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# A Science-Based Framework for Early Childhood Policy

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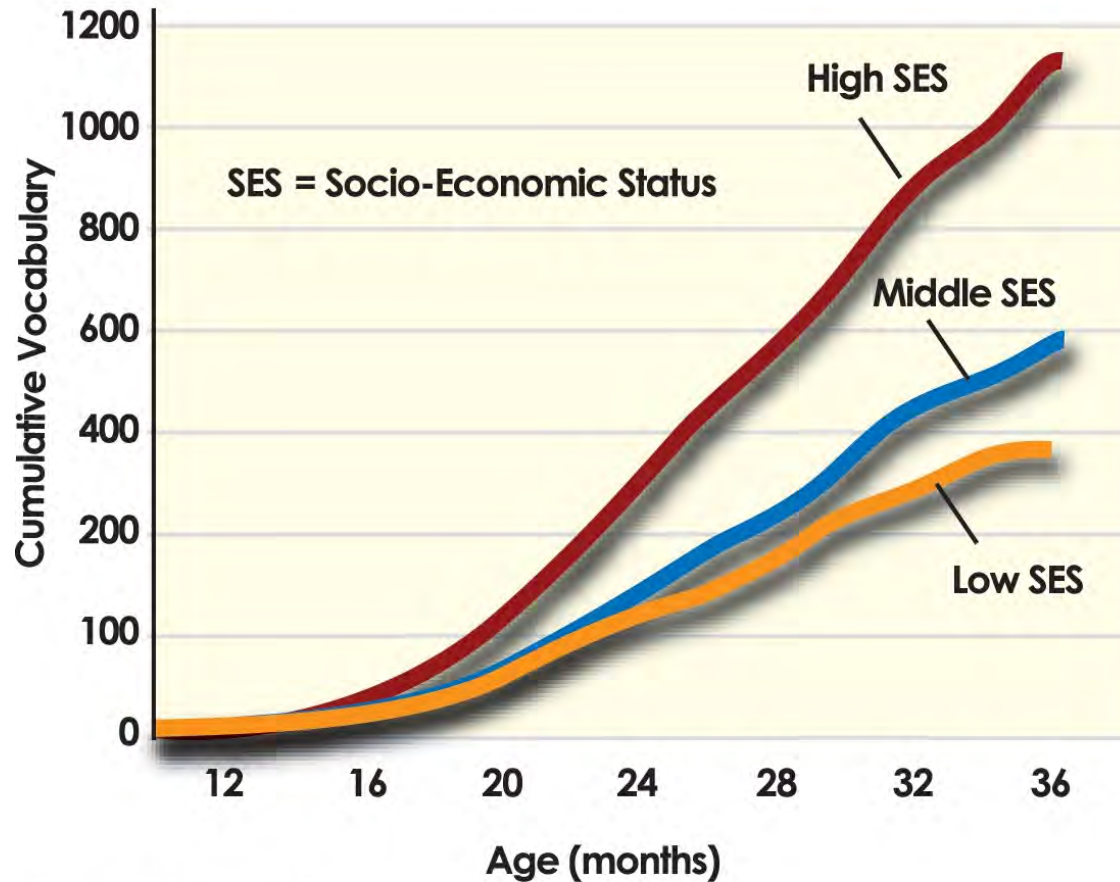
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# The Importance of Viewing the Needs of Young Children in a Broad Context

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

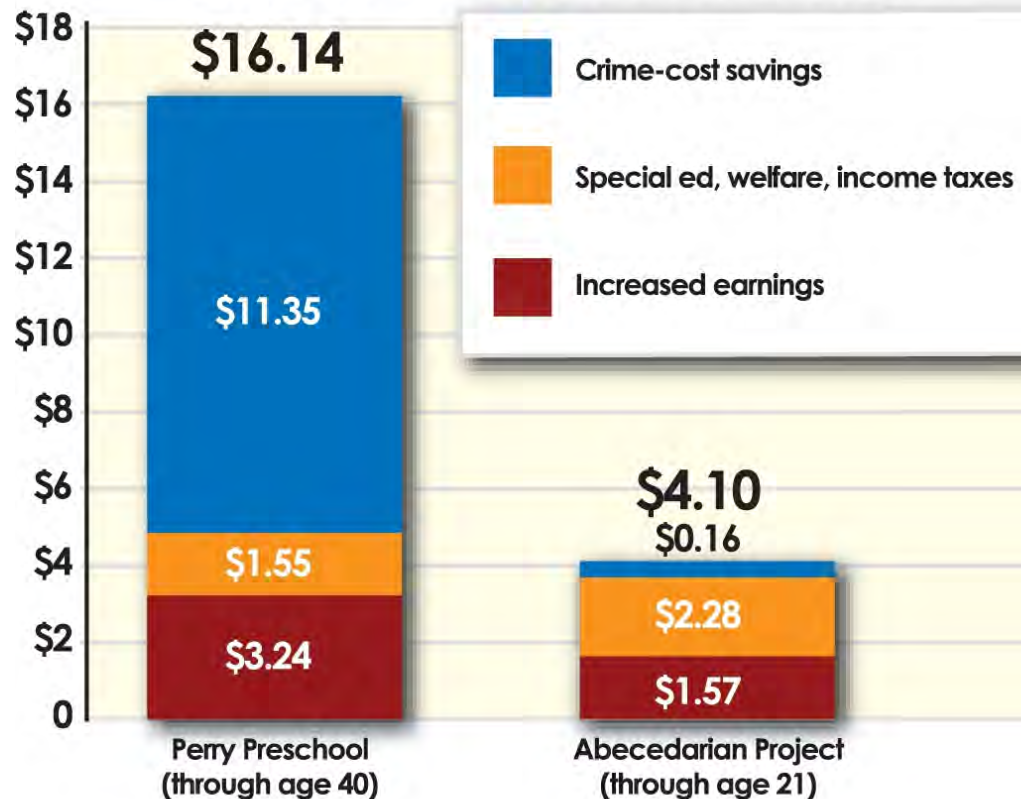


## Disparities in Early Vocabulary Growth



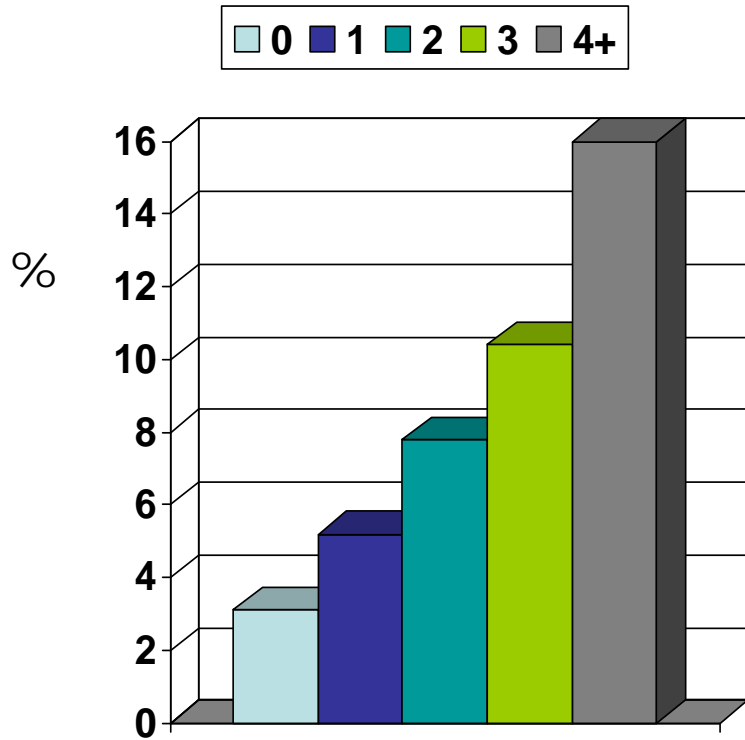


## Cost/Benefit for Two Early Childhood Programs (Dollars returned for each dollar invested)

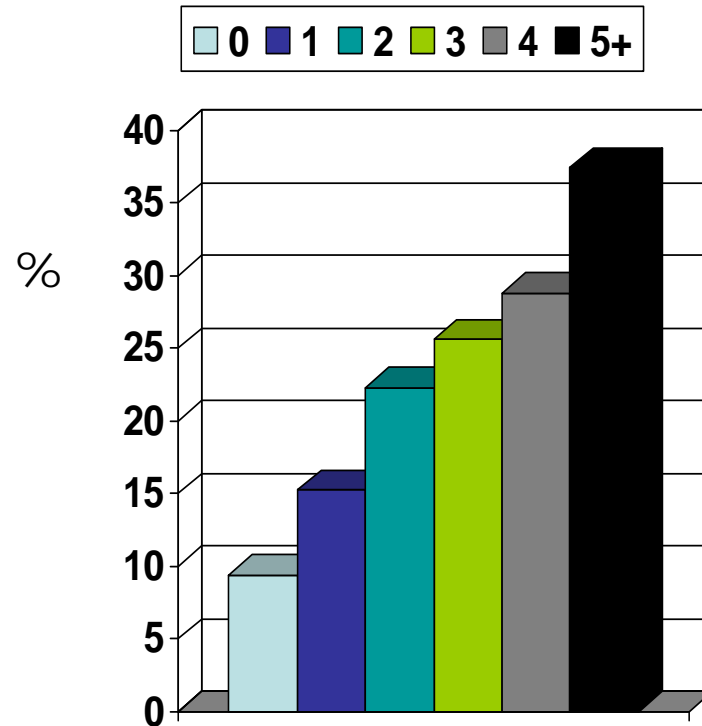




## Adverse Childhood Events and Adult Substance Abuse



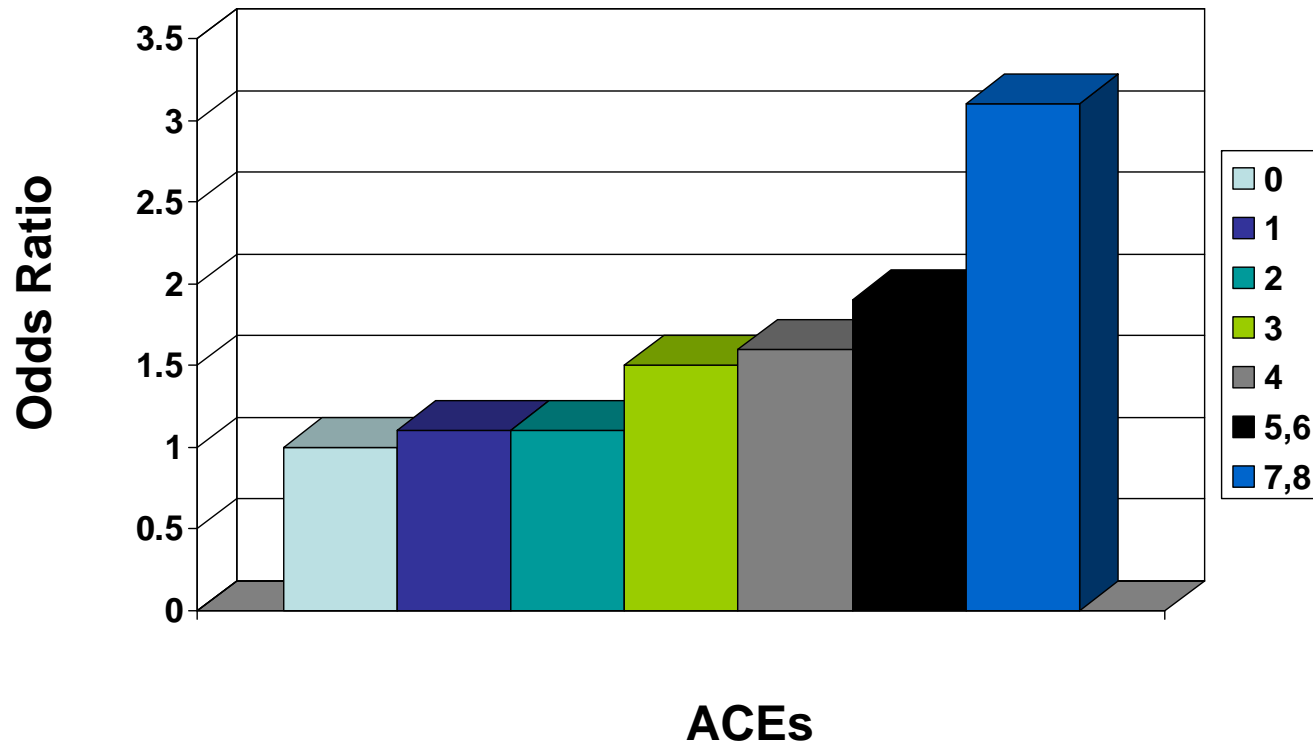
**Self-Report: Alcoholism**  
Dube et al, 2002



**Self-Report: Illicit Drugs**  
Dube et al, 2005



## Adverse Childhood Events and Adult Cardiovascular Disease





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# Building a New Integrated Science of Early Childhood Development

**Convergence of findings from neuroscience, developmental psychology, molecular biology, economics, and program evaluation research.**



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# 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.**

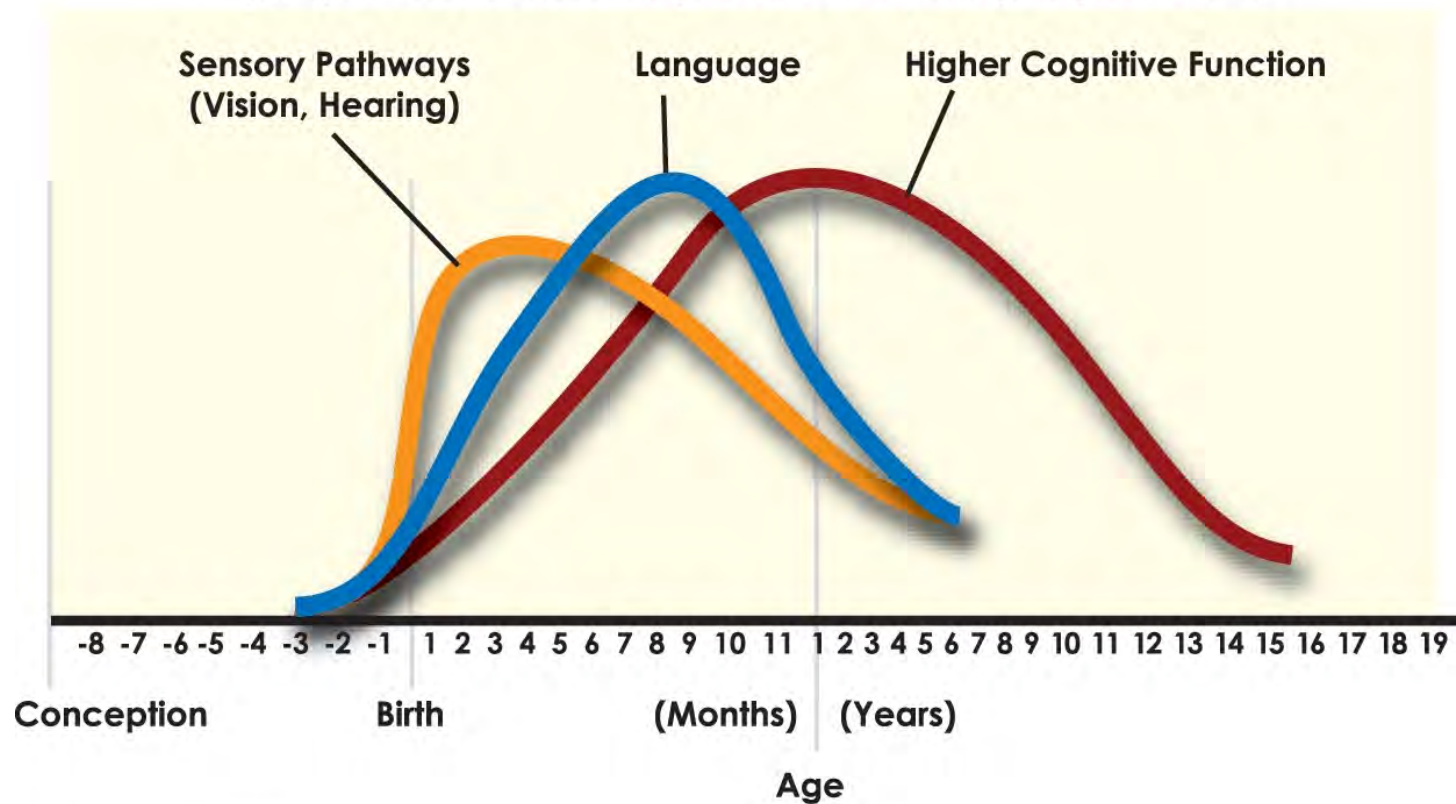
**The interaction of genes and experience shapes the architecture of the developing brain, and the active agent is the “serve and return” nature of children’s relationships with the important adults in their lives.**





## Human Brain Development

### Synapse Formation Dependent on Early Experiences



Source: Nelson (2000)



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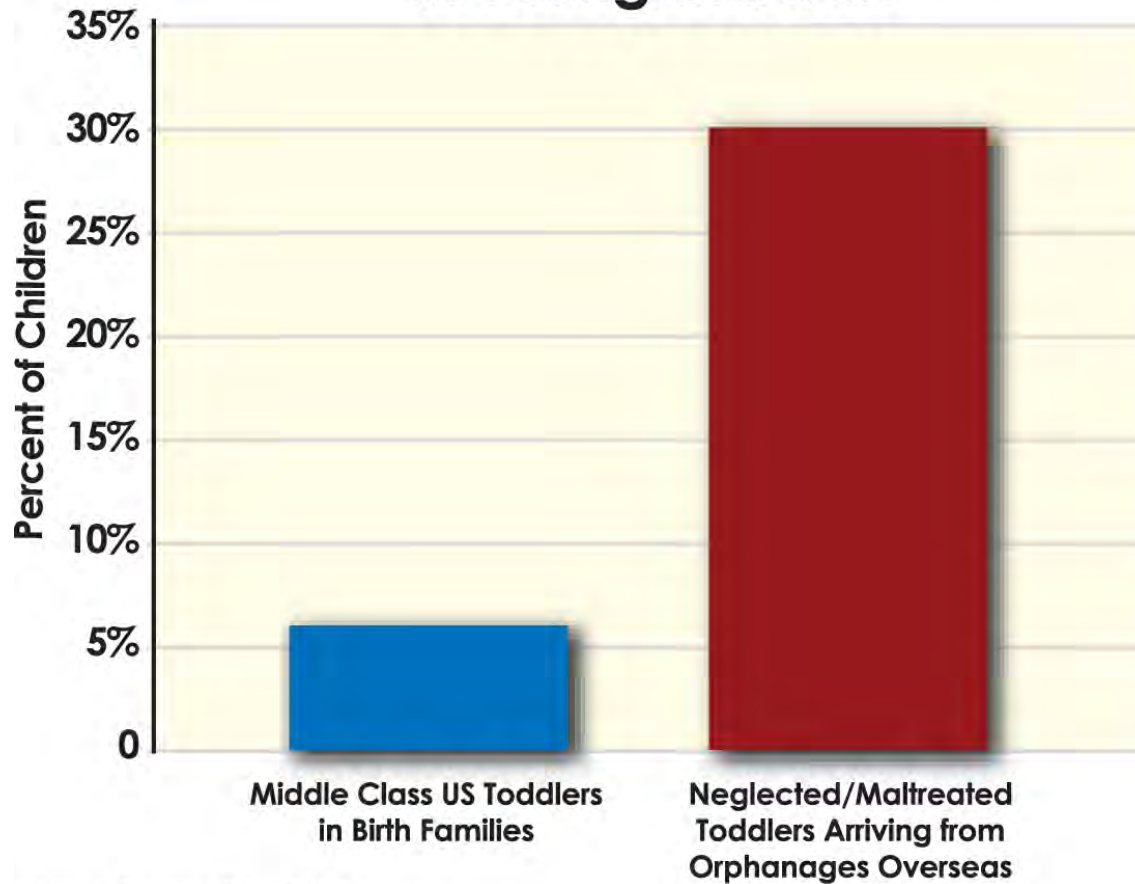
# Core Concepts of Development

**Positive and tolerable stress are compatible with normal child development.**

**Toxic stress can damage developing brain architecture and create a short fuse for the body's stress response systems that leads to lifelong problems in learning, behavior, and both physical and mental health.**



## Abnormal Stress Hormone Levels in Young Children



Source: Gunnar & Fisher (2006)



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# Evidence to Guide Policy and Practice

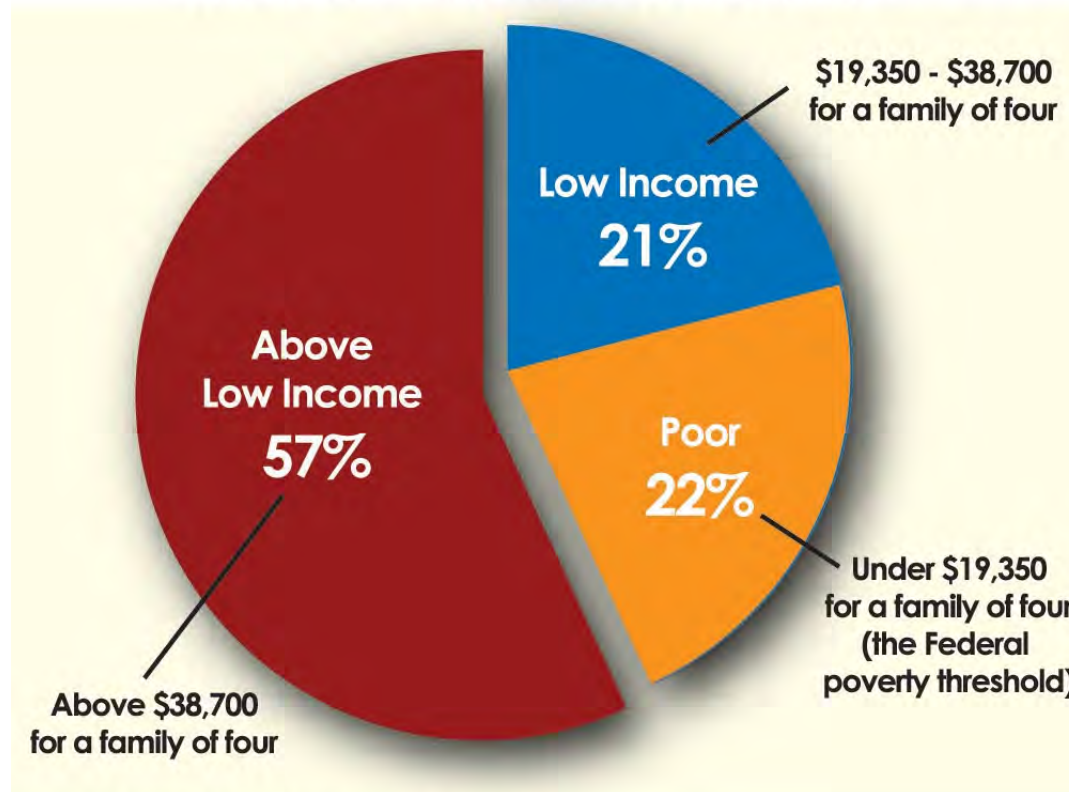


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## Children in Poverty

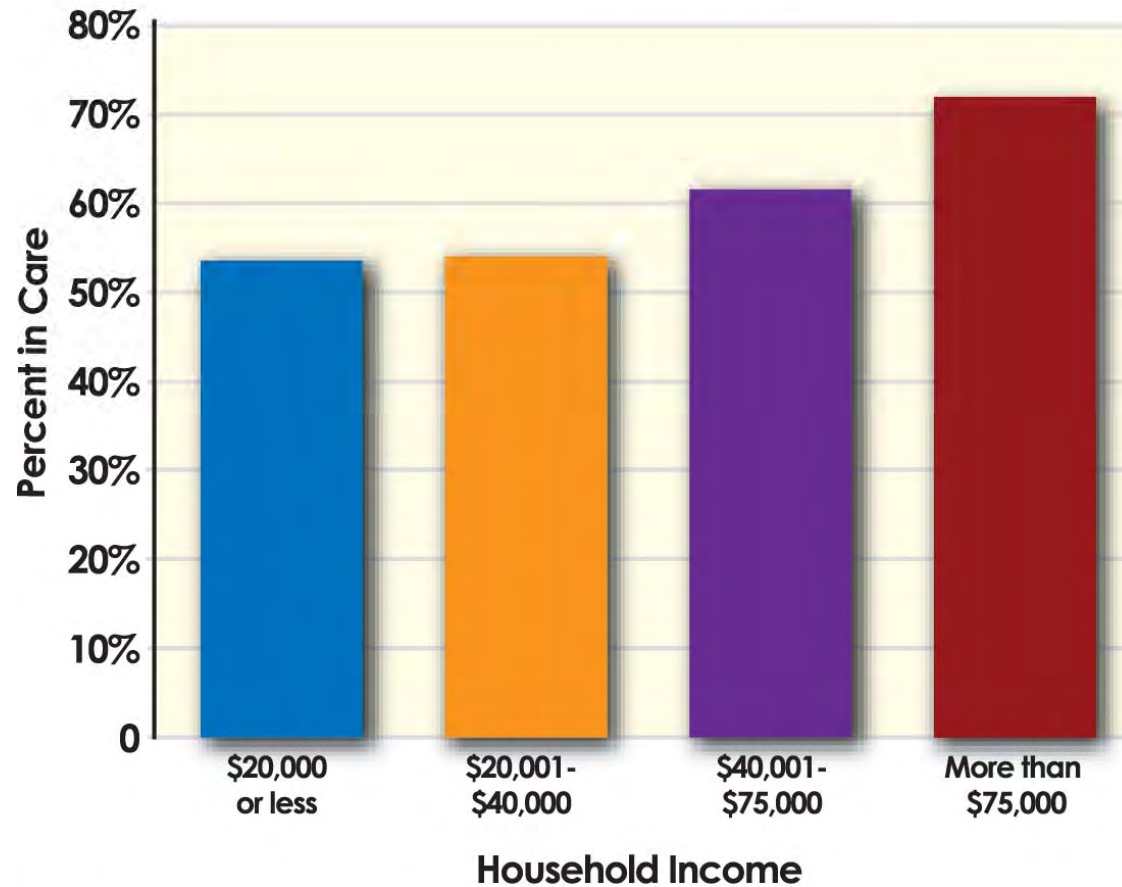
### U.S. Families with Infants and Toddlers



Source: National Center for Children in Poverty (2006)



## Children in Nonparental Care





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# There Are No Magic Bullets

**Positive relationships and quality learning experiences can be promoted both at home and through a range of parent education, family support, early care and education, and intervention services.**

**A balanced approach to emotional, social, cognitive, and language development will best prepare children for success in school and later in the workplace.**



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## Maximizing Return on Investment

**The basic principles of neuroscience and human capital formation indicate that later remediation will produce less favorable outcomes than preventive intervention.**

**Low cost services that have little impact are a waste of money. Responsible investments focus on effective programs that are well implemented and improved continuously.**





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# Science Points Toward a Two-Tiered Approach to Reducing Disparities

**Basic health services and good quality early care and education can promote healthy development and facilitate early detection of potential problems in all children.**

**Targeted services for children experiencing tolerable or toxic stress can reduce disruptions of the developing nervous and immune systems that lead to later problems in learning, behavior, and health.**



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# Features of Effective Early Care and Education Programs for Children From Birth to Age 5

- **Qualified 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**
- **High and consistent levels of child participation**



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# **Best Bets for Targeted Services for Vulnerable Infants, Toddlers, and their Families**

**Skilled home visiting (prenatal to age 3)**

**Combined home and very high quality center-based services (birth to age 3)**



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# **Policies that Affect Children Extend Beyond Health Care and Education**

**If we really want to promote better outcomes for children, then we must apply the science of early childhood and brain development to a broad range of policies ...**

**including child protective services, adult mental health, environmental protection, and welfare reform, among others.**



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## **Key Elements of a Successful Early Childhood Policy Agenda**

**Investing in the development and retention of a skilled early childhood workforce.**

**Leveraging the power, accountability, and sustainability of bipartisanship and public-private sector partnerships.**

**Viewing the reduction of early inequalities in opportunity as both a moral imperative and a wise social and economic investment.**



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