Testimony on the Science and Research Around Early Child Development and Early Care and Learning
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Core Concepts in the Science of Child Development

The following core concepts are grounded in decades of behavioral and social sciences and recent discoveries in neuroscience, molecular biology, and epigenetics. Together they help explain how healthy development happens, what can send it off track, and what we can do to restore it.

Relationships With Caring Responsive Adults and Early Positive Experiences Build Strong Brain Architecture for Children

- Brains are built over time, and the foundations of brain architecture are constructed early in life

- The interaction of genes and experiences shapes the circuitry of the developing brain.

- Children develop within an environment of relationships that begins in the family but also involves other adults who play important roles in their lives. This can include extended family members, providers of early care and education, nurses, social workers, coaches, and neighbors

- Skill begets skill as brains are built from the bottom up, with increasingly complex circuits building on simpler circuits, and increasingly complex and adaptive skills emerging over time. Times of exceptional sensitivity to the effects of environment and experience for different brain circuits are called critical or sensitive periods.

- The brain's many functions operate in a richly coordinated fashion with multiple systems throughout the body. The circuitry that affects learning and behavior—our thinking and reasoning skills, language abilities, emotional resilience, and social competence—is interconnected with physiological systems that affect physical and mental health.

Significant Stress from Ongoing Hardship or Threat (e.g., exposure to violence, extreme poverty, neglect or maltreatment) Disrupts the Biological Foundations of Learning, Behavior, and Health, With Lifelong Consequences

- Toxic stress responses can impair development, with lifelong consequences.

- The interaction between genetic predisposition and exposure to significant adversity makes some children more susceptible to long-term problems in cognitive, social, and emotional development, as well as to impairments in health.

Protective Factors in the Early Years Strengthen Resilience

- Providing the right ingredients for healthy development from the start produces better outcomes than trying to fix problems later.

- Positive early experiences, support from adults, and the early development of adaptive skills can counterbalance the lifelong consequences of adversity.

- Both children and adults need core capabilities to respond to or avoid adversity, and these capacities can be strengthened through coaching and practice.

Lessons Learned from Five Decades of Program Evaluation Research

This scientific "story" of development, did not exist 50 years ago when Head Start and other pioneering programs in the United States were created as part of President Lyndon Johnson's "War on Poverty" and later expanded under Presidents Richard Nixon and Gerald Ford. Today, the early childhood landscape includes a diverse array of policies and services designed to strengthen families' ability to support the healthy development of their children. These include Head Start/Early Head Start, primary health care, state-funded and private preschools, child care, home visiting, and programs for children with special needs. The body of evidence built around these programs during the past five decades is extensive and is the source of the "best practice" recommendations in this report.

Core Principles to Inform Policymaking and Program Development

#1: Help adults – parents, teachers, child care staff – to strengthen their skills so they can support the healthy development of the children in their care.

#2: Tailor interventions to address sources of significant stress for families, such as homelessness, violence, children's special needs or parental depression.

#3: Support the Health and Nutrition of Children and Mothers Before, During, and After Pregnancy

#4: Improve the Quality of the Broader Caregiving Environment and increase economically disadvantaged families' access to higher quality care.

#5: Establish Clearly Defined Goals and Implement a curriculum or intervention plan that is designed to achieve those goals.

The science and research is compelling. We can and must do better, particularly for children in the first three years after birth and for families whose needs are not being met by existing policies and services.

RESOURCES

http://developingchild.harvard.edu/about/

Videos

http://developingchild.harvard.edu/resources/serve-return-interaction-shapes-brain-circuitry/

http://developingchild.harvard.edu/resources/building-adult-capabilities-to-improve-child-outcomes-a-theory-of-change/

More information about the Strengthening Families Framework

http://www.cssp.org/young-children-their-families/strengtheningfamilies

More information about the American Academy of Pediatrics (AAP) Bright Futures Guidelines

https://brightfutures.aap.org/Pages/default.aspx