



Center on the Developing Child
HARVARD UNIVERSITY

Leveraging the Frontiers of Research in Developmental Biology To Better Understand the Early Origins of Lifelong Health

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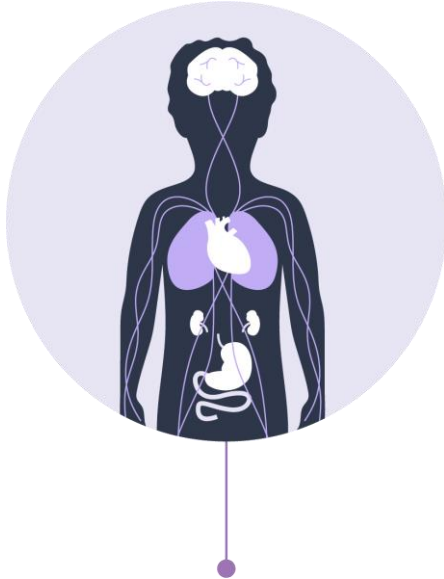
Workshop: How Nutrition and Health Change Over a Person's Life Course
NASEM Standing Committee on Evidence Synthesis and Communications in Diet and
Chronic Disease Relationships
November 16, 2022

Find Us: Center on the Developing Child at Harvard



Rapidly moving advances in the biology of adversity and resilience are deepening our understanding of the early foundations of learning, behavior, and health.

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Interactive development of multiple biological systems

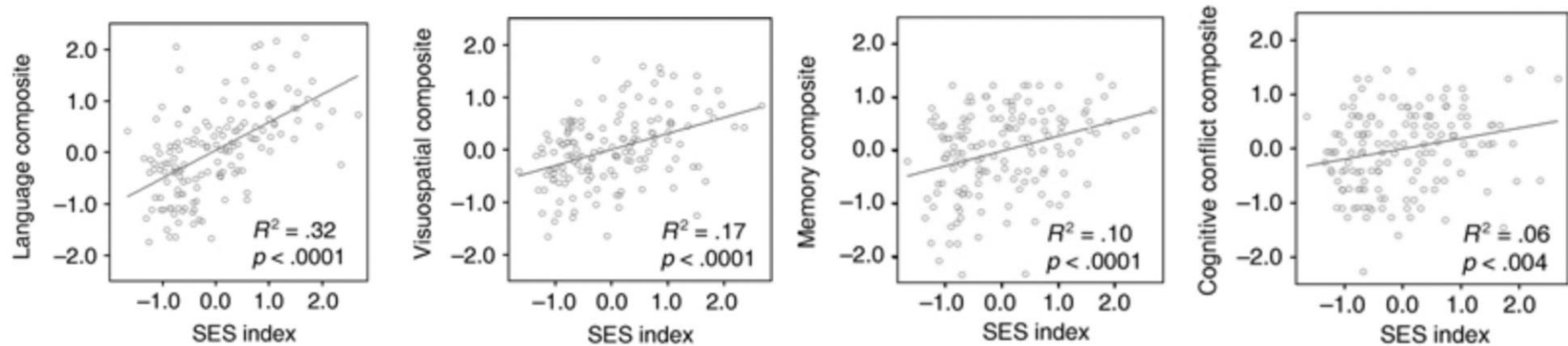


Variation in sensitivity to the environment



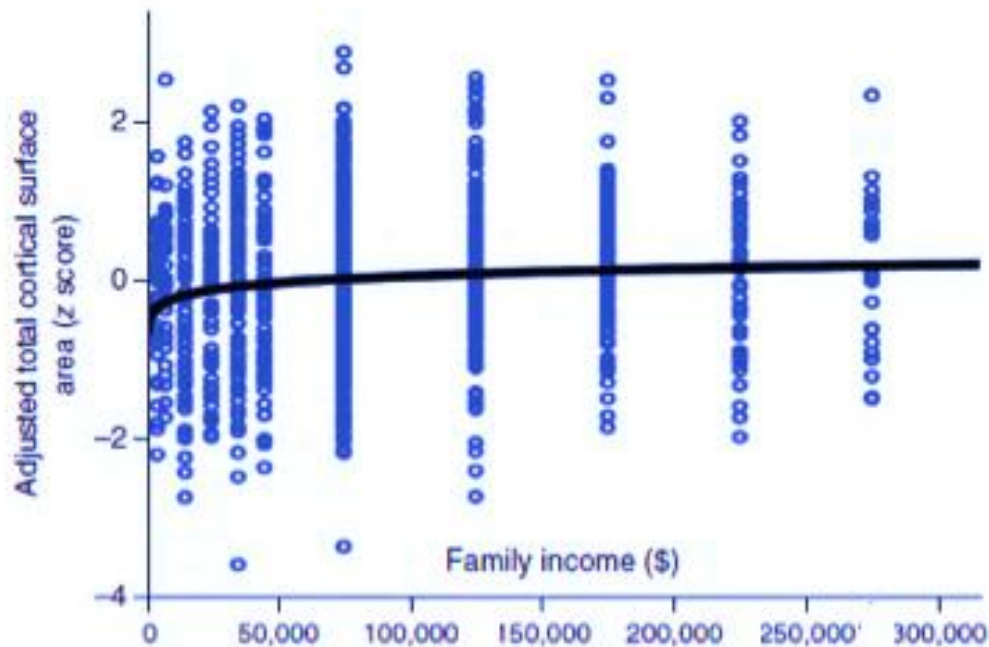
Timing and critical periods

Heterogeneity in Sensitivity to Context Calls for Rethinking the Meaning of SES Gradients and Mean Effects



Source: Noble et al. (2007)

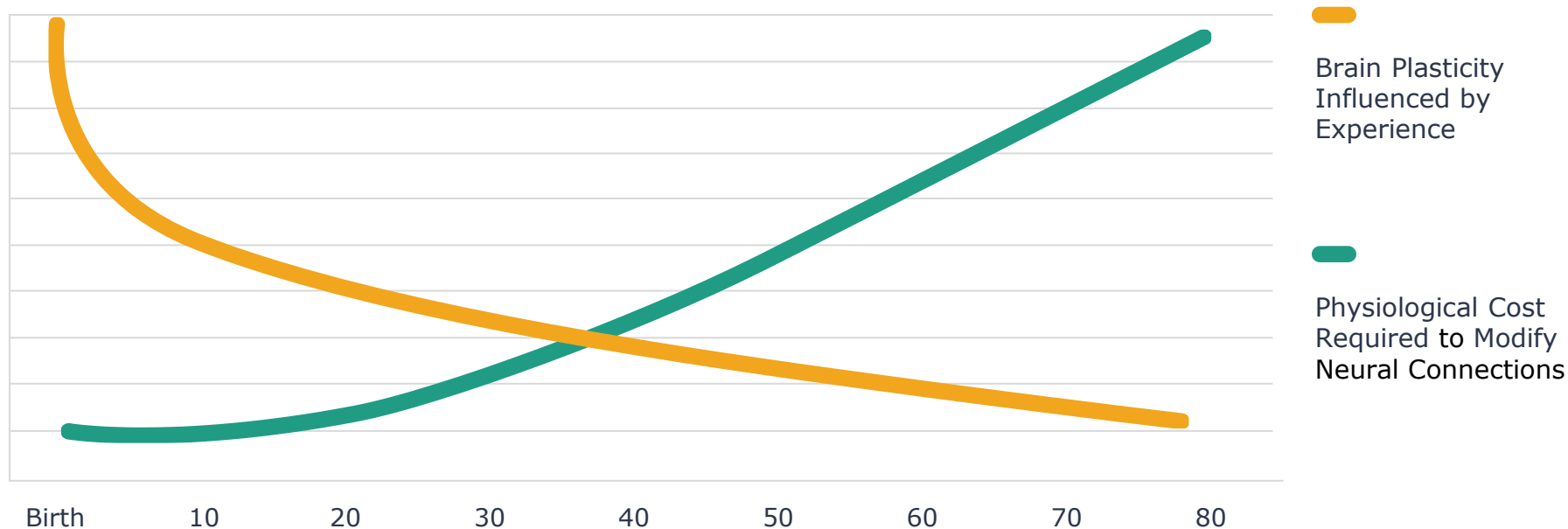
Addressing SES Gradients Becomes Even More Challenging When We Introduce Biological Metrics



Source: Noble et al., (2015)

Science-Informed Early Childhood Policy

begins by understanding why early experiences are so important for the developing brain.



Source: Levitt (2009)

The time is ripe for a **mindset shift in
science-informed policy and practice.**

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ECD 1.0

**Early brain development
in an environment of
relationships**



ECD 2.0

**Connecting the brain to
the rest of the body in a
broader ecosystem**

Leveraging ECD 2.0 to Re-Envision a Bold Early Childhood Agenda in a World of Persistent Inequality and Striking Uncertainty

New Science + More Diverse Voices = **Greater Impact**

Leveraging ECD 2.0 to Re-Envision a Bold Early Childhood Agenda in a World of Striking Inequality and Uncertainty

ECD 1.0

IT'S STILL ABOUT

Readiness to succeed
in school



ECD 2.0

AND IT'S ALSO ABOUT

The early foundations of
lifelong physical and
mental health

Leveraging ECD 2.0 to Re-Envision a Bold Early Childhood Agenda in a World of Striking Inequality and Uncertainty

ECD 1.0

IT'S STILL ABOUT

Providing enrichment for young minds



ECD 2.0

AND IT'S ALSO ABOUT

Protecting developing brains and bodies from the biological disruptions of adversity **and** tailoring responses to meet a range of child and family needs

Leveraging ECD 2.0 to Re-Envision a Bold Early Childhood Agenda in a World of Growing Inequality and Uncertainty

ECD 1.0

IT'S STILL ABOUT
Caregiver-child
relationships



ECD 2.0

AND IT'S ALSO ABOUT
Communities, business,
philanthropy, and government
working together to assure a
supportive and healthy
environment for **all** families
raising young children

Where children live presents assets and threats

that affect their
health and
development

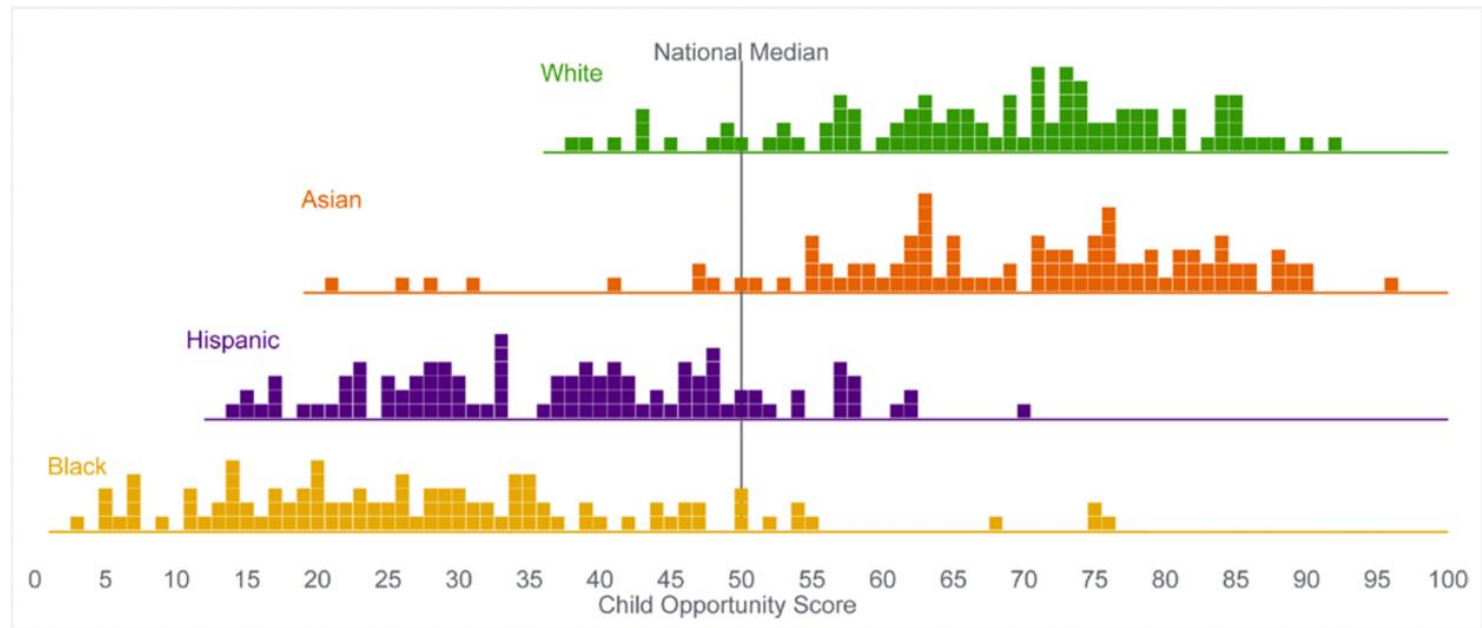
Child Opportunity Index (100 Largest U.S. Metro Areas; 72,000 census tracts)

- High quality childcare
- Education proficiency
- Education resources
- Access to healthy food
- Green space
- Housing vacancy rate
- Toxic waste proximity
- Air pollution
- Extreme heat
- Health resources
- Economic opportunities
- Home ownership
- Median income
- Commuting time

Source: Acevedo-Garcia et. al. (2014)

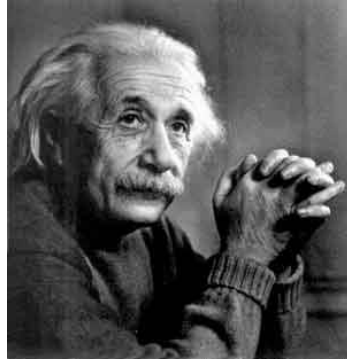
Residential Segregation Leads to Wide Disparities

in opportunities and adversities across neighborhoods



diversitydatakids.org

Albert Einstein Identified the Challenge



“The significant problems we face cannot be solved at the same level of thinking we were at when we created them.”