

Early Childhood Development and the Foundations of Prosperity

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Center on the Developing Child  HARVARD UNIVERSITY

NATIONAL SCIENTIFIC COUNCIL ON THE DEVELOPING CHILD

NATIONAL FORUM ON EARLY CHILDHOOD POLICY AND PROGRAMS

The Importance of Early Childhood

The healthy development of all young children benefits all of society by providing a solid foundation for economic productivity, responsible citizenship, strong communities, and a secure nation.

Building an Integrated Science of Early Childhood Development to Inform Policy

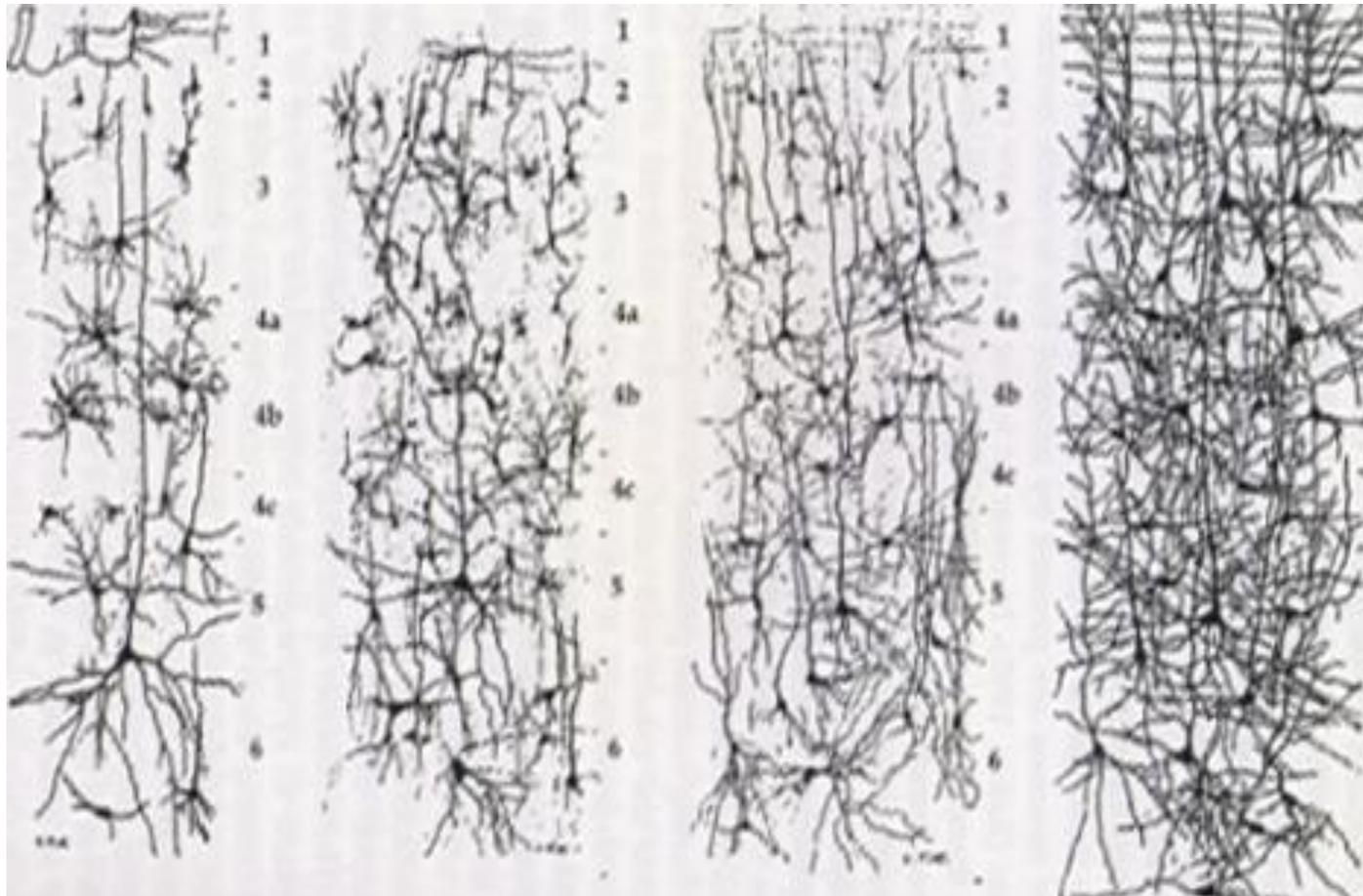
Integration of findings from neuroscience, developmental psychology, molecular biology, economics, and evaluation research to bridge the gap between what we know and what we do.

Core Concepts of Development

Brains are built over time, neural circuits are wired in a bottom-up sequence, and the capacity for change decreases with age.

The interaction of genes and experience shapes the architecture of the developing brain, and a primary active agent is the “serve and return” nature of children’s relationships with the important adults in their lives.

Brain Growth in the Early Months



newborn

1 month

3 months

6 months

Early Childhood Adversity Can Influence a Range of Lifelong Outcomes

Research on the biology of stress response helps explain some of the underlying reasons for differences in learning, behavior, and physical and mental health.

Three Levels of Stress Response

Positive

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

Tolerable

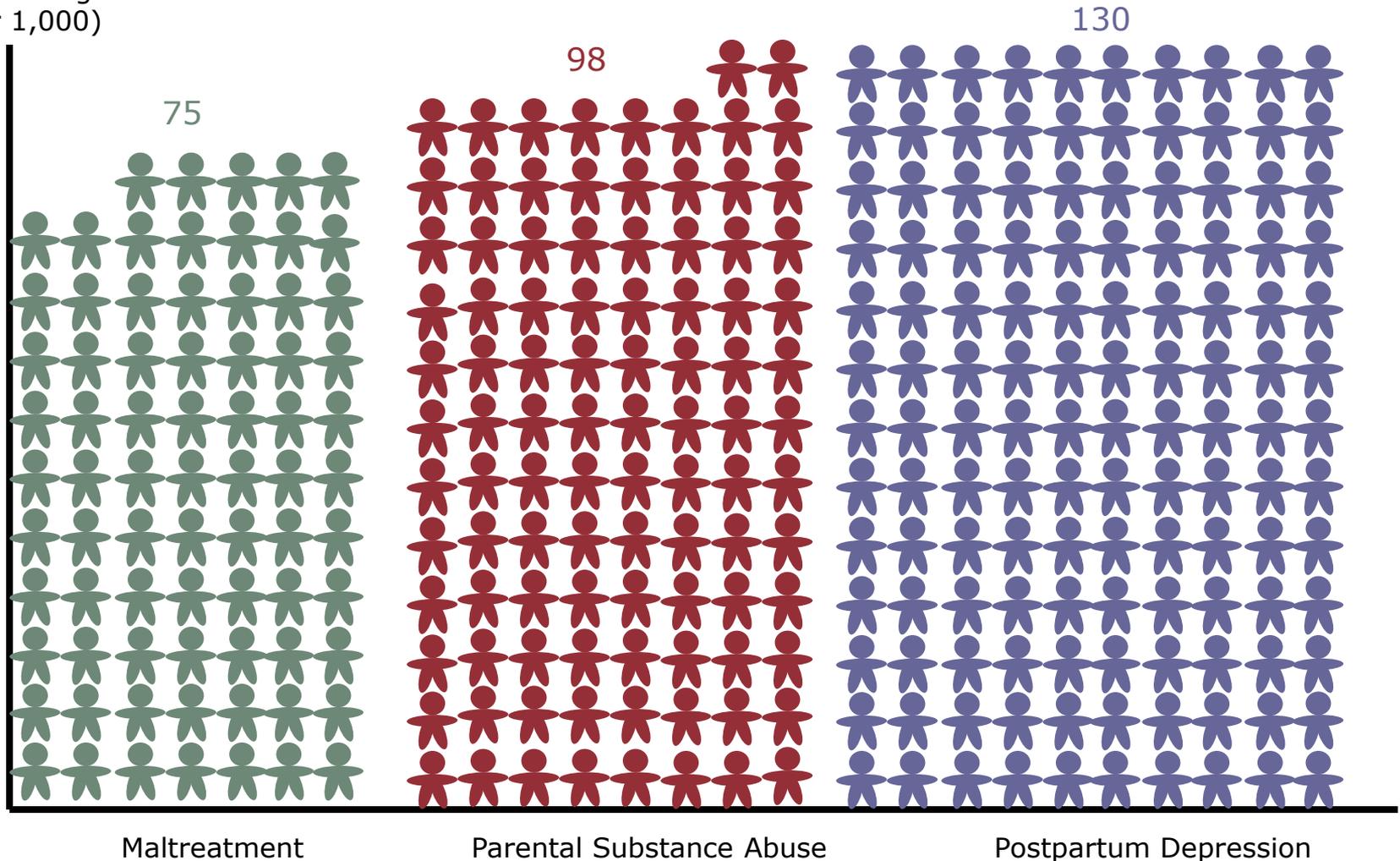
Serious, temporary stress responses,
buffered by supportive relationships.

Toxic

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

Sources of Toxic Stress in Young Children

U.S. Children Ages 2-5
(per 1,000)

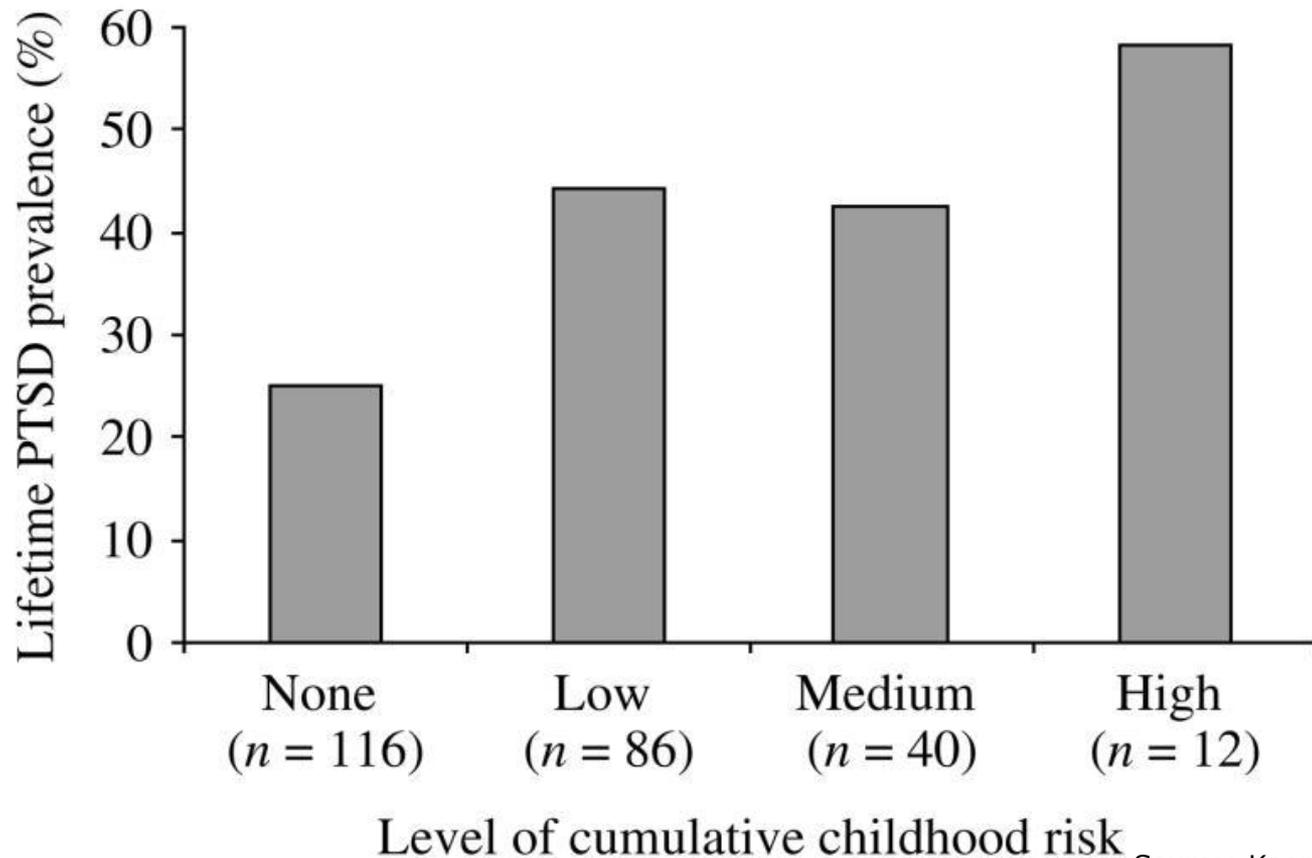


Source: Finkelhor et al. (2005)

Source: SAMHSA (2002)

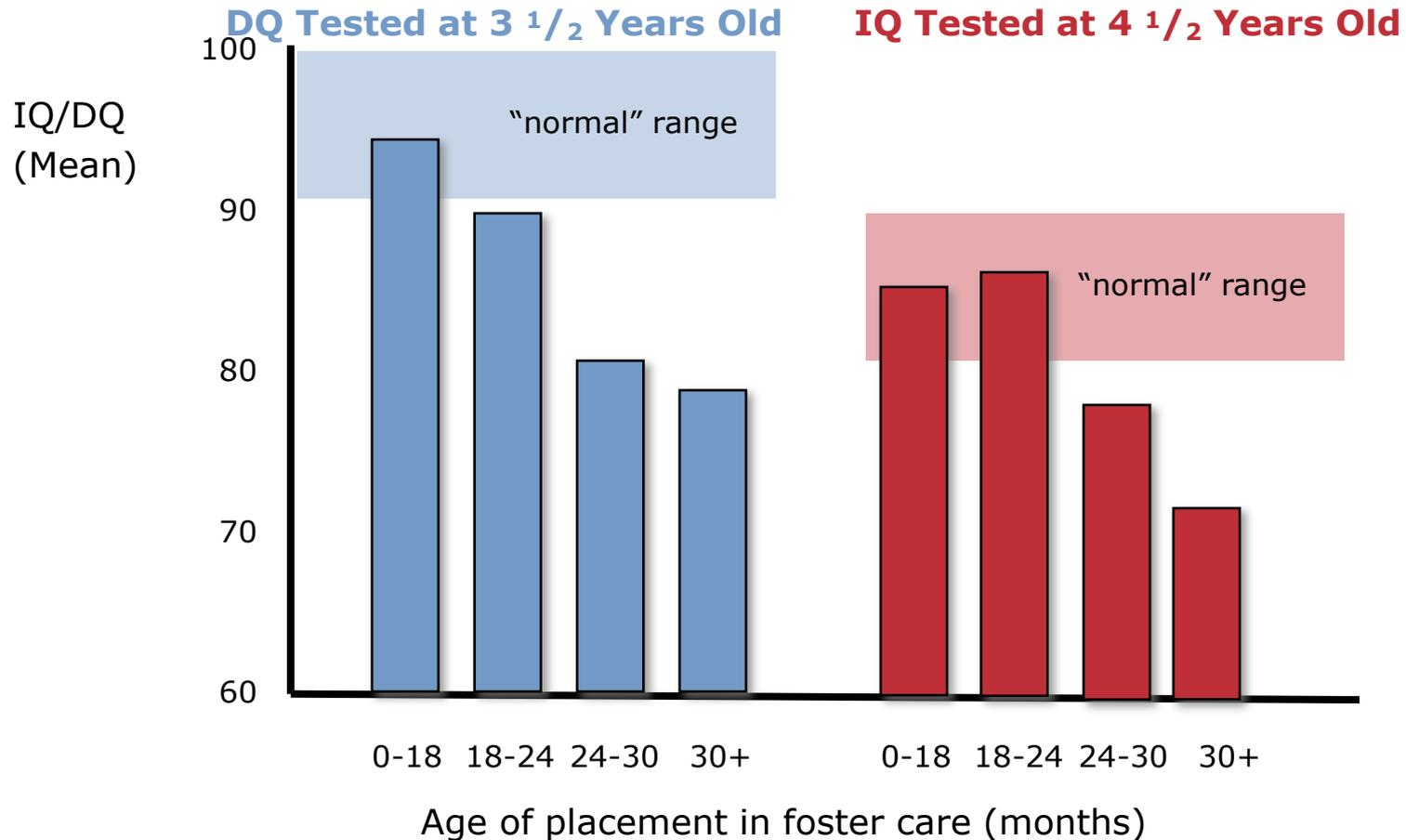
Source: O-Hara & Swain (1996)

Childhood Adverse Experiences Double the Risk for Adult PTSD: The 40-Year Dunedin Longitudinal Study

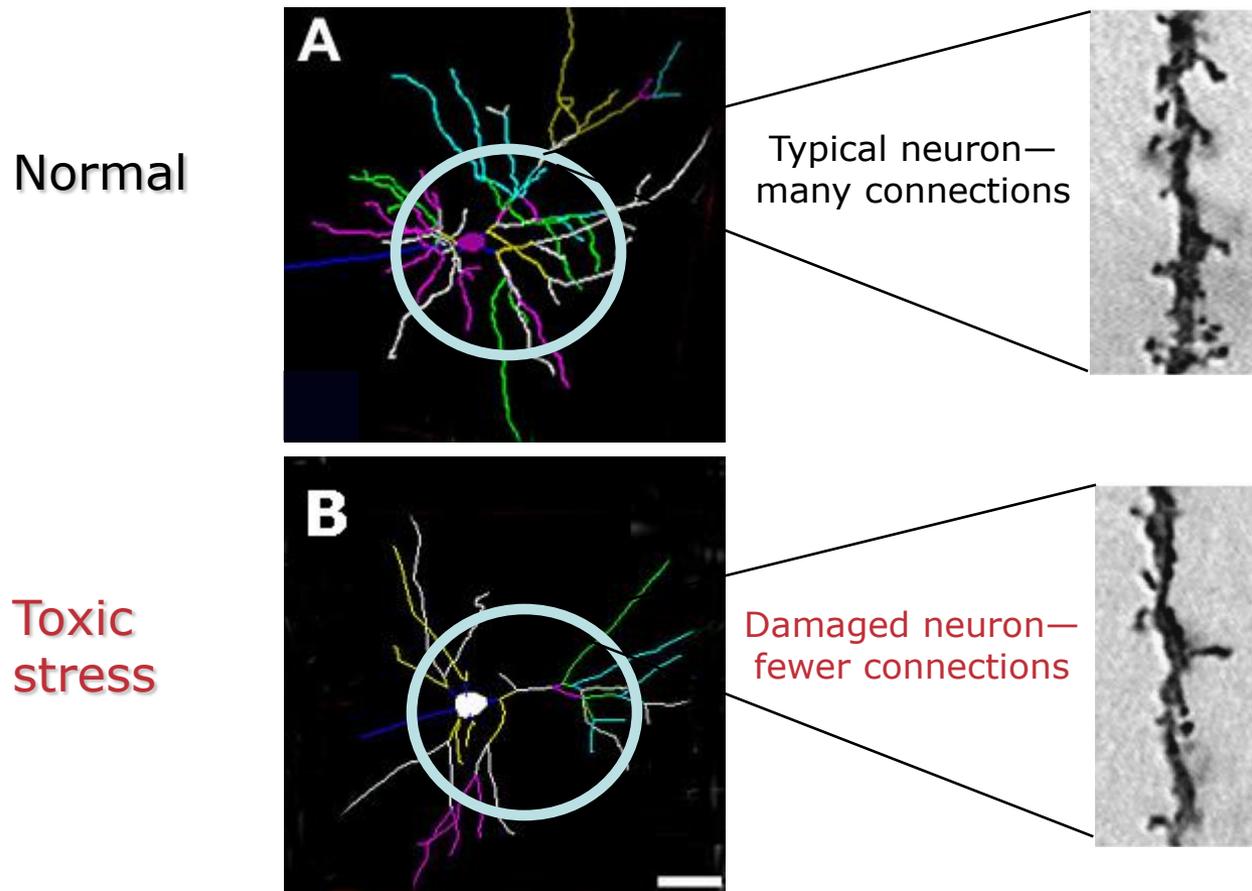


The Urgency of Early Enriched Environments in Cases of Extreme Adversity

Bucharest Orphanage Study

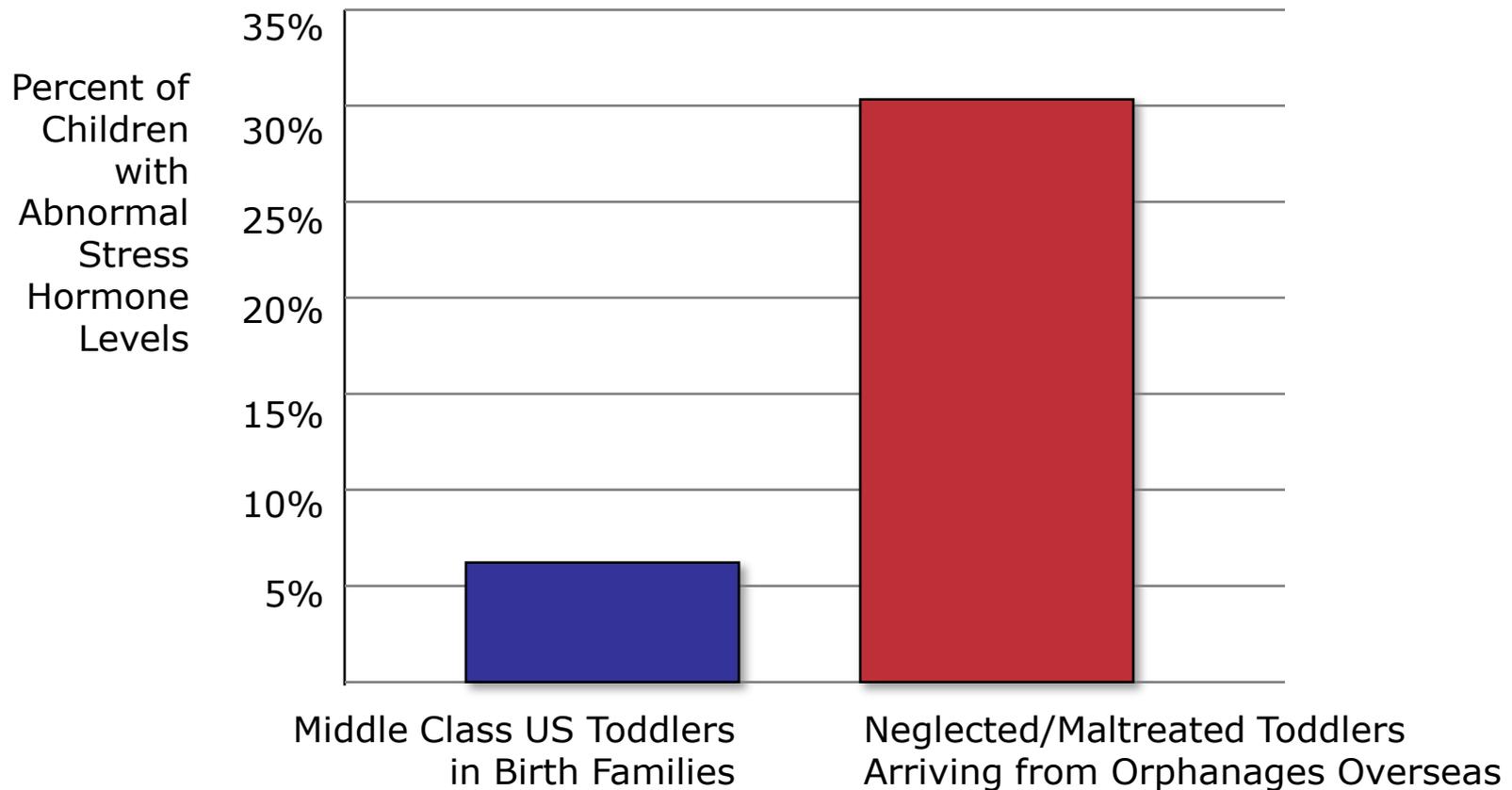


Toxic Stress Changes Brain Architecture



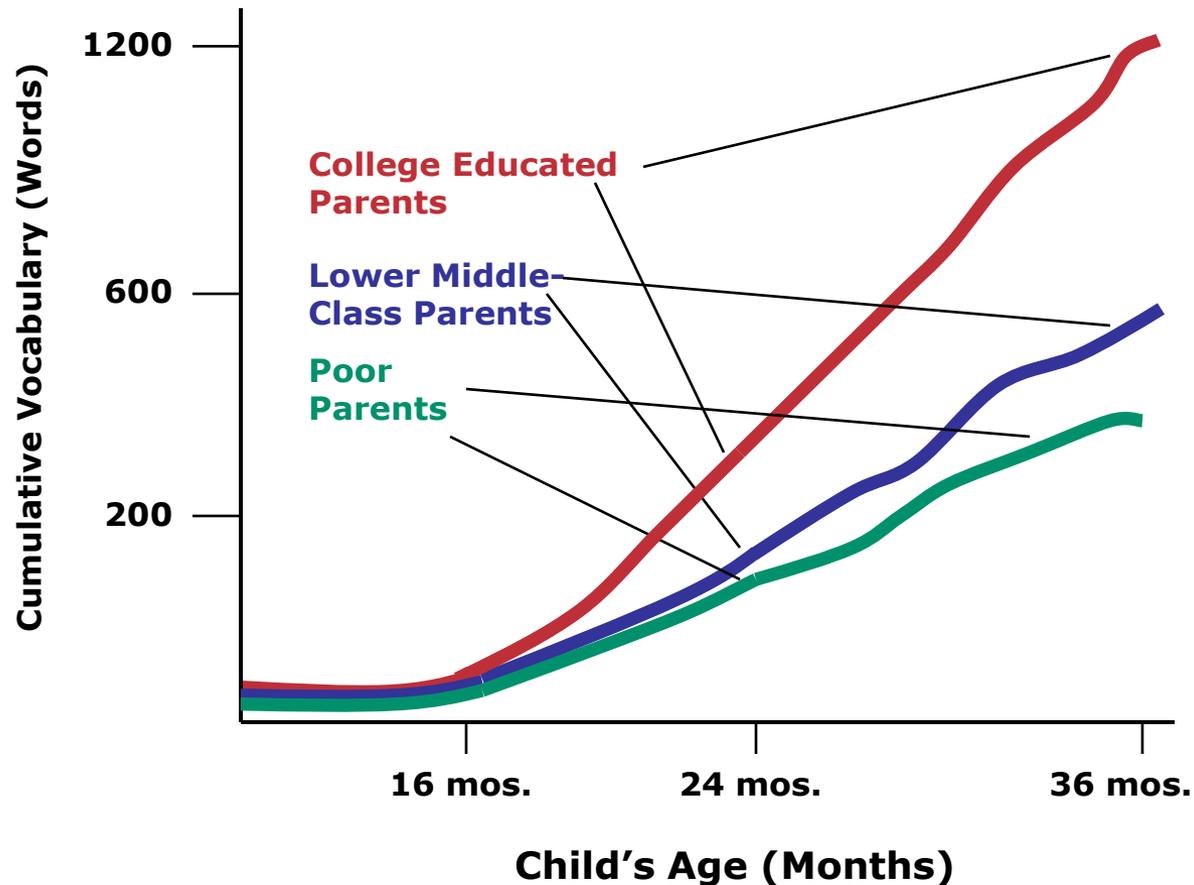
Prefrontal Cortex and
Hippocampus

Extreme Adversity Disrupts Body Chemistry



Source: Gunnar & Fisher (2006)

Poverty as a Barrier to Social Mobility: As Early as 18 Months



Source: Hart & Risley (1995)

Culture or Context in Predicting Children's Early Learning?

New York study of immigrant and ethnically diverse families (Yoshikawa and Tamis-LeMonda):

- Mexican, Dominican and African American parents equally likely to express support for achievement and learning goals, at 1, 6, 14, and 24 months (Ng, Godfrey, Tamis-LeMonda, Yoshikawa, & Kahana-Kalman, 2009)
- Frequency and time spent in cognitively stimulating activities do not differ at 14 or 24 months (Tamis-LeMonda & Kahana-Kalman)
- Contexts – poverty, documentation status – seem to matter more than cultural factors like parent goals for differences in children's early learning (Yoshikawa, forthcoming)

**Implications for
Policy and Practice from
Program Evaluation
Research**

Program Evaluation Research Helps Identify Effectiveness Factors

Not all programs are effective.

Effectiveness factors are key to distinguishing those programs that work from those that do not.

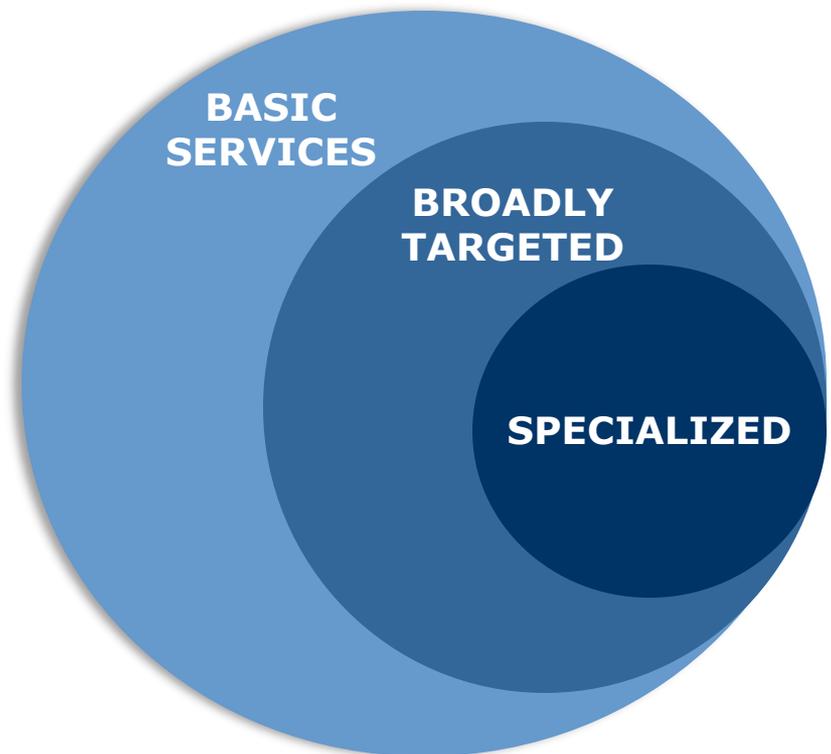
Our goal: to provide clearer guidance than the usual calls for “quality.”

Science Points Toward 3 Types of Services to Ensure Healthy Development

Basic health care, child care, and early learning opportunities to help all children build and sustain strong bodies and brains.

Broadly targeted supports for children faced with major risk factors for poor development.

Specialized interventions for children and families with complex needs.

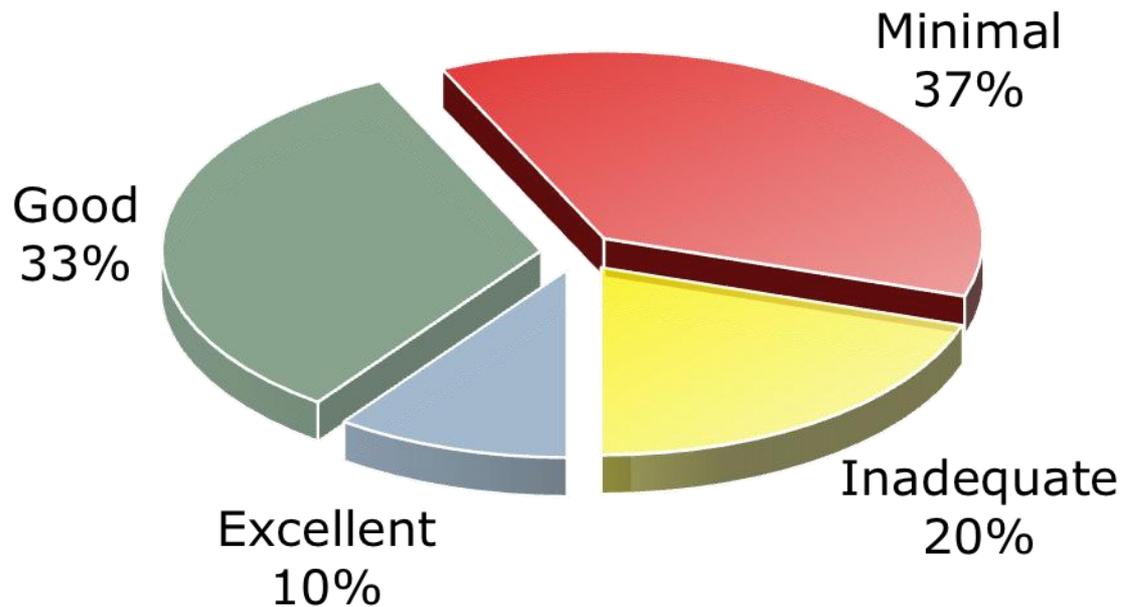


Tier 1: Basic health services and early care and education

Access to basic medical care for pregnant women and their children can help prevent threats to healthy development and provide early diagnosis and appropriate intervention when problems emerge.

Access to safe, stable care environments in the first years of life provides crucial developmental support to children in all families that need child care.

U.S. Child Care & Early Education Quality: Uneven at Best



Effectiveness Factors for Early Care and Education Programs for Children From Birth to Age 5

- Skilled and well-compensated personnel
- Small group sizes and high adult-child ratios
- Language-rich environment
- Developmentally appropriate “curriculum”
- Safe physical setting
- Warm and responsive adult-child interactions

Effects of Early Childhood Care and Education on Black and Latino Children

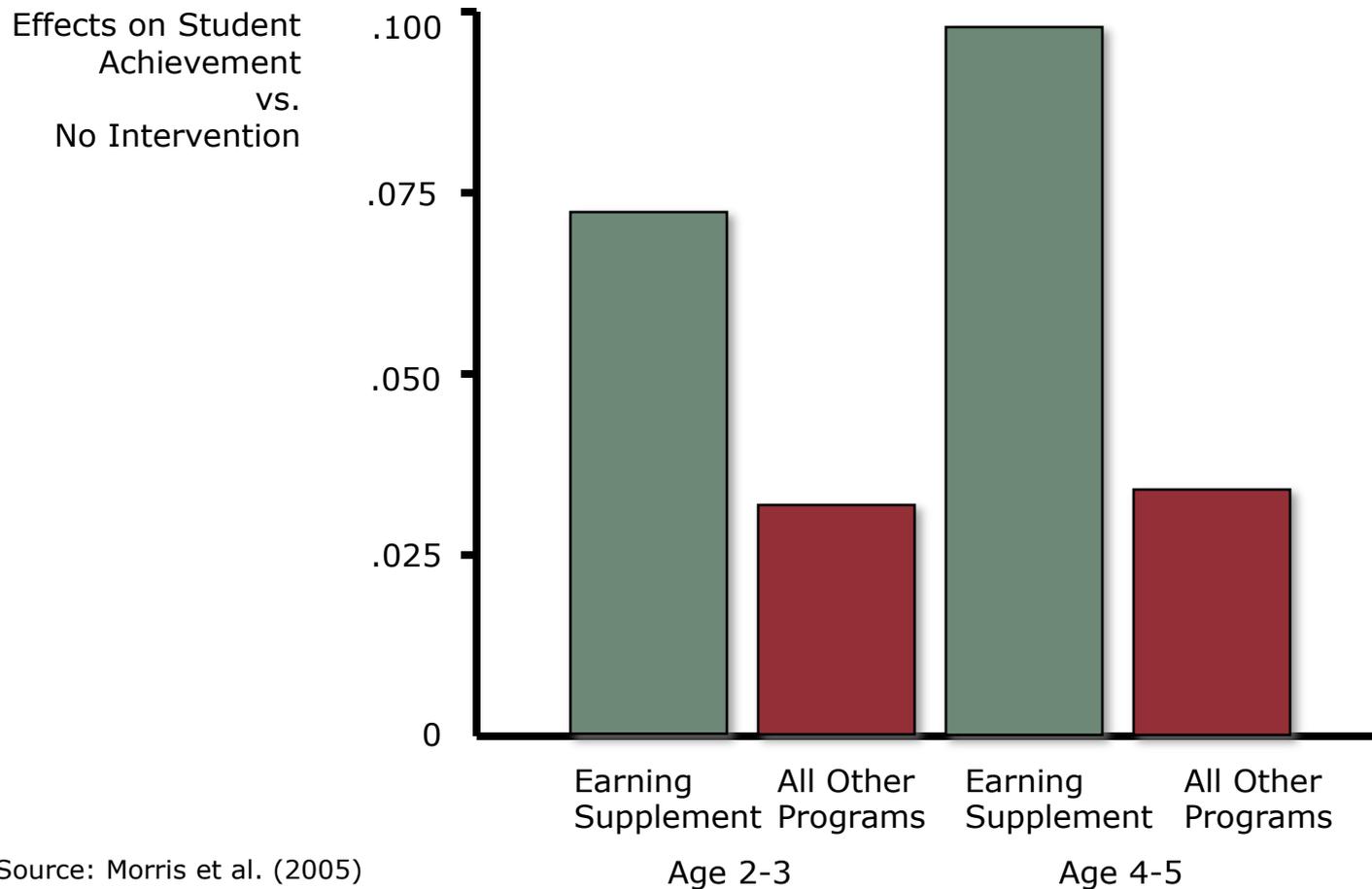
- Immediate (end of preschool year) effects of Head Start on language skills larger and more consistent for Latino and African American children than White children (National HS Impact Study)
- Tulsa Pre-Kindergarten study: Positive cognitive effects (letter-word ID, spelling, arithmetic) largest for Latinos
- Early Head Start (EHS) and Nurse-Family Partnership effects generally as large for African American and Latino families as for other groups; EHS effects particularly strong for Black children

Tier 2: Broadly targeted interventions such as income supports for children in poverty

For low-income families, work-based income supplements have been demonstrated to boost the early school achievement of young children.

Policy options include expanded income tax credits for low-income families, and welfare reform policies that “make work pay” by providing more income as parents make transitions from welfare to work.

Making Work Pay Pays off in Student Achievement



Source: Morris et al. (2005)

**Tier 3: Targeted services for
children experiencing tolerable or
toxic stress**

Tier 3: Targeted services for children experiencing tolerable or toxic stress

For vulnerable parents expecting a first child, early, intensive support by a skilled home visitor can produce significant benefits.

Effectiveness factors for home visiting include:

- More highly trained visitors = larger effects.
- No evidence that 1-3 visits have any impact.
- Engaging and maintaining participation of families is a key challenge.
- Some successful programs specifically target populations at high risk with focused curricula.

Tier 3: Targeted services for children experiencing tolerable or toxic stress

For parents facing sources of toxic stress (mental health problems, depression, substance use, domestic violence), successful programs have **specific content and curricula addressing the source of stress and its effects on children and families**

Example: Multi-Dimensional Treatment Foster Care.

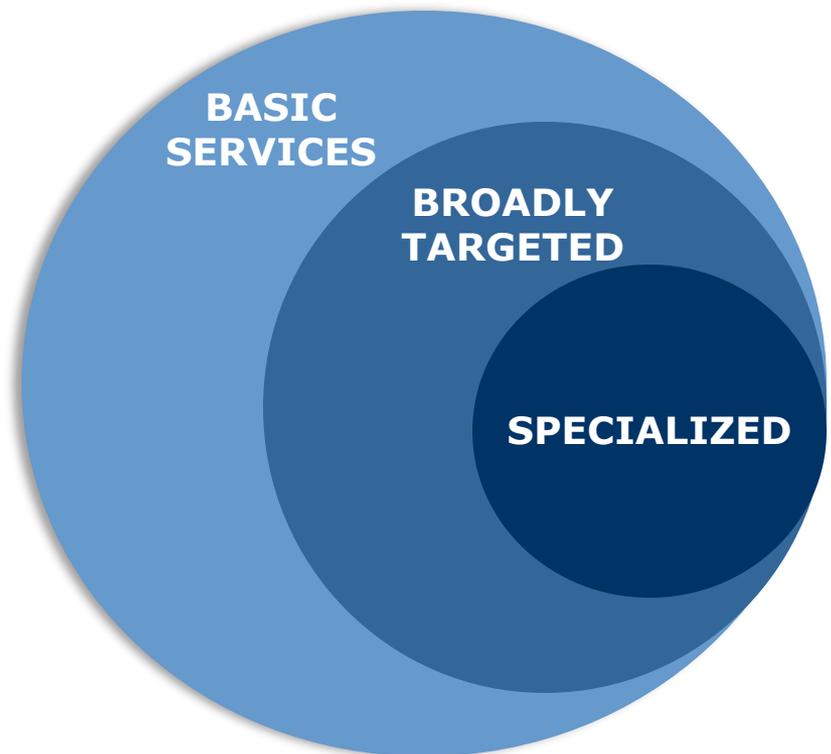
BUT few programs have been tested.

Science Points Toward 3 Types of Services to Ensure Healthy Development

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Specialized interventions for children and families with complex needs.



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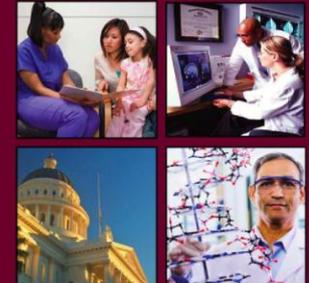
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A Science-Based Framework for Early Childhood Policy

Using Evidence to Improve Outcomes in Learning, Behavior, and Health for Vulnerable Children



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