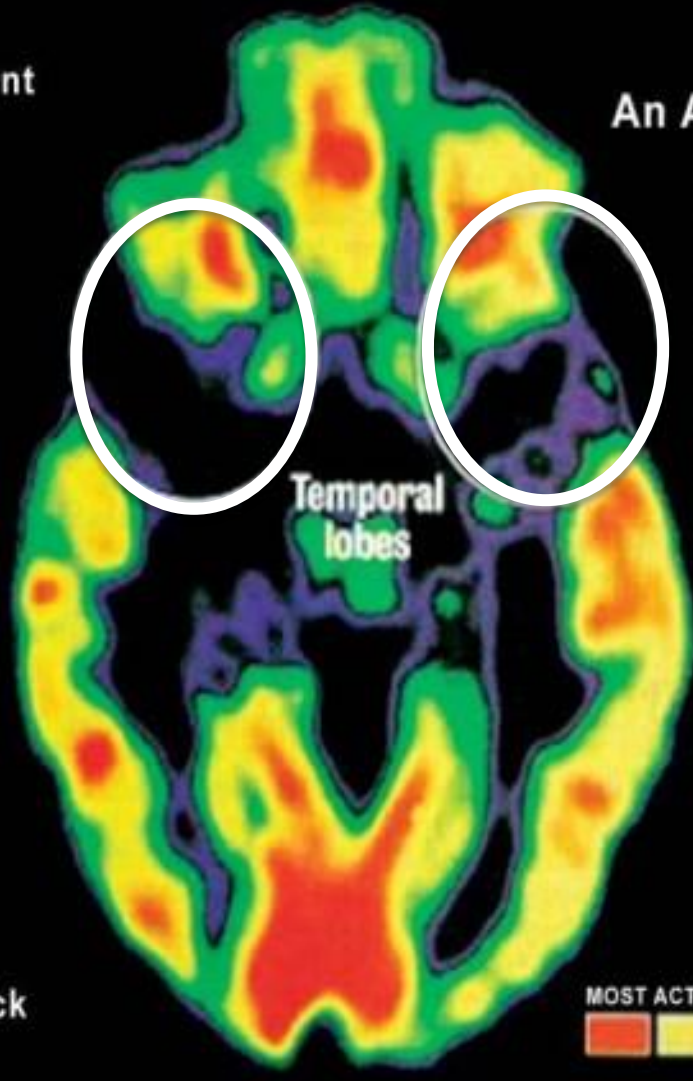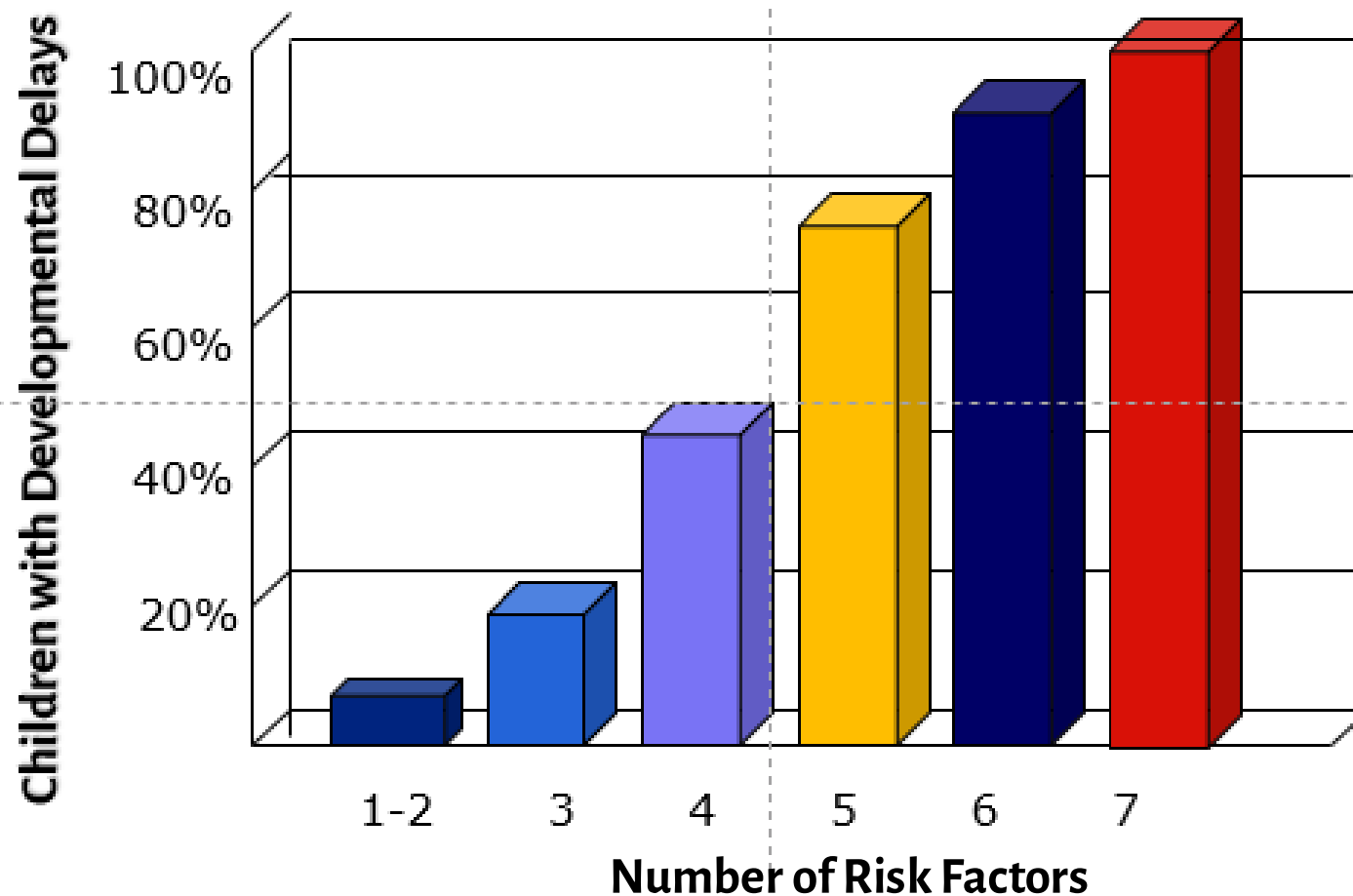Center on the Developing Child, Harvard University

Healthy Brain | Front | An Abused Brain

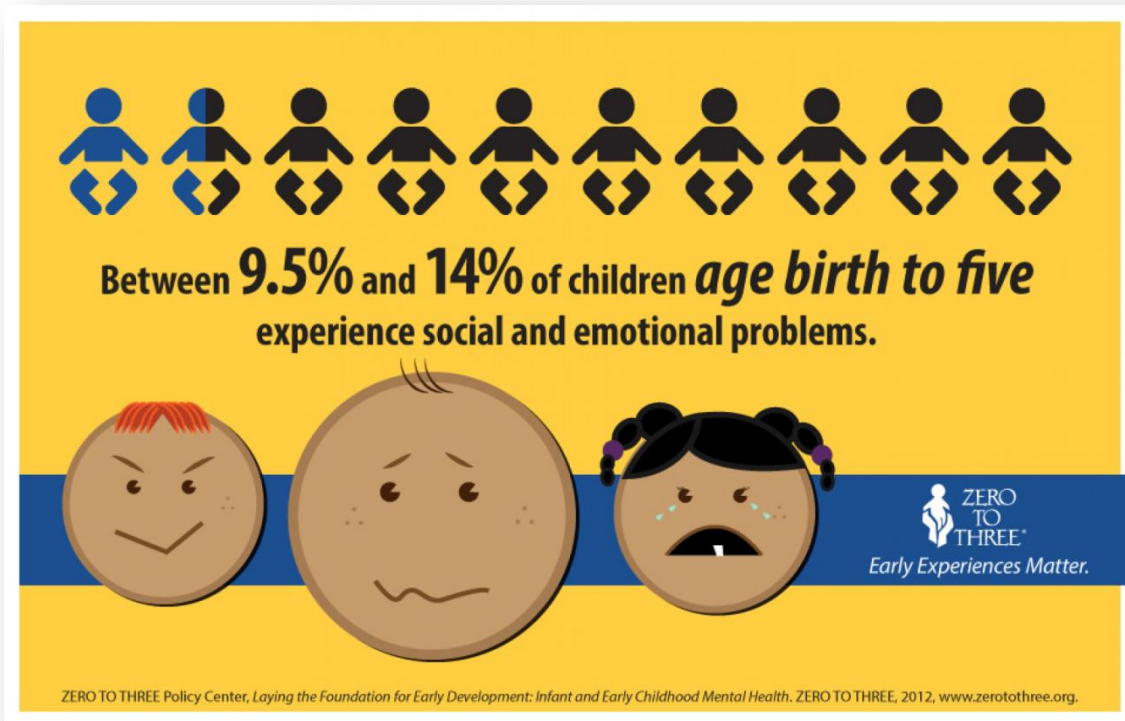Temporal lobes

Back

MOST ACTIVE    LEAST ACTIVE

Credit: Centers for
Disease Control and Prevention

# Significant Adversity Impairs Development in the First Three Years

# Toxic Stress and Early Childhood Mental Health



Between **9.5%** and **14%** of children *age birth to five* experience social and emotional problems.

ZERO TO THREE
*Early Experiences Matter.*

ZERO TO THREE Policy Center, *Laying the Foundation for Early Development: Infant and Early Childhood Mental Health.* ZERO TO THREE, 2012, www.zerotothree.org.

- Increased risks of lasting mental health and behavioral concerns
- Impaired executive functioning
- Familial impacts may affect caregiver attachment and mental health
- Essential to address in the context of family and community systems

# Factors which Predispose Children to Positive Outcomes in the Face of Adversity
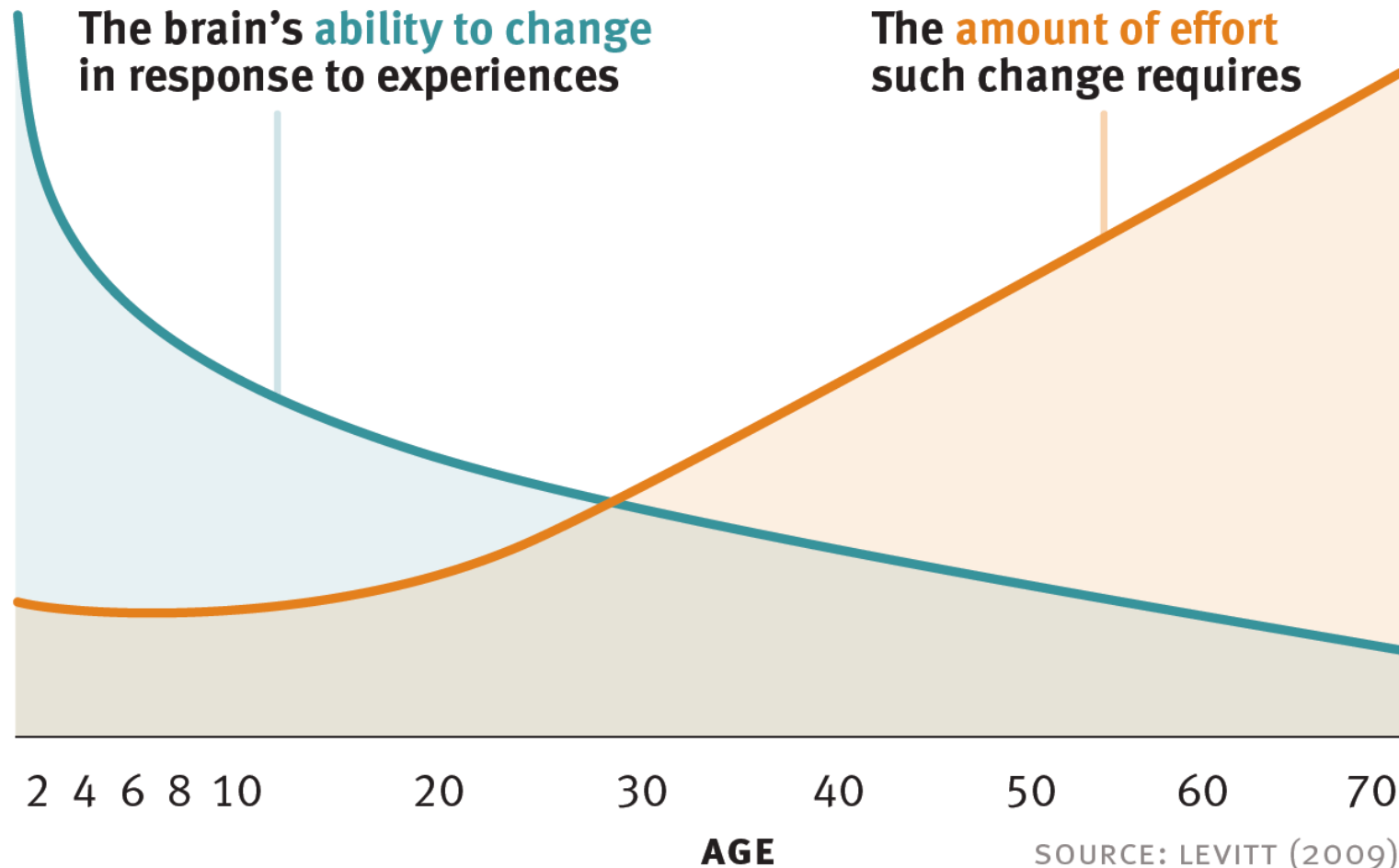
- A sense of self-efficacy and perceived control

- Opportunities to strengthen adaptive skills and self-regulatory capacities

- Ability to mobilize sources of faith, hope, and cultural traditions

- *The single most common factor for children who develop resilience is at least one stable and committed relationship with a supportive parent, caregiver, or other adult*
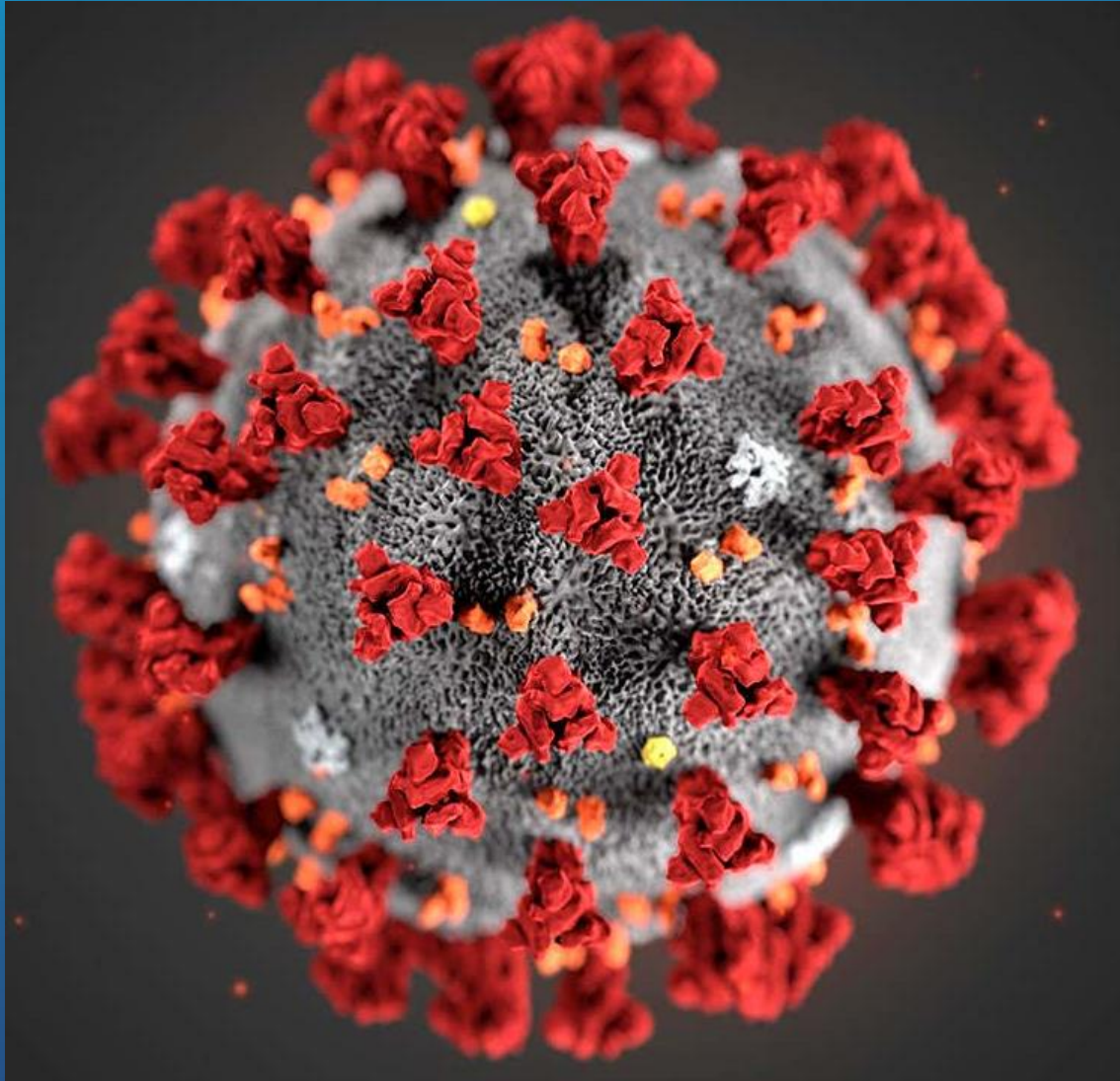
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# **Promotion of Early Relational Health**



#LETSGETAFTERIT

VIDEO OF DAD'S CHAT WITH BABBLING BABY GOES VIRAL

CNN

6:36 PM PT

CUOMO PRIME TIME

- "Serve and Return" –Early and responsive interactions strengthen brain development

- Caring and consistent caregivers

- Promoting stimulating environments

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# The Importance of Early Intervention



The brain's **ability to change** in response to experiences

The **amount of effort** such change requires

AGE

SOURCE: LEVITT (2009)

Center on the Developing Child ⬛ HARVARD UNIVERSITY

www.developingchild.harvard.edu

# Impact of COVID-19 on Early Childhood Mental Health

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# COVID-19 + Existing Environmental Stresses
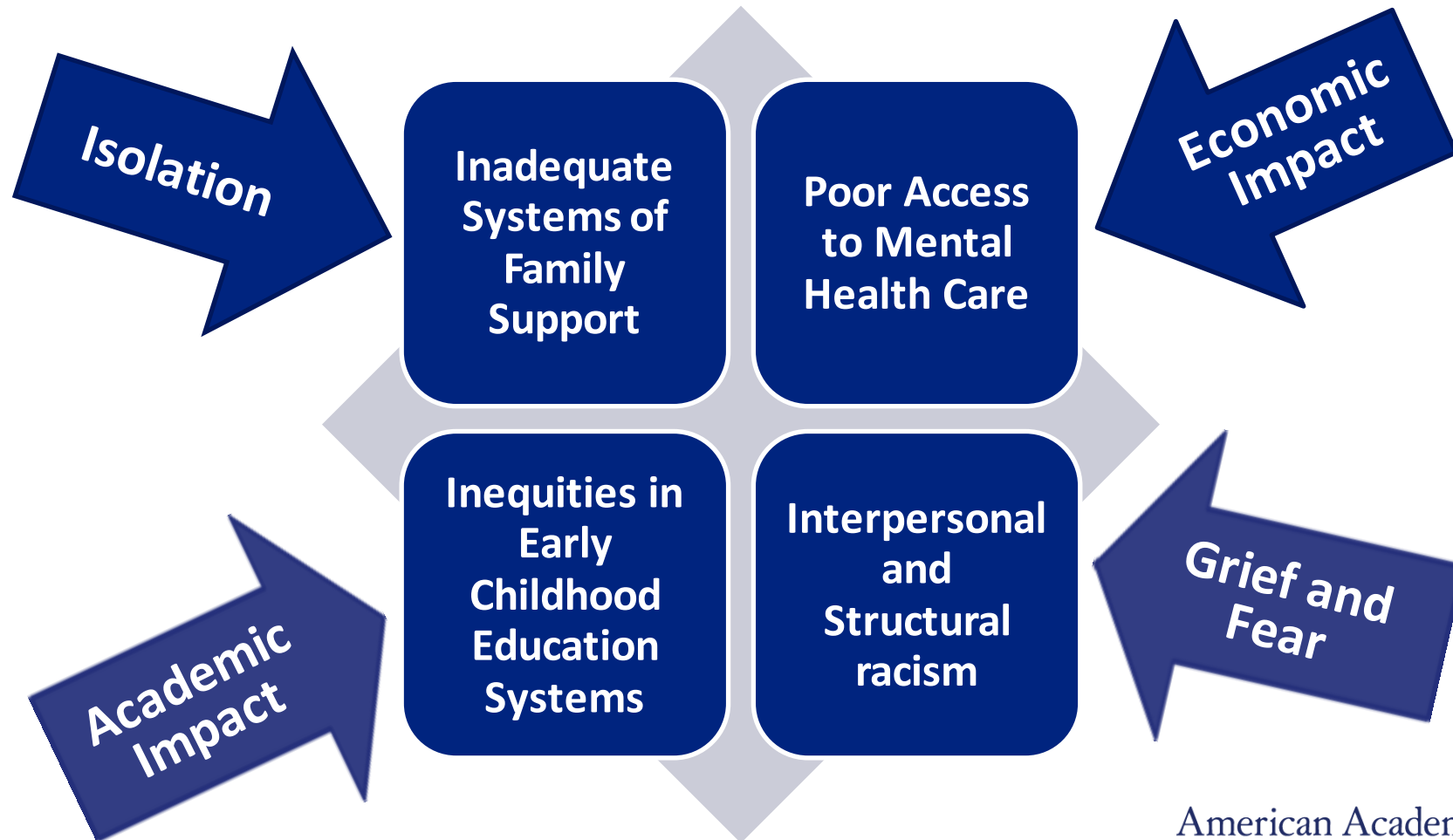
# COVID-19: Impact of Stay-at-home Orders and Social Distancing on Child Mental Health

- Most reviewed studies reported **negative psychological effects** including post-traumatic stress symptoms, confusion and anger.[1]

- **For children** specifically, there may be mental health difficulties due to changes in routines (e.g., school closures), increase in social isolation from peers and other community supports, and emotional challenges (boredom, frustration, anxiety, confusion, disappointment)[2]

- **For adolescents**, "social isolation and loneliness increased the risk of depression, as well as the possibility of anxiety at the time of loneliness. … Young people were as much as 3x more likely to develop depression in the future due to social isolation, with the impact of loneliness on mental health lasting up to 9 years later."[3]

1. *Brooks S, Webster R, Smith L et al. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. The Lancet. 2020;395(10227):912-920. doi:10.1016/s0140-6736(20)30460-8*

2. Lee J. Mental health effects of school closures during COVID-19 [published correction appears in Lancet Child Adolesc Health. 2020 Apr 17]. *Lancet Child Adolesc Health*. 2020;4(6):421. doi:10.1016/S2352-4642(20)30109-7

3. Loades, M., Chatburn, E., Higson-Sweeney, N. et al. Rapid systematic review: the impact of social isolation and loneliness on the mental health of children and adolescents in the context of COVID-19. Journal of the American Academy of Child and Adolescent Psychiatry. 2020;pre-proof. https://doi.org/10.1016/j.jaac.2020.05.009

# COVID-19: Impact of Family Well-Being on Child Mental Health

- In addition to stress from quarantine, family stress may increase from rising unemployment, parents' new role as teachers, lack of childcare, isolation, and other new stressors.[4, 5]

- Adults report high rates of anxiety and depressive symptoms in light of the pandemic, with almost 1 in 3 reporting feelings of anxiety or depression.[6]

- Some models suggest suicide and substance use disorders could rise in adult populations as unemployment increases.[7]

- There is also the potential for rises in domestic violence and child abuse.[8, 9]

4.  Economic Policy Institute. (2020). Black workers face two of the most lethal preexisting conditions for coronavirus - racism and economic inequality.

5.  ZERO TO THREE. (2020). How COVID-19 is impacting babies and families.

6.  Advisory Board. (2020). Map: Covid-19's toll on America's mental health.

7.  Strakowski, S.M., Ghaemi, N., Keller, A.B. (2020). New projections on suicide, substance abuse, and COVID-19 – Medscape

8.  Bettinger-Lopez, C., Bro, A. (2020). A double pandemic: Domestic violence in the age of COVID-19. (Council on Foreign Relations).

9.  Woodall, C. (2020). 'As hospitals see more severe child abuse injuries during coronavirus, 'the worst is yet to come.'' *USA Today*. May 13, 2020.

# COVID-19: Inequitable Impacts

- Race/ethnicity data limited at this time:
  - Not collected, not reported, high missing data
  - New reporting requirements: COVID-19 Pandemic Response, Laboratory Data Reporting: CARES Act Section 18115

- Indicators and case examples show:
  - States with surging cases = higher uninsured rates
  - Systemic disparities: race, ethnicity, immigrants, essential workers

- Latino families likely especially affected and undercounted

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# Racial and ethnic distribution of confirmed child COVID-19 cases and state child population

Data as of 6/26/20
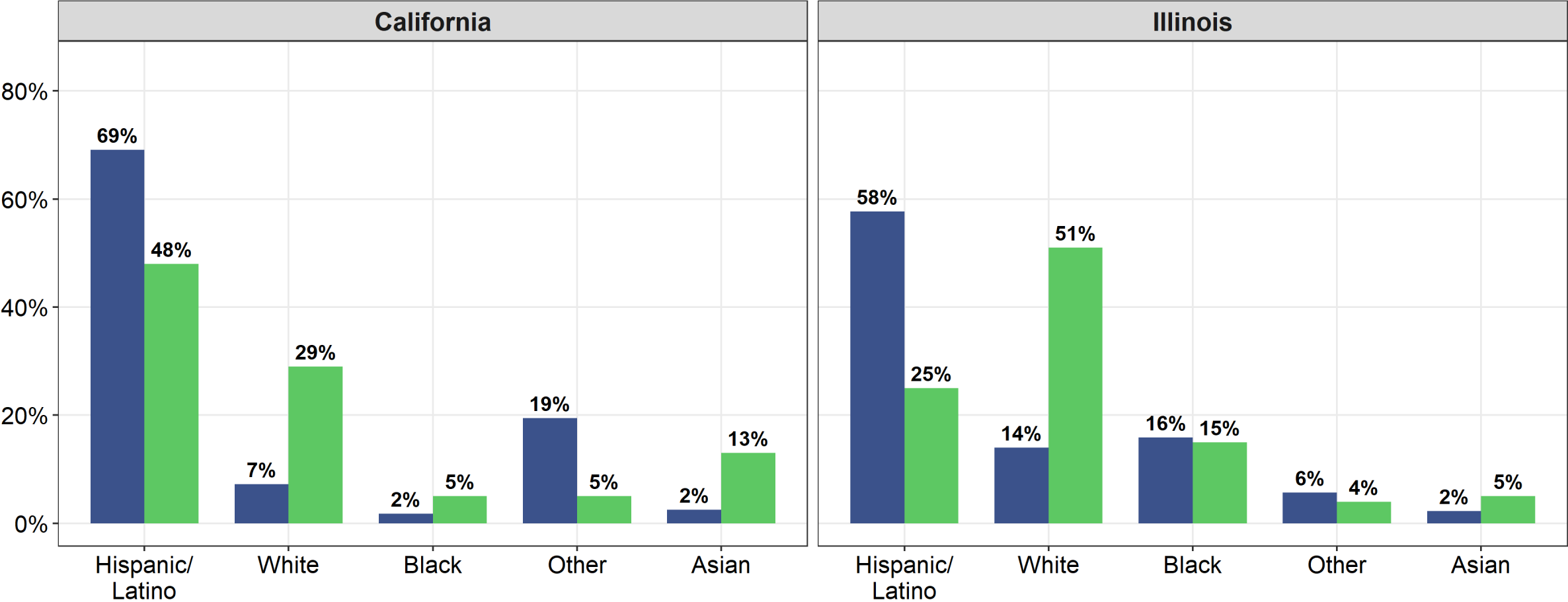


Source: AAP analysis of publicly available data from CA and IL state health departments
Note: Other includes 'other', 'multi-racial', and 'American Indian/Alaskan Native';
IL - 10,104 child cases (26% missing race/ethnicity); CA - 15,499 child cases (32% missing race/ethnicity)

# COVID-19, Racism, and Child & Family Mental Health

- Racism is a core social determinant of health and rooted in structural racism.

- Independent of COVID-19, there is pre-existing need for high-quality, timely resources and evidence-based practices that are culturally responsive.

- COVID-19 has had disproportionate health and economic impacts on historically underserved communities of color, and it is reasonable to expect that mental health impacts will be similar.

- Particular issues may be compounded, such as disparities in healthcare/mental health care access and resources, chronic exposure to trauma, managing grief and loss, and stigma.

Trent, M., Dooley, D.G., & Dougé, J. (2019).  The impact of racism on child and adolescent health. *Pediatrics*,*144*(2):e20191765.  doi:10.1542/peds.2019-1765

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**Early Childhood Systems – Pathways to Health Equity**

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# What is Health Equity?

"Health equity means everyone has a fair and just opportunity to be as healthy as possible. This requires removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care. For the purposes of measurement, health equity means reducing and ultimately eliminating disparities in health and its determinants that adversely affect excluded or marginalized groups."

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# Pathways to Health Equity: Conceptual Model



Structural Inequities and Biases, Socioeconomic and Political Drivers

**Community-Driven Solutions**

Education
Transportation
Social Environment
Housing

Making health equity a shared vision and value

Increasing community capacity to shape outcomes

Healthier, more equitable communities in which individuals and families live, learn, work, and play

Public Safety

Employment

Fostering multi-sector collaboration

Physical Environment

Health Systems & Services

Income & Wealth

**Social Determinants of Health**

- Health equity is *crucial for the well-being and vibrancy* of communities

- Health is a product of *multiple determinants*

- Health inequities are in large part a result of *poverty, structural racism, and discrimination*

- *Communities have agency* to promote health equity

- *Supportive public and private policies* at all levels and programs facilitate community action

- The *collaboration* and engagement of new and diverse (multi-sector) partners is essential to promoting health equity

- *Tools and other resources* exist to translate knowledge into action to promote health equity

Source: The National Academies Press, *Communities in Action: Pathways to Health Equity* (2017)
nap.edu/resource/24624/CoHConceptual-Model.pdf

# Early Childhood Is Critical to Health Equity

- Conditions in early childhood shape health throughout life
  - Poverty limits where a family can live, alters their living conditions and contributes to chronic stress
  - Structural and interpersonal racism, regardless of income level deny families equitable access to healthy living conditions and can contribute to chronic stress
- Damage to development sustained in early childhood can have lifelong health consequences
- Reducing poverty and strengthening supports and services for families will not be sufficient without committed efforts to end structural racism in partnership with families and communities

Source: Braveman P, Acker J, Arkin E, Bussel J, Wehr K, and Proctor D. *Early Childhood Is Critical to Health Equity*. Princeton, NJ: Robert Wood Johnson Foundation, 2018.

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# Two-Generation Approach



The Two-Generation Continuum

child-focused

child-focused with parent elements
e.g. early childhood development, parenting skills, family literacy, and health screenings

whole family

parent-focused with child elements
e.g. child care and workforce programs, food and nutrition, and supports for student parents

parent-focused

ASCEND
THE ASPEN INSTITUTE

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What is 2GEN? Ascend: The Aspen Institute Website. http://ascend.aspeninstitute.org/two-generation/what-is-2gen/

# Five Key Components of the Two-Generation Approach



**social capital**
peer and family networks, coaching, and cohort strategies

**early childhood development**
Head Start, Early Head Start child care partnerships, preK, and home visiting

**postsecondary & employment pathways**
community college, training and certification, workforce partnerships

**health & well-being**
mental, physical, and behavioral health, coverage and access to care, adverse childhood experiences, toxic stress

**economic assets**
asset building, housing and public supports, financial capacity, transportation

ASCEND
THE ASPEN INSTITUTE

Source: What is 2GEN? Ascend: The Aspen Institute Website

# Supporting Positive Early Childhood Experiences

- Build *relational capacity* in adults
  - Parents and other caregivers in the home
  - Providers (e.g. health and education)
  - Adults in the community
- Identify and address *social influences on health* in order to decrease stress and adversity
  - Impacts of racism on child health
  - Multi-disciplinary collaboration
- Advocate for and implement *supportive policies*
  - Apply a racial equity lens (e.g. www.racialequityalliance.org/tools-resources)
  - Community leadership

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# Opportunities to Address the Impacts of Racism in Early Childhood

- Use strategies such as the Raising Resisters approach during anticipatory guidance to provide support for youth and families

- Integrate positive youth development approaches, including racial socialization, to identify strengths and assess families for protective factors that can help mitigate exposure to racist behaviors

- Infuse cultural diversity into early literacy–promotion programs to ensure that there is a representation of authors, images, and stories that reflect the cultural diversity of children served in pediatric practice

- Advocate for policies which address systemic and interpersonal racism

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Trent, M., Dooley, D.G., & Dougé, J. (2019). The impact of racism on child and adolescent health. *Pediatrics,144*(2):e20191765

# Actions to Promote Equitable Outcomes in Early Childhood Brain Development

- Strengthen comprehensive, family-centered supports

- Parent/caregiver training and support

- Collaboration between health and early-care and education programs

- Committed efforts to end structural racism

- More detailed and differentiated evaluation strategies
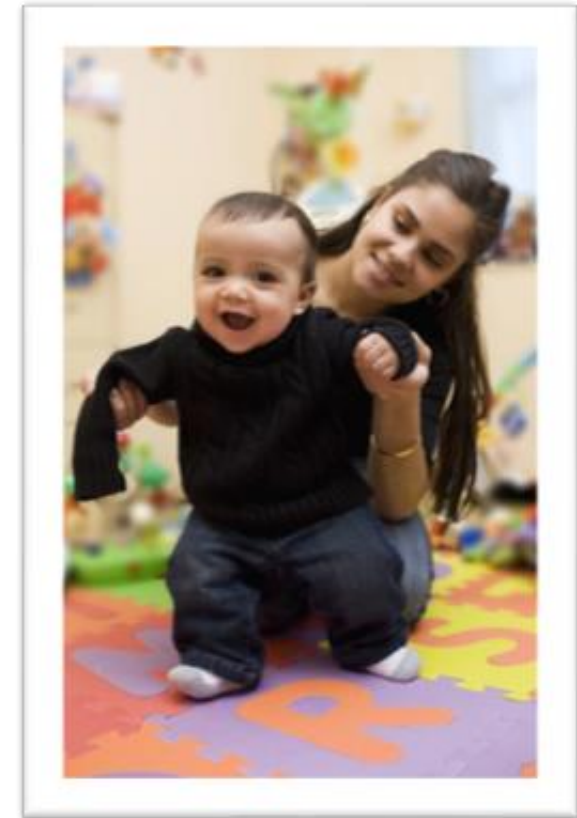


Source: Braveman P, Acker J, Arkin E, Bussel J, Wehr K, and Proctor D. *Early Childhood Is Critical to Health Equity*. Princeton, NJ: Robert Wood Johnson Foundation, 2018.

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# Promising Practices

- Home-visiting programs
- Center-based early-care and education programs
- Initiatives to strengthen systems of care and education
- Integrated programming and supports in pediatric medical care sites
- Economic policies and programs



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Source:  Braveman P, Acker J, Arkin E, Bussel J, Wehr K, and Proctor D. *Early Childhood Is Critical to Health Equity*. Princeton, NJ: Robert Wood Johnson Foundation, 2018.

The Early Childhood Innovation Network (ECIN) is a local collaborative of health and education providers, community-based organizations, researchers, and advocates promoting resilience in families and children from pregnancy through age 5 in Washington, DC
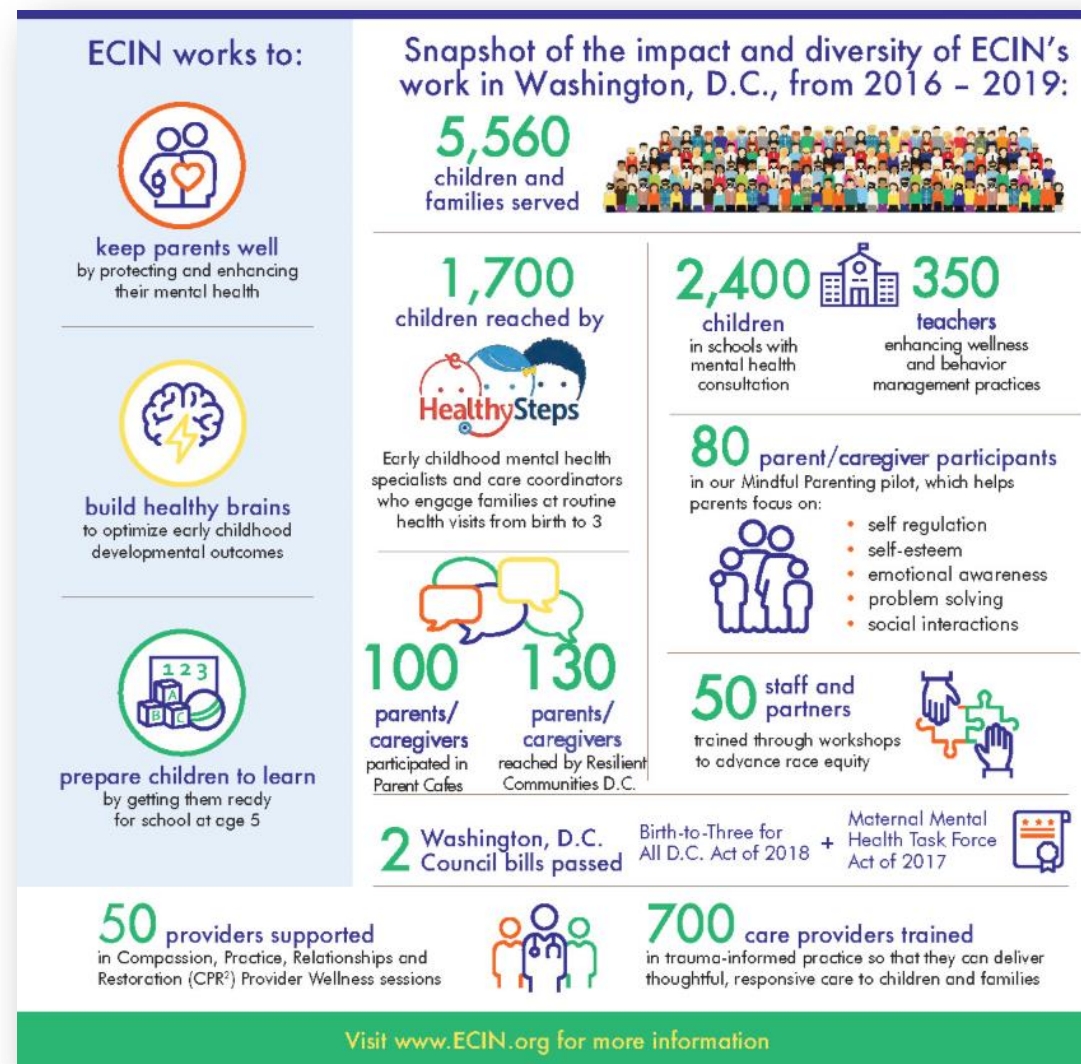
# Early Childhood Innovation Network

**Shared Vision and Value**
- Early involvement of community leaders
- Aspire to a model of co-creation in all activities (innovations, policy/advocacy and capacity-building)

**Increasing Community Capacity**
- Sustainable integration with existing resources
- Workforce development and training internally and externally

**Fostering Multi-Sector Collaboration**
- Multi-disciplinary teams and partnerships
- Ongoing, systemic efforts to become an anti-racist network

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Source: US Department of Health and Human Services
Agency for Toxic Substances and Disease Registry

atsdr.cdc.gov/communityengagement/pce

# ECIN: Innovations and Partnerships



HealthySteps DC embeds an early childhood mental health specialist and family support worker within the primary care clinic to engage with families at each routine pediatric visit from birth to three years of age. ECIN's HealthySteps DC model provides caregivers with behavioral health intervention sessions and full-time case management support.
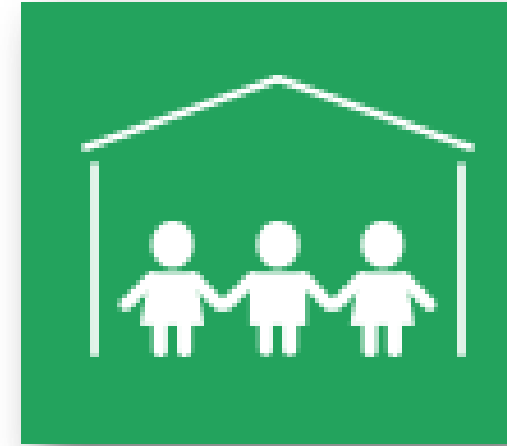


Innovations in partnership with Early Care and Education Centers include:

- Early Childhood Mental Health Consultation
- Mindful Parenting Workshops
- Family WellBeing Program, which embeds parental mental health care and peer support into an ECE setting

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# ECIN: Education, Implementation and Policy

"…..educational attainment is important to achieving better health outcomes, and health is key to better educational outcomes..."

Source: Chiang R, Meagher W, Slade S. How the Whole School, Whole Community, Whole Child Model Works: Creating Greater Alignment, Integration and Collaboration Between Health and Education. School Health. 2015

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# Strategies to Promote Collaboration Between Health and Early Care and Education



WHOLE SCHOOL, WHOLE COMMUNITY, WHOLE CHILD
A collaborative approach to learning and health

- Identify shared vision and value

- Establish common language

- Promote opportunities for relationship development

- Leverage respective resources and expertise

- Regular communication

- Infrastructure support

www.cdc.gov/healthyschools/wscc

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# Aligning for Impact



- Early childhood is a critical time for brain development and promotion of social-emotional health

- The buffering of toxic stress and promotion of supportive and stimulating early experiences can positively impact brain development and long-term outcomes

- Health and early childcare and education professionals can collaboratively impact early childhood systems and outcomes

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# Questions??

*lbeers@childrensnational.org*