Introductory Packet

Early Development and Learning from the Perspective of Addressing Barriers

(Revised 2015)

*The Center is co-directed by Howard Adelman and Linda Taylor and operates under the auspice of the School Mental Health Project, Dept. of Psychology, UCLA,
Box 951563, Los Angeles, CA 90095-1563
(310) 825-3634
E-mail: Ltaylor@ucla.edu

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An Introductory packet on

Early Development and Learning from the Perspective of Addressing Barriers

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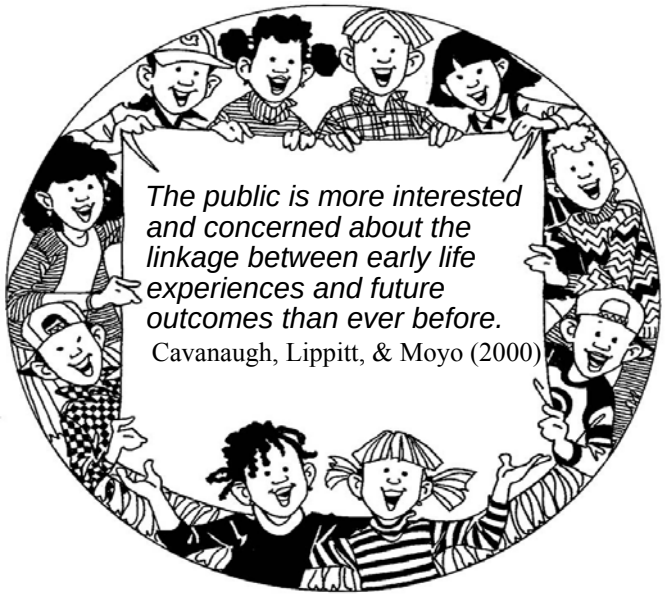
Early Development and School Readiness from the Perspective of Addressing Barriers to Learning

Howard Adelman & Linda Taylor



Excerpt:

Over the past decade there has been renewed interest in facilitating early development and learning. Beside the normal tendency for us all to want our children to have a good start in life, three movements have stimlated formal interventions to ensure this happens. One push comes from interpretations of recent brain research that underscore how early experiences effect the developing brain. A second thrust arises from research showing positive outcomes of early interventions with children who have special needs. A third influence is filtering down from the school accountability movement and is pressuring kindergartens and preschools to focus greater efforts on reading readiness and cognitive functioning.

The lens we bring to the topic is that of the need to address barri ers to development and learning. In doing so, we are concerned with interventions that can counter the negative impact of external and internal factors that can interfere with development and learning.

Addressing Barriers

There are a variety of genetic, prenatal, perinatal, and postnatal factors that can lead to variationsin development and problems with learning and behavior. Because the seeds are planted early, early-age intervention is indicated. In a real sense, early-age intervention represents a basic application of the principle of least intervention needed. This principle calls for efforts to prevent problems before they appear, meeting specific needsas soon as they are apparent, and doing so in the least intrusive and disruptive manner feasible.

Prevention

A proactive approach to addressing barriers involves doing something to prevent them. Thus, in addition to improving prenatal care, there is increasing emphasis on providing programs for young children. Some are broad-band programs designed to reach as many people as possible (for example, public health campaigns, community-based parent education, television programs such as

Sesame Street). Others are designed for designated groups seen as high risk populations (i.e., premature babies who have significant early health problems, live in impoverished or hostile environments, manifest serious lags in development, or manifest serious adjustment problems.)

Some high-risk children are easier to identify than others. In the easy cases, procedures are used to find and refer them to special programs. However, because there are spurts and plateaus in human development, it can be difficult to differentiate problems from normal variations. When identification is difficult, rather than screening for individual problems, broad-band prevention programs are indicated. Broad-band, primary prevention for learning, behavior, and emotional problems promotes and maintains family planning and the well-being of infants in utero, as well as their safety and physical and mental health after birth.

Two major forms of preventive intervention are advocated widely. One is the provision of pre-, peri-, and neonatal care, such as prenatal and well-child clinics and infant immunization outreach services. A second form is community education, such as parent programs to improve infant/child nutrition and physical safety and to increase stimulation.

Early-Age Intervention

Perhaps the most familiar early-age intervention programs are health programs, day care, and early education programs (e.g., Head Start). Other examples of early-age interventions specifically designed to address barriers include programs to educate parents about lead poisoning, about the value of cognitive stimulation activities for babies who experienced prenatal anoxia, and about meeting the needs of low-birth-weight and premature infants. Special attention may be given to young children from low socioeconomic and other high-risk populations and for mild to moderately handicapped children. The hope is to prevent problems and, when necesssary, to begin problem correction as early after onset as is feasible, thereby minimizing the severity and pervasiveness of subsequent problems.

A strong intervention emphasis is on enhancing individual capabilities (e.g., assets) and protective factors in order to minimize the impact of current and subsequent environmental deficiencies and personal vulnerabilities. The focus for young, at-risk children may aim at fostering development in a combination of areas (perceptual, motoric, language, cognitive, social, and emotional). Usually there are activities related to gross and fine motor skills, language (especially communication skills), visual and auditory perception and memory, basic cognitive and social competence (problem solving and self-help skills, cooperative social interactions), and positive feelings about self and others.

Sparse public funding tends to force community-based public agencies to focus primarily on a host of designated problems. Clearly, a focus solely on fixing problems is too limited. Moreover, it is counterproductive. Overemphasis on problems diminishes efforts to promote healthy development, limits opportunity, and can be motivationally debilitating to all involved. While community agencies give the appearance of a "fix-problems-first" bias, schools deal with most problems as a last resort. This is not surprising since their assigned mission is to educate. The shift needed is one that moves toward a better understanding of the role schools must play in both promoting development ***and*** addressing barriers.

Those concerned with bettering the lot of youngsters share a common purpose – development of strategies focused on benefitting youngsters, families, and neighborhoods. However, the strategies are extremely fragmented (see the figure on the next page). Across the country a dialogue has begun about promoting child and youth development and addressing barriers to development and learning in a more cohesive and less marginalized manner.

> *Early childhood policies and practices are highly fragmented, with complex and confusing points of entry that are particularly problematic for underserved segments of the population and those with special needs. This lack of an integrative early childhood infrastructure makes it difficult to advance prevention-oriented initiatives for all children and to coordinate services for those with complex problems.*
>
> National Research Council, Institute of Medicine (2000)
> *From Neurons to Neighborhoods:*
> *The Science of Early Childhood Development*

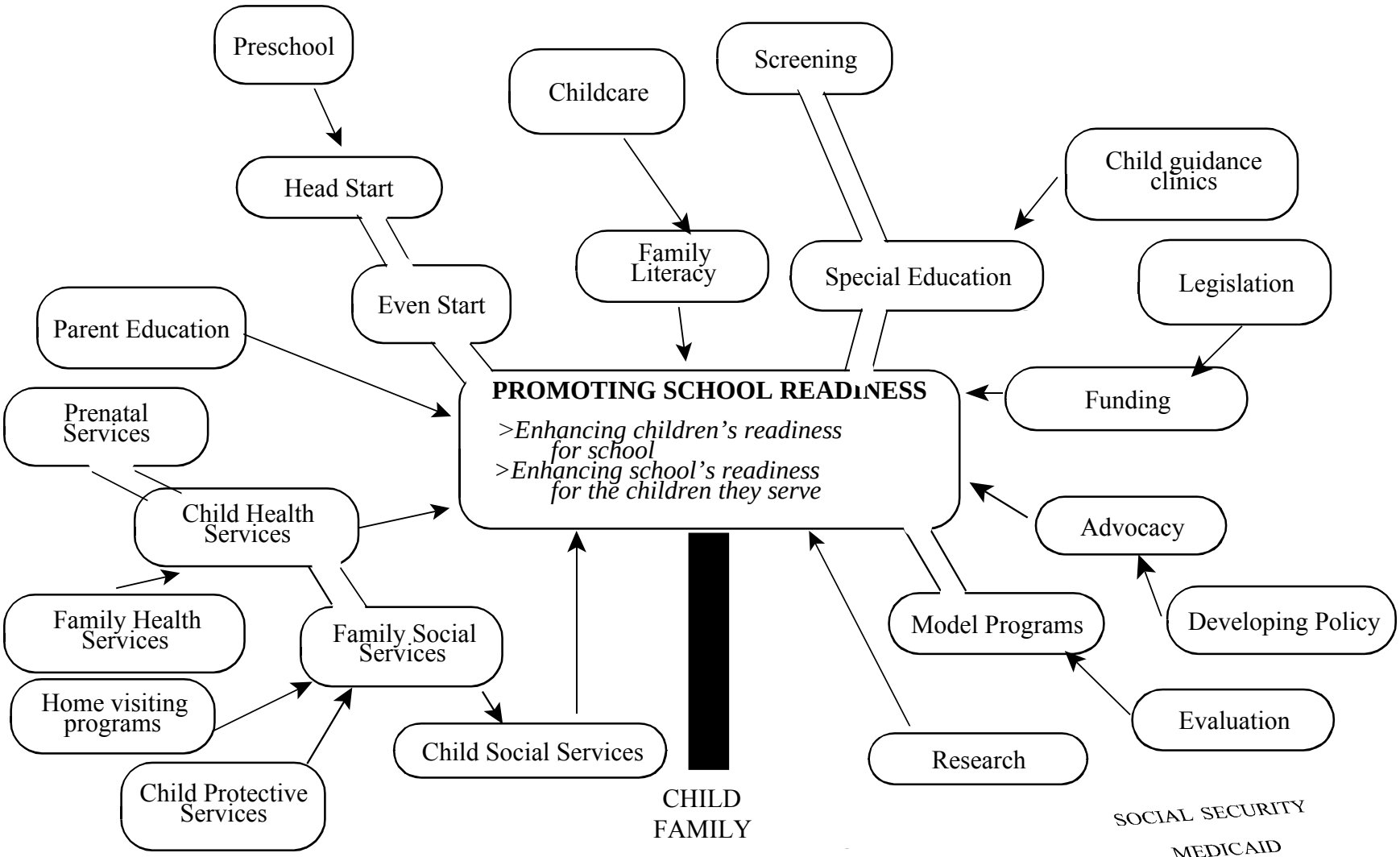
In our work, we stress the importance of developing a continuum of interventions that together comprise a comprehensive, multifaceted, and cohesive approach. The continuum is illustrated by the figure on page 5. Other documents from our Center discuss the nature, scope, and implications of such a comprehensive approach. (These documents can be accessed through the Center's website – http://smhp.psych.ucla.edu)

Central Policy Concerns

1. ***Coalescing resources (reducing fragmentation) in the best interests of youngsters, families, schools, neighborhoods, and society.***

2. ***Decreasing marginalization.*** Efforts to promote healthy development and address barriers are marginalized in policy and practice. Such marginalization contributes to scarcity and fragmentation.

Talk About Fragmented!



Adapted from Health in Academic: A guide to Coordinated School Health Programs (1998). Edited by E. Marx & S.F. Wooley with D. Northrop. New York Teachers College Press.

Interconnected Systems for Meeting the Needs of All Students

To provide a CONTINUUM OF SCHOOL AND COMMUNITY PROGRAMS & SERVICES

To ensure use of the LEAST INTERVENTION NEEDED

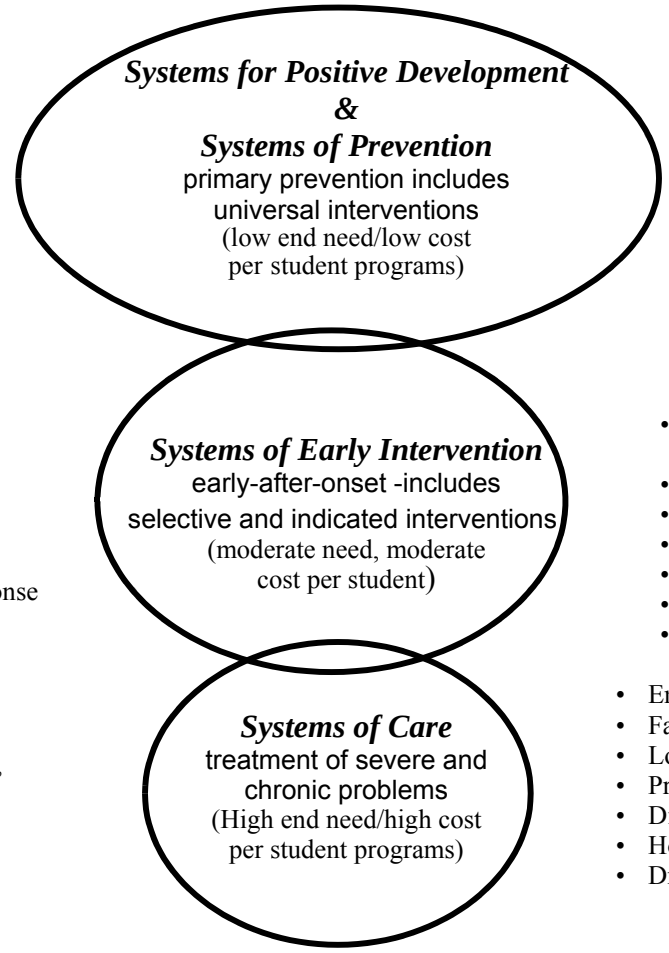
School Resources
(facilities, stakeholders, programs, services)

Examples:

- General health education
- Social and emotional learning programs
- Recreation programs
- Enrichment programs
- Support for transitions
- Conflict resolution
- Home involvement
- Drug and alcohol education

  - Drug counseling
  - Pregnancy prevention
  - Violence prevention
  - Gang intervention
  - Dropout prevention
  - Suicide prevention
  - Learning/behavior accommodations and response to intervention.
  - Work programs

    - Special education for learning disabilities, emotional disturbance, and other health impairments



Community Resources
(facilities, stakeholders, programs, services)

Examples:

- Recreation & Enrichment
- Public health & safety programs
- Prenatal care
- Home visiting programs
- Immunizations
- Child abuse education
- Internships & community service programs
- Economic development

- Early identification to treat health problems
- Monitoring health problems
- Short-term counseling
- Foster placement/group homes
- Family support
- Shelter, food, clothing
- Job programs

- Emergency/crisis treatment
- Family preservation
- Long-term therapy
- Probation/incarceration
- Disabilities programs
- Hospitalization
- Drug treatment

Systemic collaboration* is essential to establish interprogram connections on a daily basis and over time to ensure seamless intervention within each system and among *systems* of *prevention, systems* of *early intervention*, and *systems of care*.

*Such collaboration involves horizontal and vertical restructuring of programs and services
(a) with jurisdictions, school districts, and community agencies (e.g., among departments, divisions, units, schools, clusters or schools)
(b) between jurisdictions, school and community agencies, public and private sectors; among schools; among community agencies

*Various venues, concepts, and initiatives permeate this continuum of intervention systems. For example, venues such as day care and preschools, concepts such as social and emotional learning and development, and initiatives such as positive behavior support, response to intervention, and Coordinated School Health.

Promoting School Readiness through Expanded School Reform

Schools and communities increasingly are being called on to meet the needs of all youngsters – including those experiencing commonplace problems. One of the National Education Goals formulated in the early 1990s stated: *By the year 2000, all children in America will start school ready to learn.* Clearly, we have not met the goal.

One major emerging focus is on promoting school readiness – viewed as the processes involved in enhancing children's readiness for school and enhancing school readiness for the children they serve. For example, in formulating this goal, the National Education Goals Panel delineated school readiness as encompassing (1) readiness in the child, (2) schools' readiness for children, and (3) family and community supports and services that contribute to children's readiness (see the Exhibit on the following pages).[1]

Another way to see the challenge confronting those concerned with promoting school readiness is in terms of how to collaborate and maximize resources in ways that strengthen young people, their families, and neighborhoods. To meet this challenge, it is important to view things using the complementary lenses of addressing barriers to development and learning and promoting healthy development. In doing so, one must appreciate a range of policy and systemic change considerations – especially considerations related to connecting with school reform. Ultimately, efforts to promote school readiness must expand the way in which school and community reforms are conceived.

Based on work around the country, we stress the need to fully integrate approaches to promote school readiness into education and community reforms and to do so in ways that foster development of a comprehensive, multifaceted, and integrated continuum of interventions (see figure on page 5). Such an approach involves systemic changes and provides an expanded context for sustaining new initiatives and valued functions that have been developed with extramural support.

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[1] For a discussion of five dimensions of children's school readiness, see S.L. Kagan, E. Moore, & S. Brandekamp (1995). *Reconsidering Children's Early Development and Learning: Toward Common Views and Vocabulary.* Washington, DC: National Education Goals Panel, Goal 1 Technical Planning Group.
Also see: *School Readiness: Helping Communities Get Children Ready for School and Schools Ready for Children* (October, 2001). A Child Trends Research Brief (see www.childtrends.org)

EXHIBIT

Excerpts from: "School Readiness: Helping Communities Get Children Ready for School and Schools Ready for Children"
Child Trends Research Brief **Oct. 2001**
4301 Connecticut Ave. NW Ste 100,
Washington DC 20008
202-362-5580 / fax 202-362-5533
Available online www.childtrends.org

What is School Readiness?

The bipartisan National Education Goals Panel (NEGP) was established in July 1990 to assess and report on state and national progress in meeting the eight National Education Goals set for the nation. The first of these goals stated "by the year 2000, all children in America will start school ready to learn"[1] In addressing this important goal, the NEGP identified three components of school readiness: (1) readiness in the child; (2) schools' readiness for children; and (3) family and community supports and services that contribute to children's readiness.

Readiness in children. The NEGP went beyond the conventional wisdom that limited school readiness in children to "narrowly constructed, academically driven definitions of readiness."2 Instead, based on the research on child development and early education, the Panel argued for a broader definition that included physical, social, and emotional wellbeing, as well as cognitive readiness. [2] Ongoing research continues to confirm the need to think about children's readiness for school as multi-faceted. [3,4] The NEGP and subsequent research highlighted five dimensions of children's school readiness in its report *Reconsidering Children's Early Development and Learning. Toward Common Views and Vocabulary:*

- *Physical well-being and motor development.* This dimension covers such factors as health status, growth, and disabilities; physical abilities, such as gross and fine motor skills; and conditions before, at, and after birth, such as exposure to toxic substances.

- *Social and emotional development. Social development* refers to children's ability to interact with others. A positive adaptation to school requires such social skills as the ability to take turns and to cooperate. *Emotional development* includes such factors as children's perceptions of themselves and their abilities to both understand the feelings of other people and to interpret and express their own feelings.

- *Approaches to learning.* This dimension refers to the inclination to use skills, knowledge, and capacities. Key components include enthusiasm, curiosity, and persistence on tasks, as well as temperament and cultural patterns and values.

- *Language development.* This dimension includes verbal language and emergent literacy. Verbal language includes listening, speaking, and vocabulary. Emergent literacy includes print awareness (e.g., assigning sounds to letter combinations), story sense (e.g., understanding that stories have a beginning, middle, and end) and the writing process (e.g., representing ideas through drawing, letter-like shapes, or letters).

- *Cognition and general knowledge.* This aspect includes knowledge about properties of particular objects and knowledge derived from looking across objects, events, or people for similarities, differences, and associations. It also includes knowledge about societal conventions, such as the assignment of particular letters to sounds, and knowledge about shapes, spatial relations, and number concepts.

Readiness of schools. The NEGP urged a close examination of "the readiness and capacity of the nation's schools to receive young children."[2] To aid this examination, the Panel proposed ten

(cont.)

characteristics of "ready schools" - schools that are prepared to support the learning and development of young children. As stated in the Panel's report, *Ready Schools,* such schools:

- *smooth the transition between home and school.* For example, they show sensitivity to cultural differences and reach out to parents and children to prepare children for entering school.
- *strive for continuity between early care and education programs and elementary schools.*
- *help children learn and make sense of their complex and exciting world.* For example, they utilize high-quality instruction and appropriate pacing, and demonstrate an understanding that learning occurs in the context of relationships.
- *are committed to the success of every child.* They are sensitive to the needs of individual children, including the effects of poverty, race, and disability.
- *are committed to the success of every teacher and every adult who interacts with children during the school day.* They help teachers develop their skills.
- *introduce or expand approaches that have been shown to raise achievement.* For example, they provide appropriate interventions to children who are falling behind, encourage parent involvement, and monitor different teaching approaches.
- *are learning organizations that alter practices and programs if they do not benefit children.*
- *serve children in communities.* They assure access to services and supports in the community.
- *take responsibility for results.* They use assessments to help teachers and parents plan for individual students, and to measure accountability to the community.
- *have strong leadership.* They are led by individuals who have a clear agenda, the authority to make decisions, and the resources to follow through on goals, visibility, and accessibility.

Family and community supports for children's readiness. The NEGP identified three high-priority objectives that reflect important early supports for school readiness.[5] As stated in the Panel's *Special Early Childhood Report.*

- All children should have access to high quality and developmentally appropriate preschool programs that help prepare them for school.
- Every parent in the United States will be a child's first teacher and devote time each day to helping his or her preschool child learn. To accomplish this, parents should have access to the training and support they need.
- Children should receive the nutrition, physical activity, and health care they need to arrive at school with healthy minds and bodies and to maintain mental alertness. To this end, the number of low-birthweight babies should be significantly reduced through enhanced prenatal care.

1. The National Education Goals Panel (1997). *Getting a good start in school.* Washington, DC: Author.
2. Kagan, S. L., Moore, E., & Bradekamp, S. (1995). *Reconsidering children's early development and learning: Toward common views and vocabulary.* Washington, DC: National Education Goals Panel, Goal 1 Technical Planning Group.
3. Huffman, L. C., Mehlinger, S. L., & Kerivan, A. S. (2000). Risk factors for academic and behavioral problems at the beginning of school. In *Off to a good start.* Bethesda, MD: The Child Mental Health Foundations and Agencies Network (FAN).
4. Love, J. M., Aber, J. L., & Brooks-Gunn, J. (1994, October). *Strategies for assessing community progress toward achieving the first national educational goal* (MPR Reference No. 8113-110). Princeton, NJ: Mathematica Policy Research, Inc.
5. The National Education Goals Panel (1997). *Special early childhood report 1997*. Washington, DC: Author.

Excerpt from:

Early Learning: America's Middle Class Promise Begins Early

U.S. Department of Education –
http://www.ed.gov/sites/default/files/early-learning-overview.pdf

The need

There is a tremendous unmet need for high-quality early learning throughout the country. Across the country, fewer than three in ten 4-year-olds are enrolled in a high-quality preschool program. Yet, the importance of early learning is clear. Studies prove that children who have rich early learning experiences are better prepared to thrive in kindergarten and beyond.

Children in countries as diverse as Mexico, France, and Singapore have a better chance of receiving preschool education than do children in the United States. In fact, the U.S. ranks 25th in the world in early learning enrollment. For children in the United States who do attend, quality varies widely and access to high-quality programs is even more limited in low-income communities. Doing better is more than just a moral and educational imperative; it's smart government. Every public dollar spent on high-quality preschool returns $7 through a reduced need for spending on other services-such as remedial education, grade repetition, and special education-as well as increased productivity and earnings for these children as adults.

The goal

High-quality early learning opportunities should be provided to all children in America so that they enter kindergarten ready to succeed in school and in life. In partnership with the U.S. Department of Health and Human Services (HHS), the U.S. Department of Education (ED) is working to significantly expand and improve services for young children and their families.

For links to selected early learning resources, go to
http://www.ed.gov/early-learning/resources

Young Children, Poverty, and Barriers to Development and Learning

From: *One in Four: America's Youngest Poor.* National Center for Children in Poverty.

What does poverty mean to the life of a child? Many poor young children are resilient and able to overcome tremendous obstacles. But, scientific research confirms that poverty and near poverty have negative effects on the health and development of children.

The experience of poverty has particularly damaging effects in early childhood. In the last few years, scientific evidence has also begun to document that extreme poverty early in life (an income of less than 50 percent of the poverty line) has an even greater effect on children's future life chances (like the probability of dropping out of school or becoming a teen parent) than less extreme poverty later in childhood.

Young children in poverty are more likely to:

- be born at a low birth weight;
- be hospitalized during childhood;
- die in infancy or early childhood;
- receive lower quality medical care;
- experience hunger and malnutrition;
- experience high levels of interpersonal conflict in their homes;
- be exposed to violence and environmental toxins in their neighborhoods;
- experience delays in their physical, cognitive, language, and emotional development which in turn affect their readiness for school.

As children in poverty grow into adolescence and adulthood they are more likely to drop out of school, have children out-of-wedlock, and be unemployed.

Excerpt from:

Socioeconomic status, child enrichment factors, and cognitive performance among preschool-age children: Results from the Follow-Up of Growth and Development Experiences study ? (2014).

by Deborah L. Christensen, Laura A. Schieve, Owen Devine, & Carolyn Drews-Botsch. *Research in Developmental Disabilities, 35,* 1789-1801.*

Socioeconomic status is influenced by factors at the individual level, such as household income, parental education, and parental occupation, and at a broader level, by factors such as neighborhood of residence. Several studies have reported that children's educational attainment and performance on tests of cognitive ability vary with socioeconomic status, with children from disadvantaged homes and neighborhoods having lower achievement than children from advantaged homes and neighborhoods. Disparities in children's achievement by socioeconomic status appear in early childhood, before entry to school, and school achievement gaps have been shown to persist and even widen with time. These gaps have negative implications for children's employment and earning potential and are also associated with poorer adult health status and shorter life expectancy.

The underlying reasons for the strong associations observed between SES and child cognitive performance is complex and likely multi-factorial. ...The level of cognitive enrichment a child receives may be one of the key mediating factors in the association between SES and cognitive performance. Indeed, several authors have examined the role of family factors, such as level of cognitive stimulation, parenting style, and parental stress and depression, in explaining the well-documented association between SES and child cognitive development. Nearly all these investigators reported that the level of cognitive stimulation at home explained a substantial portion of the association between household-level socioeconomic status and child test performance.

*See the article for references.

Excerpt from:

United States General Accounting Office:

EARLY EDUCATION AND CARE
Overlap Indicates Need to Assess Crosscutting Program

When multiple agencies manage multiple early childhood education and care programs, mission fragmentation and program overlap occur. This in turn creates the potential for duplication and service gaps. Though sometimes necessary to meet federal priorities, mission fragmentation and program overlap can create an environment in which programs do not serve participants as efficiently and effectively as possible. To address inefficiencies that may arise under these circumstances, policymakers could choose to coordinate, integrate, or consolidate programs. In order to identify the best method for addressing inefficiencies among fragmented and overlapping programs, policymakers need to know, among other things, whether programs are (1) fulfilling a unique role, (2) unnecessarily redundant, or (3) being administered in the most effective way to meet program as well as federal strategic goals.

To address inefficiencies such as program duplication and service gaps that can arise from mission fragmentation and program overlap, one of several approaches could be taken: coordination, integration, or consolidation. Policymakers could direct responsible agencies to better coordinate programs with other agencies that share the same program mission. Responsible agencies could also integrate program services from one program into others to more effectively serve certain target groups. Service integration activities range from providing services from several agencies at one location to creating state and local interagency service planning and budgeting functions. Policymakers and responsible agencies could also decide that the only way to eliminate duplicate programs is to consolidate several into one. However, to determine the most appropriate method of addressing problems created by mission fragmentation and program overlap, policymakers would need to consider, among other things, whether

- overlapping programs fulfill unique roles or are unnecessarily duplicate,
- some programs are more effective at meeting program and federal strategic goals than others, and
- whether some other configuration of programs might better serve participants.

Evaluation results, where available, can provide information about how effective programs at achieving desired outcomes. With this information, the Congress and the administration may be able to identify some programs that are more effective than others at achieving overall federal goals in the early childhood education and care area. Finally, decisions made about coordinating, integrating, or consolidating programs could affect participants differently and have administrative and budgetary effects on state and local governments, especially if service delivery mechanisms change.

II. Early Development Learning
A Growing Field

> I propose working with states to make high-quality preschool available to every child in America... Let's do what works, and make sure none of our children start the race of life already behind. Let's give our kids that chance.
>
> – President Barack Obama, Feb. 12, 2013

A. Burgeoning interest in infant and child development

B. Developmental Milestones & Ways Caregivers Can Promote Healthy Development

Cognitive Development
Social and Emotional Development
- ***Physical Development***

C. Screening for Problems

Screening: A Note of Caution

Early Childhood Screening, Diagnoses, and Treatment

A. Burgeoning interest in infant and child development

There's growing excitement about "discovering" the importance of early childhood development. This impetus is prompting public institutions – health, education, mental health, labor -- to reevaluate their role in enriching the opportunities for infants through preschoolers. Pushing prevention and early intervention to the preschool years comes as a result of the growing awareness of the disparities in skills of entering kindergarten students.

While addressing these disparities and the barriers to all children succeeding is our obligation, if we're not careful, we can move to practices that may not be helpful. We will have much to learn as we see Head Start move from the Department of Health and Human Services, where it addressed social and child care problems, to the Department of Education, where it will become an early reading program. The material in this packet is meant to provide a broad look at practice, research, and policy in this important area.

Concern about addressing barriers to learning leads our Center to join in the national focus on the experiences that children have before entering school. The healthy development of infants and preschool children is being addressed by a broad perspective of groups for a variety of reasons.

- Researchers are pursuing new avenues of investigating early brain development.
- Program evaluators are showing the long term impact of early childhood programs.
- Schools are eager for effective preschool programs and practices to enhance the readiness of entering students.
- Employment trends and welfare policies create a need for policies to enhance availability of quality child care programs.

The State of Preschool 2014

Barnett, W.S., Carolan, M.E., Squires, J.H., Clarke Brown, K., & Horowitz, M. (2015). The state of preschool 2014: State preschool yearbook. New Brunswick, NJ: National Institute for Early Education Research.

The 2014 State Preschool Yearbook is the newest edition of our annual report profiling state-funded prekindergarten programs in the United States. This latest Yearbook presents data on state-funded prekindergarten during the 2013-2014 school year as well as documenting more than a decade of change since the first Yearbook collected data on the 2001-2002 school year. Tracking trends long term is key to understanding the progress of early childhood education across the country and improving educational opportunities for America's children. The Yearbook also provides narrative information on early childhood education efforts in the 10 states and the U.S. territories that do not provide state-funded pre-K. The Yearbook permits readers to assess progress and the current status of pre-K programs in each state, as differences among the states are remarkably large.

The 2013-2014 school year offered hope of a recovery for state-funded pre-K after the recession. State funding for pre-K increased by $116 million in 2013-2014, adjusted for inflation. This is the second year in a row that state pre-K has seen a real funding increase, though programs have yet to fully recover from the impacts of half a billion dollars in cuts in 2011-2012. Enrollment growth also resumed in 2013-2014, albeit modestly. Twenty-nine percent of America's 4-year-olds were enrolled in a state-funded preschool program. Total enrollment increased by 8,535, and nearly half this increase was required to recoup the loss of 4,000 seats in 2012-2013. State pre-K quality standards improved notably in 2013-2014. Three programs – Oregon, Pennsylvania HSSAP, and Wisconsin Head Start – now meet the requirement that assistant teachers have at least a Child Development Associate credential. Two Pennsylvania programs that had lost benchmarks regained them this year as temporary moratoria on professional development were lifted. In two additional changes, West Virginia met the benchmark for lead teacher Bachelor degree, and Michigan met the benchmark for site visits.

The 2014 Yearbook is organized into three major sections. The first section offers a summary of the data and describes national trends in enrollment, quality standards, and spending for state-funded preschool. The second section presents detailed profiles outlining each state's policies with respect to preschool access, quality standards, and resources for the 2013-2014 year. In addition to providing basic program descriptions, these state profiles describe unique features of a state's program and recent changes that have altered the program since 2013-2014 or can be expected to alter it in future. Profile pages are also included for states without state-funded programs. A description of our methodology follows the state profiles, and the last section of the report contains appendices. The appendices include tables that provide the complete 2013-2014 survey data obtained from every state, as well as Head Start, child care, U.S. Census, and special education data.

Programs that serve young children operate under a variety of names and auspices and include the federal Head Start program as well as privately and publicly funded child care. State prekindergarten programs play an increasingly important role as part of this larger array of programs. The 2014 Yearbook seeks to improve the public's knowledge and understanding of state efforts to expand the availability of high-quality education to young children in the 21st century. The National Institute for Early Education Research has developed the State Preschool Yearbook series to provide information on the availability and quality of services offered through these programs to children at ages 3 and 4 and serve as a resource to policymakers and educators seeking to start all young learners on the right foot.

Excerpt from:
Center on the Developing Children. Harvard University.
http://www.developingchild.harvard.edu/

Early Childhood Program Evaluations: A Decision-Maker's Guide

Increasing demands for evidence-based early childhood services and the need by policymakers to know whether a program is effective or whether it warrants a significant investment of public and/or private funds—coupled with the often-politicized debate around these topics—make it imperative for policymakers and civic leaders to have the independent knowledge needed to be able to evaluate the quality and relevance of the evidence provided in reports. This clear, concise guide from the National Forum on Early Childhood Program Evaluation helps prepare decision-makers to be better consumers of evaluation information by posing five key questions that address both the substance and the practical utility of rigorous evaluation research.

A Science-Based Framework for Early Childhood Policy

A ground-breaking framework for using evidence to improve outcomes in learning, behavior, and health for vulnerable children, co-authored by the members of the National Forum on Early Childhood Program Evaluation and the National Scientic Council on the Developing Child. Combining knowledge from neuroscience, behavioral and developmental science, economics, and 40 years of early childhood program evaluation, the authors provide an informed, nonpartisan, pragmatic framework to guide policymakers toward science-based policies that improve the lives of young children and benefit society as a whole.

The Science of Early Childhood Development: Closing the Gap Between What We Know and What We Do

This publication from the National Scientific Council on the Developing Child offers a concise, clear overview of the science of early childhood and brain development as it relates to policies and programs that could make a significant difference in the lives of children—and all of society. Includes discussion of seven core concepts of development and their implications for policy and practice.

B. Developmental Milestones & Ways Caregivers Can Promote Healthy Development

From: Your Child: Bringing Up Baby. *Newsweek* Special Issue, October 16, 2000.

Cognitive Development

0-3 Months	
• Reacts to sound, light and motion; turns her head when she hears a parents voice • Begins to use hands and eyes in coordination • Imitates some vowel sounds	• A newborn's brain is highly attuned to faces. Stimulate her by bringing yours close to hers and letting her meet your gaze. Attach a mirror to the crib so she can see herself.
4-7 Months	
• Discovers that objects exists even when they're out of sight • Struggles to get things that are out of reach; explores cause and effects by banging, rattling and dropping objects	• Take her to art galleries to see new shapes and colors • Introduce toys that move and make noises. Don't discourade her constant banging and throwing. It's research.
8-12 Months	
• Starts linking meanings to gestures, shaking her head no and waving bye-bye • May start pointing with her index finger to show you what she wants	• Make storybooks a bedtime routine. Reading together fosters language and closeness. • Try playing peekaboo and hiding games. They encourage new forms of awareness.
13-18 Months	
• Recognizes name; may point if asked, 'Where's your nose?' • Knows that combs and telephones have unique functions • Knows when her picture book is upside down	• Match words with objects and actions to reinforce the connections. Say 'kitty' each time you see a cat. And when you announce bath time, let her watch you run the tap.
19-23 Months	
• Starts to play make-believe • Creates simple phrases such as 'so big' and 'all gone' • May use words (the same ones she hears around the house) to voice frustration	• Keep naming things, but don't pressure the child to speak. Responding to her cries, babbles and body language may actually encourage verbal development.
24-36 Months	
• Vocabulary and sentence construction improve rapidly • Starts to grasp categories (dogs and cats are animals) • Understands instructions, may refuse to follow them	• Avoid using baby talk; expand her vocabulary by using unfamiliar words in contexts that make the meaning clear. • Toys with switches, buttons and knobs have special appeal.
37-48 Months	
• Understands the concept of similarity and difference; can sort toys by size and color • Remembers and tells stories • Asks a steady stream of 'why' questions	• Whether you're in the house or on a journey, talk to her about what's going on: cookies baking, traffic lights changing, leaves turning color and falling from the trees in autumn.

Social and Emotional Development

0-3 Months	
• Develops a social smile; holds your gaze for longer and longer periods • Cries to show discomfort or fatigue; smiles, gurgles and coos when happy or excited	• Take pleasure in discovering her quirks; no book can reveal her unique personality • Smile and mimic her coos and gurgles to engage her in 'conversation'
4-7 Months	
• Starts to show interest in other kids; may fear strangers • Laughs at funny faces; shows anger when a toy is taken away • Starts to imitate the inflections in other peoples voices	• Widen her circle of acquaintances; include her in social gatherings to foster interaction • Praise her and respond enthusiastically whenever she tries to communicate
8-12 Months	
• Smiles at, pats or even kisses mirror image • May reject confinement in crib or playpen • Buries head in parents shoulder when meeting people	• Look deep into the child's eyes. Studies suggests that parents who establish intimacy though eye contact encounter fewer problems with discipline later on.
13-18 Months	
• Shows little understanding of rules and warnings, but smiles when praised and cries when scolded • Throws tantrums (and objects) when angry	• Praise child's nascent efforts at cooperation, and don't hold grudges when she is balky. Apply discipline gently and swiftly to help her link her behavior to consequences.
19-23 Months	
• Gains increasing awareness of other people's feelings**;** shows affection for parents by hugging, smiling and kissing • Grows possessive of toys; has little concept of sharing	• Kids engage mainly in 'parallel play' at this age, but spending time together helps them overcome shyness and acquire the arts of compromise, sharing and diplomacy
24-36 Months	
• Loves chores; may want to help set the table for meals • Can play happily alone but prefers having an audience • Understands authority but tests it; says no more often	• Introduce the mail carrier and the grocer. Talk about their responsibilities and how they do their jobs. Let the child 'help' you at home by dusting a table or sweeping a floor.
37-48 Months	
• Becomes increasingly sociable with other children • Learns to be sensitive to your feelings. May show first signs of sympathy: will try to comfort you when you are sad.	• Keep the child's age in mind when setting limits; asking a 3-year-old not to touch things in a store is unrealistic. Make sure the adults in your house have consistent expectations.

Physical Development

0-3 Months	
• Brings closed fists to mouth, sucks, thrusts arms and legs • opens and closes hands • may try to raise her head and chest while supporting herself on her elbows	• Try talking to your baby while she rests in your lap. By turning her head to look at you, she'll show off her vision and hearing, and strengthen the muscles in her neck.
4-7 Months	
• Rolls over in both directions and maintains balance when placed in a sitting position • Grasps objects within reach, and may transfer them from one hand to the other	• Playpens can be dangerous. Keep the sides up, and keep balloons and strings out. • Expect to encounter a cold or ear infection as Baby starts handling more objects
8-12 Months	
• Gains mobility by crawling on hands and knees; stands upright by holding on to furniture for support • Uses thumb and forefinger to grasp objects of interest	•Childproof your home. A clear floor space promotes curiosity and free movement. • Experts advise against walkers. A wagon with a bar she can grasp is a better choice.
13-18 Months	
• Growth slows, but Baby becomes stronger and more coordinated • Walk without support • Scribbles with crayon and points with her index finger	• Don't let her near medicine chests, cleaning supplies, trash cans or even a pet's feeding bowl. She is sure to make a mess, and may ingest anything she can get her hands on.
19-23 Months	
• Starts running and climbing; kicks a ball without tripping • May begin to gain bowel and bladder control Uses hands to drink from cups and draw crude circles	• Make sure your windows have child guards before the baby starts to climb • Keep her stocked with blocks, clay and finger paints to foster dexterity
24-36 Months	
• Loves to tumble; may start dancing to a musical beat and hopping around on one foot • Proceeds with toilet training • Uses wrists to open jars and to turn nuts, bolts and screws	• Encourage the budding acrobat by placing a mattress or a sheet of foam rubber on the floor and letting her bounce around. Just don't leave the room while she's at it.
37-48 Months	
• Dresses and undresses herself without an adult's help • Pedals and steers a tricycle • Holds a pencil in writing position and uses it to draw recognizable figures	• Introduce toys that help develop new skills. By the age of 3, most kids are ready to handle small scissors, assemble simple puzzles and make noise on musical instruments.

C. Screening for Problems

(1) Screening: A Note of Caution

Formal screening to identify students who have problems or who are "at risk" is accomplished through individual or group procedures. Most such procedures are *first-level* screens and are expected to *over-identify* problems. That is, they identify many students who do not really have significant problems (false positive errors). This certainly is the case for screens used with infants and primary grade children, but false positives are not uncommon when adolescents are screened. Errors are supposed to be detected by follow-up assessments.

Because of the frequency of false positive errors, serious concerns arise when screening data are used to diagnose students and prescribe remediation and special treatment. Screening data primarily are meant to sensitize responsible professionals. No one wants to ignore indicators of significant problems. At the same time, there is a need to guard against tendencies to see *normal variations* in students' development and behavior as problems.

Screens to not allow for definitive statements about a student's problems and needs. At best, most screening procedures provide a preliminary indication that something may be wrong. In considering formal diagnoses and prescriptions for how to correct the problem, one needs data from assessment procedures that have greater validity.

It is essential to remember that many factors found to be symptoms of problems also are common characteristics of young people, especially in adolescence. This means *extreme caution* must be exercised to avoid misidentifying and inappropriately stigmatizing a youngster. *Never* overestimate the significance of a few indicators.

C. Screening for Problems (cont.)

(2) Early Childhood Screening, Diagnoses, and Treatment

Did You Know...?
In addition to being eligible for the regular Medicaid services offered under a State Medicaid program, children under the age of 21 are eligible for the mandatory Medicaid benefit known as Early and Periodic Screening, Diagnosis and Treatment (EPSDT) services. EPSDT is Medicaid's comprehensive and preventive children's health care program geared toward early assessment of children's health care needs through periodic examinations. The goal is to assure that health problems are diagnosed and treated as early as possible before the problem becomes complex and treatment more costly. The following are required EPSDT services:

- Screening Services that contain 5 elements: comprehensive health and developmental history, including assessment of both physical and mental health development; comprehensive unclothed physical exam; appropriate immunizations according to the Advisory Committee on Immunization Practice schedule; laboratory tests; and, health education, including anticipatory guidance.

- Vision Services, which at a minimum must include diagnosis and treatment for defects in vision, including eyeglasses.

- Dental Services, which at a minimum must include relief of pain and infection, restoration of teeth, and maintenance of dental health. Hearing Services, which at a minimum must include diagnosis and treatment for defects in hearing, including hearing aids.

- Other necessary health care, diagnostic services and treatment services. Provision of medically necessary interperiodic screening.

The EPSDT program specifies 12 examinations for children during the first 5 years of life and one every other year for children aged six through 20.
For more information, see the Center for Disease Control and Prevention: http://www.cdc.gov

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In recent years, EPSDT screening has been done using the Pediatric Symptom Checklist (PSC). The PSC has proved to be useful and valid screening tool in general pediatric practice as well as in a variety of school, outpatient, and subspecialty clinic pediatric settings. Three studies have validated the PSC for use with low-income and minority children, and recent work in California has demonstrated the reliability and validity of both Spanish and English versions of the PSC with school-aged, low-income Hispanic children in an EPSDT setting.
Recently, a revised version of the PSC has been created for children under the age of 6 years (the PSSC). Although unpublished, initial validation studies suggest that this form will have reliability that is comparable to that of the original PSC. Parents and child care providers can use the PSSC to determine if a child is at risk and needs services.

Pre-School and School-aged Symptom Checklist (PSSC)

Emotional and physical health go together in children. Because parents are often the first to notice a problem with their child's behavior, emotions or learning, you may help your child get the best care possible by answering these questions. Please indicate which statement best describes your child.

Please circle the number that best describes your child:	**Never**	**Sometimes**	**Often**
1. Complains of aches and pains	0	1	2
2. Spends more time alone	0	1	2
3. Tires easily, has little energy	0	1	2
4. Fidgety, unable to sit still	0	1	2
5. Acts as if driven by a motor	0	1	2
6. Daydreams too much	0	1	2
7. Distracted easily	0	1	2
8. Is afraid of new situations	0	1	2
9. Feels sad, unhappy	0	1	2
10. Is irritable, angry	0	1	2
11. Feels hopeless	0	1	2
12. Has trouble concentrating	0	1	2
13. Less interested in friends	0	1	2
14. Fights with other children	0	1	2
15. Is down on him or herself	0	1	2
16. Visits the doctor with doctor finding nothing wrong	0	1	2
17. Has trouble sleeping	0	1	2
18. Worries a lot	0	1	2
19. Wants to be with you more than before	0	1	2
20. Feels he or she is bad	0	1	2
21. Takes unnecessary risks	0	1	2
22. Gets hurt frequently	0	1	2
23. Seems to be having less fun	0	1	2
24. Acts younger than children his or her age	0	1	2
25. Does not listen to rules	0	1	2
26. Does not show feelings	0	1	2
27. Does not understand other people's feelings	0	1	2
28. Teases others	0	1	2
29. Blames others for his or her troubles	0	1	2
30. Takes things that do not belong to him or her	0	1	2
31. Refuses to share	0	1	2
32. Gets upset easily	0	1	2
33. Hurts others	0	1	2
34. Hard to like	0	1	2
35. Hard to control	0	1	2

Total score:_____

To score: Sum the 35 items. If the total score is 24 or higher, the child is considered at risk.

Early Childhood Tools

Tools and Resources for Early Childhood visits are grouped into the following 3 categories:

1. Early Childhood Core Tools grouped by visit in English and Spanish

- **Previsit Questionnaires:** Help determine what the family or adolescent would like to discuss that day during the visit in conjunction with the Bright Futures well-child visit priorities, assist in initiating recommended medical screening for integrating risk assessment questions, and aid in obtaining development surveillance information.

- **Visit Documentation Forms:** Provide a convenient resource to document activities during a typical health supervision visit, simplify proper coding, and help secure appropriate payment for each visit's activities.

- **Parent/Patient Education Handouts:** Summarize Bright Futures anticipatory guidance and are written for readers with limited literacy skills.

NOTE: To access the Parent/Patient Education Handouts separate from the other core visit tools, go to the Resources for Families Web page.

Core tools in English and Spanish are available covering ages:

12 Months, 15 Months, 18 Months,

2 Years, 2.5 Years, 3 and 4 Years

2. Early Childhood Medical Screening Reference (MSR) Tables for Clinician Use

- Provide an easy-to-use reference table for each Bright Futures well-child visit. Each table compiles the relevant history, risk assessment questions, and action to take if the risk assessment shows a positive result. A PDF includes all MSR Tables for all early childhood visits.

3. Additional/Supplemental Tools grouped by visit in English and Spanish for use with parents/patients

- **Supplemental Questionnaires:** Are used in addition to the Previsit Questionnaires, ask additional questions related to the 5 Bright Futures priorities for each well-child visit, and help busy clinicians quickly prioritize topics to make the most of their time with patients.

- **Medical Screening Questionnaires:** Assess for risks via one easy-to-use form for each age level.

Early Childhood Additional/Supplemental Tools are available in English and Spanish

III. What's the Word on Early Brain Development?

> The areas of the brain develop at different times. That means that children can learn some things best at particular times. A "window of opportunity" is the time when something is easiest to learn. Windows of opportunity are sometimes called critical periods. The first three years of life are very important times for basic learning. That is when the fastest growth is taking place.
>
> Jeppson, Myers-Walls, & Love

A. Brain Development

B. Frequently Asked Questions about General Brain Development

C. Brain Architecture

III. What's the Word on Early Brain Development?

A. Brain Development

Excerpts from: *Brain Development* by Jandy Jeppson with Judith A. Myers-Walls and Dee Love
https://www.extension.purdue.edu/providerparent/child%20growth-development/braindev.htm

When babies are born, their brains are ready to learn. Even newborns can understand some things about objects and their relationship to each other. The brain organizes what the child experiences into groups. As a childcare provider, you give children chances to touch, taste, see, hear, and smell all they can. This helps them to learn about the world around them. As children play with things, they learn about them. For example, children will sit on objects or throw themjust to see what will happen. As children get older, they continue to explore the world around them in new ways. For example, children may mix yellow and blue paint tolearn that it makes green. Exploring and trying things out is how children learn.

As children learn, their brains grow. This article describes how the brain grows over time. In recent years, there has been a lot of "brain research." There are some basic facts we have learned about brain development in infancy. Many studies show that you as caregivers have been doing many of the right things to support brain development. Many parents have been doing the right things, too. The best ways to support brain development are (1) being caring and supportive, (2) paying attention to children and giving them what they need, and (3) providing a rich learning environment.

. . .

Nature vs. nurture

Some brain development occurs just because ithappens naturally. Almost every baby will do things like other babies because of natural growth. But inother ways children will grow very differently. This is because they have many different experiences.

Adults can count on nature taking care of some things. They do not need to teach children every little skill. Most children will learn to talk withoutparents teaching them how to move their mouths. Most children will learn to roll over without the parents doing anything. But children will not learn to talk if no one talks to them. They will not learn to roll over if they are always in a seat or being held.

Most experts agree that growth comes from both nature and nurture. It is interesting to look at how nature and nurture work together. For a baby's brain to make connections, she must be healthy and have what she needs physically. If that happens, some changes will come naturally. But that is not enough. She must also be in a place that gives her experiences. Nature and nurture together help her make brain connections and make the connections strong.

The brain is divided into sections

The brain seems to use different brain areas for different jobs. There are not only areas for language and music, but also for math, sight, emotions, and every other job the brain thinks about and does. Within each of these areas, there are millions of neurons and synapses. The areas of the brain can change a little, though. If a person has brain damage in one area, sometimes another area can take over.

The areas of the brain develop at different times. That means that children can learn some things bes at particular times. A "window of opportunity" is the time when something is easiest to l earn. Windows of opportunity are sometimes called critical periods. The first three years of life are very important times for basic learning. That is when the fastest growth is taking place.

Researchers have learned that there are many windows of opportunity in the first ten years of life. This is because connections are being made in the brain then at the most rapid rates. All researchers do not agree about what is meant by windows of opportunity. Most agree that there are times when some things are easier to learn than at other times. But, it is hard to say exactly when windows of opportunity occur. It is also hard to say exactly what things are learned within a window of opportunity.

B. Frequently Asked Questions about Brain Development

Excerpts from *FAQ's on the Brain* by Zero to Three
http://www.zerotothree.org/child-development/brain-development/faqs-on-the-brain.html

The human brain begins forming very early in prenatal life (just three weeks after conception), but in many ways, brain development is a lifelong project. That is because the same events that shape the brain during development are also responsible for storing information—new skills and memories—throughout life. The major difference between brain development in a child versus learning an adult is a matter of degree: the brain is far more impressionable (neuroscientists use the term plastic) in early life than in maturity. This plasticity has both a positive and a negative side. On the positive side, it means that young children's brains are more open to learning and enriching influences. On the negative side, it also means that young children's brains are more vulnerable to developmental problems should their environment prove especially impoverished or un-nurturing.

About General Brain Development

Which plays a more important role in brain development, nature (genes) or nurture (environment)?

Genes and environment interact at every step of brain development, but they play very different roles. Generally speaking, genes are responsible for the basic wiring plan—for forming all of the cells (neurons) and general connections between different brain regions--while experience is responsible for fine-tuning those connections, helping each child adapt to the particular environment (geographical, cultural, family, school, peer-group) to which he belongs. An analogy that is often used is wiring a phone network: genes would specify the number of phones and the major trunk lines that connect one relay station to the next. Experience would specify the finer branches of this network-the connections between the relay station and each person's home or office.

For example, each of us is born with the potential to learn language. Our brains are programmed to recognize human speech, to discriminate subtle differences between individual speech sounds, to put words and meaning together, and to pick up the grammatical rules for ordering words in sentences. However, the particular language each child masters, the size of his vocabulary, and the exact dialect and accent with which he speaks are determined by the social environment in which he is raised--that is, the thousands of hours he has spent (beginning even before birth) listening and speaking to others. Genetic potential is necessary, but DNA alone cannot teach a child to talk.

Does experience change the actual structure of the brain?

Yes. Brain development is "activity-dependent," meaning that the electrical activity in every circuit—sensory, motor, emotional, cognitive--shapes the way that circuit gets put together. Like computer circuits, neural circuits process information through the flow of electricity. Unlike computer circuits, however, the circuits in our brains are not fixed structures. Every experience--whether it is seeing one's first rainbow, riding a bicycle, reading a book, sharing a joke--excites certain neural circuits and leaves others inactive. Those that are consistently turned on over time will be strengthened, while those that are rarely excited may be dropped away. Or, as neuroscientists sometimes say, "Cells that fire together, wire together." The elimination of unused neural circuits, also referred to as "pruning," may sound harsh, but it is generally a good thing. It streamlines children's neural processing, making the remaining circuits work more quickly and efficiently. Without synaptic pruning, children wouldn't be able to walk, talk, or even see properly.

What is a "critical period" in brain development?

Pruning or selection of active neural circuits takes place throughout life, but is far more common in early childhood. Animal studies have shown that there are certain windows of time during which the young are especially sensitive to their environment: newborn mice must experience normal whisker sensation in the first few days of life or they will develop abnormal tactile sensitivity in the face region; cats must be allowed normal visual input during the first three months or their vision will be permanently impaired; and monkeys need consistent social contact during the first six months or they will end up extremely emotionally disturbed. Many of the same critical periods appear to hold for human development, although we are less certain about their exact length. Thus, babies also require normal visual input or they may suffer permanent impairment; children born with crossed or "lazy" eyes will fail to develop full acuity and depth perception if the problem is not promptly corrected. Language skills depend critically on verbal input (or sign language, for babies with hearing impairments) in the first few years or certain skills, particularly grammar and pronunciation, may be permanently impacted. The critical period for language-learning begins to close around five years of age and ends around puberty. This is why individuals who learn a new language after puberty almost always speak it with a foreign accent.

Are there critical periods in the development of every brain function?

Probably not. In the case of visual development, certain abilities are more at-risk than others when a young child's vision is impaired by eye-crossing or other visual problems (such as congenital cataracts). Thus, two visual abilities--acuity (the perception of fine detail) and binocularity (the coordinated use of both eyes), which is especially important for depth perception--do depend on normal visual experience as a child, whereas two other visual abilities--color and peripheral vision--are not impaired by visual problems in early life. A similar distinction holds for language development: certain skills (including grammar and phonology--the ability to perceive and produce individual speech sounds) are more sensitive than others (such as vocabulary size) to a child's experience with language in the first few years of life.

We know much less about the development of other mental skills, such as emotional functioning, mathematical ability, or musical skill. If their development is comparable to vision and language, we may expect that some features will be subject to a critical period while others are not. One musical skill known as "perfect pitch"--the ability to identify a musical note without reference to a tuning note--seems to develop only in musicians who began their training before the age of seven (and then, not in all professional musicians). Similarly, a child's social-emotional development depends on a positive, nurturing attachment to a primary caregiver, based on the higher frequency of serious behavioral problems among children who were severely neglected during the first year or more of life, (such as the thousands of Romanian children reared in state-run orphanages). Comparable problems emerge among monkeys who are reared in isolation, and neuroscientists are beginning to understand how the lack of attachment in infancy alters development of emotional areas of the primate brain.

Why does the developing brain undergo these critical periods in its development?

Neuroscientists do not yet fully understand the biological basis of these critical periods. One theory is that they correspond to a period of synaptic excess in the brain: between infancy and the early grade school years, the brain actually over-produces connections--some 50 percent more than will be preserved in adulthood. During the critical period, a child's experience--sensory, motor, emotional, and intellectual--determines which of these synapses will be preserved, through pruning of the least useful connections. In this way, each child's brain becomes better tuned to meet the challenges of his or her particular environment.

A related theory holds that learning itself creates critical periods in a child's brain. That is, the

8longer a child has been exposed to one type of experience or environment, the less likely he or she will be able to reverse the synaptic learning that has already taken place. Animal studies provide some support for this theory. For example, kittens that are deprived of all vision (as opposed to the vision in just one eye) in the first few months of life show a delayed critical period for visual experience, beginning from the time their deprivation ends. Similarly, songbirds normally learn their species-typical songs early in life, by listening to adults of the same species. However, when newly hatched birds of certain species are isolated, permitting them no song exposure during early life, their critical period for song learning is delayed, even as late as adulthood.

When is the brain fully developed?

In some way, never. Our brains are continually re-shaping themselves to meet the demands of everyday life, even throughout adulthood. However, there are certain aspects of brain structure and function that do level off during development. For example, the number of neurons peaks even before birth; some 100 billion are formed during just the first five months of gestation. (Recent evidence suggests that new neurons are produced throughout life, though far less rapidly, and probably in numbers sufficient only to replace those that gradually die off.)

Other Questions and Answers

This resource also provides answers to the following:

Prenatal Development
•When does brain development begin?
•What are neural tube defects (NTDs)?
•When does the fetus's brain begin to work?
•What are the most important influences on brain development before birth?

Postnatal Development
•How developed is the brain by birth?
•What role do parents play in a baby's brain development?
•What are the most important changes in the brain after birth?
•Are there any differences in the development of boys' and girls' brains?

III. What's the Word on Early Brain Development? (cont.)

C. Brain Architecture

Center on the Developing Child HARVARD UNIVERSITY

http://developingchild.harvard.edu/key_concepts/brain_architecture/

Search

Search

Other Key Concepts

Serve and Return

Toxic Stress

Executive Function

Resilience

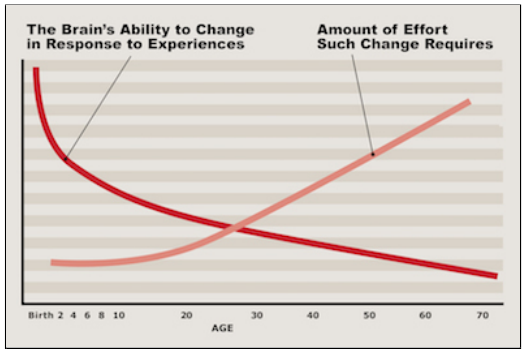
Innovation

KEY CONCEPTS: BRAIN ARCHITECTURE

Early experiences affect the development of **brain architecture**, which provides the foundation for all future learning, behavior, and health. Just as a weak foundation compromises the quality and strength of a house, adverse experiences early in life can impair brain architecture, with negative effects lasting into adulthood.

Brains are built over time, from the bottom up. The basic architecture of the brain is constructed through an ongoing process that begins before birth and continues into adulthood. Simpler neural connections and skills form first, followed by more complex circuits and skills. In the first few years of life, 700 to 1,000 new neural connections form every second. After this period of rapid proliferation, connections are reduced through a process called pruning, which allows brain circuits to become more efficient.

Brain architecture is comprised of billions of connections between individual neurons across different areas of the brain. These connections enable lightning-fast communication among neurons that specialize in different kinds of brain functions. The early years are the most active period for establishing neural connections, but new connections can form throughout life and unused connections continue to be pruned. Because this dynamic process never stops, it is impossible to determine what percentage of brain development occurs by a certain age. More importantly, the connections that form early provide either a strong or weak foundation for the connections that form later.



Never Too Late, But Earlier Is Better

The first years of life are a very busy and crucial time for the development of brain circuits. The brain has the most plasticity, or capacity for change, during this time, which means it is a period of both great opportunity and vulnerability. The impact of experiences on brain development is greatest during these years—for better or for worse. It is easier and less costly to form strong brain circuits during the early years than it is to intervene or "fix" them later. Brains never stop developing—it is never too late to build new neural circuits—but in establishing a strong foundation for brain architecture, earlier is better.

Graph Source: Pat Levitt (2009). For complete reference information, please see the version of this graph that appears in the interactive feature "Core Concepts in the Science of Early Childhood Development."

The interactions of genes and experience shape the developing brain. Although genes provide the blueprint for the formation of brain circuits, these circuits are reinforced by repeated use. A major ingredient in this developmental process is the serve and return interaction between children and their parents and other caregivers in the family or community. In the absence of responsive caregiving—or if responses are unreliable or inappropriate—the brain's architecture does not form as expected, which can lead to disparities in learning and behavior. Ultimately, genes and experiences work together to construct brain architecture.

Cognitive, emotional, and social capacities are inextricably intertwined throughout the life course. The brain is a highly integrated organ and its multiple functions operate in coordination with one another. Emotional well-being and social competence provide a strong foundation for emerging cognitive abilities, and together they are the bricks and mortar of brain architecture. The emotional and physical health, social skills, and cognitive-linguistic capacities that emerge in the early years are all important for success in school, the workplace, and in the larger community.

Toxic stress weakens the architecture of the developing brain, which can lead to lifelong problems in learning, behavior, and physical and mental health. Experiencing stress is an important part of healthy development. Activation of the stress response produces a wide range of physiological reactions that prepare the body to deal with threat. However, when these responses remain activated at high levels for significant periods of time, without supportive relationships to help calm them, toxic stress results. This can impair the development of neural connections, especially in the areas of the brain dedicated to higher-order skills.

RELATED CONTENT

Young Children Develop in an Environment of Relationships: Working Paper No. 1

InBrief: The Science of Early Childhood Development

InBrief: The Impact of Early Adversity on Children's Development

Excessive Stress Disrupts the Architecture of the Developing Brain: Working Paper No. 3

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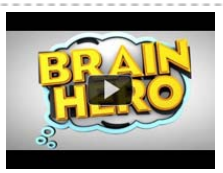


Brain Hero

The Timing and Quality of Early Experiences Combine to Shape Brain Architecture

InBrief: The Science of Early Childhood Development

IV. Research

In America today, too many babies fall behind even before their second birthday, placing both them and the nation at risk for never reaching their full potential. Babies' early experiences shape their brain development, creating either a strong or fragile foundation for all later learning. Many families lack social and economic resources to provide sufficient opportunities for positive, nurturing early learning experiences. By age 2, infants and toddlers in families with lower incomes, less education, and fewer social supports are more likely to show gaps across all domains of development. A disproportionate number of these babies are racial or ethnic minorities, underscoring a lack of equity in resources and pathways. Without the early experiences that build a strong foundation, they enter PreK already playing catch up. Major investments should start where learning starts—at birth.

Zero to Three Policy Center

A. Significance of the Earliest Years

B. School Readiness

C. Program Effectiveness

(1) Research Reviews

(2) Long-term Impact

(3) Economic Impact

D. Policy Implications

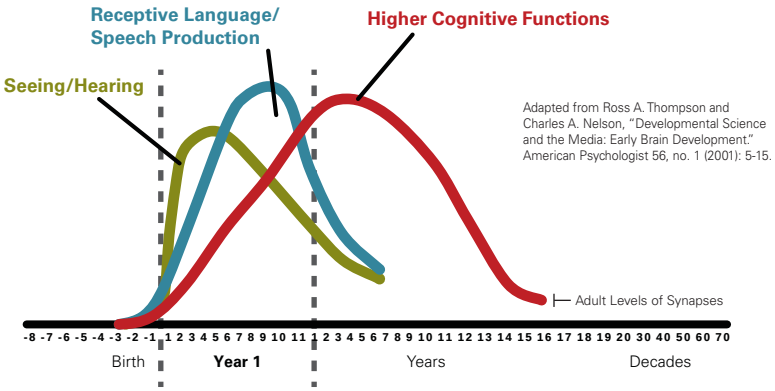
IV. RResearch

A. Significance of the Earliest Years (from *Zero to Three Policy Center*) *

Early Brain Development Lays the Foundation

A baby's brain architecture forms as connections for important functions such as hearing, language, and cognition peak during the first 3 years. Later, higher level brain functions will be built on top of these foundational connections, like a scaffold. Early experiences influence which connections are reinforced and which fall away unused, and thus whether this important foundation will be strong or fragile.

DEVELOPMENT OF NEURAL CONNECTIONS



Adapted from Ross A. Thompson and Charles A. Nelson, "Developmental Science and the Media: Early Brain Development." American Psychologist 56, no. 1 (2001): 5-15.

Relationships Are the Key to Baby Learning

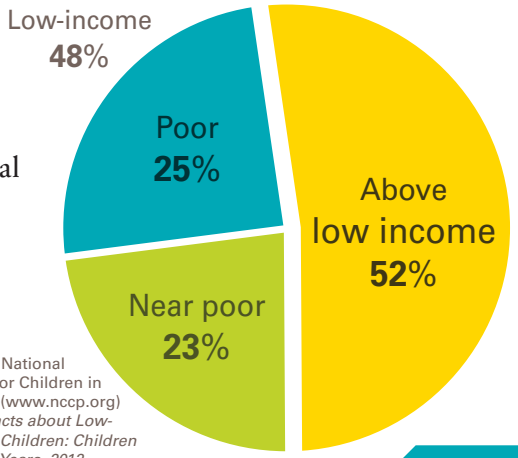
Relationships with trusted adults, primarily their parents, are central to providing and helping babies navigate these early experiences. Within these relationships, young children learn how they are valued and how the world works. With about 6 million infants and toddlers spending time in the care of someone other than their parents, other caregivers also play a key role. These trusting relationships foster the social and emotional skills—confidence, persistence, self-regulation, attentiveness, and ability to form relationships—that set infants and toddlers on the path to being confident learners, productive workers, and emotionally competent human beings.[vi]

Not All Babies Have the Opportunity to Thrive

When families lack access to key ingredients for healthy, positive development, a child's early years can become a time of vulnerability rather than promise. Chronic, unrelenting stress—sometimes called "toxic"—is a prime mechanism through which early experiences can undermine brain development. Children may experience such stress from environmental factors such as unstable housing, deprivation, and parental stress or mental health issues. Early chronic stress literally gets under the skin, becoming embedded in rapidly developing neurological and physical systems.[vii]

- ✓ Children with risk factors, such as living in low-income households, abuse or neglect, prenatal exposure to alcohol or other substances, and low parental education, have a higher incidence of developmental delays and disabilities than the general population. Disparities emerge as early as 9 months and widen by 24 months old.[viii]

Infants and toddlers by family income, 2012



Source: National Center for Children in Poverty (www.nccp.org) *Basic Facts about Low-income Children: Children under 3 Years, 2012*

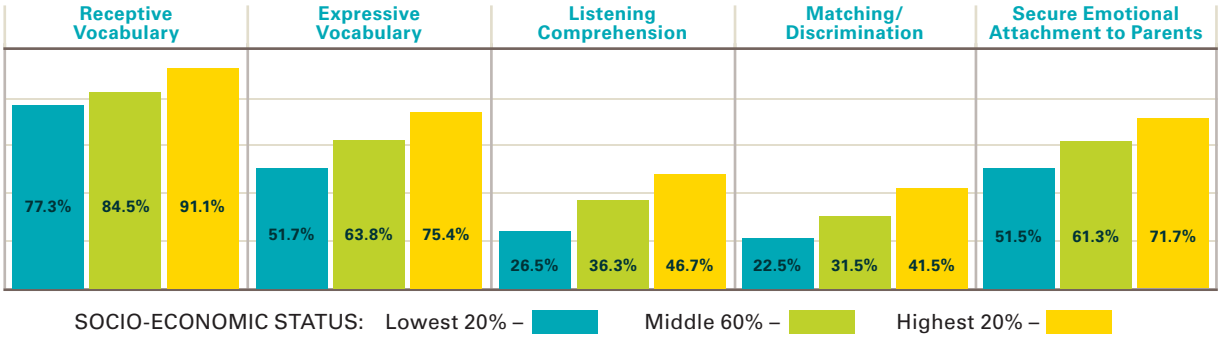
More than ½ of infants and toddler in poverty have had at least 1 adverse experience that could undermine their development.[ix]

* http://www.zerotothree.org/policy/2015-policy-agenda/2015-policy-agenda_final.pdf

Research Supports Significance of the Earliest Years (Continued)

- Children who are in the lowest socio-economic group, who live in poverty, whose parents have less education, or whose mothers are not employed tend to lag behind their peers who have more resources in developing language, early math, and social-emotional indicators by about 2 years old.[x] Because children from racial or ethnic minorities are overrepresented in these categories, on average they are behind white children, underscoring a need for equity of opportunity.

PERCENTAGE OF 2-YEAR OLDS DEMONSTRATING SPECIFIC COGNITIVE SKILLS AND SECURE EMOTIONAL ATTACHMENT BY SOCIOECONOMIC STATUS[xi]



Supporting Early Development Is a Wise Investment

Program evaluation research highlights effective strategies to create the conditions in which children and their families thrive, even in the face of adverse circumstances. Such strategies promote strong relationships that can help buffer children from the toxic stress that can undermine healthy brain development and provide positive early learning experiences. Starting in the important prenatal period, proven approaches can help diminish the gaps and promote stronger social-emotional foundations. They include home visiting, high-quality child care, and the comprehensive approach of Early Head Start.

> *"Higher skill base at [age] 3 enhances the productivity of later investment... When the initial base is substantially compromised, so are the returns to later investment."* [xi]
>
> - James Heckman, Nobel laureate

Demographic changes should inform the expansion, content, and further research on promising approaches. The majority of infants in the U.S. are now minorities, and they are more likely to lag in attaining developmental skills. Consideration of cultural context is key as we seek to support their families and provide equity of opportunity for positive early learning experiences.

[i] Jacob Klerman, Kelly Daley, and Alyssa Pozniak, Family and Medical Leave in 2012: Technical Report. U.S. Department of Labor, 2012. Retrieved March 4, 2013, from www.dol.gov/whd/fmla/survey.

[ii] 2013 Program Information Report (PIR): The Office of Head Start PIR data are publicly available on the PIR Reports web site at http://eclkc.ohs.acf.hhs.gov/hslc/data/pir.

[iii] Centers for Disease Control and Prevention, Developmental Screening Fact Sheet. Retrieved from http://www.cdc.gov/ncbddd/actearly/pdf/parents_pdfs/DevelopmentalScreening.pdf.

[iv] C. B. Brauner and B. C. Stephens, "Estimating the Prevalence of Early Childhood Serious Emotional/Behavioral Disorder: Challenges and Recommendations." Public Health Reports 121 (2006): 303–310.

[v] Center on the Developing Child, "Child Development Fact Sheet." Harvard University, n.d. http://developingchild.harvard.edu.

[vi] National Scientific Council on the Developing Child, *The Science of Early Childhood Development*. National Scientific Council on the Developing Child, 2000, www.developingchild.net.

[vii] Ross A. Thompson, "Stress and Child Development." *The Future of Children*, 24(1), 41–59, 2014. Retrieved March 9, 2015, from www.futureofchildren.org.

[viii] T. Halle, N. Forry, E. Hair, et al., *Disparities in Early Learning and Development: Lessons From the Early Childhood Longitudinal Study—Birth Cohort* (ECLS-B). Washington, DC: Child Trends, 2009.

[ix] David W. Willis, "Early Childhood Systems and the Home Visiting Program: A Vision for the Future." PowerPoint presentation, Parents as Teachers, 2014. Retrieved February 10, 2015, from www.parentsasteachers.org.

[x] National Center for Education Statistics, Digest of Education Statistics, 2012, Table 133. Accessed at http://nces.ed.gov/programs/digest/d12/tables/dt12_133.asp.

[xi] James Heckman, Rob Grunewald, and Arthur Reynolds, "The Dollars and Cents of Investing Early: Cost-Benefit Analysis in Early Care and Education." *Zero to Three*, 26(6), 10–17 (2006).

ZERO TO THREE

For more information about the policy recommendations in this agenda, please contact **Patty Cole** at **PCole@zerotothree.org** or at **202-638-1144**.

To learn more about the ZERO TO THREE Policy Center, please visit our website at: **www.zerotothree.org/public-policy**

IV. Research (cont.)

B. School Readiness

Intro to: The Early Childhood Technical Assistance Center
Improving Systems, Practices and Outcomes

The ECTA Center is a program of the FPG Child Development Institute of the University of North Carolina at Chapel Hill, funded through cooperative agreement number H326P120002 from the Office of Special Education Programs, U.S. Department of Education. Opinions expressed herein do not necessarily represent the Department of Education's position or policy.

Evidence-Based Practices and School Readiness

This section of the ECTA Center's Evidence-Based Practice page provides information on evidence-based practices in areas specific to School Readiness.

State-by-State and National Data and Policies on School Readiness

This section of the ECTA Center's Early Childhood Data page provides resources with state-by-state and national data, policies, and initiatives related to School Readiness.

A few Good Resources

Unlocking Young Children's Potential: Governors' Role in Strengthening Early Mathematics Learning (October 2014) - This report from the National Governors Association (NGA) outlines actions that governors can take to advance early mathematics education and promote high-quality mathematics instruction for young children. According to the report, a child's math ability at school-entry is a better predictor of academic achievement, high school graduation, and college attendance than any other early childhood skill.

Kindergartners' Skills at School Entry: An Analysis of the ECLS-K (July 2014) - Using data from the Early Childhood Longitudinal Study, Kindergarten Class of 2010-11 data set, this brief examines the school readiness and abilities of beginning kindergartners across several academic and behavioral areas and highlights those areas where attention before kindergarten might benefit all children, as well as help close the gaps between more- and less-advantaged children. It was commissioned by Sesame Workshop and written by Mathematica Policy Research.

NAEYC Position Statement on School Readiness - Includes Where We Stand Summary (2009) and the Complete Position Statement (1995).

School Readiness (2008) – A technical report from the American Academy of Pediatrics.

- Building the Foundation for Bright Futures: Final Report of the NGA Task Force on School Readiness (2005) - This paper provides recommendations from the National Governors Association's Task force on School Readiness for what governors can do to promote ready states, ready schools, ready communities, ready families, and ready children.
- Findings from the National School Readiness Indicators Initiative: A 17 State Partnership (2005) - Sponsored by the David and Lucile Packard Foundation, the Ewing Marion Kauffman Foundation and the Ford Foundation, the School Readiness Indicators Initiative worked with 17 states to develop a comprehensive set of school readiness indicators to inform public policy for young children and their families.

See also, our Web pages on Early Literacy and Early Care and Development: National/Federal Initiatives and State Policies

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Early Childhood Technical Assistance Center
CB 8040
Chapel Hill, NC 27599-8040
phone: 919.962.2001
fax: 919.966.7463
email: ectacenter@unc.edu

IV. Research (cont.)

C. Program Effectiveness

(1) Major Reviews

The Early Childhood Technical Assistance Center *Improving Systems, Practices and Outcomes*

Major Reviews of Effectiveness of Infant and Early Childhood Programs

http://ectacenter.org/topics/effective/major.asp

Programs That Work, from the Promising Practices Network on Children, Families and Communities (2014) - Between 1998 and 2014, the Promising Practices Network (PPN) on Children, Families and Communities (www.promisingpractices.net) provided information on programs and practices that credible research indicated are effective in improving outcomes for children, youth, and families. This publication from the RAND Corporation includes summaries of all of the programs that were reviewed by the PPN and met the criteria for a Promising or Proven program, as listed on the PPN website in June 2014, when the project ended. Programs are listed by categories, such as age of the child when the intervention takes place, delivery setting, and outcomes improved.

From Neurons to Neighborhoods: An Update: Workshop Summary (2012) - This report from the National Academies Press is available full-text online. It is based on the original study, From Neurons to Neighborhoods: Early Childhood Development (2000), which has contributed to a growing public understanding of the foundational importance of the early childhood years and helped shape early childhood policy agendas and intervention efforts at national, state, and local levels.

Reports and Working Papers from the Center on the Developing Child at Harvard University (various dates - present) - These reports and working papers summarize findings from the research on the developing brain and underscore the importance of using science to intervene early and improve outcomes in learning, behavior, and health for all children, especially those whose prospects are compromised by adversity.

Proven Benefits of Early Childhood Interventions (2005), RAND Corporation - This synthesis summarizes what is known from the research literature about the short- and long-term benefits from early intervention programs, the features that are associated with more-effective programs, and the economic gains that accrue from investing additional resources in early childhood. A print-friendly PDF version is also available.

Handbook of Early Childhood Education (2002), edited by Jack Shonkoff and Sam Meisels - This book includesa section on measuring the impact of service delivery that provides an understanding of the issues around program effectiveness and efficacy.

Eager to Learn: Educating our Preschoolers (2000), National Academies Press - This publication presents a comprehensive, cross-disciplinary synthesis of the theory, research and evaluation literature relevant to early childhood education.

The Effectiveness of Early Intervention (1997), edited by Michael Guralnick - This book explores program factors and the effects of intervention for children at risk and for children with established disabilities. It reviews the past decade's advances and presents an agenda for new research that reflects the complexities and interrelatedness that exist among child and family characteristics, program features, and early intervention outcomes.

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CB 8040
Chapel Hill, NC 27599-8040
phone: 919.962.2001
fax: 919.966.7463
email: ectacenter@unc.edu

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IV. Research (cont.)

C. Program Effectiveness (cont.)

(2) Long-term Impact

The Early Childhood Technical Assistance Center *Improving Systems, Practices and Outcomes*
http://ectacenter.org/topics/effective/longterm.asp

Long-Term Impacts to Children, Families and Society

The Effects of Two Influential Early Childhood Interventions on Health and Healthy Behaviors (August 2015) - This report from the National Bureau of Economic Research (NBER) examines the long-term impacts on health and healthy behaviors of the Perry Preschool Project and the Carolina Abecedarian Project, finding that both interventions have statistically significant effects on the healthy behavior and health of their participants. Treatment effects are particularly strong for males. Health outcomes affected vary by intervention.

Start Early to Build a Healthy Future: The Research Linking Early Learning and Health (September 2014) - This report from the Ounce of Prevention Fund summarizes new research on what children need to get a healthy start in life and the positive effects of nurturing relationships, safe and secure environments, access to nutrition, health-promoting behaviors, and enriching early learning experiences. The authors provide policy and practice recommendations for supporting children's lifelong health through quality early care and education programs, as well as improved coordination and integration across agencies involved with young children and their families.

How Much Could We Improve Children's Life Chances by Intervening Early and Often? (July 2014) - This brief from the Center on Children and Families (CCF) at the Brookings Institute finds that well-evaluated targeted interventions can close over 70% of the gap between more and less advantaged children and can greatly improve social mobility and enhance the lifetime incomes of less advantaged children. The findings also suggest that these interventions would have a positive ratio of benefits to costs for the American taxpayers.

The Short- and Long-Term Impacts of Large Public Early Care and Education Programs (March 2014) - This brief from the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Planning and Evaluation (ASPE) describes the short- and long-term impacts of large public Early Care and Education programs in the U.S. for children before kindergarten entry, including what key features of programs lead to the best outcomes and how to sustain program benefits as children grow older. It does not include the many smaller ECE programs, including model or demonstration programs in the U.S. and abroad, that have also been evaluated.

Investing in Our Future: The Evidence Base on Preschool Education (October 2013)
This research brief provides a non-partisan, thorough review of the current evidence on why early skills matter, which children benefit the most from preschool, the short- and long-term effects of preschool on children's school readiness and life outcomes, the importance of program quality, and the costs versus benefits of preschool education. The brief was funded by the Foundation for Child Development and produced in collaboration with the Society for Research in Child Development. An executive summary is also available.

Getting the Facts Right on Pre-K and the President's Pre-K Proposal (February 2013) by W. Steven Barnett, Director of the National Institute for Early Education Research (NIEER) - This policy report examines what the research evidence shows in answer to the following four questions: (1) Does high-quality pre-K have lasting benefits? (2) What is the evidence for the $7 to $1 return on investment for preschool? (3) Do non-disadvantaged children benefit from pre-K, and is a targeted or a universal approach to preschool more effective? (4) Are large-scale public pre-K programs, including Head Start, effective? The author finds that when all of the evidence is considered, large-scale public programs have succeeded in producing meaningful long-term gains for children and not just disadvantaged children. The size of those gains depends on the quality of the program.

The Importance and Outcomes of Early Intervention for Infants and Toddlers with Disabilities and their Families (Fact Sheet) (July 2011) - The Infants and Toddlers with Disabilities Program (Part C) of the Individuals with Disabilities Education Act (IDEA) was created in 1986 to enhance the development of infants and toddlers with disabilities, minimize potential developmental delay, and reduce educational costs to our society by minimizing the need for special education services as children with disabilities reach school age. These fact sheets from the National Early Childhood Technical Assistance Center (NECTAC) provide a brief overview of the Part C program and facts from the research on early brain development, the importance of intervening early, the outcomes of early intervention, and current unmet needs. They are meant to be used as a tool to communicate with policymakers, pediatricians, families, and community leaders about the importance of high quality services for infants and toddlers with or at-risk for developmental delays and their families.

Impacts of Early Childhood Programs - This set of research briefs from the Brookings Institution is meant to provide policy-makers with user-friendly summaries of up-to-date, high-quality evidence on several early childhood interventions and their impact on children and families, including State Pre-K, Head Start, Early Head Start, Model Early Childhood Programs, Nurse Home Visiting.

The Heckman Equation - This Web site features Nobel prize-winning economist James Heckman's work to to better understand the long-term benefits of investing in early care and education for disadvantaged children and their families. It includes a slideshow on "The Heckman Equation" and a variety of tools, videos, videos in Spanish, speeches, and more.

The Carolina Abecedarian Project was a carefully controlled scientific study of the potential benefits of early childhood education for children from low-income families. Participants received full-time, high-quality educational intervention in a childcare setting from infancy through age 5. Each child had an individualized prescription of educational activities that focused on social, emotional, and cognitive areas of development, with a particular emphasis on language. The children's progress has been monitored with follow-up studies conducted at ages 12, 15, 21, and 30. Adult findings demonstrate that important, long-lasting benefits are associated with the program.

- *The Healthy Child: Assembly Required (April 2015) - This 12.54 minute video features a talk given by Kathleen Gallagher at TEDxUNC 2015 as she describes the journey of 100 North Carolina babies born into poverty, whose life trajectories were altered by their participation in the Abecedarian Project.*

- *Early Childhood Investments Substantially Boost Adult Health (March 28, 2014) - New findings published in the March 28, 2014 issue of Science report that children who participated in the Abecedarian Project from birth until age 5 enjoyed better physical health in their mid-30s than peers who did not attend the childcare-based program. Significant measures also indicate that better health lies ahead for these individuals. See the FPG news release and a two-page fact sheet on the findings. Additional resources are available at http://heckmanequation.org/health-research*
- *Adult Outcomes as a Function of an Early Childhood Educational Program: An Abecedarian Project Follow-up - This article from the January 16, 2012 issue of Developmental Psychology provides overall findings from the 30-year follow-up study of children who participated in the project.*

The High/Scope Perry Preschool Project developed a high-quality educational approach over 40 years ago focusing on 3- and 4-year-olds at risk for school failure. The longitudinal study found that adults at age 40 who had the preschool program had higher earnings, were more likely to hold a job, had committed fewer crimes, and were more likely to have graduated from high school than adults who did not participate in the program.

- *See also, The Return on Investment in High-Quality Preschool (2012). This 14.38 minute video features a talk by Larry Schweinhart, delivered at TEDxMiamiUniversity on September 12, 2012, highlighting findings from the High/Scope Perry Preschool Project. TEDxMiamiUniversity featured six speakers with a variety of perspectives related to America's investment in early childhood development and education. Videos of all the talks are available online.*

The Chicago Child-Parent Center (CPC) Program is a large-scale school-based preschool and early school-age intervention for low-income children that emphasizes parent involvement and the development of literacy skills. Studies have indicated that program participation beginning in the half-day preschool program is associated with higher school achievement, higher rates of school completion through age 20, lower rates of school dropout, lower rates of juvenile arrest for violent and non-violent charges, and less need for school remedial services.

- *See also, a What Works Clearinghouse (WWC) Quick Review on School-Based Early Childhood Education and Age-28 Well-Being (February 2012), highlights findings from a report that examined the effects of the Child-Parent Center Education Program on the educational attainment of participants at age 28.*

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CB 8040
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fax: 919.966.7463
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IV. Research (cont.)

C. Program Effectiveness (cont.)

(3) Economic Impact

The Early Childhood Technical Assistance Center *Improving Systems, Practices and Outcomes*

http://ectacenter.org/topics/effective/economic.asp

The Economics of Early Childhood Investments (December 2014) - This report from the White House Council of Economic Advisers analyzes the research on economic returns to investments in early childhood education and suggests that expanding early learning initiatives would provide benefits to society of roughly $8.60 for every $1 spent, about half of which would come from increased earnings for children when they grow up. Other benefits would include increased parental earnings and employment, reduced need for remedial education and later public school expenditures, increased educational attainment, improved health, and decreased involvement with the criminal justice system.

Early Childhood Education as an Essential Component of Economic Development; With Reference to the New England States (January 2013), Arthur MacEwan, Political Economy Research Institute at the University of Massachusetts, Amherst - This report discusses research findings on early childhood education programs and how the universal provision of high quality early childhood education programs can make significant positive contributions to economic development, as well as general social well-being.

Unfinished Business: Continued Investment in Child Care and Early Education is Critical to Business and America's Future (2012) Committee for Economic Development (CED) - Describes why investing in early education programs is one of the most effective strategies to secure the future economic strength of local communities and the nation as a whole.

- *See a related, earlier CED report, The Economic Promise of Investing in High-Quality Preschool (2006), Committee for Economic Development, which discusses the economic benefits of investing in high-quality early education programs, with a focus on the business community.*

Vital to Growth: The Early Childhood Sector of the U.S. Economy (2011) Pew Center on the States & Partnership for America's Economic Success - Provides highlights from an in-depth analysis of the early childhood sector of the U.S. economy, which found that public and private investments in young children are equivalent to 2.9 percent of the gross domestic product (GDP); however these investments are inadequate to promote the full economic and social benefits of investing in young children.

- *See the full report on which this brief is based, The Economic Value of the U.S. Early Childhood Sector (2010) Elaine Weiss and Richard Brandon*

Why America Needs High-Quality Early Care and Education (2009) Business Roundtable and Corporate Voices for Working Families - Describes why high-quality early education is important in building a globally competitive workforce and discusses guiding principles that define the components of high-quality programs.

Exceptional Returns: Economic, Fiscal, and Social Benefits of Investment in Early Childhood Development (2004) Economic Policy Institute, Robert Lynch - Highlights the economic returns, to society and the individual, of investing in high-quality early childhood programs.

Early Childhood Development: Economic Development with a High Public Return (2003) Federal Reserve Bank of Minneapolis - Makes a case for investing in early childhood development. Studies find that well-focused investments in early childhood development yield high public as well as private returns.

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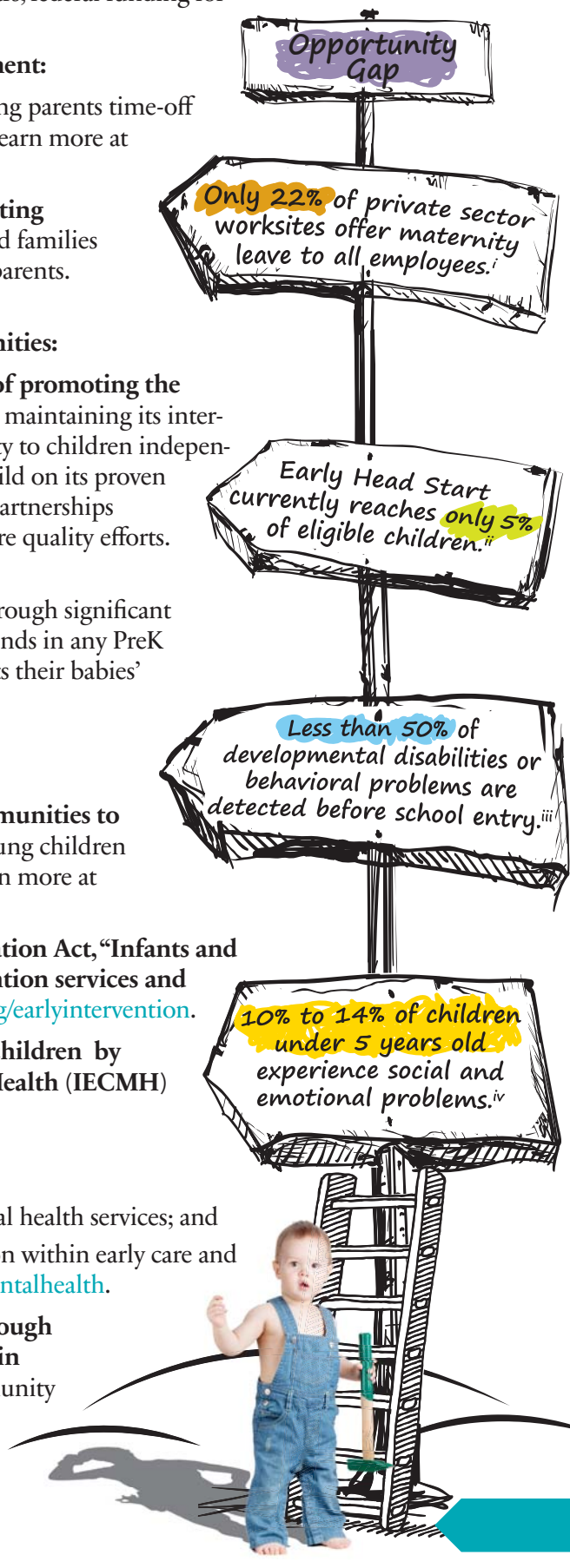
D. Policy Implications

The Agenda: Building Supports That Help All Babies Thrive (from Zero to Three Policy Center)*

- **Stop the erosion of funding that supports early development by removing the sequester and raising limits on domestic spending in the future.** In real dollars, federal funding for early learning is the same as it was 10 years ago.
- **Help parents and families support their children's early development:**
  - **Create a federal Paid Family Leave program** to give hardworking parents time-off to spend time with their newborns or newly adopted children. Learn more at www.zerotothree.org/paidleave.
  - **Extend the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program authorization** to give pregnant women and families critical and tailored tools designed to help them succeed as new parents. Learn more at www.zerotothree.org/homevisiting.
- **Expand comprehensive early development and learning opportunities:**
  - **Reauthorize and expand Early Head Start as the centerpiece of promoting the development of the most disadvantaged infants and toddlers**, maintaining its intergenerational nature, inclusion of pregnant women, and availability to children independent of parents' employment status. Promote innovations that build on its proven approach, including incorporating Early Head Start-Child Care partnerships as a bridge between the model federal program and state child care quality efforts. Learn more at www.zerotothree.org/EHS.
  - **Increase funding for high-quality infant-toddler child care** through significant increases in mandatory child care funds and the designation of funds in any PreK funding stream to ensure families have access to care that supports their babies' development and incentivize states to raise quality. Learn more at www.zerotothree.org/childcarepolicy.
- **Identify and address developmental needs from the start:**
  - **Provide incentives and technical assistance to states and communities to implement integrated developmental screening efforts** for young children across settings and ensure referral and follow-up for services. Learn more at www.zerotothree.org/devscreening.
  - **Reauthorize Part C of the Individuals with Disabilities Education Act, "Infants and Toddlers with Disabilities," to increase access to early intervention services and provide additional funding.** Learn more at www.zerotothree.org/earlyintervention.
- **Emphasize positive social and emotional development in young children by increasing access and quality of Infant-Early Childhood Mental Health (IECMH) services by:**
  - increasing the supply of IECMH professionals;
  - preventing, identifying, and treating maternal depression;
  - expanding Medicaid reimbursement for relationship-based mental health services; and
  - increasing the capacity for mental health training and consultation within early care and learning programs. Learn more at www.zerotothree.org/infantmentalhealth.
- **Ensure the well-being of infants and toddlers in child welfare through developmental approaches, such as including the Safe Babies Act in the Child Abuse Prevention and Treatment Act,** to promote community systems change through court-based teams that support the healthy, positive development of infants and toddlers. Learn more at - www.zerotothree.org/cwpolicy.



* http://www.zerotothree.org/policy/2015-policy-agenda/2015-policy-agenda_final.pdf

V. Implications for School Readiness

We know from rigorous psychological and sociological research, and from compelling clinical experience, that early childhood is atime when infants and toddlers acquire many skills needed to become productive, happy adults." Young children need meaningful learning opportunities to develop skills, competencies, a sense of self, and a foundation for learning throughout life. "Efforts to help all children achieve the basic skills of trust, motivation, and self-control needed for later intellectual and emotional development should not be aimed at creating super-babies, or giving anxious parents one more thing to worry about, or overambitious parents one more reason to push their children. Our aim should be to ensure that all children reach school age with a solid foundation for learning and relating to others, and that all parents know what they can do to help their children develop.

Zero to Three

A. What is School Readiness?

B. Families and Readiness

C. Head Start

D. School Involvement in Early Childhood

V. Implications for School Readiness

A. What is School Readiness?

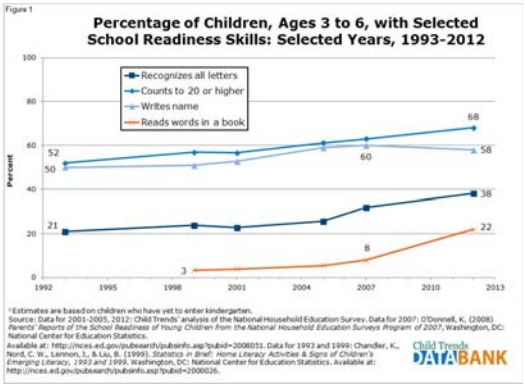
Excerpt from Child Trends Data Bank. (2015). http://www.childtrends.org/?indicators=early-school-readiness

Early School Readiness

School readiness, a multi-dimensional concept,[1] conveys important advantages. Children who enter school with early skills, such as a basic knowledge of math and reading, a likely than their peers to experience later academic success,[2],[3] attain higher levels of education, and secure employment.[4] Absence of these and other skills may contribut greater disparities down the road. For example, one study found that gaps in math, reading, and vocabulary skills evident at elementary school entry explained at least half of th gap in high school achievement scores.[5]

As conceptualized by the National Education Goals Panel, school readiness encompasses five dimensions: (1) physical well-being and motor development; (2) social and emot development; (3) approaches to learning; (4) language development (including early literacy); and (5) cognition and general knowledge.[6] The school readiness indicator repo here includes four skills related to early literacy and cognitive development: a child's ability to recognize letters, count to 20 or higher, write his or her first name, and read wor book. While cognitive development and early literacy are important for children's school readiness and early success in school, other areas of development, like health, social development, and engagement, may be of equal or greater importance.[7], [8],[9] However, although experts agree that social-emotional skills are critically important for schoo readiness, to date there are no nationally representative data in this area.

Trends



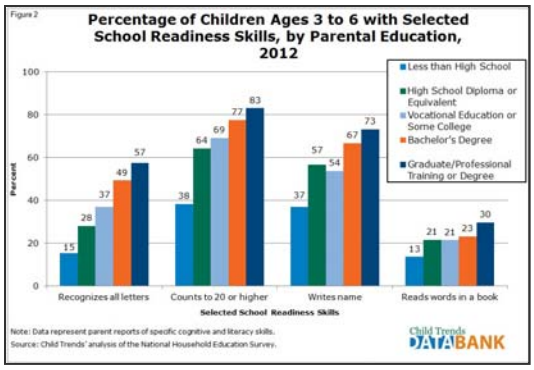
The proportion of pre-kindergarten three- to six-year-old children able to demonstrate cognitive and early l skills has increased over time. Between 1993 and 2012, the share of children able to recognize all the letters of the alphabet increased from 21 to 38 percent; those able to coun higher increased from 52 to 68 percent; and the proportion able to write their names increased from 50 to 58 percent. While there are no data available before 1999, between 19 2007 the proportion of young children who read words in a book more than doubled, from three to eight percent. By 2012, it had grown to 22 percent, although some of this inc may be due to a change in the survey wording.[i] (Figure 1)

Differences by Poverty Status

Young pre-kindergarten children living in poverty are much less likely to have cognitive and early literacy readiness skills than are children living above the poverty threshold.(the latest data available), 21 percent of poor children ages three to six were able to recognize all 26 letters of the alphabet, compared with 35 percent living above the poverty t (Appendix 1) While 49 percent of poor young children were able to count to 20 or higher, 67 percent of those living above poverty could do so. (Appendix 2) In the same year, percent of poor children were able to write their names, compared with 64 percent of those living above poverty. (Appendix 3) In all measures of early school readiness, dispar income level were greatest in 1999, but narrowed in 2007. For the measures, "recognizing all letters" and "counting to 20 or higher," these disparities were narrower in 2007 th were in 1993. For the measure "ability to write name," the gap was greater in 2007 than in 1993. (Appendix 1, Appendix 2, and Appendix 3)

Differences by Gender

Although in 1999 young girls were significantly more likely than young boys to achieve on all measures except reading, by 2012, there were no significant differences by gend (Appendix 1, Appendix 2, Appendix 3 and Appendix 4)

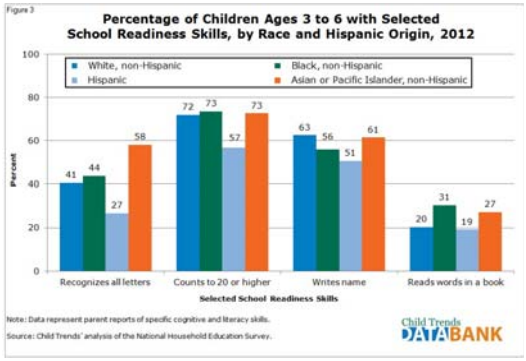


Differences by Parent's Education Level

In general, children with more educated parents have better cognitive/ literacy readiness skills. In 2012, am three- to six-year-old children (not yet enrolled in kindergarten) whose parents had not completed high school, 15 percent could recognize all letters of the alphabet, 38 percent count to 20 or more, 37 percent could write their name, and 13 percent could read words in a book. These figures are between 46 and 142 percent lower than those for children parents had completed some college or a vocational program, and between 66 and 224 percent lower than for those whose parents obtained a bachelor's degree. The gaps were in letter recognition, and lowest in the child's ability to write their name. (Figure 2)

Differences by Parent's Home Language

In 2012, young children who had at least one parent whose home language was English were more likely to demonstrate school readiness skills than those who had no parents home language was English. For example, 48 percent of children whose parents did not speak English could count to 20 or higher, compared with 71 percent of those children in a household with either two English-speaking parents, or with a single parent who was English-speaking, and 52 percent of children in households with two parents, only on whom speaks English. (Appendix 2)



Differences by Race and Hispanic Origin[10]

Overall, Hispanic children are less likely to demonstrate cognitive/literacy readiness skills than are white, b Asian/Pacific Islander children. For example, in 2012, 27 percent of Hispanic three- to six-year-olds could recognize all 26 letters of the alphabet, compared with 41 and 44 per respectively, of white and black children. Asian/Pacific Islander children had the highest rate of recognizing all the letters, at 58 percent. The abilities to count to 20 and to writ name showed a similar pattern by race, although on these measures of school readiness Asian and Pacific Islander children were similar to their white and black counterparts.

Black children are more likely to read words in books than are white or Hispanic children. In 2012, 31 percent of black children, ages three to six, were reading, compared with 19 percent, respectively, of white and Hispanic children. No other differences by race or Hispanic origin were statistically significant. (Figure 3)

Differences by Age

As expected, the percentage of young children displaying these school readiness skills increases with age. In 2012, 25 percent of three-year-olds could recognize letters, 53 per could count to 20 or more, 31 percent could write their name, and 12 percent could read words, compared to 58, 89, 87, and 39 percent, respectively, for five- to six-year-olds. there have been gains on all measures since 1993, increases have been greater for younger children. (Appendix 1, Appendix 2, Appendix 3 and Appendix 4)

State and Local Estimates

While there are no strictly comparable state and local estimates for these indicators, many states have been tracking statewide school readiness. The recent National School Rea Indicators Initiative assisted 17 states in selecting indicators to inform state-level public policy decisions, track progress and address issues affecting young children.[11] Key in of readiness for this initiative included the percent of children recognizing basic shapes at kindergarten entry, and the percent of children with age-appropriate fine motor skills addition to other indicators identified by the states. As of 2012, 15 states had defined the skills and abilities children should have at school entry, and implemented kindergarten assessments for the purpose of determining statewide levels of school readiness.[12] States implementing school readiness assessments evaluate children's developmental prog across multiple domains and utilize measures that align with the states' early learning guidelines.[13]

See article at Child Trends for Endnotes and Appendices.

V. Implications for School Readiness (cont.)

B. Families and Readiness

(1) School Readiness: Tips and Tools

From; Zero to Three –
http://www.zerotothree.org/child-development/school-readiness/tips-tools-school-readiness.html

Podcast—Creating Healthy Connections: Nurturing Brain Development From Birth to Three – In this podcast, Dr. Alison Gopnik vividly describes compelling recent research studies that show very young children's brains develop and what this research means for parents.
Learn more at:
http://www.zerotothree.org/about-us/funded-projects/parenting-resources/podcast/creating-healthy-connections.html

School Readiness Interactive Birth to 3 - A web-based, interactive learning tool designed to help parents and caregivers support their young children's early learning. You'll find age-based information on how children develop the four key skills—language and literacy skills, thinking skills, self-confidence and self-control—that are critical to later school success.
Read more at: http://www.zerotothree.org/early-care-education/school-readiness-interactive-birth-to-3/

Information on Early Learning for Your Baby or Toddler's Child Care Provider – These resources are designed especially for family, friend and neighbors who provide child care and want to support the early learning of the babies and toddlers in their lives.
Read more at:
http://www.zerotothree.org/early-care-education/family-friend-neighbor-care/encouraging-school-readiness.html

Getting Ready for School Begins at Birth - Discusses strategies for using everyday moments and routines to help children develop early literacy and other school readiness skills from birth to 3 years. Read more at: http://www.zerotothree.org/child-development/social-emotional-development/getting-ready-for-schoobegins-at-birth.html

Everyday Ways to Support Your Baby's and Toddler's Early Learning - Download this handout (in both English and Spanish) to learn more about how you can support your child's development—and have fun together—in the everyday moments you share. Read more at:
http://www.zerotothree.org/about-us/funded-projects/parenting-resources/early_learning_handout.pdf

Learning to Write and Draw - Discusses strategies for using everyday moments and routines to help children develop early literacy and other school readiness skills from birth to 3 years.
Read more at: http://www.zerotothree.org/early-care-education/early-language-literacy/writing-and-art-skills.html

Developing Early Math Skills - Learn what grown-ups can do to nurture early math skills in children from birth to three. And no—it doesn't require brushing up on your algebra. You'll see how everyday activities and routines provide ample opportunities for counting, sorting, and problem-solving. Read more at:
http://www.zerotothree.org/child-development/early-development/supporting-early-math-skills.html

Using Questions to Support Your Child's Learning - Curiosity is the key to learning, and questions are one of the most powerful tools for getting your toddler's wheels turning. This resource will provide you with ideas and strategies for building your child's thinking skills by using questions throughout your daily interactions together. Read more at:
http://www.zerotothree.org/child-development/school-readiness/using-questions-to-support.html

The Development of Thinking Skills - This set of resources suggests ways that parents can nurture their children's thinking skills and raise a child who is a curious explorer and thoughtful problem-solver. View resources at
http://www.zerotothree.org/child-development/school-readiness/thinkingskills.html

As part of its Tips and Tools, Zero To Three offers Tip Sheets

Here's the one on *Social-Emotional Development*
http://www.zerotothree.org/child-development/social-emotional-development/tips-and-tools-promoting-social-emotional-development.html

Promoting Social-Emotional Development - Discusses how parents can support their child's social-emotional development through everyday interactions. Learn more – (see tip sheet for link)

Social-Emotional Development From Birth to Three - Learn what you can do to support social-emotional development in your child from birth to age three.
Birth to 12 Months – (see tip sheet for link)
12 to 24 Months – (see tip sheet for link)
24 to 36 Months – (see tip sheet for link)

How Young Children Begin Learning Self-Control from Birth to Three - These age-based handouts focus on how children begin learning self-control—the ability to manage their emotions and stick to the limits you set.
Birth to 12 Months – (see tip sheet for link)
12 to 24 Months – (see tip sheet for link)
24 to 36 Months – (see tip sheet for link)

Tips on Helping Your Child Build Relationships - Highlights strategies for supporting children's relationship-building skills—the ability to bond and connect with others. Read More – (see tip sheet for link)

Tips on Helping Your Child Develop Empathy - Empathy, or the ability to imagine how another person is feeling, is a critical life skill. Empathy helps children share and take turns, form lasting friendships, and manage aggression. Read More – (see tip sheet for link)

Tips on Helping Your Child Develop Confidence - Offers suggestions for parents on promoting children's sense of self-confidence. Read More – (see tip sheet for link)

Tips on Helping Your Child Develop Persistence - Offers suggestions on how to encouraging their children to "stick-to-it" and persist in the face of challenges. Read More – (see tip sheet for link)

Tips on Helping Your Child Learn to Cooperate - Offers suggestions for promoting children's ability to cooperate with others. Read More – (see tip sheet for link)

Raising a Thankful Child - Here you'll find some tips on helping your child develop the qualities of thankfulness and gratitude. Learning to be appreciative helps children in many ways across their lives—in building strong and healthy relationships, resisting marketing pressure for the "latest and greatest", and becoming sensitive to the needs of others less fortunate than they are. Read More – (see tip sheet for link)

Love, Learning, and Routines - Tips for parents highlighting how routines support children's healthy social-emotional development Read More – (see tip sheet for link)

Podcasts

Early Experiences Count: How Emotional Development Unfolds Starting at Birth - In this podcast, Dr. Ross Thompson describes how early emotional development unfolds and what parents can do to nurture strong, positive social and emotional skills starting at birth. Learn More – (see tip sheet for link)

Beyond "Use Your Words!": How Babies Begin to Develop Self-Control in the First Three Years - In this podcast, Dr. Brenda Jones Harden describes how young children develop self control starting even in the first year of life. Learn More – (see tip sheet for link)

"I Like Me!": Developing Self-Esteem in the Early Years -In this podcast, Dr. Jeree Pawl describes how young children develop self-esteem. Learn More – (see tip sheet for link)

Books

Books About Feelings for Babies and Toddlers - Provides book suggestions for babies and toddlers on a range of topics including self-control, dealing with anger or frustration, making friends, and coping with grief and loss. Learn More – (see tip sheet for link)

(2) Helping Your Preschool Child

U.S. Department of Education

http://www2.ed.gov/parents/earlychild/ready/preschool/part.html

Excerpt

The first five years of a child's life are a time of tremendous physical, emotional, social and cognitive growth. Children enter the world with many needs in order to grow: love, nutrition, health, social and emotional security and stimulation in the important skills that prepare them for school success. Children also enter the world with a great capacity to learn.

Research shows clearly that children are more likely to succeed in learning when their families actively support them. Families who involve their children in activities that allow the children to talk, explore, experiment and wonder show that learning is both enjoyable and important. They motivate their children to take pleasure in learning and to want to learn more. They prepare them to be successful in school–and in life. There is a strong connection between the development a child undergoes early in life and the level of success that the child will experience later in life. When young children are provided an environment rich in language constantly, they can begin to acquire the essential building blocks for learning how to read. A child who enters school without these skills runs a significant risk of starting behind and staying behind.

Ready-for-School Checklist

The following checklist, although not exhaustive, can help to guide you as you prepare your child for school. It's best to look at the items on the list as goals toward which to aim. They should be accomplished, as much as possible, through everyday routines or by enjoyable activities that you've planned with your child. If you child lags behind in some areas, don't worry. Remember that children grow and develop at different rates.

Good Health and Physical Well-Being

My child:

___ Eats a balanced diet
___ Gets plenty of rest
___ Receives regular medical and dental care
___ Has had all the necessary immunizations
___ Runs, jumps, plays outdoors and does other activities that help develop his large muscles and provide exercise
___ Works puzzles, scribbles, colors, paints and does other activities that help develop her small muscles

Social and Emotional Preparation

My child:

___ Is learning to explore and try new things
___ Is learning to work well alone and to do many tasks for himself
___ Has many opportunities to be with other children and is learning to cooperate with them
___ Is curious and is motivated to learn
___ Is learning to finish tasks
___ Is learning to use self-control
___ Can follow simple instructions
___ Helps with family chores

Language and General Knowledge

My child:

___ Has many opportunities to talk and listen
___ Is read to everyday
___ Has access books and other reading materials
___ Is learning about print and books
___ Has his television viewing monitored by an adult
___ Is encouraged to ask questions
___ Is encouraged to solve questions
___ Has opportunities to notice similarities and differences
___ Is encouraged to sort and classify things
___ Is learning to write her name and address
___ Is learning to count and plays counting games
___ Is learning to identify and name shapes and colors
___ Has opportunities to draw, listen to and make music and to dance
___ Has opportunities to get first-hand experiences to do things in the world–to see and touch things, hear new sounds, smell and taste food and watch things move

(3) Helping the Most Vulnerable Infants, Toddlers, and Their Families

Excerpt from National Center for Children *in* Poverty: (http://nccp.org/publications/pub_669.html)

Compelling evidence from neuroscience about how early relationships and experience influence the architecture of the brain, and in turn early school success, has led to increasing policy and practice attention to implementing child development and family support programs like Early Head Start for infants and toddlers.

But, there is also a group of babies, toddlers, and parents who face so many risks that programs like these alone may not be enough. This issue brief focuses on the special challenges of helping babies and toddlers whose earliest experiences, environments, and especially relationships create not a warm and nurturing atmosphere, but what scientists have called ""toxic stress""——exposing them to such high and consistent levels of stress that their growing brains cannot integrate their experiences in ways that promote growth and learning. It describes 10 strategies that programs and communities can implement to ensure these babies, toddlers, and families are connected to sufficiently intensive supports that can get them on a path to early school success.

Ten Strategies to Help Infants, Toddlers, and Families at Higher Risk for Poor Outcomes

Strategy 1: Ensure that ALL low-income families have access to infant and toddler child development and family support programs.

Strategy 2: Embed research-informed intensive interventions, such as parent therapies, into Early Head Start and home visiting infant and toddler child development and family support programs.

Strategy 3: Embed intensive interventions for infants and toddlers and their families in settings serving only high-risk families.

Strategy 4: Organize services by level of family risk.

Strategy 5: Use basic support programs for families to provide more intensive services.

Strategy 6: Build partnerships with early intervention and child welfare systems.

Strategy 7: Screen for and address maternal depression and other risks in health care settings serving women and young children.

Strategy 8: Implement parenting curricula and informal support groups designed for higher-risk families.

Strategy 9: Build a community approach to prevention and early intervention for groups of babies, toddlers, and families facing special risks.

Strategy 10: Include more vulnerable families in broader infant, toddler, and early childhood advocacy strategies.

Ten Principles to Guide Policy, Practice, and Advocacy

1. Start with the parents, but connect with the whole family——not just the mother and the young child——and don''t forget the fathers, wherever they are.
2. Work in partnership with community leaders (promoters, mentors, resource moms, and others).
3. Target important moments and transitions in families'' lives (such as pregnancy, birth, entrance into early childhood programs, probation/incarceration).
4. Connect with families as early as possible (starting during prenatal care is best).
5. Connect with families across as many settings as possible (such as churches, other faith-based organizations, informal child care providers, and resource and referral agencies).
6. Use multiple entry points for access to family-focused screening, assessment, prevention, and more intensive treatment (such as community health clinics, family court, juvenile justice system, substance abuse programs, and shelters).
7. Make sure that parenting programs are responsive to the special needs of more vulnerable families.
8. Nurture the staff. Make sure there are supports for child care staff that are depressed, stressed, and burnt out (such as access to early childhood mental health consultation).
9. Find ways to use existing funding more efficiently, and then seek new funding for specific purposes.
10. Train the next generation of professionals with real families as their teachers, especially families who have overcome burdens. For example, assign medical and other graduate students for a year to a family with a new baby to understand the context of stressed families'' daily lives, their celebrations, and hardships.

(4) About Head Start

Head Start and Early Head Start are administered by the Office of Head Start (OHS), within the Administration for Children and Families (ACF), U.S. Department of Health and Human Services (HHS).

OHS administers grant funding and oversight to the agencies that provide Head Start services. OHS also provides federal policy direction and a training and technical assistance (T/TA) system to assist grantees in providing comprehensive services to eligible young children and their families.

Head Start was appropriated $8,598,095,000 for FY 2014, including $7,782,420,000 awarded directly to public agencies, private nonprofit and for-profit organizations, tribal governments and school systems to operate Head Start programs in local communities, and $500,000,000 for Early Head Start-Child Care Partnership and Early Head Start Expansion. Training and Technical Assistance received $203,322,000 to improve the quality of services provided by grantees. Half that amount was awarded directly to grantees to be used for local T/TA, and the other half funded the national system. More details around OHS funding can be found in the FY 2014 Fact Sheet.
https://eclkc.ohs.acf.hhs.gov/hslc/data/factsheets/2014-hs-program-factsheet.html

Head Start Services
http://www.acf.hhs.gov/programs/ohs/about/head-start

Head Start promotes the school readiness of young children from low-income families through agencies in their local community. The Head Start program is authorized by the **Improving Head Start for School Readiness Act of 2007.**
https://eclkc.ohs.acf.hhs.gov/hslc/standards/law/HS_ACT_PL_110-134.pdf

Head Start and Early Head Start programs support the comprehensive development of children from birth to age 5, in centers, child care partner locations, and in their own homes. Comprehensive development services include:

- Early Learning- Teachers facilitate individualized learning experiences to promote children's readiness for school and beyond. Through planned and spontaneous instruction, relationships with adults, and play, children grow in language and literacy, early math and science concepts, and social and emotional development.
- Health- Children receive health and development screenings, nutritious meals, oral health and mental health support. Programs connect families with medical, dental, and mental health services, and ensure that children are receiving the services they need.
- Family well-being- Parents and families are supported in achieving their own goals, such as housing stability, continued education, and financial security. Programs support and strengthen parent-child relationships and engage families around children's learning and development.

Family members must **apply directly with a program** (https://eclkc.ohs.acf.hhs.gov/hslc/hs/directories/apply) in their area. The **Program Locator** (https://eclkc.ohs.acf.hhs.gov/hslc/HeadStartOffices) can help you find the program nearest you.

Programs provide services to over a million children a year in every U.S. state, territory and in over 155 tribal communities. Programs prioritize enrollment for children in foster care, children with disabilities, and children whose families are homeless.

Local Head Start services are delivered by about 1,700 public and private nonprofit and for-profit agencies. Head Start agencies design services for children and families that meet the needs of their local community and follow the Head Start Program Performance Standards. These agencies receive grants from the U.S. Department of Health and Human Services (HHS), Administration for Children and Families (ACF) and are administered by the Office of Head Start (OHS). Some local communities and states contribute additional funding to expand Head Start and Early Head Start to include more children within their communities.

What programs are offered by Head Start?

Head Start began as a program for preschoolers. Three- and 4-year-old preschoolers made up over 80 percent of the children served by Head Start last year.

Early Head Start serves pregnant women, infants, and toddlers. Early Head Start programs are available to the family until the child turns 3 years old and is ready to transition into Head Start or another pre-K program. Early Head Start helps families care for their infants and toddlers through early, continuous, intensive, and comprehensive services.

Both Head Start and Early Head Start programs offer a variety of service models, depending on the needs of the local community. Programs may be based in centers, schools, or family child care homes. Early Head Start services are provided for at least six hours per day, whereas Head Start preschool services may be half-day or full-day. Another program option is home-based services, in which a staff person visits children once a week in their own home and works with the parent as the child's primary teacher. Children and families who receive home-based services meet twice monthly with other enrolled families for a group learning experience facilitated by Head Start staff.

What is school readiness?

The Office of Head Start (OHS) defines school readiness as children being ready for school, families ready to support their children's learning, and schools ready for the children who enter their doors.

Children's school readiness is measured by the skills set out in the five domains of the **Head Start Early Learning Outcomes Framework:**
http://eclkc.ohs.acf.hhs.gov/hslc/hs/sr/approach/cdelf

- Language and Literacy
- Cognition and General Knowledge
- Approaches to Learning
- Physical Development and Health
- Social and Emotional Development

Families are engaged in their children's learning and development and are poised to support the lifelong success of their child. Head Start recognizes that parents are their children's primary teachers and advocates.

Schools become ready for children when Head Start programs, parents, and schools work together to promote school readiness and engage families as their children make the transition to kindergarten. Learn more about school readiness at https://eclkc.ohs.acf.hhs.gov/hslc/hs/sr

What are comprehensive services?

Head Start comprehensive services include:

- Early Learning
- Screenings and follow-up for health, development, and behavior
- Health and safety
- Social and emotional development
- Nutrition
- Family goal-setting
- Social services
- Transition services
- Services for children with disabilities

Comprehensive services are delivered in a learning environment that is individualized to support children's growth in the five essential domains. A minimum of 10 percent of a program's total enrollment must be children with disabilities. Additionally, Head Start services are designed to be responsive to each child and family's ethnic, cultural, and linguistic heritage.

How many children and families receive services?

Over a million children are served by Head Start programs every year, including children in every U.S. state and territory and in American Indian and Alaska Native (AIAN) communities. In fiscal year (FY) 2014:

- Head Start programs served 884,410 children and their families.
- Early Head Start programs served 145,308 children and 14,506 pregnant women and their families.
- Migrant and Seasonal Head Start (MSHS), which serves children from birth to age 5, served an additional 30,902 children.
- American Indian and Alaska Native (AIAN) programs served 24,405 Head Start and Early Head Start children, included in the count above.

View Head Start fact sheets (https://eclkc.ohs.acf.hhs.gov/hslc/data/factsheets) to learn more about demographics, state allocations, program statistics, and general information on Head Start enrollment history.

What Head Start research is conducted by HHS?

HHS commissions research to better understand the different variations in programs and to guide program improvement in both Head Start and Early Head Start. For example, **Head Start Family and Child Experiences Survey (FACES)**
(https://www.acf.hhs.gov/programs/opre/research/project/head-start-family-and-child-experiences-survey-faces) and **Baby FACES**
(https://www.acf.hhs.gov/programs/opre/research/project/early-head-start-family-and-child-experiences-study-baby-faces) provide a picture of children's development and academic readiness over their time in Head Start and Early Head Start. HHS also commissions shorter term studies such as the Head Start CARES project, which compared different curricula directed at social and emotional development.

Learn more about recent research and projects on Head Start and Early Head Start at https://eclkc.ohs.acf.hhs.gov/hslc/data/opre

(5) where we STAND

on school readiness

Ensuring that children are ready for successful school experiences is one of the most pressing issues in early childhood policy and practice. As national, state, and local efforts focus on school readiness, the National Association for the Education of Young Children (NAEYC) reaffirms its position.

A commitment to promoting universal school readiness requires:

1. giving all children access to the opportunities that promote school success,
2. recognizing and supporting children's individual differences, and
3. establishing reasonable and appropriate expectations for what children should be able to do when they enter school.

NAEYC believes it is the responsibility of schools to meet the needs of children as they enter school and to provide whatever services are needed to help each child reach his or her fullest potential.

The following points are discussed in depth in NAEYC's position statement on school readiness.

School readiness requires access to opportunities

- **All families of young children need access to resources** that will allow them to give their children the nurturing relationships and experiences that promote school readiness.
- **High-quality early education programs provide the foundation** for school readiness and must be available to all young children and families.
- **Early intervention efforts support children who may be at risk** for later school failure. These efforts are most effective when they offer comprehensive services rather than simply addressing isolated skills.

School readiness must be flexibly and broadly defined

- **Young children develop in different ways and at different rates.** Readiness does not happen at the same time or in the same way for all children. For example, one child may develop language skills rapidly while being slower to gain social competence. Definitions of readiness must consider these variations.
- **All areas of children's development and learning must be included in definitions of readiness.** Readiness is more than basic knowledge of language and math, important as these are. Readiness expectations should include all areas: physical, cognitive, social, and emotional competence as well as positive attitudes toward learning.
- **The concept of readiness includes much more than children's readiness.** As defined by the National Education Goals Panel, the School Readiness Indicators Initiative, and others, *readiness* includes ready children, ready families, ready communities, ready early care and education, and ready schools. All are necessary so that all children will experience success.

What Is School Readiness?

School readiness involves more than just children. School readiness, in the broadest sense, is about children, families, early environments, schools, and communities. Children are not innately "ready" or "not ready" for school. Their skills and development are strongly influenced by their families and through their interactions with other people and environments before coming to school.

(Maxwell & Clifford 2004, 42)

Kindergarten entry should be based on age, not on mastery of skills

- **Children are ready to enter kindergarten when they reach the legal chronological age of entry.** The use of readiness tests to exclude children from school or to make other high-stakes decisions is indefensible.
- **Raising the legal entry age or voluntarily holding children back from kindergarten will not ensure that more children are ready for kindergarten**. Little evidence exists that older children are more successful in kindergarten. Raising the entry age also leaves many children with no access to high-quality early education in the year before kindergarten. Hoping to promote kindergarten readiness, families may decide to hold a child out of school for a year; in general, holding children out of school has not been found to predict better social or academic outcomes.

Schools must be ready to help children learn

- **A school is ready if the curriculum in kindergarten and the early grades builds on prior learning.** In early childhood and beyond, skills are most effectively learned and practiced when embedded in meaningful experiences. Even for children who enter school without having mastered specific skills, curriculum should include child-guided as well as teacher-supported activities and should emphasize hands-on, integrated learning.
- **The school must take into account individual differences in language, culture, and prior experience.** Children whose experiences differ from those of the school they enter may be viewed as less ready. Effective kindergarten and primary programs meet children where they are and take extra care to help make meaningful connections with each child's home, culture, and community.
- **Teachers must know how to teach young children and have the resources to do so.** Ready schools need kindergarten and primary grade teachers who have professional preparation in child development and early education. Class sizes are small enough to meet children's individual learning needs. Classroom equipment and materials support children's active, thoughtful engagement with learning.

The full NAEYC position statement "School Readiness" was revised in 1995 and is available online at **www.naeyc.org/positionstatements/school_readiness**

Making a commitment to readiness for all

The investment and commitment needed to ensure that every child enters school ready to succeed and that schools are effective in educating every child will not be small. But it is essential. We must provide every child with the firm foundation so critical to learning in school and we must ensure that schools are prepared to meet the needs of individual children as they arrive at the school door.

NAEYC Position Statements on Readiness and Related Issues

All position statements are available online at www.naeyc.org/positionstatements.

Developmentally Appropriate Practice in Early Childhood Programs Serving Children from Birth through Age 8

Early Childhood Curriculum, Assessment, and Program Evaluation

Early Learning Standards: Creating the Conditions for Success

STILL Unacceptable Trends in Kindergarten Entry and Placement (from NAECS SDE, endorsed by NAEYC)

Other Print and Online Resources

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VI. Good Practices to Promote Healthy Early Development and Address Barriers

Based on many years of practice in the field, leaders have come to identify a set of principles for sound practice, and a variety of respected models and programs have been documented. All of this work has provided the basis for emerging policies and initiatives. In this section, we highlight:

A. Guidelines and principles for good practices

B. Specific models and programs

C. Policies and initiatives

VI. Good Practices to Promote Healthy Early Development and Address Barriers

A. Guidelines and Principles for Good Practice

1. Continuity in Early Childhood Services

Excerpted from "Beyond Transition: Ensuring Continuity in Early Childhood Services" by Joan Lombardi (EDO-PS-92-3) ERIC Clearinghouse on Elementary and Early Childhood Education. (http://ceep.crc.uiuc.edu/eecearchive/digests/1992/lombar92.html)

With more and more children participating in early childhood programs before they enter school, there is an increasing focus on the transition that occurs when children move from preschool to kindergarten. Many children have problems adjusting to elementary school programs that have a different philosophy, teaching style, and structure than those programs in which they participated during their earlier years. Transition efforts [have been] designed to help ease the entry into school by preparing both children and families for the differences children will encounter.

But more recently, there has been a growing consensus that the key to effective services for young children is less through bridging the gap between different types of programs, and more through ensuring continuity in certain key elements that characterize all good early childhood programs...

If programs are to provide effective early childhood services throughout children's early years, they must share at least three characteristics: developmentally appropriate practice, parent involvement, and supportive services for children and families.

Developmentally Appropriate Practice.

Continuity across early childhood services is facilitated by the degree to which all programs are developmentally appropriate. Naturally, the setting, age range, and abilities of the children will differ across programs. As children progress from preschool to kindergarten and on to the primary grades, they show increased motor and language skills, they can pay attention longer, they can play more cooperatively, and they are more able to develop interests that go beyond their immediate surroundings. Throughout the preschool and early elementary years, children learn best through active exploration of their environment and through interactions with adults, other children, and concrete materials that build on earlier experiences.

Parent Involvement.

One hallmark of any successful early childhood program is the degree to which it involves parents. Such involvement should not stop when children reach the schoolhouse door. Good schools for young children welcome family members in ways that go well beyond traditional parent activities such as fundraising and annual parent-teacher conferences. Ongoing communication between parents and teachers has become increasingly important. Parents can be involved as decision makers, volunteers, and staff. They can participate in parent education and support groups, be encouraged to observe the classroom, and, in general, take a more active role in their child's education both at school and at home.

Supportive Services.

Effective early childhood programs, particularly those for low-income families, need to respond to the comprehensive needs of children and families for health care, child care, and other family supports. Traditionally, schools have not played a role in ensuring that such services are provided. Yet there is a growing recognition that schools are the natural hub for child and family services. New relationships between school and other health and human service providers are emerging as comprehensive services are integrated into public education.

VI. Good Practices to Promote Healthy Early Development and Address Barriers

A. Guidelines and Principles for Good Practice (cont.)

2. Building Resilience in Infants and Young Children

Excerpted from: Strategies for building resilience in infants and young children at risk. Marie Kane Poulsen, Ph.D. *Infants and Young Children 6(2) 29–40*. Aspen Publishers, Inc. 1993.

Biological, environmental, and psychosocial circum stances combine in various ways to either enhance or stress the healthy developm ent of infants and young children. The resulting constellations of needs, strengths, and vul nerabilities uniquely com bine to produce the individuality that is inherent in all human beings.

Influences on Risk and Resilience

Positive perinatal biologic, environm ental, and psychosocial circum stances set the stage for healthy development. When all circumstances are positive, the growing child is provided with a reserve of resiliency that will enable the child to handle daily challenges as well as be prepared in case of future adversity. No child is im pervious to trauma. The construct of invulnerability or resilience refers to the not ion that there is a continuum of potential resilience inherent in all children as a counterbala nce to the now acknowledged zone of vulnerability recognized in children at risk.

Children who are healthy, tem peramentally easy, and developmentally competent, who are born into families that can provide rich relationships, appropriate expectations, and low environmental stress, tend to develop the internal resources that allow them to easily cope with the demands that are a part of all children's lives.

These resilient children develop the internal self-regulation to respond to and recover from environmental challenges. They acquire a repertoire of responses, and they have the flexibility to respond in a m anner that m atches the situa tion in context and intensity. Resilient children accomplish transitions smoothly and easily. They recover from stressful events in a period of time that matches the traumatic significance of the event. Stress and distress responses do not linger.

To the extent a child expands his or her zone of resilience, the stressors that inf luence emotion and behavior will be better handled. *Resilience* refers to the child's capacity to overcom e biologic-psychosocial, and environm ental stressful events. Resilience thus is the capacity to withstand stressors, overcome adversity, and, in the process, achieve higher levels of self-mastery and self-esteem and internal harmony.

An understanding of the relationship of biologic, environmental, and psychosocial circumstances to the healthy developm ent of children form s a framework for the provision of resources and services needed to buffer negative circumstance and build resilience in children at risk.

Significant **biologic and constitutional influences** on developmental outcome include

- health,
- neurodevelopmental characteristics, and
- temperament.

Significant **environmental influences** on developmental outcome include

- family stressors and resources,
- developmental opportunities,
- community stressors and resources, and
- cultural context.

00Significant **psychosocial influences** on developmental outcome include

- child-caregiver relationship, and
- goodness of fit of parental expectations.

Positive biologic influences endow the infant with internal resilience that impacts how the child perceives and responds to the world. Positive home, family, community, and environmental influences affect the infant directly. Of equal importance is the positive effect home, family, and community supports can have on the parenting figure. Parents can contribute to child resilience only if they are not emotionally overwhelmed by their interpersonal. family. and community lives.

Essential **parental and family resources** are

- parental capacity to cope
- parental self-esteem
- parental emotional availability
- responsive caregiving
- appropriate developmental expectations and opportunities
- capacity to provide protection from overstimulation
- internal family harmony
- economic self-sufficiency, availability of food, shelter, medical care.
- neighborhood safety and freedom from racial discrimination, and
- social supports

Toddler and young child risk indicators

1. *Organization of play and daily living activities.* The at-risk toddler and young child may be more distracted and less focused than peers and show less self-initiation and organized follow-through in play, learning, and self-help activities. These children are at risk for attention problems.

2. *Precision and direction of movement.* The at-risk toddler and young child may have difficulty with spatial relations or motor coordination (or both), seen in crayon use, block play, puzzle completion, and tricycle riding. These children are at risk for learning problems.

3. *Learning continuity and learning strategies.* The at-risk toddler and young child may show sporadic mastery (ie. Masters a learning strategy, skill, or verbal concept one day and needs to re–learn it again and again). There may be an impairment in sensory information processing, and these children are at risk for learning disabilities.

4. *Sense of self and interactive behaviors.* The at-risk toddler and young child may have very low stress thresholds and be over reactive to stress. Children who experience multiple foster placements may lack the close attachments or relationships to adults that allow for the use of adults as sources of emotional comfort, security, object attainment, and information. These children are at risk for social and emotional problems.

5. *Language.* The at-risk toddler and young child may not use words to express needs, request comfort, solve problems, or resolve conflict. The at-risk toddler and young child may not respond to verbal prohibitions of behavior or verbal praise given at a distance or in a group situation.

The following box highlights caregiving strategies for building resilience in toddlers are young children at risk. The application of strategies must match the particular need of the young child.

Caregiver Strategies for Building Resilience in Toddlers and Young Children

1. Use of proximal behaviors in caregiver-child interactions including call to attention, eye contact, and touch before verbal directions, prohibitions, information and praise are given.
2. Protection from overfatigue by establishment of personalized bedtime rituals and routines.
3. Protection from overstimulation of too many children, adults, transitions, noise, light, commotion, and emotional distress.
4. Use of rituals for hellos, goodbyes, and daily transitions so child can predict behavior.
5. Modeling, encouragement, acknowledgment, labeling and responding to child's expression of feeling while setting limits on harmful behavior.
6. Encouragement of autonomy and decision making by providing "limited" choice, whenever possible.
7. Teaching and guidance of social behavior, provision of language and process for peer conflict resolution.
8. Encouragement of self-dependence that matches child's functional level.
9. Modeling and provision of relaxing time, relaxing place, and relaxing activities for child.
10. Modeling and encouragement of representational play to express feelings and recreate significant events.
11. Observation of child's behavior, and intervention before behavior is out of control.
12. Timely response to toddler or young child's needs and initiation of social interaction.
13. Teaching the at-risk child to learn cause and effect in relationship by providing words that relate affect to action (eg " You grabbed his toy. That makes him upset. Use your words and tell him it's your turn next.").
14. Personalized, one-to-one, child-centered time spent daily to build relationship.

VI. Good Practices to Promote Healthy Early Development and Address Barriers

A. Guidelines and Principles for Good Practice (cont.)

3. Community Resources to Support Families and Build Resilience in Children

Infant or young child supports:
- Public health nurse
- neonatal intensive care unit follow-up
- well baby clinics:
  - > health care
  - > developmental screening
- women, infants, and children program
- early identification and referral (child fund)
- clinic-based, home-based, and center-based developmental services:
  - > public law 99-15, part H services
  - > high-risk infant program
  - > well baby clinics
  - > public health nurse
- infant and child care
- head start
- public schools system
- child guidance clinics.

Child-Parent interaction supports:
- Mother-child interaction supports
- developmental services:
  - > psychologist
  - > early interventionist
  - > communication specialist
  - > feeding team specialist
- mommy & me classes
- conjoint mother-infant therapy
- parental support
- parent support groups
- parent education
- parent counseling
- social supports
- church mommy & me activities
- library mommy & me activities
- parks and recreation mommy & me activities.

Family supports:
- Community health clinics
- family service clinics
- community mental health clinics
- welfare and social services:
  - > Aid to Families with Dependent Children
  - > food stamps
  - > housing
  - > Medicaid
- drug and alcohol recovery programs
- job training and job counseling
- instrumental support for service delivery:
  - > child care
  - > transportation
  - > toy loan
  - > translator
- child development warm lines
- job availability
- community safety
- freedom from discrimination.

Strategies for building resilience in infants and young children at risk. Marie Kane Poulsen, Ph.D. *Infants and Young Children 6(2) 29–40*. Aspen Publishers, Inc. 1993.

VI. Good Practices to Promote Healthy Early Development and Address Barriers

A. Guidelines and Principles for Good Practice (cont.)

4. Standards of early childhood program quality

From "Dimensions of ECCD programmes that can be assessed to determine quality"
http://www.ecdgroup.com/cn/cn18def.html

- effective programs use explicitly stated, developmentally appropriate active-learning curricula that support children's self-initiated learning activities;
- effective teaching staff have been trained in early childhood education and do not change jobs often;
- effective administrators provide systematic inservice training on site and supervisory support of their staff' curriculum implementation;
- effective programs maintain classes of fewer than twenty 3-to-5-year olds for every pair of teaching adults;
- in effective programs, staff treat parents as partners and engage in extensive outreach to parents, such as home visits at least monthly, to learn from parents and to help them understand the curriculum and their children's development.

From: *Significant Benefits: The High/Scope Perry Preschool Study Through Age 27. 1993.* Schweinhart, L.J.; Barnes, H.V.; Weikart, D.P.. Ypsilanti, MI: High/Scope Press p. 17.

1. *The Program is well managed and well monitored.* Supervisors must know what is gong on in their programs on a day-to-day basis. They should be readily available to provide support, give realistic feedback, help solve problems and reward a job well done.

2. *Parents are involved in significant ways in the educational development of the children.* Teaching staff should work with parents as partners. Vehicles for parent involvement might include home visits, parent meetings with opportunities for parents to volunteer to help in the classroom.

3. *At least two adults are in the classroom to provide overall support and individual attention to children.* This team approach is more important than class size (which often gets more attention); a team has much greater flexibility in dealing with situations than does a solitary adult.

4. *A significant amount of time is spent in child/adult interactions.* Talking, sharing ideas, playing together–these are essential, with the child initiating much of the activity. Children need adults to challenge and support them in their activities.

5. *Teachers are trained in the curriculum, and are able to work together as a team and under supervision*. It is teachers who make quality programs work, training and support for them is crucial.

6. *There is an evaluation component in the program emphasizing day-to-day quality maintenance*. Evaluation tells administrators when a program is on the right track, or when it is in trouble.

7. *Emphasizing quality will encourage teacher creativity and experimentation with new methods.* It should never be equated with some narrow definition of perfection that keeps enthusiastic, competent teachers from following their creative hunches. Only through being with creative adults can young children learn to express their own creative impulses.

From: *What makes a quality preschool? April, 1981.* Schweinhart, L.J. Keys to Early Childhood Education, Vol 2, No. 4

VI. Good Practices to Promote Healthy Early Development and Address Barriers

A. Guidelines and Principles for Good Practice (cont.)

5. A Call for Excellence in Early Childhood Education

Early Years Are Learning Years

The demand for early childhood care and education programs continues to increase not only in response to the growing demand for out-of-home child care but also in recognition of the critical importance of educational experiences during the early years. Several decades of research clearly demonstrate that high-quality, developmentally appropriate early childhood programs produce short- and long-term positive effects on children's cognitive and social development.

NAEYC members, most of whom work directly with young children and families, see daily the toll of ill-conceived policies on the lives of the children and families we serve. Existing programs have too often taken fragmented, piecemeal approaches to the complex issues facing children and families. Effective policies have seldom been funded at sufficient levels to provide adequate support to all families who might benefit.

NAEYC believes that our nation is at a crossroads. We must develop an integrated system of early childhood care and education that includes comprehensive approaches that directly involve families and communities in program design, implementation, and evaluation. We can invest now in our children and families and enjoy long-term savings, with a more vibrant nation of healthy, achieving children and more stable families. Or, we can fail to make the investment and pay the price: increased delinquency, greater educational failures, lowered productivity, less economic competitiveness, and fewer adults prepared to be effective, loving parents to the next generation of children. Federal, state and local government, communities, parents, and the private sector must share in the responsibility of ensuring the well-being of children and families.

Our nation can and must do better to create opportunities that help all children and families succeed. The time for action is now.

A Renewed Call to Action

Our goal is not to simply defend the status quo. NAEYC's convictions about early childhood care and education set forth a vision of a system that is still unmet.

- **That all young children deserve excellent early care and education**

There are a large percentage of child care classrooms and family child care homes that are of mediocre or poor quality. An alarming number of infants and toddlers are found to be in unsafe settings. We know that children in schools with fewer resources, a larger percentage of teachers that are new or have emergency certificates, and lacking parental involvement in their education are not receiving the excellent early education they deserve.

- **That high quality early experiences make a difference in children's lifelong academic and social success**

Several decades of research clearly demonstrate that high-quality, developmentally appropriate early childhood programs produce short- and long-term positive effects on children's cognitive and social development. Specifically, children who experience high-quality, stable child care engage in more complex play, demonstrate more secure attachments to adults and other children,

65and score higher on measures of thinking ability and language development. High-quality child care can predict academic success, adjustment to school, and reduced behavioral problems for children in first grade. Studies demonstrate that children's success or failure during the first years of school often predicts the course of later schooling. A growing body of research indicates that more developmentally appropriate teaching in preschool and kindergarten predicts greater success in the early grades.

- **That these programs must be accessible to all families**

Access to child care, particularly high quality child care, remains out of reach for many families. Programs outside of K-12 public education have the greatest difficulty in meeting the criteria of good quality, equitable compensation, and affordable access. Unlike K-12 education -- a publicly financed system with a relatively stable funding base -- most early childhood care and education services operate in a very price-sensitive market financed primarily by fees from families and supplemented by public and private contributions. Many families cannot pay the full cost of quality care, and the ongoing commitment from public and private contributions is seldom guaranteed. For other children, there are insufficient numbers of child care providers trained in or connected to others who can help support their special educational or other needs to develop to their full potential.

- **That early childhood professionals must have excellent preparation, ongoing professional development, and compensation commensurate with their qualifications and experience**

A key component of quality programs is the quality of teacher. Recruitment and retention of child care staff is extremely difficult. The average child care teaching assistant earns roughly $10,500 a year and the highest paid child care teachers are paid roughly $18,000 a year. Turnover of staff averages 31 percent. In public schools, although salaries are much higher than for child care teachers, there is difficulty retaining talented teachers and recruiting more experienced teachers to troubled schools. Scholarships, financial aid, and loan forgiveness are insufficient to help many early childhood educators obtain excellent preparation and ongoing professional development.

- **That effective early education must be both challenging and appropriate to young children’s ages, individual needs, and culture**

To guide their decisions about practice, all early childhood teachers need to understand the developmental changes that typically occur in the years from birth through age 8 and beyond, variations in development that may occur, and how best to support children's learning and development during these years. Children's development is best understood within the sociocultural context of the family, educational setting, community, and broader society. These various contexts are interrelated, and all have an impact on the developing child.

- **That everyone needs to work together to build a successful future for our youngest children**

An equitable and sufficient system of financing early childhood education in the United States is still elusive. Child care is financed through a patchwork of government, parent, and private sector resources. Families contribute roughly 60 percent of the costs of child care; federal, state, and local governments combined contribute 39 percent, and business contributes one percent. Public schools are financed largely through property taxes, which has created an inequitable distribution of resources within school districts and states, despite additional resources from states and the federal government. An equitable system of financing child care and early education requires a strong partnership between government, families, and the private sector.

A Vision for Excellence

All states must develop a system of early childhood care and education with appropriate regulatory, governance, finance, and accountability mechanisms so that –

- **All Children** have access to a safe and accessible, high quality early childhood education that includes a developmentally appropriate curriculum, knowledgeable and well-trained program staff and educators, comprehensive services that support their health, nutrition, and social well-being, in an environment that respects and supports diversity.
- **All Early Childhood Professionals** are supported as professionals with a career ladder, ongoing professional development opportunities, and compensation that will attract and retain high quality educators.
- **All Families** have access to early care and education programs that are affordable and of high quality, and are participants in the education and well being of their children through family involvement in programs and schools, as well as opportunities to increase their educational attainment.
- **All Communities** are accountable for the quality of early childhood programs provided to all children, backed by the local, state, and federal funding needed to deliver quality programs and services.

To achieve these goals at the national, state, and local levels, policies and decisions must be guided of principles of Excellence, Access, Equity, Diversity, and Accountability.

- Excellence: The design, funding, and implementation of systems necessary to support best practices in all early childhood programs.
- Access: The absence of barriers for all children to attend high-quality programs.
- Equity: Opportunities for all children, regardless of family status, income, disability, gender, national origin, ethnicity, religion, or race to attend high quality programs, with an emphasis on targeting funding to ensure that those families with the fewest resources are served.
- Diversity: Flexibility in the ways in which programs are provided and services are tailored to the needs of families and children. Responsive and supportive programs that recognize and respect the whole child and family, their cultural backgrounds, and the community's culture.
- Accountability: Clearly defined standards for program quality and personnel, with input from the early childhood professionals, families, and communities, with ongoing planning and evaluation processes, to ensure positive educational, health, and social outcomes for children.

Making the Vision a Reality

Early childhood programs have the potential for producing positive and lasting effects on children, but this potential will not be achieved unless more attention is paid to ensuring that all programs meet the highest standards of quality. As the number and type of early childhood programs increase, the need increases for a shared vision and agreed-upon standards of professional practice.

Making this vision of excellence a reality will require a commitment from and a partnership among the federal, state, and local governments, business and labor, private institutions, and the public. As we stand at the beginning of a new millenium, we must join forces to advocate and implement the policies at the appropriate federal, state, and local levels that will lead to excellence in early childhood education programs.

VI. Good Practices to Promote Healthy Early Development and Address Barriers

A. Guidelines and Principles for Good Practice (cont.)

6. Early Childcare Programs -- Quality Checklist

The following is a set of questions parents can use to evaluate early childcare programs.

A. Is my child safe?

___ 1. Is the environment clean, safe and comfortable?
___ 2. Is there an open door policy so that parents may visit the facility at any time?
___ 3. Do teacher/child ratios meet or exceed state requirements?
___ 4. Is there a staff person present at all times who knows CPR (cardiopulmonary resuscitation) and first aid?
___ 5. Is there a strict policy in place for releasing children to people other than their parents/guardians?

B. How will my child's health and nutritional needs be promoted?

___ 6. Are all areas cleaned regularly by a professional cleaning group?
___ 7. Are consistent, classroom-specific efforts made to limit illness from spreading?
___ 8. Do caregivers wash hands after diapering, toileting, blowing noses & before handling food?
___ 9. Are medications appropriately stored and administered safely?
___ 10. Are arrangements made for children who don't wish to nap?
___ 11. Do caregivers sit with children at meal times to model appropriate manners, interactions and nutritious choices?

C. Who will take care of my child and what will my child do all day?

___ 12. Do the children in the program seem relaxed and happy?
___ 13. Are there special activities and learning programs geared to the needs of each age group of children?
___ 14. Are there field trips for the preschool and school-age children?
___ 15. Are the caregivers supported by professional resource people, training and materials?
___ 16. Are the caregivers involved with the children, rather than just directing their activities?
___17. Is there consistent communication between parents and staff regarding children's developmental progress, as well as scheduled conferences?
___ 18. Has the facility achieved accreditation?

D. What will happen if my child behaves in inappropriate ways?

___ 19. Is positive guidance used as the guiding philosophy in the classroom?
___ 20. Are aggressive reactions in the classroom responded to quickly and with understanding?
___ 21. Is parent participation and communication in the guidance process encouraged?

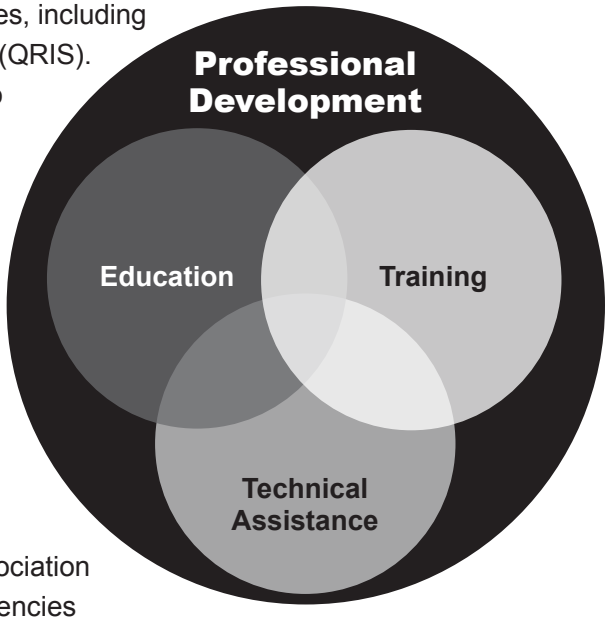
E. How will my child's self-esteem, confidence and independence be promoted?

___ 22. Will my family's cultural values be respected and incorporated into the curriculum?
___ 23. Are children offered a variety of choices throughout the day?
___ 24. Does the program have a new child orientation system in place?

Adapted from "The Quality Checklist – Children's World Learning Centers"

(7) Early Childhood Education Professional Development Training and Technical Assistance Glossary

Professional preparation and ongoing professional development (PD) for the early childhood education workforce is essential to providing high-quality services to children and families. Consistent terminology and definitions related to PD methods, roles, knowledge, and capabilities have emerged as a critical issue for the early education field. Recently, states have experienced new early childhood education system challenges and needs related to training and technical assistance (TA). The urgency of these issues grows, particularly as states increase their focus and work on quality improvement activities, including quality rating and improvement systems (QRIS). For example, many states are working to define what training and TA is needed to support successful participation in QRIS, and how it integrates with PD activities and systems; how to determine who can provide training and TA—and how; and how to track and count TA as part of an individual's professional development.



To support related efforts, the National Association for the Education of Young Children (NAEYC) and the National Association of Child Care Resource and Referral Agencies (NACCRRA) jointly developed this glossary of professional development, training, and technical assistance (TA) terms. Additionally, NAEYC and the Alliance of Early Childhood Teacher Educators (a collaborative effort of the National Association of Early Childhood Teacher Educators and ACCESS–Associate Degree Early Childhood Teacher Educators) will continue to explore and develop national education-related definitions as a companion to this training and TA glossary.[1]

This glossary is composed of global definitions that embrace what NAEYC and NACCRRA believe define the current best practice ideals for training and TA. The definitions were developed for those who provide PD, state policy makers, early education advocates, and program administrators working to connect PD activities and initiatives

[1] Details about the development process of this training and TA glossary are located in Appendix B of the original document..

into an integrated system. NAEYC and NACCRRA hope the definitions will provide a guide for states to adapt and adjust as needed to meet their specific system(s) needs in clarifying roles and policies, assisting with the related work of determining and supporting the knowledge and capabilities of those providing PD, and also in data efforts to count and track all types of PD. We also hope these definitions will help provide common understandings, or starting points, for research and national or cross-state discussions—knowing that there are a variety of different models and approaches to each strategy included in this high-level definitions document.

Although one method of PD delivery is generally predominant in a given situation, these strategies frequently overlap. In fact, best practices in professional development delivery include the use of multiple methods. However, in this glossary training and TA methods are defined as discrete processes. This glossary begins with definitions that provide a broad overview of PD context. The resource then defines specific PD methods of training and TA—including mentoring, coaching, consultation, advising, and peer-to-peer TA. Two appendices also are included in this resource: Appendix A—Technical Assistance Strategies and Appendix B—Project Overview and Process.

The job titles of the individuals who provide PD are many and varied—higher education faculty, trainers, program administrators in their training and TA roles, individual consultants, child care resource and referral training and TA staff, and others. These professionals provide education, training, and/or TA to individuals working or preparing to work with young children and their families and those working or preparing to work on behalf of children in training, licensing, resource, and other administrative roles related to early childhood education. While NAEYC, NACCRRA, and the Alliance of Early Childhood Teacher Educators believe that those who provide PD should possess a high level of knowledge and skills and participate in ongoing professional development, this glossary does not define the core knowledge and capabilities expected of these professionals. In future work, NAEYC, NACCRRA, and the Alliance of Early Childhood Teacher Educators will explore the core knowledge and capabilities of those who provide professional development and what national resources may be helpful to support related state efforts.

Contextual Definitions

The **Early Childhood Education Workforce** includes those working with young children (infants, toddlers, preschoolers, and school-age children in centers, homes, and schools) and their families or on their behalf (in agencies, organizations, institutions of higher education, etc.), with a primary mission of supporting children's development and learning.

Early Childhood Education Professional Development is a continuum of learning and support activities designed to prepare individuals for work with and on behalf of young children and their families, as well as ongoing experiences to enhance this work. These opportunities lead to improvements in the knowledge, skills, practices, and dispositions of early education professionals. Professional development encompasses ***education, training,*** and ***technical assistance***.

Some of the early childhood workforce have college degrees in early education, some have degrees in closely related fields, some are enrolled in degree programs, some are taking college courses, some are graduates of technical high schools or technical school programs, some have no previous related education—and almost all of them are engaged in training every year. An individual may engage in all types of PD (education, training, and TA) over the course of a career. Professional development helps early childhood professionals in all roles progress along diverse career pathways that build and reward increasing knowledge and skills.

All professional development (education, training, and TA) should

- be designed using evidence-based best practices[2]; consistent with the principles of adult learning; and structured to promote linkages between research, theory, and practice.
- address the continuum of young children's abilities and needs.
- respond to each learner's background (including cultural, linguistic, and ability), experiences, and the current context of her role and professional goals.
- include resources to ensure access for all.

Individual Professional Development Plans (IPDPs) are documents that provide a framework connecting various professional development experiences to each other and to the common core of knowledge and professional standards for early education professionals. Individual professional development plans are designed to create a

2 "A decision-making process that integrates the best available research evidence with family and professional wisdom and values." V. Buysse, V., P. Wesley, P. Snyder, & P. Winton. 2006. "Evidence-Based Practice: What Does It Mean for the Early Childhood Field?" *Young Exceptional Children* 9 (4): 2-10.

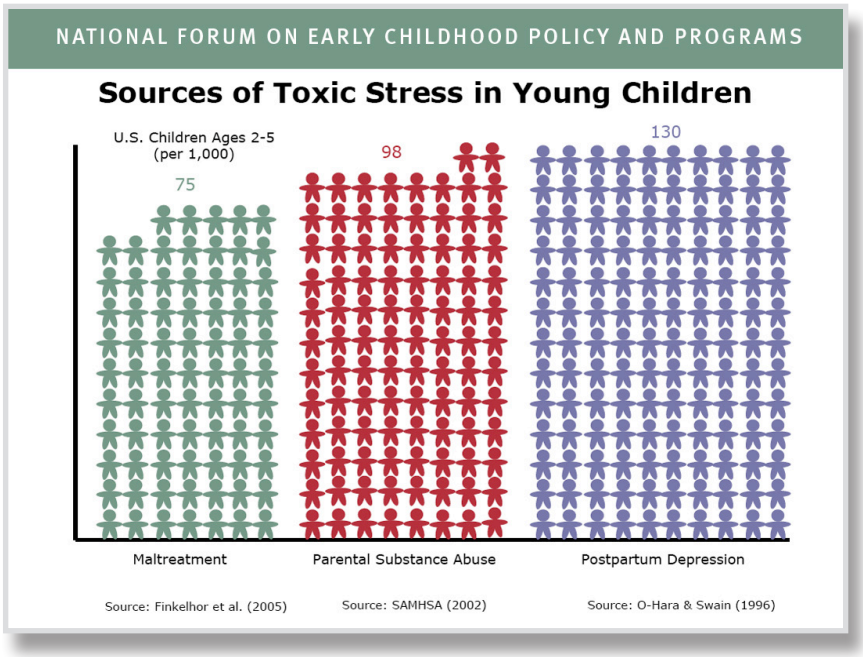
INBRIEF |

A series of brief summaries of the scientific presentations at the National Symposium on Early Childhood Science and Policy.

(1) Early Childhood Program Effectiveness

By creating and implementing effective early childhood programs and policies, society can ensure that children have a solid foundation for a productive future. Four decades of evaluation research have identified innovative programs that can improve a wide range of outcomes with continued impact into the adult years. Effective interventions are grounded in neuroscience and child development research and guided by evidence regarding what works for what purpose. With careful attention to quality and continuous improvement, such programs can be cost-effective and produce positive outcomes for children.

Effective services build supportive relationships and stimulating environments. To develop strong brain architecture, babies and toddlers require dependable interaction with nurturing adults and safe environments to explore. Toxic stress (see InBrief: The Impact of Early Adversity on Brain Development) can damage that architecture, but programs in a variety of settings—the home, early care and education, foster care, and other environments—can protect children from the effects of toxic stress by providing stable relationships with responsive caregivers. Within the context of these relationships, programs must

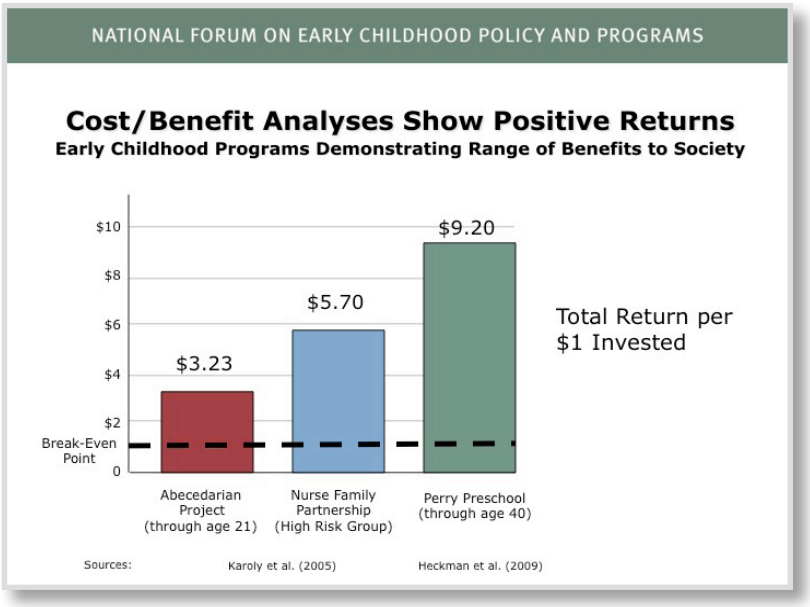


Providing supportive relationships and safe environments can improve outcomes for all children, but especially those who are most vulnerable. Between 75 and 130 of every 1,000 U.S. children under age 5 live in homes where at least one of three common precipitants of toxic stress could negatively affect their development.

POLICY IMPLICATIONS

- The development and retention of a skilled early childhood workforce is critical for success. Across all agencies and programs, a workforce that is appropriately skilled, trained, and compensated is a major contributor to achieving the best possible child and family outcomes. Ongoing investment in workforce skills and professional development is essential for program improvement.
- Quality of implementation is key. Model programs can lose their impact if not brought to scale correctly. Rigorous program standards, ongoing training and technical assistance, and continual quality assessment and improvement are critical to ensuring the ongoing effectiveness of large-scale programs.
- A multi-strategy approach will best enable states to ensure healthy futures for children. No single program can meet the diverse developmental needs of all children. A more promising approach targets a range of needs with a continuum of services that have documented effectiveness.

support emotional, social, and cognitive development because they are inextricably intertwined in the brain. We can't do one without the other.



Three rigorously studied early childhood programs, the Perry Preschool Project, the Abecedarian project, and the Nurse Family Partnership, show a range of sizable returns to the participants and to the public for every dollar invested.

2 Effective interventions address specific developmental challenges. Decades of brain science and developmental research suggest a three-tiered approach to ensure the health and well-being of young children:

- Tier 1 covers the basics — the health services, stable, responsible caregiving, and safe environments that all children need to help them build and sustain strong brains and bodies.
- Tier 2 includes broadly targeted interventions for children and families in poverty. Programs that combine effective center-based care and education for children with services for parents, such as education or income supports, can have positive effects on families and increase the likelihood that children will be prepared to succeed in school.
- Tier 3 provides specialized services for children and families who are most likely to experience toxic stress. Specific, effective treatments, such as interventions and services for child maltreatment, mental health, or substance abuse, can show positive outcomes for children and parents and benefits to society that exceed program costs.

3 Effectiveness factors distinguish programs that work from those that don't. Evaluation science helps identify the characteristics of successful programs, known as effectiveness factors. In early care and education, for example, the effectiveness factors that have been shown by multiple studies to improve outcomes for children include:

- Qualified and appropriately 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

4 Effective early childhood programs generate benefits to society that far exceed program costs. Responsible investments focus on effective programs that are staffed appropriately, implemented well, and improved continuously. Extensive analysis by economists has shown that education and development investments in the earliest years of life produce the greatest returns. Most of those returns, which can range from $4 to $9 per dollar invested, benefit the community through reduced crime, welfare, and educational remediation, as well as increased tax revenues on higher incomes for the participants of early childhood programs when they reach adulthood.

For more information, see "A Science-Based Framework for Early Childhood Policy" and Working Papers from the National Forum on Early Childhood Policy and Programs.
www.developingchild.harvard.edu/library/

NGA Center for BEST PRACTICES

National Conference of State Legislatures

Center on the Developing Child
HARVARD UNIVERSITY

THE INBRIEF SERIES:
IN**BRIEF**: The Science of Early Childhood Development
IN**BRIEF**: The Impact of Early Adversity on Children's Development
IN**BRIEF**: Early Childhood Program Effectiveness
IN**BRIEF**: The Foundations of Lifelong Health

(2) Transforming Early Childhood Community Systems (TECCS)

A national initiative catalyzing community-wide improvements in the developmental outcomes of young children across the country.

Working with neighborhoods, cities, and counties, TECCS supports an innovative approach to measuring and mapping local school readiness data and empowering communities to develop solutions that address children in the context of their families and leverage all assets communities can mobilize. TECCS tools, strategies, and collaborative learning network help communities align early childhood programs, funding streams, and policies across a wide range of sectors.

WHAT IS TECCS

The TECCS initiative is led by UCLA's Center for Healthier Children, Families & Communities with key partners including the United Way Worldwide, the Kellogg Foundation, Doris Duke Foundation and participating communities. TECCS works directly with local early childhood organizations and coalitions on making city or countywide improvements for all children. TECCS helps its partner communities establish a population-level snapshot of children's health, development and school readiness and analyze the community-level findings, neighborhood by neighborhood to identify challenges and then design and implement improvements across sectors, programs, and levels of government.

TECCS has already helped over 50 local communities in more than a dozen states measure and map their assets and barriers and use this information to engage broad community participation in improving conditions for families and their young children. With over 200 school districts over the past five years helping TECCS to map children's developmental outcomes, TECCS is the first national effort to provide holistic and comparable, population-level school readiness data to a large and diverse set of communities. Through the TECCS learning network, this effort has created a common currency and dialogue that allows communities to compare outcomes and learn from each other's best practices.

HOW TECCS DOES IT

TECCS provides coaching and tools to partner communities to establish or strengthen local coalitions and develop a community-level index to assess child health, development and school readiness, using the Early Development Instrument (EDI). TECCS then helps local coalitions turn data into actionable information through the use of detailed maps and data dashboards that inform planning and lead to measurable, scalable, and sustainable improvements for all children.

TECCS guides communities through a process of convening key local players at all levels (from parents, to providers, to policymakers) and from all sectors (health, education, social services, etc.), to help focus and align their combined efforts to ensure that children become healthy and productive members of the community. TECCS communities can then engage city-level partnerships with school districts, parks and recreation, libraries, and police departments to raise awareness and catalyze action around improving conditions for young children. In addition to providing tools and coaching, TECCS hosts a community-to-community learning network to make sure that local TECCS partners can spread their innovations quickly in order to implement effective, scalable, and sustainable solutions.

FIVE CORE PRINCIPLES OF TECCS

The TECCS whole child, whole community approach to improving early childhood outcomes is grounded in five core principles:

EVERYONE BENEFITS: Though important, TECCS is not focused on the individual child or an individual program. Rather, TECCS aims to help ALL children and families in the community receive the attention and services that they need, with particular attention on those children most in need, so that they receive necessary and additional supports.

HOLISTIC THINKING: TECCS considers all aspects of a child's well-being including their physical health, social and emotional development and their cognitive and communication skills. Also, TECCS does not look at one challenge in isolation, but takes into account the many factors (positive and negative) affecting early childhood, including those that relate to their family, school, community and broader policy environments. By understanding the complex realities of children's' lives, and by developing comprehensive solutions to support children and families, the TECCS approach helps communities to ensure all children will be better able to meet their potential.

COLLECTIVE ACTION: TECCS helps communities work to break down silos and develop collaborative solutions with a shared vision, common agenda, and coordinated action among all of the players influencing early childhood development—from health and education to housing and public safety. The TECCS platform is also being used at a local level to compliment a variety of existing state and national early childhood efforts including Promise Neighborhoods, Project Launch, the Social Innovation and the Maternal and Early Childhood Home Visiting Program.

COLLABORATIVE LEARNING ENVIRONMENT: TECCS hosts a platform for shared learning across communities through regular meetings and conference calls. For communities ready for a more structured and intensive approach, TECCS helps partnering communities build an ongoing culture of learning through a structured process that allows communities to create and test new ideas and then put in place real-time feedback loops that can then inform a new and ongoing cycle of innovation and improvement.

FUTURE PAYOFFS: By working to remove barriers to healthy development and helping to put children on a better trajectory as early as possible, TECCS communities are focused on raising a generation that will contribute positively to society.

Transforming Early Childhood Community Systems

TECCS VALUES FOR WORKING WITH COMMUNITIES

In working with communities, the TECCS team embraces a set of values which include having a relationship based on **respect** for community partners and their unique challenges and strengths, **openness** in our methods and conversations, and, most importantly, **optimism** about the future of communities and their children.

LEARN MORE ABOUT TECCS AT **TECCS.NET**

VI. Good Practices to Promote Healthy Early Development and Address Barriers

B. Specific Models and Programs

(3) Proven Benefits of Early Childhood Interventions

by Lynn A. Karoly, M. Rebecca Kilburn, Jill S. Cannon
RAND Corporation – http://www.rand.org/pubs/research_briefs/RB9145.html

There is increasing recognition that the first few years of a child's life are a particularly sensitive period in the process of development, laying a foundation in childhood and beyond for cognitive functioning; behavioral, social, and self-regulatory capacities; and physical health. Yet many children face various stressors during these years that can impair their healthy development. Early childhood intervention programs are designed to mitigate the factors that place children at risk of poor outcomes. Such programs provide supports for the parents, the children, or the family as a whole. These supports may be in the form of learning activities or other structured experiences that affect a child directly or that have indirect effects through training parents or otherwise enhancing the caregiving environment.

Key findings:

- Early childhood intervention programs have been shown to yield benefits in academic achievement, behavior, educational progression and attainment, delinquency and crime, and labor market success, among other domains.
- Interventions with better-trained caregivers and smaller child-to-staff ratios appear to offer more favorable results.
- Well-designed early childhood interventions have been found to generate a return to society ranging from $1.80 to $17.07 for each dollar spent on the program.

As part of a recent study, RAND researchers synthesized what is known from the scientifically sound research literature about the short- and long-term benefits from early intervention programs, the features that are associated with more-effective programs, and the economic gains that accrue from investing additional resources in early childhood. We summarize those findings here. A companion research brief focuses on the characteristics and number of children who may need help to overcome threats to healthy development, such as resource disparities in early childhood. It also addresses the consequences of those threats for educational outcomes and beyond.

A Range of Benefits

The study focused on programs that provide child development services from the prenatal period until kindergarten entry and that had scientifically sound evaluations. A literature review identified twenty such programs, nineteen of which demonstrated favorable effects on child outcomes. Fifteen of the effective programs were judged to have a "strong" evidence base because they measured outcomes at the time of kindergarten entry or beyond. The remaining four were not judged to have a strong evidence base because, as of the last follow-up, the participants had not yet reached kindergarten age. Many or all of the children in those programs were as young as age 2 or 3, so there is less information as to the lasting effects of the program on outcomes of interest. The evidence base for these programs was designated "promising."

Although these programs represent varied approaches to early intervention, they fall into one of three broad approaches (see the accompanying table). Programs in the first group concentrate primarily on providing parent education and other family supports through home visiting or services provided in other settings (e.g., medical provider offices, classrooms in child-care centers). A second approach focuses on providing early childhood education, typically in a

center-based setting, for one or two years prior to school entry. A third strategy combines the two approaches, with early childhood education services provided in centers supplemented by parental education delivered in the same setting or through home visits.

These nineteen early intervention programs demonstrated significant and often sizable benefits in at least one of the following domains: cognition and academic achievement, behavioral and emotional competencies, educational progression and attainment, child maltreatment, health, delinquency and crime, social welfare program use, and labor market success. In some cases, the improved outcomes in these domains were demonstrated soon after the program ended; in other cases, the favorable impacts were observed through adolescence and in the transition to adulthood. In the case of the Perry Preschool Program, lasting benefits in multiple domains have been measured thirty-five years after the intervention ended.

Even though findings suggest that early benefits in terms of cognition or school achievement may eventually fade, the evidence indicates that there can be longer-lasting and substantial gains in outcomes such as special education placement and grade retention, high school graduation rates, labor market outcomes, social welfare program use, and crime. A few studies indicate that the parents of participating children can also benefit from early intervention programs, particularly when they are specifically targeted by the intervention.

Features of Effective Programs

Policymakers and providers considering early childhood intervention programs may choose to adopt one of the proven program models shown in the table, several of which already operate on a large scale or are being replicated on a larger scale. Beyond these proven models, the literature offers some guidance about those features that are associated with better outcomes for children. Based on experimental and quasi-experimental evaluations of program design features, as well as comparisons of effects across model programs, three features appear to be associated with more effective interventions:

- Programs with better-trained caregivers appear to be more effective. In the context of center-based programs, this may take the form of a lead teacher with a college degree as opposed to no degree. In the context of home visiting programs, researchers have found stronger impacts when services are provided by nurse home visitors as opposed to a paraprofessional or lay professional home visitor.
- In the context of center-based programs, there is evidence to suggest that programs are more successful when they have smaller child-to-staff ratios.
- There is some evidence that more intensive programs are associated with better outcomes, but not enough to indicate the optimal number of program hours or how they might vary with child risk characteristics.

Ideally, we would like to know more about intervention features that generate better outcomes for children so that policymakers and practitioners can achieve optimal program designs for the children and families they serve. Thus, continued evaluation of model programs and effective program features is essential.

Economic Returns from Effective Early Intervention Programs

It is noteworthy that the features associated with more successful programs tend to be costly. This suggests that more money may need to be spent to obtain greater benefits — at least up to a point. It is therefore reasonable to ask whether devoting resources to achieve benefits associated with successful but more costly programs is worth the investment.

Notably, many of the benefits from early childhood interventions listed above can be translated into dollar figures and compared with program costs. For example, if school outcomes improve, fewer resources may be spent on grade repetition or special education classes. If improvements in school performance lead to higher educational attainment and subsequent economic success in adulthood, the government may benefit from higher tax revenues and reduced outlays for social welfare programs and the criminal justice system. As a result of improved economic outcomes, participants themselves benefit from higher lifetime incomes, and other members of society gain from reduced levels of delinquency and crime.

Researchers have conducted benefit-cost analyses, using accepted methodologies, for a subset of the programs we identified as having favorable effects. For those programs with benefits that could readily be expressed in dollar terms and those that served more-disadvantaged children and families, the estimates of benefits per child served, net of program costs, range from about $1,400 per child to nearly $240,000 per child. Viewed another way, the returns to society for each dollar invested extend from $1.80 to $17.07. Some of the largest estimates of net benefits were found for programs with the longest follow-up, because those studies measured the impact for outcomes that most readily translate into dollar benefits (e.g., employment benefits, crime reduction). Large economic returns were found for programs that required a large investment (over $40,000 per child), but returns were also positive for programs that cost considerably less (under $2,000 per child). Programs with per-child costs in between these two figures also generated positive net benefits. The economic returns were favorable for programs that focused on home visiting or parent education as well as for programs that combined those services with early childhood education.

Because not all benefits can be translated into dollar values, these benefit-cost estimates for effective programs are likely to be conservative. Moreover, such analyses do not incorporate some of the other potential benefits that were not measured in the studies. These might include improved labor market performance for the parents of participating children, as well as stronger national economic competitiveness as a result of improvements in educational attainment of the future workforce. It is important to note that these findings represent the potential effects of well-designed and well-implemented interventions. They do not necessarily imply that all such early childhood interventions, delivered for any given amount of time, would generate benefits that offset costs.

For decision-makers considering investments in early childhood interventions, these findings indicate that a body of sound research exists that can guide resource allocation decisions. This evidence base sheds light on the types of programs that have been demonstrated to be effective, the features associated with effective programs, and the potential for returns to society that exceed the resources invested in program delivery. These proven results signal the future promise of investing early in the lives of disadvantaged children.

Effective Early Childhood Intervention Programs Included in Study

Home Visiting or Parent Education
- DARE to be You
- Developmentally Supportive Care: Newborn Individualized Developmental Care & Assessment Program*
- HIPPY (Home Instruction Program for Preschool Youngsters) USA
- Incredible Years
- Nurse-Family Partnership Program
- Parents as Teachers*
- Project CARE (Carolina Approach to Responsive Education) — without early childhood education
- Reach Out and Read*

Home Visiting or Parent Education Combined with Early Childhood Education
- Carolina Abecedarian Project
- Chicago Child-Parent Centers
- Early Head Start*
- Early Training Project
- Head Start
- High/Scope Perry Preschool Project
- Houston Parent-Child Development Center
- Infant Health and Development Program
- Project CARE — with early childhood education
- Syracuse Family Development Research Program

Early Childhood Education Only
- Oklahoma Pre-K

NOTES: All listed programs are judged to have a strong evidence base, except those marked with an asterisk. For the latter, a substantial number of children were as young as age 2 or 3 at the time of the most recent follow-up, so their evidence base is judged to be promising.

VI. Good Practices to Promote Healthy Early Development and Address Barriers (Cont.)

C. Policies & Initiatives

Innovation in Infant and Toddler State Policies

From Zero to Three --http://www.zerotothree.org/public-policy/policy-toolkit/a_place_to_get_startedsinglesmar5.pdf

In the world of public policy, innovative approaches and solutions can make the difference between achieving long-held goals and maintaining the status quo. States are incubators for innovative ideas and often set the trends about which policy strategies build momentum and which do not. For the early childhood field, this is an exciting time of policy innovation. More attention is being focused on the earliest years of life than ever before in our nation's history. Across states, this new awareness about the early years is translating into creative policy strategies that promote responsible government while specifically addressing the needs of children prenatally to 3 years old.

Research shows that, to ensure a good start in life, all infants and toddlers need good health, strong families, and positive early learning experiences. Programs and services that address these areas are critical; however, they are only as strong as the infrastructure that supports them. When states build comprehensive, coordinated systems of high-quality, prenatal-to-5 services, it is possible to make the most efficient use of resources to meet the needs of the youngest children and their families.

There is much to be gained by looking at how your state can build on the strengths of existing state programs and take new, innovative steps toward a coordinated, comprehensive system of services for infants, toddlers, and their families. This paper features some of the infant–toddler policy strategies currently garnering attention and provides examples of how states are implementing them. The approaches featured here are only a sample of ideas about where to begin in your work on infant and toddler policy. For a more complete array of policy options that your state could consider, download a copy of ZERO TO THREE's *Early Experiences Matter Policy Guide*. Additional information on how states are implementing the strategies included in this paper and others that impact infants, toddlers, and their families can be found in ZERO TO THREE's *Baby Matters Database: A Gateway to State Policies and Initiatives*.

When reading these examples, you may ask yourself, "How did the states featured here make their innovations happen? And where did they start?" Our experience teaches us that there is no wrong place to begin. In fact, each state is unique and will focus on the infant–toddler system area that makes the most sense in its particular context. To help guide you through this process, ZERO TO THREE developed *Infants and Toddlers in the Policy Picture*, a state self-assessment tool. With the assessment in hand, *A Place to Get Started* can act as a jumping-off point for your state's infant–toddler strategic planning. ZERO TO THREE's work with states has made it clear that collecting and analyzing data is important in this process and can drive the policy choices you make. It is critical to gather basic information about the infants and toddlers in your state, such as how many children are under 3 years old, where infants and toddlers are being cared for, and the economic environment in which families with young children are living. In addition, states find it valuable to assess current policies and practices that impact new policy decisions. The key is to start somewhere and be thoughtful about how your policy choices fit within the context of a broader system of supports for infants, toddlers, and their families. No matter where you get started, the ZERO TO THREE Policy Center is here to support your efforts.

Policy Strategies

Building a comprehensive, coordinated early childhood system that addresses the developmental needs of infants and toddlers requires strategies that cross the boundaries of agencies and programs. The policies featured in this paper illustrate concrete, effective approaches that contribute to such a system. Promising state examples are described beneath each policy strategy.

Authors: Debbie M. Rappaport, ZERO TO THREE Policy Center Consultant: Jamie Colvard, Technical Assistance Specialist; Allyson Dean, Senior Technical Assistance Specialist; and Barbara Gebhard, Assistant Director of Public Policy
March 2015.

VI. Good Practices to Promote Healthy Early Development and Address Barriers (Cont.)

C. Policies & Initiatives (cont.)

(2) Preschool Programs: A Synthesis of Current Policy Issues

http://smhp.psych.ucla.edu/pdfdocs/briefs/preschool.pdf

Once again, early education has emerged as a major policy and program topic. And, while the importance of early education is undisputed, the increasing calls for "Universal Preschool" and full-day kindergartens have yielded considerable controversy.

Our specific interest in public policy for preschool programs stems from our concerns about promoting social and emotional development, preventing learning, behavior, and emotional problems, and addressing such problems at an early age.

As always, discussions of public policy for children and adolescents are a minefield of unresolved policy and program issues. What are the benefits? What are the costs? How do we decide that the benefits truly outweigh the costs? What are the data? Whose interests will and won't be served? Will quality be enhanced by requiring preschool teachers to have a B.A. degree? How do we ensure quality if we increase the number served?

Go to this brief for provide highlights of basic issues that permeate public policy discussions of pre-K programs. It also includes references to detailed guides and reports that expand on these matters. It is meant to help stakeholders grasp the current state of preschool policy and action.

CONTENTS

At this juncture, two matters are clear: (1) social philosophy continues to dominate interpretation of what is known and (2) decisions must be made with a limited science-base. Thus, we suggest that the words of Shonkoff & Phillips probably capture what will continue to be the case for some time to come:

> *The charge to society is to blend the skepticism of a scientist, the passion of an advocate, the pragmaticism of a policy maker, the creativity of a practitioner, and the devotion of a parent to ensure both a decent quality of life for all of our children and a productive future for the nation.*

VII. Resources and References

A. Websites and Organizations

B. Reports, Books, Articles, etc. (some available on the internet)

(1) Early Childhood Development

(2) Brain Development in Early Childhood

(3) Early Childhood Mental Health Research & Programs

(4) Early Childhood Education & Child Care

(5) Resources for Parents

C. QuickFind

VII. Resources and References

A. Websites and Organizations

AIR (American Institutes of Research http://www.air.org/topic/early-childhood

Better Brains for Babies Initiative. University of Georgia College of Family and Consumer Sciences Extension. http://www.fcs.uga.edu/bbbgeorgia/

Brain Development in Infants and Toddlers: Resources for Parents and Caregivers
http://nccic.org/index.html

Building Your Baby's Brain: A Parent's Guide to the First Five Years
http://www.teachingstrategies.com/

Center for Early Education and Development. University of Minnesota
http://cehd.umn.edu/ceed/publications/tipsheets/default.html

Center on the Development Child, Harvard University.
Http://developingchild.harvard.edu/

Child Care Now! http://www.childrensdefense.org/site/PageServer?pagename=homepage/

Early Childhood Care and Development. http://www.ecdgroup.com/

Early Childhood.com www.earlychildhood.com

Early Head Start National Resource Center. http://www.ehsnrc.org/

Florida Starting Points Initiative
http://www.teamfla.org/

Head Start Information and Publication Center (HSIPC). http://www.headstartinfo.org/

Head Start (official government web site). http://www2.acf.dhhs.gov/index.html

I Am Your Child Public Engagement Campaign http://www.iamyourchild.org/

Kids Campaign's Early Years http://www.connectforkids.org/

Media Campaign on Early Brain Development http://nccic.org/hcca/nl/may97/media.html

National Center for Early Development and Learning http://www.fpg.unc.edu/~ncedl/

National Early Childhood Technical Assistance Systems http://www.nectas.unc.edu/

National Institute of Child Health and Human Development. http://www.nichd.nih.gov/

National Association for the Education of Young Children. http://www.naeyc.org/

National Directory of Early Childhood Teacher Preparation Institutes.
http://www.cdacouncil.org/

National Institute on Early Childhood Development and Education.
http://www.ed.gov/offices/OERI/ECI/

Preschool Education.com http://www.preschooleducation.com/

Research Network on Early Experience and Brain Development
http://www.macbrain.org/index.htm

Zero to Three. http://www.zerotothree.org

Zero to Three Developmental Milestones http://www.zerotothree.org/

Zero to Three: National Center for Infants, Toddlers, & Families -- BrainWonders Web site
http://www.zerotothree.org/site/PageServer?pagename=homepage

B. Reports, Books, Articles, etc. (some available on the internet)

(1) Early Childhood Development

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http://www.dushkin.com/annualeditions/

Benefits and Costs of Prevention and Early Intervention Programs for Youth. Washington State Institute for Public Policy. http://www.wsipp.wa.gov/rptfiles/04-07-3901.pdf

Caring for Infants and Toddlers. *The Future of Children*. Vol. 11 No. 1 Spring/Summer 2001. The David and Lucile Packard Foundation, Los Altos, CA.
http://www.futureofchildren.org/

Early Childhood Investment Yields Big Payoff. Lynch, R. G.
http://www.wested.org/online_pubs/pp-05-02.pdf

Early Childhood Longitudinal Study, Birth Cohort (ECLS-B).
http://nces.ed.gov/ecls/Birth/studybrief.htm
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From Neurons to Neighborhoods: The Science of Early Childhood Development.
J. P. Shonkoff and D. A. Phillips, Eds; Committee on Integrating the Science of Early Childhood Development, Board on Children, Youth, and Families.
http://www.nap.edu/openbook.php?isbn=0309069882

Increase the percentage of children 0-3 who exhibit age-appropriate mental and physical development: Benchmark Overview. http://www.promisingpractices.net/

Mental Health: A Report of the Surgeon General. Chapter Three: Children and Mental Health. http://www.surgeongeneral.gov/library/mentalhealth/chapter3/sec1.html

Status of Children: A mixed report on early childhood. Katherine Vail. Educational Vital Signs. http://www.edgateway.net/cs/es/view/lwe/55490

The New Economics of Preschool: New findings, methods and strategies for increasing economic investments in early care and education. Freidman, D.E..
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(6)About the Center's Quick Find on Early Childhood Development

The Center's online clearinghouse Quick Finds provide a gateway to a wealth of resources on over 130 topics. To access these, go to the website at http://smhp.psych.ucla.edu/ and click on Search & Quick Find. Or go directly to the search page at http://smhp.psych.ucla.edu/websrch.htm

All relevant Center developed resources and direct links to major documents, materials, reports, centers, etc. related to this brief on preschool programs can be found under the Center's clearinghouse topic Early childhood Development. The direct URL for this Quick Find is

http://smhp.psych.ucla.edu/qf/earlychildhood.htm .