



Excerpt From:

*From the Center's
Clearinghouse ...**

An Introductory packet on

*Early Development and Learning
from the Perspective of Addressing Barriers*



This document is a hardcopy version of a resource that can be downloaded at no cost from the Center's website (<http://smhp.psych.ucla.edu>).

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. Center for Mental Health in Schools, Box 951563, Los Angeles, CA 90095-1563 (310) 825-3634 Fax: (310) 206-8716; E-mail: smhp@ucla.edu

Support comes in part from the Office of Adolescent Health, Maternal and Child Health Bureau (Title V, Social Security Act), Health Resources and Services Administration (Project #U93 MC 00175) with co-funding from the Center for Mental Health Services, Substance Abuse and Mental Health Services Administration.

Both are agencies of the U.S. Department of Health and Human Services.



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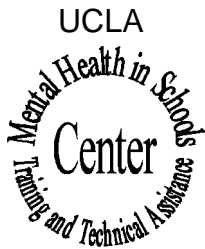
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The Center encourages widespread sharing of all resources.



UCLA CENTER FOR MENTAL HEALTH IN SCHOOLS*

Under the auspices of the School Mental Health Project in the Department of Psychology at UCLA, our center approaches mental health and psychosocial concerns from the broad perspective of addressing barriers to learning and promoting healthy development. Specific attention is given policies and strategies that can counter fragmentation and enhance collaboration between school and community programs.

MISSION: *To improve outcomes for young people by enhancing policies, programs, and practices relevant to mental health in schools.*

Through collaboration, the center will

- # enhance practitioner roles, functions and competence
- # interface with systemic reform movements to strengthen mental health in schools
- # assist localities in building and maintaining their own infrastructure for training, support, and continuing education that fosters integration of mental health in schools

***Technical Assistance *Hard Copy & Quick Online Resources**
***Monthly Field Updates Via Internet *Policy Analyses**
***Quarterly Topical Newsletter**
***Clearinghouse & Consultation Cadre**
***Guidebooks & Continuing Education Modules**
***National & Regional Networking**

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*Early Development and Learning
from the Perspective of Addressing Barriers*



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An Introductory packet on

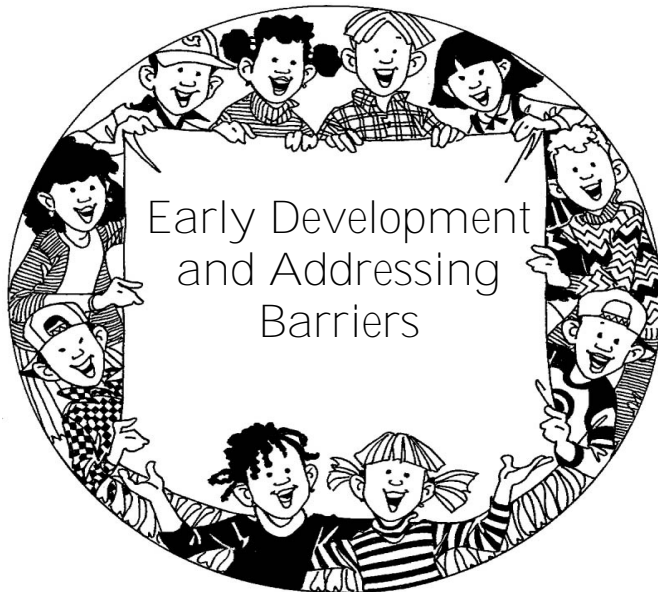


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I. Introductory Perspective: Early Development and Learning from the Perspective of Addressing Barriers to Learning



Over the past decade there has been renewed interest in facilitating early development and learning. Beside the normal tendency for us all to want to give our children a good start in life, three movements have added impetus to formalize interventions to ensure this happens. One push comes from the interpretations of recent brain research that underscore the influence of early experiences on the developing brain. A second thrust arises from research showing positive outcomes from early interventions with children who have

special needs. A third influence is filtering down from the school accountability movement which is pressuring kindergartens and preschools to focus their efforts on reading readiness.

The lens we bring to the topic in compiling this introductory packet is that of the need to address barriers to 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.

There are a variety of genetic, prenatal, perinatal, and postnatal factors that can lead to variations in 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 needs as 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 necessary, 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. Across the country a dialogue has begun about promoting child and youth development and addressing barriers to development and learning.

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 the next page. Other documents from our Center discuss the nature, scope, and implications of such a comprehensive approach.

Central Policy Concerns

1. ***Coalescing resources 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. This is true at schools and in communities. Such marginalization contributes to scarcity and fragmentation.

Interconnected systems for meeting the needs of all students.

Aims:

To provide a CONTINUUM OF SCHOOL AND COMMUNITY PROGRAMS & SERVICES

To ensure use of the LEAST INTERVENTION NEEDED

School Resources
(facilities, stakeholders,
programs, services)

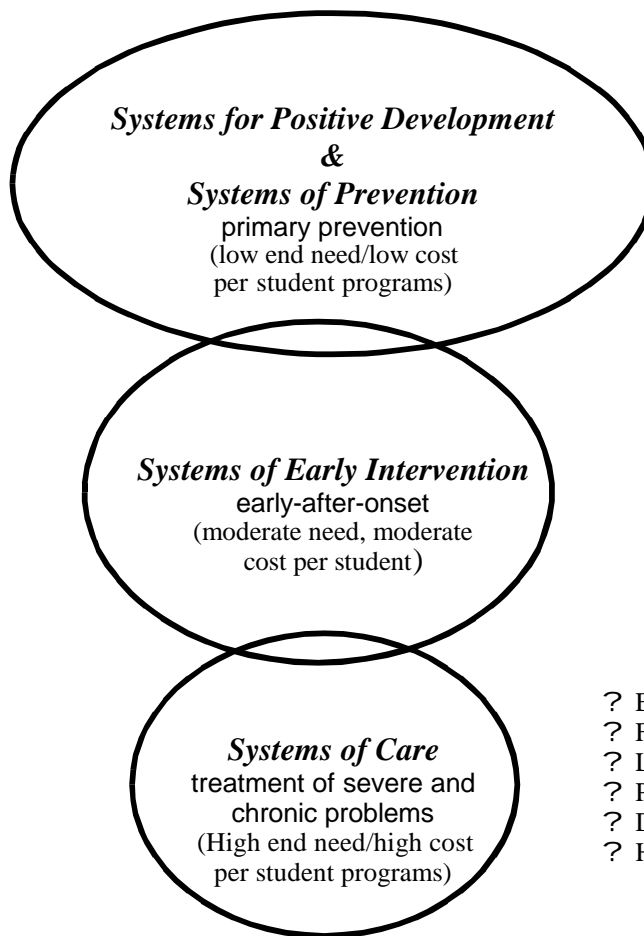
Community Resources
(facilities, stakeholders,
programs, services)

Examples:

- ? General health education
- ? Drug and alcohol education
- ? Support for transitions
- ? Conflict resolution
- ? Parent involvement

Examples:

- ? Public health & safety programs
- ? Prenatal care
- ? Immunizations
- ? Recreation & enrichment
- ? Child abuse education



- ? Pregnancy prevention
- ? Violence prevention
- ? Dropout prevention
- ? Learning/behavior accommodations
- ? Work programs

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

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

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

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) between jurisdictions, school and community agencies, public and private sectors; among schools; among community agencies;
- (b) with jurisdictions, school districts, and community agencies (e.g., among departments, divisions, units, schools, clusters or schools)

Young Children, Poverty, and Barriers to Development and Learning

From: *One in Four: America's Youngest Poor*. National Center for Children in Poverty. 1996.

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. (Duncan & Brooks-Gunn, in press)

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. (Korenman, Miller, & Sjaastad, 1995; Smith, Brooks-Gunn, & Klebanov, in press)

Young children in poverty are more likely to:

- be born at a low birthweight;
- 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.(Klerman & Parker, 1990; Kotch & Shackelford, 1989)

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. (Klerman, 1991)

How Many Poor and Near Poor Young Children Are There?

- Between 1979 and 1994, the number of children under age six in poverty in the United States grew from 3.5 million to 6.1 million. During this same period, the percentage of young children living in poverty - the YCPR - rose from 18 percent to 25 percent.
- Nearly half of all children under age six-45 percent-lived in poor or nearly poor families in 1994.
- Young children are more likely to be extremely poor, poor nearly poor than any other age group.
- Between 1975 and 1994, the extreme poverty rate for young children rose from 6 to 12 percent.

Where Do Poor Young Children Live?

- Poverty rates for young children are highest in urban areas but also substantial in rural and suburban settings.
- Since the 1970s, the YCPR has grown at a much faster pace in the suburbs than in rural or urban areas.
- State, city, and regional YCPRs vary greatly.

What Kinds of Families Do Poor Young Children Live In?

Family Structure

- In 1994, young children living with unmarried mothers were almost five times as likely to be poor as those living with married parents.
- Over one-third of poor children under age six (2.1 million) lived with married couples.

Educational Attainment of Parents

- More educated parents are more likely to earn enough to keep their children out of poverty, but many children of high school graduates live in poverty.
- A staggering 89 percent of children whose more educated parent did not complete high school lived in low-income families (near poverty or below) in 1994.

Employment Status of Parents

- In 1994, 62 percent of all poor children under age six lived with at least one parent who was employed part-time or full-time.
- Less than one-third of poor young children lived in families who relied exclusively on public assistance.
- The YCPR was 18 percent for young children with unmarried mothers who were employed full-time.
- Between 1975 and 1994, the YCPR for children living with both parents, one of whom was employed full-time, climbed from 6 to 15 percent.

What Are the Racial and Ethnic Backgrounds of Poor Young Children?

- Black and Hispanic children are more likely to live in either poverty or extreme poverty than white children.
- White children are the largest single ethnic group of young children in poverty.
- Since the 1970s, the YCPR has grown twice as fast among whites as among blacks.
- The Hispanic YCPR has increased more rapidly than that of other racial and ethnic groups.

References:

- Duncan, G. J. & Brooks-Gunn, J. (Eds.) (In press). *Consequences of growing up poor* [edited papers from a conference co-sponsored by the National Institute for Child Health and Human Development and the Russell Sage foundation, February 2-3, 1995, at the National Academy of Sciences]. New York, NY: Russell Sage Foundation.
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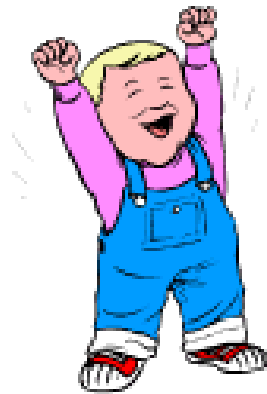
Although a number of federal and state programs provided significant funds for early childhood care and education, some types of child care were still difficult for low-income families to obtain, including infant and toddler care; care for children who have special needs, such as children with physical disabilities; and care for children during nonstandard hours (evenings and weekends). In contrast, a majority of the survey respondents indicated that care for 3- and 4-year-olds was generally not difficult to obtain.

Child care administrators identified three major barriers to finding care for low-income children: cost of care, especially for infants and toddlers; availability; and accessibility, such as transportation to get to providers, described as more difficult in rural and remote areas.

The types of care that currently have the greatest need for support are infant and toddler care, care during nonstandard hours, and care for children with special needs.

Adapted from: *Education And Care: Early Childhood Programs and Services for Low-Income Families*. United States General Accounting Office, Report to Congressional Requesters. November 1999.

II. Early Development & Learning: A Growing Field



“ ...there has emerged a dramatic new respect for the importance of the early years and the value of high quality early care and education for later success in life...The growing recognition of the importance of the early years for school readiness and lifelong learning has stimulated major new policy initiatives in states and communities across the United States...”

N. Halfon et al. *Reaching Back to Create A Brighter Future: Promoting School Readiness*.
UCLA Center for Healthier Children, Families, and

- 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
 - 1. *Screening: A Note of Caution*
 - 2. *Social Development in Early Childhood*
 - 3. *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 media is eager to provide information in response to this converging interest through the quick release of new reports. In a *Newsweek Special Issue*, October 16, 2000, entitled, *Your Child*, Barbara Kantrowitz writes:

"Scientific breakthroughs have given us an extraordinary new understanding of early childhood—and a renewed appreciation for the importance of a parent's nurturing care...The last decade has shown that we can make dramatic improvements in children's lives. The scientific breakthroughs merely give us a road map. With that in hand, parents and policy makers must come together to reach the common goal of giving every child the best possible start...children's early experiences affect not only the quality of their present lives, but also their later ability to learn and reason."

(Note: Ms. Kantrowitz was referring to a soon to be released Carnegie Corporation Report, *Starting Now*.)

In an interview for *Educational Leadership*, Andrew Meltzoff, Professor of Psychology and Director of Developmental Psychology at the University of Washington in Seattle, says:

“...It is part of our biology to be influenced by our environment, but there is something of a dispute about early stimulation. The dispute arises from the misconception that all stimulation or environmental input is the same...A controversy surrounds the concept of an enriched environment...The developmental psychologists themselves are very fond of emphasizing the dramatic learning that takes place in early infancy. But the science does not support the idea that extra stimulation above and beyond natural interaction is necessary or important for cognitive or emotional growth. Developmental psychologists feel as much at a loss as the parents do about the pressure that is being put on parents by society. There is no scientific data to suggest that parents can build a super baby or a genius baby...”

...People used to think that before children learned to talk, children were not thinking, problem-solving human beings. The new research proves that they are. This is why we see pictures of babies on the covers of Time and Newsweek. Those of us who study early learning were flabbergasted by the competence of babies and young children, and the discoveries began to grab a lot of attention. The first three years of life are foundational and terribly important, but I would emphasize that learning does not stop at 3 years of age...When we can get the scientists and the educators together to connect learning from 0 to 3 with learning from 3 and beyond, then we will really be getting somewhere. The window for learning does not slam shut when a child gets to be 3. That contradicts the everyday experience of parents and educators. Learning is a lifelong enterprise. The surprise is that it begins so early, but the enduring truth is that it continues into adulthood. Human beings have a natural drive to learn and experience a pleasure in finding things out. This applies to teachers, scientists, and even our youngest children.”

From: *The Scientist in the Crib: A Conversation with Andrew Meltzoff*. Marcia D'Arcangelo. *Educational Leadership*, Vol 58 (3), November 2000.

A RAND Research Brief on the benefits and costs of early childhood interventions reports:

“Over the last several years, there has been a renewed interest in the influence of the first few years of life on child health and development, educational attainment, and economic well-being. Much of this interest has been given impetus by research findings that the great majority of physical brain development occurs by the age of three. These findings have been interpreted to suggest that early childhood furnishes a window of opportunity for enriching input and a window of vulnerability to poverty and dysfunctional home environments. The response has been an array of programs directing budgetary surpluses to promote healthy child development – particularly among disadvantaged children – with home visits by nurses, parent training, preschool, and other programs.”

From: RAND Research Brief: *Early Childhood Interventions: Benefits, Cost, and Savings*. 1998. This research brief reports on the book, *Investing in Our Children: What We Know and Don't Know About the Costs and Benefits of Early Childhood Interventions*. Lynn Karoly et al. RAND. 1998.

Caveats and Cautions

Excerpt from: Developmental Science and the Media: Early Brain Development. Ross A. Thompson & Charles A. Nelson. *American Psychologist*, January 2001, Vol. 56, No. 1, 5-15.

“Media coverage of early brain development not only has focused public attention on early childhood but also has contributed to misunderstanding of developmental neuroscience research.

. . .

‘The Decade of the Brain’ of the 1990 fostered widespread interest in neuroscience that, when combined with the public’s long-standing concern with child development, permitted enduring questions of early childhood influences to be addressed with the technical sophistication and rigor of neuroscience. By the late 1990s, this resulted in a broad range of media reports on the effects of early experiences on young children in relation to critical periods of brain development and the enduring effects of early stimulation or deprivation. As a result, not only have developmental scientists witnessed unprecedented public attention to important questions of early childhood development, but they also have seen developmental research applied inappropriately, such as when critical-period formulations are used to conclude that Head Start begins too late to stimulate the developing brain or in reports that classical music instruction stimulates early intellectual growth. Although parents are encouraged by media coverage to do the right things for their young offspring (e.g., talking to and playing with their infants), it is often for the wrong reasons, thus contributing to unwarranted expectations concerning the long-term effects of early social stimulation on child development. At the same time, other newsworthy conclusions from developmental neuroscience neglected by the media – such as the significant brain capacities that develop after age three, the biological requirements of healthy brain development, and the lifelong adaptability of the brain – have not reached public attention...

...interest in early childhood may evaporate as quickly as it has emerged if parents, practitioners, and policymakers conclude that they were misled about how they could contribute to optimizing early development, especially if simplified interpretations and applications of research on early brain development do not yield expected outcomes for enhanced intellectual and socioemotional growth...”

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	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? Take her to art galleries to see new shapes and colors ? Introduce toys that move and make noises. Don't discourage her constant banging and throwing. It's research.
8-12 Months	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? Vocabulary and sentence construction improve rapidly ? Starts to grasp categories (dogs and cats are animals) ? Understands instructions, may refuse to follow them 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? Smiles at, pats or even kisses mirror image ? May reject confinement in crib or playpen ? Buries head in parents shoulder when meeting people 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? Shows little understanding of rules and warnings, but smiles when praised and cries when scolded ? Throws tantrums (and objects) when angry 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? 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. 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? Growth slows, but Baby becomes stronger and more coordinated ? Walk without support ? Scribbles with crayon and points with her index finger 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? 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	
<ul style="list-style-type: none"> ? 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 	<ul style="list-style-type: none"> ? 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 do 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

2. Social Development in Early Childhood



From: Young Children's Social Development: A Checklist. Diane McClellan & Lilian G. Katz. 1993. #EDO-PS-93-6. From the ERIC Clearinghouse on Elementary and Early Childhood Education.
<http://ericece.org>

Early childhood educators have traditionally given high priority to enhancing young children's social development. During the last two decades a convincing body of evidence has accumulated to indicate that unless children achieve minimal social competence by about the age of six years, they have a high probability of being at risk throughout life. Hartup suggests that peer relationships contribute a great deal to both social and cognitive development and to the effectiveness with which we function as adults (1992). He states that:

Indeed, the single best childhood predictor of adult adaptation is *not IQ*, *not* school grades, and *not* classroom behavior but, rather the adequacy with which the child gets along with other children. Children who are generally disliked, who are aggressive and disruptive, who are unable to sustain close relationships with other children, and who cannot establish a place for themselves in the peer culture are seriously "at risk" (Hartup, 1992).

The risks are many: poor mental health, dropping out of school, low achievement and other school difficulties, poor employment history, and so forth (see Katz and McClellan, 1991). Given the life-long consequences, relationships should be counted as the first of the four R's of education.

Because social development begins in the early years, it is appropriate that all early childhood programs include regular periodic formal and informal assessment of children's progress in the acquisition of social competence. The set of items presented below is based largely on research identifying elements of social competence in young children, and on studies in which the behavior of well-liked children has been compared to that of less well-liked children (Katz and McClellan, 1991).

The Social Attributes Checklist

The checklist provided in this digest includes attributes of a child's social behavior and preschool experience which teachers should examine every three or four months. Consultations with parents and other caregivers help make the attributes and assessments realistic and reliable.



In using the checklist, teachers should pay attention to whether the attributes are typical. This requires sampling the child's functioning over a period of about three or four weeks. Any child can have one or two really bad days, for a variety of reasons; if assessments are to be reasonably reliable, judgments of the overall pattern of functioning over a period of about a month is required.

Healthy social development does not require that a child be a "social butterfly." The quality rather than quantity of a child's friendships is the important index to note. Keep in mind also that there is evidence that some children are simply shyer than others, and it may be counter-productive to push such children into social relations which make them uncomfortable (Katz and McClellan, 1991). Furthermore, unless that shyness is severe enough to prevent a child from enjoying most of the "good things of life," like birthday parties, picnics, and family outings, it is reasonable to assume that, when handled sensitively, the shyness will be spontaneously outgrown...

Teachers can observe and monitor interactions among the children and let children who rarely have difficulties attempt to solve conflicts by themselves before intervening. If a child appears to be doing well on most of the attributes and characteristics in the checklist, then it is reasonable to assume that occasional social difficulties will be outgrown without intervention.

However, if a child seems to be doing poorly on many of the items on the list, the adults responsible for his or her care can implement strategies that will help the child to overcome and outgrow social difficulties. We suggest that this checklist be used as a guide among teachers and parents. The intent is not to supply a prescription for "correct social behavior," but rather to help teachers observe, understand, and support children as they grow in social skillfulness. If a child seems to be doing poorly on many of the items on the list, the adults responsible for his or her care can implement strategies that will help the child to establish more satisfying relationships with other children (Katz and McClellan, 1991).

Finally, it is also important to keep in mind that children vary in social behavior for a variety of reasons. Research indicates that children have distinct personalities and temperaments from birth. In addition, nuclear and extended family relationships obviously affect social behavior. What is appropriate or effective social behavior in one culture may be less effective in another culture. Children from diverse cultural and family backgrounds thus may need help in bridging their differences and in finding ways to learn from and enjoy the company of one another. Teachers have a responsibility to be proactive rather than laissez faire in creating a classroom community that is open, honest, and accepting.

The Social Attributes Checklist

Individual Attributes

The child:

1. Is **usually** in a positive mood
2. Is not **excessively** dependent on the teacher, assistant or other adults
3. **Usually** comes to the program or setting willingly
4. **Usually copes** with rebufs and reverses adequately
5. Shows the capacity to empathize
6. Has positive relationship with one or two peers; shows capacity to really care about them, miss them if absent
7. Displays the capacity for humor
8. Does not seem to be acutely or chronically lonely

Social Skill Attributes

The child **usually**:

- 1 . Approaches others positively
2. Expresses wishes and preferences clearly; gives reasons for actions and positions
3. Asserts own rights and needs appropriately
4. Is not easily intimidated by bullies
5. Expresses frustrations and anger effectively and without harming others or property
6. Gains access to ongoing groups at play and work
7. Enters ongoing discussion on the subject; makes relevant contributions to ongoing activities
8. Takes turns fairly easily
9. Shows interest in others; exchanges information with and requests information from others appropriately
10. Negotiates and compromises with others appropriately
11. Does not draw inappropriate attention to self
12. Accepts and enjoys peers and adults of ethnic groups other than his or her own.
13. Gains access to ongoing groups at play and work
14. Interacts non-verbally with other children with smiles, waves, nods, etc.

Peer Relationship Attributes

The child is:

1. **Usually** accepted versus neglected or rejected by other children
2. **Sometimes** invited by other children to join them in play, friendship, and work.

From: Diane McClellan & Lilian G. Katz. (1993). Young Children's Social Development: A Checklist. #EDO-PS-93-6.

C. Screening for Problems

3. 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>

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. (see: Screening for Psychosocial Problems in 4-5-Year-Olds During Routine EPSDT Examinations: Validity and Reliability in a Mexican-American Sample. Pagano, M et al. *Clinical Pediatrics*, March 1996).

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)

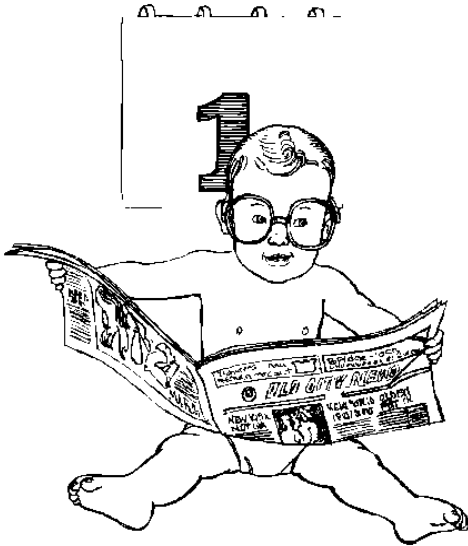
Emotional and physical health go together in children. Because parents are often the first to notice a problem with their child's behavior, emotions or learning, you may help your child get the best care possible by answering these questions. Please indicate which statement best describes your child.

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.

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



“ At birth, a child’s brain is about 25% of its approximate weight at adulthood. At age 3, a child’s brain has reached about 90% of its full potential... the infant’s and young child’s brain is vastly more complex and active than previously assumed.”

Early Brain Development and Child Care: Discoveries about the growth and development of the young child’s brain have important implications about child care.
Healthy Child Care America. Vol 3, No. 1, January

A. Early Experience Matters

? *What are implications for parents and child care providers?*

B. Early Experience and the Brain: 10 Key Lessons

1. *New Brain Research Underscores the Importance of Education and the Power of Effort*
2. *Early Experience Affects How Brains Are "Wired"*
3. *The Young Brain is a Work in Progress*
4. *Every Child is Unique*
5. *Children Learn in the Context of Important Relationships*
6. *Other Caregivers Can Meet Young Children’s Needs— But Don’t Take the Place of Mom or Dad*
7. *"Small Talk" Has Big Consequences*
8. *Children Need Many Kinds of Stimulation*
9. *Prevention is Crucial*
10. *The Cradle Will Rock*

A. Early Experience Matters

Excerpted from: Early Brain Development and Child Care: Discoveries about the growth and development of the young child's brain have important implications for child care. *Healthy Child Care America*, 3(1), January 1999.
[Http://nccic.org/hcca/n1/jan99/earlybra.html](http://nccic.org/hcca/n1/jan99/earlybra.html)

Recent research on brain development emphasizes the importance of early experiences on children's physical, psychological, cognitive, and social development. Relatively new is the discovery of a biological basis for the widely held notion that a loving, secure, stimulating environment fosters healthy development, while a chronically neglectful, physically damaging, or emotionally abusive environment can produce significant, lasting harm. The brain becomes conditioned, via neuronal connections established during the early years of supportive or negative experiences, to respond according to certain patterns.



For example, traumatic events increase the production of a hormone in the brain called cortisol. This substance can lead to a destruction of neurons and a reduction in synapse formation, altering brain function in the process. Chemical levels in the brain and blood help determine how a person will respond to challenges in the environment. In this way, chronic stress, including the chronic stress encountered by a child in a neglectful or abusive environment, can impair brain development. Research has found that children with chronically high levels of cortisol experience more cognitive, motor, and social delays than other children.

Two other hormones in the brain, serotonin and noradrenaline, also play key roles in brain development. Serotonin aids in the management of emotions, including aggression, and noradrenaline regulates responses to fear and anger. Normally, these two hormones work in harmony with each other. But when traumatic events or chronic stress throw the balance between these two hormones out of whack, the result can be a host of behavioral, emotional, and cognitive problems.

What are implications for parents and child care providers?

In order to promote their children's health, as well as counteract biological, behavioral, and emotional consequences of abuse and neglect, caregivers need to focus on providing consistent and nurturing relationships, individualized attention, and responsiveness to children's cues.

. . .

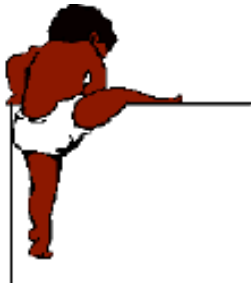
Caregivers may need special training and skills to give children the kinds of relationships and individualized responses they need. Dr. Ramey, a university professor of psychology, neurobiology, and pediatrics at the University of Alabama at Birmingham, says, "That requires some real knowledge of human development. In early child care, one size doesn't fit all. That is true of all education broadly speaking, but it is particularly true for young children. You have to know the child and what he or she is capable of doing, and you have to match the program to the child's developmental level. It also requires having the resources at hand to effectively support the child's next steps. Caregivers not only need preservice training before entering the field, but they also need high quality, ongoing training and technical assistance. And they need a backup system that allows them to have knowledgeable people to call on when they need help"

Closely related to the notion of tailoring care to children's individual needs is the idea of teaching caregivers to tune in to children's cues and interests on a day-to-day basis. "The child is not a blank slate," says Dr. Lally. "The infant comes into the world already curious, with a learning agenda, in which he or she tries to figure out distance, perspective, cause and effect, and many other things. We've forgotten that the child has this agenda, and we need to further that agenda by encouraging the child and expanding upon it. It is important to learn how to read the child's cues, to see what the child is interested in, and to participate in experiences around those interests."

According to Dr. Schor, learning to read the child's cues is the most important skill needed to provide quality child care. "We start talking about individual education plans when children get into school, but children need this from birth. You have to be down on the floor with the child, know how they're feeling, what they enjoy, what they're good at and not good at, and when they're anxious."

In summary, a stronger focus on consistent, nurturing relationships, individualized attention, and responding to the child's cues during the first 3 years of life can help children reach their fullest potential, prevent developmental delays and other problems, and even soften the blows of abuse and neglect...

B. Early Experience and the Brain: 10 Key Lessons



From: “How Are the Children?” Report on Early Childhood Development and Learning. September 1999. [Http://www.ed.gov/pubs/How_Children](http://www.ed.gov/pubs/How_Children)

Across the nation, nearly 4 million babies are born each year. Each enters the world with immense promise. Each arrives with billions of brain cells just waiting to have their power unlocked. Many of these cells have already begun to link up to one another, but a newborn’s brain has yet to form the roughly 100 trillion connections that make up an adult’s complex neural

networks. For these connections to form and proliferate, cells need a crucial ingredient: experience in the world. From the very first days of life, brain cells connect at an astonishing pace. Young brains forge more than enough connections in the first 3 years of life; as children move toward adulthood, these connections are pruned and fine-tuned. This is good news for humans. It means that our newborns’ capacities—their unique ways of thinking, knowing, and acting—develop in the world, under the sway of the adults who love them and nurture them.

The impact of early experience on early brain development is powerful and specific, and may last a lifetime. This is a major finding of recent brain research, and it represents a sharp departure from centuries-old ideas about how children develop and grow. Its implications can be summarized in 10 key lessons.

1. New Brain Research Underscores the Importance of Education and the Power of Effort

Only in recent decades have scientists fully appreciated the significance of early experience...For generations, it was widely believed that based on inborn traits, some children could be expected to become able learners and productive workers, while others were destined to dimmer futures. Experience and education were considered helpful, but could hardly be expected to overcome nature’s preset limits.

New scientific evidence turns this assumption on its head. Heredity certainly plays a role, and geneticists are learning more each day about how genes affect development. But as each child grows and matures, early experience exerts a powerful force, sculpting the genetic "clay."

Today, most experts agree that early development is a complex dance between nature and nurture. Some researchers are producing new evidence that in the early years, nurture leads that dance; one recent study suggests that in infancy and childhood, the impact of experience on cognitive ability is significantly more powerful than the influence of heredity.¹ The relative importance of experience appears to decrease as individuals move through the life cycle. This finding is sure to be debated in coming years; but whatever the ultimate conclusion, scientists now underscore the importance of early experience, the power of effort, and the hope of education.

2. Early Experience Affects How Brains Are "Wired"

It is natural to think of babies as ourselves in miniature—adults on a smaller scale. But the more we discover about young brains, the clearer it becomes that young children differ from adults in important ways. They have unique ways of developing, learning, and responding to the world around them. By taking these differences into account, parents and professionals can do a better job of meeting young children's needs.

At birth, children's brains are in a surprisingly unfinished state. Newborns have all of the genetic coding required to guide their brain development. What's more, they have nearly all of the billions of brain cells, or neurons, they will need for a lifetime of thinking, communicating, and learning. But these neurons are not yet linked up into the networks needed for complex functioning. It is like having billions of telephones installed around the nation, but not yet completely connected to each other.

3. The Young Brain is a Work in Progress

Crucial steps in brain development take place early in pregnancy, before many women know that they are expecting. Within weeks of conception, cells that are destined to become neurons have to find their way to the correct position in the part of the brain most responsible for reasoning and learning. For brain development to proceed normally, each cell has to make its journey at the right time, in the right order. Nature has powerful mechanisms to guide the process, including genetic coding, and expectant parents can rest assured that in the vast majority of cases, development proceeds just as it should. But even in the womb, the brain is vulnerable to environmental influences. When pregnant women have inadequate nourishment, when they smoke, drink, or take drugs, or are exposed to toxic substances, their babies' brain development may be jeopardized. Research also suggests that when women suffer abuse, extreme stress, or severe depression, their babies may be affected.

Newborns have more awareness of the world than most of us realize. On the first day of life, a newborn can look at his surroundings, study objects, and gaze in the eyes of his mother or father. Infants as young as 2 days of age will sometimes suck at the mere sight of a breast or bottle, suggesting that learning takes place from a child's earliest hours of life.³ But the process of getting to know the world is just beginning. At birth, a newborn cannot yet make sense of the flood of sensation and information that comes his way.

As new experiences arrive, young children's brains respond by forming and reinforcing trillions of connections, or synapses, among neurons. In the time that it takes for mom to nurse the baby or for grandpa to read *Goodnight Moon*, thousands of new synapses are produced. At the same time, thousands of existing synapses are used or "fired" and, in the process, reinforced.



Connections form so quickly that by the time children are three, their brains have twice as many synapses as they will need as adults. These trillions of synapses are competing for space in a brain that is still far from its adult size. According to *Rethinking the Brain*, a report by the Families and Work, by the age of three a young child's brain is apt to be more than twice as active as that of her pediatrician.⁴ Children are biologically primed for learning, and the first 3 years are particularly crucial.

If children have more synapses than they will have as adults, what happens to the trillions of excess connections? The answer is they are shed as children grow. Scientists report that throughout the development process, the brain is producing new synapses, strengthening existing ones, and getting rid of synapses that aren't used often enough. Before the age of 3, synapse production is by far the dominant process; from 3 to 10, the processes are relatively balanced, so the number of synapses stays about the same. But as children near adolescence, the balance shifts, and the shedding of excess neurons moves into high gear.

Brains downsize for the same reasons so many other "organizations" do: with streamlined networks, they can function more efficiently. But how does the brain "decide" which connections to shed and which to keep? Here again, early experience plays a decisive role. Each time synapses fire, beginning with the early months and years of life, they get sturdier and more resilient. Those that are used often enough tend to survive; those that are not used often enough are history. In this way, a child's experiences in the first years of life affect her brain's permanent circuitry.

4. Every Child is Unique

Because experience in the world so powerfully affects early development, no two brains grow and mature in the same way. Children are individuals right from the start, even if they are raised in the same culture, locality, or even household. Even the brains of identical twins develop differently, based on their early surroundings and interactions with the adults who care for them.

As anyone who has ever raised a child can attest, no parent can completely plan or predict how a son or daughter will grow and develop. The settings and experiences that parents provide are crucial, but many other factors are also at work, and parents cannot regulate (or take responsibility for) every aspect of their children's development. Newborns arrive with different temperaments, strengths, and needs. Many children are born with abilities or disabilities that present them and their families with special challenges. Some boys and girls encounter difficulty despite their families' love and commitment; others show remarkable resilience, growing into hearty children and able learners despite circumstances that overwhelm other young people...The new brain research answers many questions about how children grow and develop, but it does not diminish the reality that every life is unique and complex.

5. Children Learn in the Context of Important Relationships

In the first years of life, parents have considerable (though not complete) control over the kinds of experiences their children are exposed to. But what kind of experiences do infants and toddlers need? Researchers are finding that, more than anything else, young children need secure attachments to the adults who care for them...

Children are...trusting, and they turn to parents and other caregivers for reassurance or help. They believe that these adults will nurture and protect them, unless repeated experience teaches them otherwise. They know that interacting with parents and other important people—communicating, mimicking, playing, snuggling—is the best way to spend their most alert, wakeful hours. Babies respond to touch, sound, images, tastes, and smells. They are at ease when they receive warm, responsive care geared to their needs, moods, and temperament. When this kind of care comes consistently from the same adult or adults, young children form secure attachments. They sense that they are loved and protected even during quiet or sleepy times, and while at play by themselves.

When children form secure attachments, their development tends to flourish. Long-term studies show that children who have secure attachments early in life make better social adjustments as they grow up, and do better in school.⁵ But when care is inadequate, mechanical, or inconsistent, young children experience tension, and research shows that this stress affects their heart rate, brain waves, and their brains' biochemistry. A major finding of recent research is that chronic stress can have an adverse impact on the brain, and can result in developmental delays.⁶ This finding is borne out by studies of young children who are subjected to extreme social and emotional deprivation over extended periods.

6. Other Caregivers Can Meet Young Children's Needs— But Don't Take the Place of Mom or Dad

Research shows that children are capable of forming strong attachments to more than one adult, but not all attachments are equally strong or compelling. Babies tend to prefer their primary caregivers—usually mom and dad. But they quickly learn that other people can meet their needs, and that different people...have different ways of caring for them. In this way, they begin to get a sense of life's complexity and richness.



Childcare providers can be important people in young children's lives, but they do not take the place of parents. Recent studies show that high quality childcare does not disrupt young children's attachments to their parents—so long as parents spend enough time with their infants and toddlers to know them well, care for them confidently, and read their signals and cues.

In fact, childcare providers—with sufficient training and support—can enhance the development of the children in their care, supplementing the parents' input. Children benefit when parents and childcare providers work together, exchanging information, insights, and problem-solving strategies on a regular basis.

7. "Small Talk" Has Big Consequences

Many aspects of children's environments affect early brain development, from the sights to sounds to textures that surround them. But recently scientists have been homing in on linguistic experience as a key ingredient. More precisely, they are stressing the importance of "small talk"—the millions of ordinary greetings, exclamations, explanations, complaints, and utterances exchanged between adults and children in the course of the early years...

Adults have special ways of talking to children that help them analyze language. Intuitively, they speak more rhythmically, slowing down their speech, exaggerating phonetic shifts, and simplifying their vocabulary and grammar. Speakers of "parentese" often set their words to enticing melodies that act as acoustic hooks, pulling the baby's attention to them. This kind of talk lets babies know that they are being addressed; punctuated by pauses, it helps young children learn that relating to others is about taking turns. Many kinds of early interactions—a game of peekaboo or mimicry of a baby's faces—can lay the groundwork for effective communication later in life.

8. Children Need Many Kinds of Stimulation

Children need chances to stretch not only their linguistic and conceptual abilities, but also their powers of perception, social prowess, and aesthetic and moral capacities. And of course, all children need physical exercise. When children are severely deprived of experience in any of these areas, their development may be delayed. For example, babies and toddlers who spend most of their waking hours in their cribs develop more slowly than other young children do; some cannot sit up at 21 months, and most cannot walk by age 3.⁷ Children need opportunities for vigorous, safe physical activity. They need touch, sounds, and images. They need social and emotional contact. And they need thought-provoking activities...

On the other hand, too much stimulation can be overwhelming. Young children have different temperaments and moods. They also have different daily cycles of wakefulness and sleepiness than adults. Their capacity to respond to different kinds and amounts of stimulation can fluctuate from hour to hour, or even from minute to minute. Aside from seeing to their children's basic health and safety, the most important thing parents can do is to learn to read their children's moods and preferences and, whenever possible, adjust activities, schedules, and even the way they touch and talk to their young children...

9. Prevention is Crucial

The brain does not develop all at once. Different parts of this complicated organ mature at different times and at different rates.⁸ Although development continues throughout life, there are periods of great opportunity (and risk) when a particular part of the brain is the site of intensive wiring and is therefore especially flexible...During these years, responsive care and appropriate stimulation can produce the rapid intellectual, social, and emotional growth that does not usually come as easily to older children...

At the same time, the early years are also filled with risk. Untreated health problems, poor nutrition, exposure to tobacco, alcohol, drugs, or environmental toxins, and abuse and neglect are always risky, but may be especially perilous in the first years of life.⁹ Traumatic experiences and nonstop stress are also particularly harmful early in life; they affect production of a steroid hormone called cortisol that can have an adverse impact on brain development.¹⁰ Maternal depression is another factor that can affect early development. Many new mothers experience postpartum blues for a few weeks or months; this is normal and unlikely to have a lasting impact on her baby. But research shows that if a mother's depression persists, a young child's brain activity may be affected. The good news is that when the depression lifts or is treated, the child's development can usually get right back on track.¹¹

The bottom line is that in the early years of life, prevention and early intervention are crucial. When health problems are addressed, when family stress is reduced, when mothers seek treatment for depression, young children tend to fare better. The earlier the intervention, the better. The more follow-up, the better. These are simple lessons. As they are applied more widely, results for young children are bound to improve.

10. The Cradle Will Rock

Unconditional love goes to the heart of what it means to be a parent. But love is not enough. From a child's viewpoint, good care is responsive care. It requires getting to know a particular child very well, and that is not simply a matter of instinct or affection; it usually takes time and practice and help from more experienced caregivers. Parents and caregivers don't always get it right the first time, or even the second, but if they are willing to follow the children and learn from their mistakes, they come to understand the needs and temperaments of their children.¹²

Mistakes are inevitable. As the lullaby promises, the cradle will rock. A baby who is full will be coaxed to eat. A toddler will be tossed into the air by an enthusiastic dad when what he really needs is a cuddle and a nap. And parents will frequently realize, after the fact, that they could have found a better way to handle a problem. No parent gets it right every time. Even experts on child development sometimes make mistakes with their own children.

Of course, some mistakes cannot be tolerated. There is never an excuse for abuse or neglect, or for household dangers that imperil children's lives. But young children will inevitably miss a meal, scrape their knees, or overhear their parents argue. They can easily survive the ordinary ups and downs of daily life, as long as the care they receive day by day is usually warm, responsive, and consistent. In fact, these ups and downs are among the experiences that help their brains to mature. What's more, when children have a secure attachment to the adults who care for them, they are forgiving. When a parent disappoints them, they usually offer another chance.

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IV. A Summary of the Research Base for Early Childhood Interventions

“

...nationally, 7.6 percent of children repeat kindergarten or first grade. Factors independently associated with increase risk of grade retention were poverty, male gender, low maternal education, deafness, speech defects, low birth weight, enuresis, and exposure to household smoking...”

Research on the Risk Factors for Early School Problems and Selected Federal Policies Affecting Children's Social and Emotional Development and Their Readiness for School. Huffman,L.,Mehlinger,S., Kerivan,A. (2000). Page 6.

A. Risk and Protective Factors for Young Children

- ? *Individual Factors*
- ? *Family and Peer Factors*
- ? *Day Care and School*
- ? *Neighborhoods, Community, and Socioeconomic Status*

B. Early Childhood Interventions: What are they and do they work?

C. Long-Term Effects

1. *Long-Term Effects of Early Childhood Programs on Cognitive and Social Outcomes*
2. *The Children of the Cost, Quality, and Outcomes Study Go To School: Executive Summary, June 1999.*
3. *The Early Childhood Longitudinal Study, Kindergarten Class of 1998-99*
4. *Long-Term Effects of Early Childhood Programs on Social Outcomes and Delinquency*

D. Controversy over Correlational Study relating Non-Maternal Child Care and Misbehavior

E. A word of caution about the evaluation of early childhood interventions





A. Risk and Protective Factors for Young Children

Prevention and early intervention can be better adjusted if we understand the most salient risk and protective factors for young children. The following document comes from a recent review of the last two decades of relevant scientific literature. Many of the programs and models presented later in this packet strive to address these risk factors.

Material excerpted and adapted from: *Risk Factors for Academic and Behavioral Problems at the Beginning of School*. Huffman, L. C., Mehlinger, S. L., & Kerivan, A. S. The Child and Mental Health Foundation and Agencies Network. 2000. <http://www.nimh.nih.gov/childp/goodstart.cfm>

NOTE: In order to provide the essence of this work for general audiences, the Center has taken excerpts and made slight adaptations. We have tried to respect the integrity of the original, but, of course, any errors are ours.

Individual Factors

Low Birth Weight, Neurodevelopmental Delay, and Other Medical Problems.

Children with an extremely low birth weight as babies have a higher incidence of behavior problems at school entry and poorer cognitive performance, as well as increased incidence of learning disabilities and academic difficulties. Abnormal neurodevelopment places children at risk for increased school behavior problems and for higher rates of learning difficulties. Pregnancy problems, including maternal medical and emotional problems, have been identified as risk factors for later childhood behavior problems.

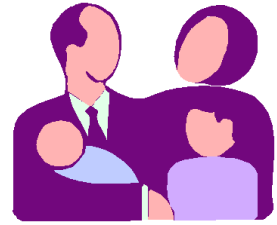
Cognitive Ability. Cognitive ability accounts for a large proportion of the variance in academic competence and achievement. Cognitive deficits have been associated with more difficult transitions to kindergarten, higher rates of depression in childhood, and increased levels of delinquency. Research suggests that poor verbal and communication skills may mediate these relationships.

Temperament and Personality Dimensions. A difficult temperament appears to increase risk for antisocial behavior and school failure: characteristics such as high activity level, inflexibility, impersistence, distractibility, and low attention increase the probability that a child fails to adhere to classroom rules and follow academic instruction. An “easy” temperament, on the other hand, is a protective factor for behavior problems. In addition, effectance motivation, which is the intrinsic desire to deal competently with one’s environment, is an importance factor related to children’s ability to adapt at school.

Early Behavior and Adjustment Problems. Research shows that mothers' high ratings of their child's hyperactivity and externalizing behaviors predict adjustment difficulties at home, in school, and with peers. This research provides evidence of mothers' abilities to identify their children's problem behaviors. It also suggests a useful marker or risk for school failure.

Family and Peer Factors

Family Composition. According to the U.S. Census Bureau, more than 50 percent of marriages end in divorce in the United States, and many of these divorces affect school aged children. While children's responses to the change in family structure and lifestyle vary dramatically, studies show that divorce is associated with behavioral problems that may negatively influence success in school. Divorce also adds significant variance to socioeconomic predictors of cognitive-social competence and adaptive behaviors at school entry. School-aged children also experience parental remarriage. While some studies indicate protective effects, others show remarriage to be a risk factor when comparing step families to intact families. Divorce and remarriage have been found to be associated with higher levels of anxiety, aggression, hyperactivity, disobedience, and deviant behavior.



Maternal Education. Lower levels of maternal education predict children's early grade failure, including a lack of reading and math achievement.

Parental Substance Abuse. Numerous studies have focused on the effects of maternal substance abuse during pregnancy as well as the influence of childhood exposure to addicted parents in the home environment. Most studies point to the adverse effect of parental substance abuse on the cognitive, physical, and social development of young children. Because of related risk factors such as lower socioeconomic status, lower maternal age, poor maternal nutrition and health, and irregular or nonexistence prenatal care and increase genetic susceptibility, it is difficult to attribute developmental problems solely to *in utero* drug exposure. In addition, social problems such as financial and housing uncertainties and disturbed relations with families may have some consequences for the child. Any of these confounding factors may enhance or sometimes mask the effects of maternal substance abuse. Still, parental substance abuse is a risk associated with adverse effects on cognitive, physical, and social development in children.

Parental Psychopathology. Maternal depression may be associated with increase behavior problems and lower social competence in preschool, as well as academic problems in kindergarten.

Parenting Practices. Evidence shows that effective parents adjust their parenting behaviors in accordance with their developing child's needs. Poor parenting techniques and harmful peer influences increase the risk of adverse developmental outcomes. Parents who are harsh, disengaged, provide inconsistent guidelines, and are unable to monitor their children's behavior are more likely to have children with a heightened risk

for antisocial behavior. In addition, high levels of maternal coercion and nonaffection may be associated with increased rates of aggression in preschool-aged children. Lastly, parental intrusiveness and overstimulation is thought to be associated with hyperactivity problems. On the other hand, high rates of positive parent interaction with their children is a protective factor for their children's academic success. Furthermore, effective parental supervision has a protective effect and is a positive socializing factor that enhances prosocial behavior. An adaptive and cohesive family pattern, characterized by positive parental coping behaviors, parental support of the children, and their cooperation in coordinating coping strategies, is associated with improvement in school adjustment in at-risk children.

Maltreatment. Research suggests that children who are maltreated have higher rates of school problems, including lower test scores in math and English, lower IQ scores, lower child-perceived social acceptance, increase absence from class, and more grade repetitions.

Peer Relationships. In addition to family members and teachers, friends have socializing influences that provide support for contextual emotional and cognitive learning and development. Friends are also models for later relationships. Conflict with peers is a risk factor for poor school adjustment and decreasing school involvement, especially for boys. The fewer friends and more peer rejection a child has may negatively influence a child's perception of school, school attitude, and school achievement. Social support is also an important protective factor for young children. Children with a larger number of classroom friends at school entry do better in school performance and develop more favorable school perceptions.

Day Care and School

Characteristics of Kindergarten and First-Grade Classes and Teachers. School and classroom characteristics are considered as predictors of children's psychosocial adjustment, including school facilities, class organization (e.g., class size, number of teacher-parent meetings during the year), and teacher-related variables. Social network indices (e.g., contact between pupils) also are considered as predictors: positive interpersonal relations among students is related to fewer teacher-reported behavior problems and increases in children's feelings of well-being at school. In addition, there are unique associations between children's early antisocial behavior and features of their first-grade teacher-child relationships (i.e., negative correlations with closeness, positive correlations with teacher-child conflict and with child dependency). Prosocial behavior is generally related to positive aspects of children's first-grade teacher-child relationships. Lastly, positive relationships with teachers (e.g., relationships that show warmth and open communication) are associated with better than expected or improved outcomes for both risk and nonrisk samples.

Neighborhoods, Community, and Socioeconomic Status

Immigrant Status. Immigrant status is a predictor of increased risk of school failure as well as of psychosocial problems, drug use, and other risk-taking behaviors. A wide range of factors may influence these findings, including language facility, degree of acculturation, level of socioeconomic status, level of family education, and/or family support.

Minority Status. Ethnicity, poverty, gender, and household composition have all been associated with indices of school-based competence among children. Being a male with minority ethnic status and being raised in single-parent, low-income homes is associated with higher rates of childhood behavior problems and with lower academic achievement in the first two years of school. Because these risk factors are known to be interrelated, the assessment of the predictive value of any one factor must consider the effects of the others.

Low SES. Family SES and early language development are positively related to later language development, academic achievement, and school success. Children from higher SES families are exposed to a larger vocabulary in the home environment and have more early language experiences than children from lower SES families. This early advantage for children from high SES families continues into grade school. Thus, higher SES may be viewed as a factor that enhances school success. Conversely, lower SES has a potentially negative effect on school achievement. In particular, persistent poverty has more detrimental effects on IQ, school achievement, and social-emotional functioning than does transient poverty, although children in both groups generally do worse than children who have never been poor. The conditions of family poverty (e.g., long-term versus episodic) may be an important determinant for identifying children at risk. Infants and young children who live in poverty suffer higher levels of prematurity, infant mortality and morbidity, and subsequent developmental delay, behavioral problems, and inadequate preparation for school. Low SES also significantly predicts externalizing problems and aggressive behavior in early grade school. Lastly, low SES is significantly correlated with eight negative factors in the child's socialization and social context, including harsh discipline, lack of maternal warmth, exposure to aggressive adult models, maternal aggressive values, family life stressors, mother's lack of social support, peer group instability, and lack of cognitive stimulation.

B. Early Childhood Interventions: What are they and do they work?

Excerpted from: Long-Term Outcomes of Early Childhood Programs: Analysis and Recommendations. Gomby, D.S., Lerner, M.B., Stevenson, C.S., Lewit, E.M., & Behrman, R.E. *The Future of Children*, 5(3), Winter 1995. http://www.futureofchildren.org/lto/01_lto.htm

Early childhood programs are often discussed collectively, but they are in fact a "polyglot array of disjointed programs" that differ widely in their goals, their service delivery strategies, and the ages of the children they serve A few definitions are therefore in order ... Early childhood programs are divided into two categories: child-focused programs and family-focused programs. Each category includes two major types of programs that are described below.

Child-focused programs

(1) Preschool, Head Start, and Prekindergarten are typically part-day and part-year programs that bring groups of three- to five-year-old together in centers or school settings. Some offer primarily an educational program; others also provide health and developmental screenings, parent involvement, and social service assistance. Most preschool programs have been designed to promote child development and improve children's readiness to succeed in school. Publicly funded preschool programs typically serve children from disadvantaged families, while private preschool programs supported by parent fees serve children from all backgrounds.

(2) Child Care Programs typically offer care on a full-day basis to children from birth to school age. Such care can be provided either in a center or in a caregiver's home. Most child care programs seek both to promote child development and to free parents from their child care responsibilities so they can work Child care services are purchased by parents from a wide array of nonprofit and for-profit providers. Public funds support subsidies that help some low-income parents pay for care while they work or attend school.

Preschool and child care programs are sometimes grouped together and called early childhood care and education, emphasizing their overlapping goals and activities. However, different histories, perceived missions, sources and levels of public investment, and research traditions conspire to perpetuate their separateness and to suggest that they are unlikely to produce equivalent effects on children and families.

Family-focused programs

(1) Family support programs typically serve families with children under three years of age (though many include older children) through weekly or monthly home visits, or through classes or drop-in centers for parents. These programs strive to involve parents in their children's development and to strengthen their parenting skills, with the hope that changes in the parents will help to create, sustain, and amplify positive outcomes for the children.

(2) Two-generation programs, the newest type of early childhood program, link programs for children and parenting support with adult-oriented services such as job training or adult education for the parents. Primarily targeting low-income families, these programs often use a case manager to broker services that are actually provided to families by other community agencies. Two-generation programs seek to promote positive outcomes for both children and parents

(hence, "two-generation"); they try to help families escape poverty while simultaneously promoting child development and helping parents learn new parenting skills.

Both family support and two-generation programs typically rely on funds from public agencies or private foundations to support services which are then usually offered free of charge to families. Although some family-focused programs are open to all families, most concentrate their efforts on families facing such challenges as poverty, teen parenthood, immigrant status, or welfare dependency.

***Early Childhood Education: A Meta-Analytic
Affirmation of the Short- and Long-Term Benefits
of Educational Opportunity.***

Kevin Gorey. *School Psychology Quarterly*, V 16(1), 2001. 9-30.

Some scholars who emphasize the heritability of intelligence have suggested that compensatory preschool programs, designed to ameliorate the plight of socioeconomically or otherwise environmentally impoverished children, are wasteful. They have hypothesized that cognitive abilities result primarily from genetic causes and that such environmental manipulations are ineffective. Alternatively, based on the theory that intelligence and related complex human behaviors are probably always determined by myriad complex interactions and genes and environments, the present meta-analytic study is based on the assumption that such behaviors can be both highly heritable and highly malleable. Integrating results across 35 preschool experiments and quasi-experiments, the primary findings were:

- (a) preschool effects on standardized measures of intelligence and academic achievement were statistically significant, positive, and large
- (b) cognitive effects of relatively intense educational interventions were significant and very large, even after 5 to 10 years, and 7 to 8 of every 10 preschool children did better than the average child in a control or comparison group
- (c) cumulative incidences of an array of personal and social problems were statistically significantly and substantially lower over a 10- to 25-year period for those who had attended preschool (e.g., school drop-out, welfare dependence, unemployment, poverty, criminal behavior).

The need for a very large, well-controlled, national experiment to either confirm or refute these provocative, review-generated findings is discussed.

Early Childhood Interventions

From: RAND Research Brief: Early Childhood Interventions: Benefits, Cost, and Savings. 1998.
This research brief reports on the book, *Investing in Our Children: What We Know and Don't Know About the Costs and Benefits of Early Childhood Interventions*. Lynn Karoly et al. RAND. 1998.

...Targeted early interventions are those intended to overcome the cognitive, emotional, and resource limitations that may characterize the environments of disadvantaged children during the first several years of life. They include programs targeting children as well as those targeting their mothers; interventions aimed at improving educational achievement and those aimed at improving health; and services as diverse as parent skills training, child health screening, child-abuse recognition, and social-services referral.

Lynn Karoly, Peter Greenwood, and their RAND research team have evaluated a set of nine early childhood intervention programs to try to answer the following question: Do early interventions targeted at disadvantaged children benefit participating children and their families? They assessed developmental indicators, educational achievement, economic well-being, and health from program participants and compared them with the same measures for matched controls. Results indicate that each program made participating children better off in one or more ways than those who did not participate.

Specifically, the programs led to the following advantages for participating children:

- Increased emotional or cognitive development for the child, typically in the short run, or improved parent-child relationships.
- Improved educational processes and outcomes for the child.
- Enhanced economic self-sufficiency, initially for the parent and later for the child, through increased participation in the labor force, decreased participation in welfare, and higher incomes.
- Decreased criminal activity.
- Improved health-related indicators such as child abuse, maternal reproductive health, and substance abuse.

Moreover, the study suggests that for especially high-risk, disadvantaged children and their families, government funds invested early in their lives results in compensating decreases in government expenditures later. Why? Participating children may spend less time in special-education programs. In addition, parents and, as they become adults, children may spend less time on welfare or under the jurisdiction of the criminal justice system. They may also earn more income and thus pay more taxes.

C. Long-Term Effects

1. Long-Term Effect of Early Childhood Programs on Cognitive and Social Outcomes

(Excerpted). W. Steven Barnett.

The Future of Children: Long-Term Outcomes of Early Childhood Programs, 5(3), Winter 1995. 25-50.

The contribution of early childhood care and education (ECCE) to the healthy development and future well-being of children who are economically and socially disadvantaged has become a vital public issue with important implications for families, business, private philanthropy, and government. The following summarizes a review of 36 studies of both model demonstration projects and large-scale public programs, in order to examine the long-term effects of these programs on children from low-income families. The review sought to answer two important questions as well as make policy recommendations.

1. What are the effects of ECCE programs on the cognitive development, socialization, and school success of disadvantaged children? How long to they persist?

The weight of evidence establishes that ECCE can produce large short-term effects on IQ during the early childhood years and sizable long-term effects on achievement, grade retention, placement in special education, high school graduation, and socialization. These effects are large enough and persistent enough to make a meaningful difference in the lives of children from low-income families: for many children, preschool programs can mean the difference between failing and passing, regular or special education, staying out of trouble or becoming involved in crime and delinquency, dropping out or graduating from high school.

2. Are some types of ECCE programs more successful than others? Do some children benefit more than others?

Benefits from ECCE programs appear to be produced via a number of different types of high-quality programs and across a number of different groups of children. Indeed, the best predictor of the size of program effects may be the size of the gap between the program and home as learning environments, rather than whether a child is a member of a particular group. Thus, effects might be expected to be largest for the most disadvantaged, though there is no evidence that meaningful effects cease if a child's family moves above the poverty line. Indeed, there is even some suggestion at the other end of the income spectrum that children from very well-off families may suffer from ECCE inferior to that provided by their homes.

Effects do appear to depend on program quality, and cross-study comparisons indicate that effects are larger for well-designed, intensive EECE interventions than for large-scale public programs. This might be because today's public programs are lower in quality (larger classes, fewer staff members, less educated staff, poorer supervision) than the model programs.

Recommendations

A more comprehensive strategy is needed to increase the public and private resources devoted to ECCE. Such a strategy might include a public information campaign to explain the importance of ECCE quality to parent, paid parental leave for parents of children under one year of age, and public funding for accredited ECCE on a sliding scale with full funding of quality care for children in poverty and partial funding for many more children. Other alternatives are available, but the important point is that the nation needs to move ahead with public support for ECCE.

C. Long-Term Effects

2. *The Children of the Cost, Quality, and Outcomes Study Go To School: Executive Summary, June 1999.*

<http://www.fpg.unc.edu/~NCEDL/PAGES/cqes.htm>

Excerpts from the Summary of Results of the Study:

1. High quality child care is an important element in achieving the national goal of having all children ready for school. Findings showed that the quality of children's experiences in typical child care centers affects their development while they are in child care and their readiness for school. Children who attended higher quality child care centers performed better on measures of both cognitive skills (e.g., math and language abilities) and social skills (e.g., interactions with peers, problem behaviors) in child care and through the transition into school. This influence of child care quality was important for children from a wide range of family backgrounds.

2. High quality child care continues to positively predict children's performance well into their school careers. Longitudinal analysis of children's performance indicated that the quality of child care experienced by children before they entered school continued to affect their development at least through kindergarten and in many cases through the end of second grade. Child care quality was related to basic cognitive skills (language and math) and children's behavioral skills in the classroom (thinking/attention skills, sociability, problem behaviors, and peer relations), both of which are important factors in children's ability to take advantage of the opportunities available in school.

3. Children who have traditionally been at risk of not doing well in school are affected more by the quality of child care experiences than other children. For some outcomes (math skills and problem behaviors), children whose mothers had lower levels of education—children who often are at risk of not doing well in school—were more sensitive to the negative effects of poor quality child care and received more benefits from high quality child care. Moreover, for these children who attended typical child care centers, these influences of child care quality were sustained through second grade.

4. The quality of child care classroom practices was related to children's cognitive development, while the closeness of the child care teacher-child relationship influenced children's social development through the early school years. Children who attended child care with higher quality classroom practices had better cognitive development (language and math skills) through early elementary school. Children who had closer relationships with their child care teachers had better classroom behavior and social skills (greater thinking/attention skills and sociability, fewer problem behaviors, and better peer relations) through early elementary school. It is no surprise that the nature of children's experiences in child care are important, but the results of this study confirm the lasting impact of these early experiences. High quality child care experiences, in terms of both classroom practices and teacher-child relationships, enhance children's abilities to take advantage of the educational opportunities in school.

C. Long-Term Effects

3. The Early Childhood Longitudinal Study, Kindergarten Class of 1998-99

Excerpted and adapted from: *Entering Kindergarten: A Portrait of American Children When They Begin School: Findings from The Condition of Education 2000*. Nicholas Zill & Jerry West. U.S. Department of Education, National Center for Education Statistics. NCES 2001-035. Washington, DC: U.S. Government Printing Office, 2001.
<http://nces.ed.gov>

The Early Childhood Longitudinal Study, Kindergarten Class of 1998-99, provides a first-ever look at the knowledge, skills, health, and behavior of a nationally representative sample of U.S. kindergarten children upon entry to school. On the whole, the study provides a portrait of what today's American children are like when they begin school. The take-home message is that American children show considerable variation in skills and knowledge as they enter kindergarten. The ECLS-K results demonstrate that children are neither alike at school entry nor ready to be stretched and molded by the varying qualities and demands of different kindergarten programs. In other words, for kindergartners, one size does not fit all. The findings of the study are summarized below.

Age Differences

- Children who are close to 6 or already 6 when they begin kindergarten have several advantages over children who start school when they have just turned 5 or are not yet 5 years old.
- Better educated parents are more likely than less educated parents to delay their child's entrance to school.

Sex Differences

- Female kindergartners come to school with reading skills that are slightly more advanced, on average, than those of males.
- They are also less likely to have developmental difficulties and are more likely to exhibit good social skills and classroom behavior.
- Though some of the early problems may be transitory and simply reflect different developmental trajectories for boys and girls, others may be predictive of later and more serious disturbances.

School Readiness and Behavior Problems

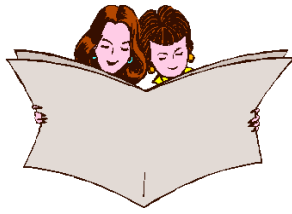
- One in five beginning kindergartners is overly active.
- One in six has problems concentrating for sustained periods.
- One in nine has difficulties articulating words clearly or fluently.
- One in four is described as eager to learn no more than sometimes or never.
- One in three is described as paying attention in class no more than sometimes or never.

Family Risk Factors

Family risk factors that are associated with poor performance in school-aged children are also linked with lower proficiency in early reading and mathematics skills and general knowledge among children as they enter kindergarten. These risk factors are:

- low maternal education
- welfare dependency (as a marker of family poverty)
- having only one parent in the home
- having parents whose primary language is not English.

The ECLS-K data show that there is a cumulative effect of the number of risks to which a child is exposed early in life. Although many children from multiple-risk families lag behind their classmates in early academic skills, some can overcome the odds and perform at advanced levels when entering kindergarten. This finding seems to argue against stereotyping children from educationally disadvantaged families and assuming that they are all behind when they begin school.



C. Long-Term Effects

4. Long-Term Effects of Early Childhood Programs on Social Outcomes and Delinquency

(Excerpted) Hirokazu Yoshikawa. *The Future of Children*, Vol 5 (3). Center for the Future of Children. The David and Lucile Packard Foundation. Winter 1995. <http://www.futureofchildren.org>

One important way to decrease overall crime rates among youth is to prevent chronic delinquency, and early childhood may be an important developmental period to target for its prevention.

Researchers have long sought factors that are regularly associated with chronic delinquency. The strongest factor is a history of antisocial behavior in childhood, but many other early risk factors have been linked to chronic delinquency. The most important of these factors appear to be low socioeconomic status, having parents who have been convicted of crime, the child's low cognitive ability (especially poor verbal ability), poor parental child relations (especially hostile or rejecting parenting and lack of parental supervision), and the child's own history of antisocial behavior, conduct disorder, or troublesomeness.

Longitudinal evidence on the development of delinquency behavior suggests several promising directions for prevention. First, the evidence suggests that early childhood programs which buffer the effects of a given delinquency risk factor should also be effective in preventing chronic delinquency. Second, because multiple risk factors appear to have such a pronounced negative effect, early childhood programs that reduce multiple risks may be more successful in preventing chronic delinquency than are those that target only a single risk factor. Third, the research implies that the content of preventive early childhood programs should be such that they attempt to enhance parents' social support, foster positive parenting and family interactions, facilitate child cognitive development (especially verbal skills), and reduce family level and community level poverty. In other words, crime prevention programs should seek to reduce or eliminate the risk factors associated with delinquency.

A review of 40 programs that targeted populations at-risk for later delinquency and provided services between the prenatal period and entry into primary school concluded: *the programs that demonstrated long-term effects on crime and antisocial behavior tended to be those that combined early childhood education and family support services, in other words, the programs that addressed multiple risk factors.*

Four combination early education/family support programs demonstrated positive effects. These programs offered both home visits and center-based educational child care or preschool. The four programs are: High/Scope Perry Preschool Project, Syracuse University Family Development Research Program, Yale Child Welfare Project, and Houston Parent Child Development Center. These four programs shared the following common features:

- They provided quality educational child care and/or preschool as well as support to adults in peer group and family settings. Each of these individual components was also intensive, involving home visits for the parents and half-days or full-days for the children, most days a week.
- They were quality programs with child-centered curricula, low staff-child and staff-parent ratios, preservice and in-service training, and ongoing supervision.
- They targeted low-income urban communities, areas which have the highest crime rates.

In conclusion, as one element in a comprehensive plan to address poverty, drugs, guns, and other environmental causes of crime, early education and family support programs may lessen the current devastating impact of chronic delinquency on America's children and families.

D. Controversy over Correlational Study relating Non-Maternal Child Care and Misbehavior

A study reported at a meeting in Minneapolis (April, 2001) reported a correlation between time in non-maternal care and misbehaving in kindergarten: 17% of children who spent over 30 hours a week in child care showed signs of misbehavior between the ages of 4 ½ and 6, while only 6% of those who spent less than 10 hours in day care demonstrated misbehavior. Jay Belsky, a University of London professor and the study's principle investigator, asserts that although the associations are modest, they should be taken seriously, and he suggests the need of extended parental leaves or the encouragement of part-time work for parents of young children. He stresses that the correlations hold true whether the children came from rich or poor homes, and whether they were boys or girls.

The federally-sponsored, 10-year study followed over 1,300 children in 10 different cities in a variety of childcare arrangements, ranging from child care with relatives to center-based care. None of the information presented at the conference has yet appeared in a peer-reviewed academic journal, and the analyses are still seen as preliminary.

Researchers criticize Belsky for both misrepresenting the findings and deemphasizing other important study results. Several results from the study were all but ignored, namely the finding that high-quality child care was associated with better cognitive skills, memory, and language ability. Researchers suggest that this link between the quality of child care and children's intellectual development is due to the fact that providers with better training and/or who work in settings with high adult-child ratios behave in more sensitive, responsive, and stimulating ways towards children. The results indicate that child care in private homes may not provide as much stimulation to children as center-based care. Lastly, another virtually unmentioned finding is that family interactions had greater correlations with children's future behavior than did hours spent in child care.

The point is not that the results reported at SRCD are necessarily wrong, but rather that given all the data, it is too soon to draw any conclusions from this study. The authors themselves plan to wait before publishing any papers, in order to better analyze and interpret the data.

Resource:

SRCD Press Release: New Research Demonstrates Unique Effects of Quantity, Quality, and Type of Child Care Experienced from Birth through Age 4 ½. <http://www.srcd.org/pp1.html>

E. A word of caution about the evaluation of early childhood interventions

Excerpted from: Early Childhood Program Research and Evaluation. ERIC/AE Digest.

Lawrence M. Rudner, 1996. ERIC Identifier: ED410317

http://www.ed.gov/databases/ERIC_Digests

In research and evaluation, a sample of subjects typically receives some form of programmatic treatment then outcome scores for these students are compared with outcome scores of a control or comparison group. Lewis and McGurk (1972) point out some of the implicit assumptions when this design is applied to programs for infants and toddlers: 1) "infant intelligence is a general unitary capacity," 2) "mental development can be enhanced by enriching the infant's experience in a few specific areas," and 3) infant scales can "reflect any improvement in competence that results from a specific enrichment experience." The traditional control group-comparison group design adopts the viewpoint that frequency and nature of observable cognitive activities increase at a steady rate as a result of the growth process.

The contrasting viewpoint is that infants and toddlers are going through a period of rapid, non-linear growth and change along many interwoven lines of development (Horner, 1980). Accordingly, different levels and kinds of cognitive development would be presented by different individuals during different stages of development, short-term consistency of individual traits would be low, traits measured during infancy would have low correlations with later skills, broad programmatic treatment effects will be small, and a different research and evaluation paradigm is needed.

This digest examines these contrasting assumptions...

Short Term Consistency

Test-retest reliability, which measures the consistency of the trait for groups of individuals, tends to be quite low when scales are administered to infants. As the child gets older, test-retest reliabilities tend to improve...The lack of test-retest reliability is consistent with the view of the child going through non-linear growth. It is inconsistent with the notion that the cognitive activity in infants increases at a steady rate as a result of growth.

Long Term Consistency

The classic studies of mental growth in normal infants and toddlers show inconsistent and unpredictable growth rates of these observable skills and traits. Bayley, for example, reported correlations between $-.04$ and $.09$ between scores during the first 3 months of life and scores at 18 to 36 months. Looking at race and gender with a sizeable sample, Goffeney, Henderson and Butler (1971) later found virtual no correlation between 8 month and 7 year measures. Escalona and Moriarty (1961) found virtually no correlation between 20 month and 6 to 9 year scores.

"The findings of these early studies of mental growth of infants has been repeated sufficiently often so that it is now well established that test scores earned in the first year or two have relatively little predictive validity" (Bayley, 1970)...There are notable exceptions, however. Many developmental inventories are excellent screening devices capable of identifying students with permanent cognitive disabilities...

Recommendations

... Infant development scales "are unsuitable instruments for assessing the effects of specific intervention programs" and that "the success of specific intervention programs must be assessed according to specific criteria related to the content of the program."

Few early childhood programs seek to improve overall intelligence or to hasten the general cognitive development of infants and toddlers. Rather most programs seek to provide interventions for specific identified needs, either for the family or child or both. The typical early childhood program can be accurately viewed as a collection of individually tailored programs. Thus, the individual intended outcomes should be identified and the program's success gauged against whether those outcomes are worthwhile and whether they were attained.

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