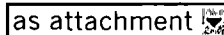
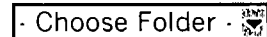


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Hi Theresa,

Here's a copy of the report you asked for. If you want a pretty copy,
call
the Benton Foundation (in Washington) and they'll send you one.

Hope you enjoy it.

George

Why Early Ed Benefits All Of Us

Communications Strategies For Advocates
Of Early Childhood Education

A report commissioned by the Benton Foundation
by
George Lakoff Ph.D. and Joseph Grady Ph.D.

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 - I. WHY EARLY EDUCATION IS NECESSARY

What Kids Learn Early and Why

Recent decades have witnessed an explosion of research into the
basic mechanisms of learning, including the neural structures that
allow us
to perceive the world around us, remember experiences, learn skills,
feel

emotions, establish and maintain social relations, and make decisions.

One

of the most remarkable discoveries is that a child's brain is shaped in major ways during the first 3 to 5 years of life. The main mechanisms are

the establishment of neural connections and the death of both connections

between neurons and of neurons themselves.

The question is: Which connections will be established and strengthened and which will die off? Unused neural connections tend to die

off. Without activity of the right kind important potential connections

between neurons are not established. In short, the basic wiring of the brain is accomplished during the earliest years, and the kinds of interactions children have during those years affects them for life. A lot

of learning takes place after age five, but the brain structure in which

that learning takes place is set to a remarkable degree within the first

five years.

What is learned early is, to a large extent, learned permanently-including the desire and capacity for learning itself. Here are

some of the things that develop early:

- o Patterns of interpersonal and moral development.
- o Prosocial and antisocial behavior.
- o Empathy, self-confidence, and a sense of responsibility for oneself and others.

Many things are learned better if acquired early, and some things are forbiddingly hard or impossible if learned too late, say, after six or seven. Here are some:

- o Reading. Reading is learned more easily and effectively during the early years.
- o Basic math. Young children can learn the rudiments of math early, and can become comfortable with mathematical thinking at an early age.
- o Music. If you have no exposure to music by age five, it is unlikely that you will be able to be a musician.
- o Fine motor coordination. The motor skills needed to be an athlete, a dancer, a skilled craftsman, and many other things must be developed early.
- o Languages. Any language learned very early in a natural setting by active participation is learned readily and in the same part of the brain as one's native language. Languages learned later in life are stored in a different part of the brain and fluency is much harder to acquire.
- o Reasoning skills. Kids raised in an environment where questioning and reasoning are a valued part of everyday life grow up with an important advantage in these critical skills.

The kind of "learning" that takes place during those early years is natural

learning, not classroom learning, and much of it is done through unconscious processes. Just as cognitive science has shown that most of

our
thought is below the level of consciousness, so most of our early
learning
is largely unconscious and relatively effortless.

The quality of care children receive matters greatly. Parents and
other caregivers who were themselves deprived as children may not know
best

how to provide a healthy and nurturant environment for children. Even
well-meaning and well-educated parents with plenty of time to devote to
parenting may need to know a lot more about how to best raise their
children to realize their full potential. All parents and caregivers
can

benefit by learning more about how children learn and develop. That
knowledge is not yet part of the "common sense" of our culture or any
culture. Parents and caregivers do not need to know about the details
of

brain research, but they do need to know a lot about what to do at what
stage of childhood in order to help children develop as fruitfully as
possible.

II. BACKGROUND: Cognitive Science and Effective Advocacy

Framing and Metaphorical Thought

One of the most basic results in cognitive linguistics is that
people understand almost everything by applying conceptual frames. The
conclusion one draws depends on the frame one uses. For example, the
same

behavior can be described as either (1) "thrifty" or (2) "stingy,"
depending on whether that behavior (not spending much money) is framed
in
terms of (1) efficient management of resources or (2) willingness to
share.

Similarly, having someone else care for your child during the day
can be framed as (1) selfishly abdicating your parental responsibility,
(2)

doing what is necessary to earn a living, or (3) giving your child the
benefits of an enriching environment. The use of language is crucial in
determining which frame is evoked. Advocates for early childhood
education

need to be aware of exactly which language will evoke which frames.

Another basic result in cognitive linguistics is that people reason
metaphorically most of the time without being aware of it. For example,
love relationships are commonly thought of as being (1) business
partnerships, or (2) two complementary parts fitting together to make a
unified whole. Whether something is going wrong with the relationship
can

depend on the metaphor used to conceptualize it. The partnership
metaphor

entails that both people should be sharing both the work and the
benefits

of the relationship equally. This entailment doesn't make sense in the
complementary parts metaphor, where it is assumed that each person
brings

different things to the relationship and gets different things out of
it.

Metaphoric framing is also very relevant to the issue of early
childhood education. For instance, if children are viewed as precious
objects of a fixed nature, then simply storing them safely is a
reasonable

goal for a day care center. On the other hand, if children are seen as being malleable objects-as having their minds crucially shaped in a permanent way by their earliest experiences, then the requirements for day care are much more than mere storage.

For these reasons, it is vital that advocates be aware of the metaphors they use and the consequences of those metaphors.

Family Values and Public Policy

An important finding in applying cognitive science to public policy is that family-based moral values are central to the framing of virtually all public policy issues. George Lakoff's book, *Moral Politics*, shows that the fundamental split between political conservatives and progressives/liberals mirrors a difference in core beliefs about idealized family life.

Conservatives tend to assume that a "Strict Father" model of the family is ideal:

The strict father

- o bears principal responsibility for supporting and protecting the family, as opposed to the mother who is child-rearer and homemaker
- o is the moral authority who teaches his children right from wrong, establishes rules, and enforces them with "tough love"
- o instills discipline and doesn't coddle his children
- o teaches the value of self-reliance
- o doesn't meddle in the lives of his grown children.

Progressives/liberals, on the other hand, tend to see a "Nurturant Parent"

family as ideal:

The nurturant parent

- o shares parental responsibility equally
- o has empathy and care as primary moral values
- o teaches responsibility for both self and others
- o encourages questioning and dialog, rather than just obedience
- o teaches the importance of social ties, cooperation, and interdependence
- o seeks to maintain a caring parental relationship throughout life with grown children.

Conservatives often see the nurturant parent mistakenly as a "permissive"

parent, who fails to instill sufficient discipline and sense of self-reliance in children. Their mistake is that nurturant parents instill

a sense of responsibility for self and others and the inherent discipline

to act responsibly. Progressives/liberals often see strict fathers as necessarily abusive, which they needn't be.

These differences have mattered crucially in shaping attitudes on major issues of public policy. Consider welfare. Conservatives have seen

welfare in itself (regardless of the success or failure of any particular

program) as immoral and harmful to the people it is supposed to help, on

the grounds that it destroys their self-discipline and sense of self

reliance-a form of coddling. Progressives/liberals have viewed welfare from the perspective of empathy, care, and the responsibility for others.

The mechanism by which idealized family models apply to public policy is metaphor, in this case the metaphor that The Nation Is A Family,

with the Government As Parent and Citizens As Children.

oTo conservatives, this means that government should not meddle in the lives of its mature citizens (the ones who can take care of themselves) and

should promote the values of self-discipline and self-reliance in citizens

who cannot take care of themselves (e.g., those who are poor, uneducated, disabled, and discriminated against).

oTo progressives/liberals, this means that the government has a responsibility to insure the basic well-being of all its citizens-both those who can benefit from help in assuming their responsibilities and those who absolutely need care.

This difference in family-based moral perspective applies in important ways to issues of early childhood education. For example, conservatives will tend to feel that:

* Mothers should keep their traditional role as child-rearers and home-makers, not wage-earners-and that the government should do nothing to encourage mothers to leave the home.

* Responsible parents, being self-reliant, should not rely on the government for any assistance in raising their children.

* Others (e.g., child care providers) may not instill the correct values and discipline in their children.

* Government credentialing of child care providers is a form of meddling.

* It is immoral to be forced to pay taxes for the support of other people's children.

The objections are a consequence of the way that Strict Father Morality frames the issues of child care and Early Ed. Advocates for Early Ed will

encounter these objections. It is important to understand that they come

from a particular moral worldview, rather than from ignorance or lack of

concern. Such objections cannot be countered merely by facts or rational

argument, since no facts or rational argument will change that moral worldview. Indeed, virtually any facts presented will be reinterpreted to fit that worldview.

When debating in public against someone with such views, advocates must be careful not to accept their worldview. The point is to frame Early

Ed within a pro-Early Ed worldview. In many cases this can be accomplished

by finding common ground between the worldviews, since there are interests

shared by conservatives and liberals/progressives which relate to Early Ed.

However, attempting to respond with facts and rational arguments without

reframing will often tend to reinforce the opposing worldview. Facts and rational arguments should be used, but only after reframing or highlighting shared frames.

The Basis for a Pro-Early Ed Consensus

There are two main facts that should be the basis for building a pro-early-Ed consensus across the public as a whole. (This does not count that minority of the population who come to the issue with a strong moral ideology opposed to Early Ed.)

Fact 1: The Early Development Issue: A child's intellectual, emotional, social, and moral development is massively shaped by experiences and education between the ages of zero and six.

Fact 2: The Need For Care issue: For economic reasons, a very large number of mothers have to work and require affordable, high-quality child care.

Fact 2 is already widely acknowledged and is much better understood than Fact 1. But Fact 1 is what distinguishes Early Ed. from mere day care

(or "child storage") and early childhood educators from baby sitters.

It is important not to give in to the temptation to mention only Fact 2 in advocacy situations. The public MUST be educated about Fact 1.

If the public comes to understand and acknowledge Fact 1, then there can be real positive change on behalf of children—a change that could be felt throughout the population within 20 years.

III. PRACTICAL APPLICATIONS OF FRAMING AND METAPHOR

* Day Care vs. Early Ed

Don't refer to "daycare." Do refer to "Early Ed(ucation)."
The term "day care" for most people elicits the "child storage" frame, in which a mother who wants a career needs a safe, convenient, and affordable place to leave her child for the day.

Replace the Day Care frame with an Early Ed frame, which focuses

- (1) on the needs of the child,
- (2) on the fact that this the age when the most learning per day is taking place in a child's life, and
- (3) that the provider is a teacher who requires training.

* Parents and Children Meeting Their Potential

With proper Early Ed programs in place, both parents and children

can reach their full potential - parents, by having the flexibility to be successful in the workplace and earn good wages for their families; and children, by being in the kind of environment that promotes their healthy development.

* Giving Parents Choices

Early Ed will give parents the alternative of helping support the family through work or staying at home with their child. Right now, many parents are unable to maintain full employment because of prohibitive costs for quality childcare, or are forced to leave their children with caregivers they may not have chosen if more alternatives were available.

Early Ed programs will offer parents choices about which providers they prefer, based on location, values or other factors.

With respect to choice, Early Ed is more like current higher education than primary schools.

* Parents and Early Ed as Partners

Early Ed cannot, and does not try to, replace parents. Rather Early Ed is a valuable partner for parents, working toward the common goal of raising children as well as possible.

Early Ed is a trusted back-up for working parents, and a trusted advisor for parents who choose to stay at home.

o Reframing the First Six Years: Learning from Zero

Learning starts at birth.

Most learning per day takes place between zero and six.

o Natural Learning vs. Study

Before six, most learning is "natural" in that it comes through natural interaction and exposure to a rich environment.

Early Ed providers play an important, active role in the natural learning process. They provide guidance and create an appropriate setting, in which children explore and interact in the ways that help them learn.

o Learning to Learn

Between zero and six, one's ability to learn, interest in learning, and attitude toward learning are shaped for life. If you go to elementary school without a positive attitude and aptitude for learning, you'll get much less out of school and in extreme cases, very little.

o Learning "The Basics"

Young children learn things even more basic than skills like reading and writing. They learn attitudes towards education, respect for

themselves and others, the ability to interact appropriately, and so forth.

These attitudes and abilities are the real Basics on which the rest of education depends.

o "Ramping Up" to School

Kids who have had the benefit of Early Ed rise smoothly into the school years, and are used to learning and working with others. For many other kids, entering school is more like hitting a wall, and one that's very hard to climb.

o Foundations For Learning

Between zero and six, the foundations are laid for learning and they must be laid carefully. That is why we need "foundations teachers," teachers trained in child development.

One naming suggestion is that such programs be called "Foundations Programs" or "Cornerstone Programs" and that teachers might be called "Foundations Teachers." "Foundations Teachers" highlights the critical importance of early learning for later life, while "early learning," for instance, just sounds like a chronological label.

o The Moral and Social Foundations of the Child

It is during the years of zero to six that a child's moral sensibility and basic social attitudes are formed-the "moral and social foundations of the child."

o The Foundations/Cornerstone of Society

At a time when many see the foundations of our moral and social life crumbling, Early Ed offers a chance to lay secure foundations for the future of society. The moral and social foundations of the child are the moral and social foundations of the society as whole.

~~X~~ The Science Frame

(1) Our new understanding of child development comes from scientific discoveries. Just as science has helped us develop ways of preventing childhood disease and improving nutrition, it can help us improve the conditions in which our children grow, learn, and develop.

(2) Since scientific and technological progress have always been keys to our success as a nation, we need the brightest possible students to continue our tradition of research and exploration. By giving kids the best possible start in their education, Early Ed will help make sure we stay competitive in these critical areas.

o The Brain Science Frame

Early learning takes place through the physical shaping of a

child's brain. Neural connections not developed are lost; those established and reinforced will most likely be retained for life.

Intellectual, moral, social, and emotional patterns established early have an impact throughout life, for better or worse.

o The "Cognitive Revolution"

The explosion of research findings in the area of cognitive function and cognitive development marks a revolution-a profound transformation-in our understanding of the mind. This is an ongoing revolution, with new progress being made every day.

The current K-12 educational system was more or less set in the 19th Century; we can do better now, thanks to more than a century of advances in the study and of the mind of learning.

oThe Shaping Metaphor

Children's experiences from zero to six shape them for life.
"As the twig is bent, so grows the tree."

oThe Nutrition Metaphor

Early Ed is nutrition for the mind. A child whose mind is starved cannot develop normally, either intellectually, socially, emotionally, or morally.

This is not just about extreme cases. As with nutrition, there is a continuum: The better the mind is nourished from zero to six, the better it develops.

oThe Cultivation Metaphor

Young children are like plants at their tenderest and most critical stage. Like seedlings, they must be tended and cultivated to promote the best possible growth.

oKids as a Resource versus Kids as a Drain

Kids are the raw material from which a society is made. The quality of that material is determined in the years zero to six.

Kids will either be a valuable resource for all of us, or a drain on all of us, depending on how they develop from zero to six.

oInvestment in the Future

Early Ed is an investment in the future of our society. The time and resources invested in it will pay off in many ways:
a better-educated and more productive work force;
more people able to take care of themselves;
less crime;
less expenditure on prisons and law enforcement;
less fear;
a better society to live in.

oGetting in On The Ground Floor

Just as money invested earlier in a successful enterprise yields a higher return later, so investment in a child's earliest learning pays

the
most dividends later.

Early Ed is an even better investment than later education is because of the critical nature of development in the years from zero to six.

o Citizens of Tomorrow

The kids who benefit from Early Ed are the Citizens of Tomorrow-better educated, better adjusted, more productive.

o Crime Prevention

Since research has established such clear links between early childhood experience and later criminal behavior, Early Ed can help make our society safer.

o Early Ed as a Solution to the Education Problem

The main problem with education these days is that students do not come to school ready to learn actively and with a respect and aptitude for learning.

Early Ed can help develop the skills and attitudes that make children over the age of six better students.

Early Ed is, therefore, not a new problem for education. It is rather a solution to our educational problems.

o The Proper Role of Government: Insuring Safety and Quality

Frames of Regulation, Inspection, Protection, and Accountability raise the specters of potential problems with the system. They should be avoided.

Instead one should use frames of Standards and Accreditation.

Child development and Early Ed are areas where a great deal is known about the requisite quality of education and care needed by children

from zero to six. Government has the resources to continue funding research

into these areas, in order to help set guidelines for quality.

Government also has the resources to accredit particular providers-that is, to make sure they meet the high standards set by parents, communities and researchers.

o An Issue for Everyone

Early Ed presents an opportunity for people in ALL levels of society. Families in all but the highest income brackets face the problem

of finding quality care and training for their young children.

Early Ed is an issue that UNITES all of us.

Early Ed is for everyone. It is not just for the poor.

To provide Early Ed, all levels of society and all parts of the country must work together.

oThe Team Metaphor

Every member of the community shares an interest in Early Ed. To achieve it, communities have to pull together and work as a team.

oThe Family Metaphor

Communities are families. A family is irresponsible if it does not care for its children.

Communities, like families, share a common fate. The whole family prospers when all its children prosper.

oThe Sensible Management of Costs for Child Development

Old age is paid for by a lifetime of investment. Public schooling has been paid for minimal taxes on everyone in society. Both costs are spread out over many, many people and many, many years. People pay for retirement when they are most able, and all of society shares the burden of educating our children, since the outcome helps everyone.

Right now, the cost of high quality child care and development is not spread out in those ways: it falls all at once on individual parents at a time when they can least afford it.

Early Ed allows society to do a more sensible, efficient and effective job of managing the costs of helping the nation's children develop to their fullest potential.

oProgress In The Decent Treatment of Children

A better society treat its children better. In the past century, we've reduced infant mortality, eliminated child labor abuses, increased literacy, and raised our awareness level of the problems of child abuse. We now need to make further progress, to enable our children to develop to their full potential.

IV. ANSWERING BASIC QUESTIONS ABOUT EARLY ED

What's the difference between Early Ed and day care?

- o Day care is about keeping kids warm and safe till their parents pick them up.
- o Day care is basically "child storage."
- o Early Ed is about giving kids the environment that best promotes their development.
- o Day care often amounts to baby sitting. Early Ed involves interaction that best promotes children's early learning. Knowing what kinds of interaction do this requires providers to have significant training in the area of child development.
- o Early Ed is about kids' needs; day care is about parents' needs. How does Early Ed help children?
- o Early Ed means an environment where kids are given the best chance to develop to their full potential.
- o Since the first six years of life shape us in critical ways, Early Ed can have a major positive impact on how happy and successful a kid is in later life. It can also have a significant impact on how well the child will do as learning continues into primary school.
- o We have to shift from the idea of merely "taking care of" kids in

day care centers to the idea of providing the best learning environment for kids. Kids will get much more out of every day of Early Ed than they do out of the same time spent in day care.

- o Imagine a 4th grade class where the only goal is to keep kids safe throughout the day. (Unfortunately, this is not a rarity.) It's even more unacceptable to ignore the learning of kids in the critical 0-6 age group.

How does Early Ed help families?

- o Most new parents will tell you that they need all the help they can get.

- o Early Ed programs will be partners with parents, helping them provide what's best for kids: trusted back-ups for working parents and trusted advisors for stay-at-home parents.

- o Early Ed gives parents CHOICES-about whether to support the family through work or stay home with children, and about what kind of provider they feel is best for their child. (Greater availability means more alternatives.)

- o Right now parents often know very little about the activities at day care centers. Early Ed programs would give parents more knowledge about what their kids are doing during the day and how they are benefiting from it. In this way, Early Ed allows working parents to be more involved with the care of their children than they are now.

- o Part of the point of Early Ed is to raise public awareness about children's development, and what factors promote it.

- o Just as parents are glad to learn more about what foods are good for their kids, they'll be glad to learn more about the environments and activities that promote their kids' development.

- o Just as parents now understand that exercise is important for children's health, they'll be glad to understand the kinds of stimulation and interaction that are important for the development of their children's minds.

- o Early Ed will include the training of parents who want this kind of knowledge.

How does Early Ed help society?

- o Early Ed is an investment in society's future.

- o Kids who spend time in higher-quality environments make better learners, more responsible citizens, and more productive members of the work force. They are less likely to be burdens on society in the future, and more likely to contribute to it.

- o [See "Crime Prevention" frame]

- *o Imagine you could reach back into the childhood of someone who isn't a successful and contributing member of society -- for example a criminal, or someone who is unemployed and homeless. If you can improve the conditions that child is raised in, you stand a real chance of making the adult more successful. Early Ed represents an opportunity for us to make that fantasy a reality for tomorrow's adults.

o Early Ed is important economically because it will allow many women to work who currently must stay home since they can't afford child care.

This means it is an investment in overall productivity.

o Early Ed is important economically because it will allow children to gain more from their later education, and therefore contribute to the

economy in ways that might not be possible for them otherwise.

What can an Early Ed provider do that a mom can't?

o Ideally, nothing. But before we reach that ideal we need to raise parents' awareness about basic child development facts. One goal of Early

Ed is to raise the level of public understanding about what kids need and

when, so that good parents can be even better parents.

o A trained Early Ed provider isn't a substitute for a mother, but may know some things that many mothers don't-for instance, what kinds of

explanations a two year old child can or can't understand.

o Early Ed is not about discouraging mothers from being at home with their kids. It's about making sure every kid spends the day with someone

caring and reliable who also knows a lot about the kinds of environment and

attention young children need.

What can Early Ed do for parents/moms who do stay home with their own kids?

o Early Ed programs will include training (and possibly funding) for parents who'd like to know more about how kids develop and what they need

in order to get the best possible start in life.

Why do child care providers need training? Isn't it enough that they be reliable and caring?

o There is a huge amount to know about how the early treatment of children affects them and about what kinds of interactions kids at different ages need. Though many people have a good intuitive knowledge of

the kinds of things children need, just as many do not.

o Adequately teaching and caring for a group of other people's young children is a very different skill from raising your own.

o Even a naturally great mother needs other skills to adequately teach and provide for a group of other people's children.

What's the difference between Early Ed and school?

o Early Ed isn't about starting kids in school at an earlier age. For instance, it's not about babies sitting at desks.

o In Early Ed, learning takes place naturally through action and interaction, rather than through study. There is also more of an emphasis

on nurturing the child, and promoting the child's emotional well-being.

o In a sense Early Ed is on a continuum with school. Think of the big differences between how 1st grade and 12th grade work. It's not just that

1st and 12th graders read different books. First graders are more closely

supervised, are focused on more fundamental activities, are given more time

for rest and for supervised play, and so forth. Early Ed extends these differences much further.

V. ANSWERING TOUGH/HOSTILE QUESTIONS ABOUT EARLY ED

Americans have gotten along fine without Early Ed so far. Why do we need it now when we didn't need it before?

Not everyone has gotten along just fine.

- o The current chaos in many schools reflects a lack of Early Ed.
- o The current lack of responsibility and respect on the part of many young people reflects inadequate Early Ed.
- o The recurrent poverty of certain segments of society is in part of function of never having had adequate Early Ed.
- o We've always needed better Early Ed. But we need it more now than ever. There are two reasons:

(1) Our economy is different now. It absolutely requires better educated workers.

(2) Our economy makes it harder for at least one parent to stay at home with a child.

Won't Early Ed just mean more inefficient government bureaucracy?

o REFRAME to the NEED for Early Ed.

o "You don't get rid of the police, or public transportation, or schools just because they're expensive. Like these institutions, Early Ed

is essential for communities."

o Early Ed will be implemented locally. The government will set standards and communities will provide the structures and the people to make the programs happen. Parents will have choice about caregivers, as families currently have choices about colleges.

Is Early Ed just for poor parents, parents on welfare?

o No. Use the frame "An Issue for Everyone."

Is paying for child care really such a hardship right now? Doesn't everyone

have someone they can leave their kids with-a relative, a neighbor, or someone?

o First, it really is a hardship. Such extended family arrangements are rare these days.

Second, it's not just a matter of leaving your kids with someone.

REFRAME to: The difference between Early Ed and day care.

Why do children need to learn anything before they start school? What can

they learn from ages 0 to 6?

o Everyone knows that children learn important basic skills before the age of six-walking, talking, and so forth. But other important things

they learn are more subtle.

Use the Brain Development and Foundations for Learning frames.

Doesn't the government already have enough (too much) influence in our daily lives and the lives of our kids?

o Just as we need to government to set water safety standards and food and drug standards, so we need uniform high standards for child care

and development. Our children's minds are every bit as vital to us as a our

water and our food, and standards for their development should be no lower, and should not be subject to the whims of local special interests.

Nearly everything about Early Ed will be local. The government role will be limited to providing information, basic standards, and funding.

Why should I pay for care for someone else's kids?

o Use the Investment in the Future frame, the Team metaphor and the Family metaphor.

o "Someone else's kids" are YOUR kids' society. These are the people they will be working with and interacting with throughout their lives.

The

more able the "other kids" are the better your children's world will be.

o If Early Ed is established, eventually everyone will have had the advantage of Early Ed, and every adult will owe it to the next generation

to provide Early Ed. Just as you had the advantages of going to school and

having someone else pay for it, so you owe the same advantage to next generation of Americans.

Shouldn't parents be responsible for their own kids?

o They are and they always will be. But, our economy has changed and not all parents can stay home with their kids, even if they want to.

Moreover, Early Ed can provide things to kids that a great parents cannot.

And Early Ed even provides training for parents, and most parents can benefit from that training.

o In addition, we all benefit from kids having Early Ed, and therefore we are all responsible for providing it.

If my kid spends all day with an Early Ed provider, whose values will he

learn? E.g. will he learn the kind of discipline I feel is important?

o With Early Ed, parents will still be the primary source of their children's values.

o What kids will learn from Early Ed is compatible with any parent's values: A sense of responsibility for oneself and others. Respect for others and the ability to interact effectively with others. Confidence in

one's own abilities. And much much more.

o A child who comes to respect others and who develops an aptitude for learning will be in a better position to learn and live up to parents' values.

Shouldn't moms stay at home with their kids? And aren't children better off if they do?

o The economics of our society put this possibility out of reach for many families, and especially for single moms.

o Women shouldn't have to choose between economic survival and a good environment for their kids.

o Early Ed is a partner to parents; it does not replace parents.

o Early Ed can help moms who do stay at home become better moms.

VI. SUGGESTED TERMINOLOGY

Here are some possible other terms that you can use instead of day care. Try them out and see which work best for you.

Early Ed.

Pre-school (an expansion of the existing concept)

Pre-Ed.

First Ed.

First Steps Program

First Step

Family School

Foundations Program

Cornerstones Program
Foundations Teachers

2nd Family
Family 2
Family Too Center
Family School
Hearth School
Playschool
Child Development Center
Family Development Center
Early School
Early Center
Early Circle
Family Center
Growth Center
Family Learning Center
Early Learning Center
Community Child Center
Early Learning Circle
Early Schoolhouse
Kid Circle
Neighborhood Child Center
Home Away From Home

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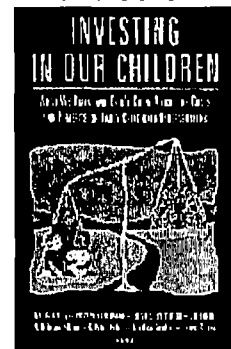
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Early Childhood Interventions: Benefits, Costs, and Savings

Over the last year or so, 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.



It is unclear what will happen to these programs once the media spotlight moves on and budgets tighten. Perhaps a public clamor over the next hot issue will draw funds away from early childhood programs; perhaps it should. The current period of relative largesse provides the opportunity not only to initiate programs but to undertake the kind of rational evaluation of those programs that will help clarify the choices that must eventually be made. In a new book, a RAND research team led by Lynn Karoly and Peter Greenwood assembles the evidence now available on early childhood interventions to try to answer two questions that will be of interest to policymakers who must allocate resources and to the public who provides those resources:

- *Do early interventions targeted at disadvantaged children benefit participating children and their families?* After critically reviewing the literature and discounting claims that are not rigorously demonstrated, the researchers conclude that these programs can provide significant benefits.
- *Might government funds invested early in the lives of some children result in compensating decreases in government expenditures?* Again, after updating and refining earlier estimates, the researchers find that, at least for some disadvantaged children and their families, the answer to this question is yes.

We use words like "can" and "might" deliberately. These conclusions cannot be freely generalized to all kinds of targeted early interventions because of various

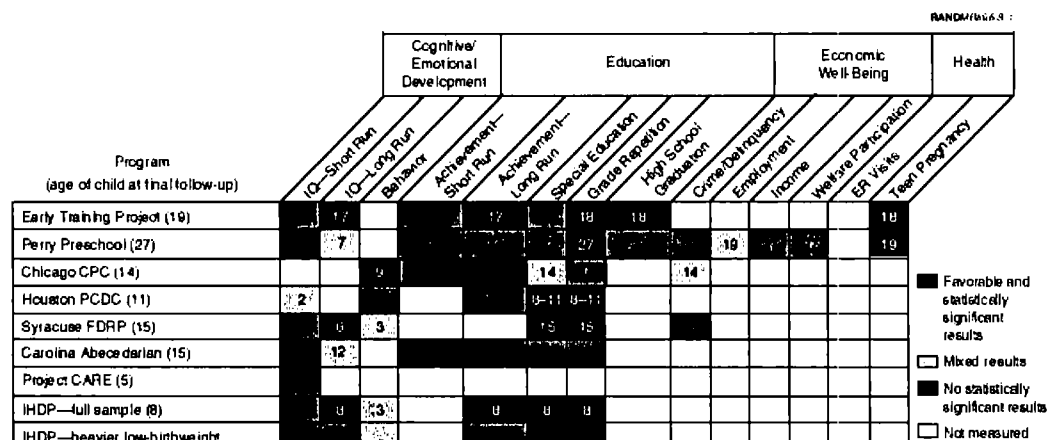
limitations in the evidence collected to date. These limitations suggest that better evaluations of new and continuing intervention efforts would be of great value to future decisionmaking.

What Are the Benefits?

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.

Karoly and her colleagues examined a set of nine programs in which evaluations had assessed developmental indicators, educational achievement, economic well-being, and health for program participants and compared them with the same measures for matched controls (usually selected through random assignment). The researchers sought programs with participant and control groups large enough at program implementation and follow-up to ensure unbiased results, although resource limitations on these programs did not always permit that.

Figure 1 schematically summarizes the results of the RAND review of the effects of these programs on participating children. The filled squares show which indicators were measured for each program reviewed. Blue indicates a favorable (and statistically significant) result, and black indicates no statistically significant result; gray denotes mixed findings. As the figure shows, each program made participating children better off in one or more ways than those who did not participate. Overall, favorable effects outnumber instances where the differences were not significant. A companion analysis of program effects on mothers also showed that measured results tended to be favorable, although the ratio of favorable to null results across all programs was not as high.



NOTE: Number in box refers to age of child when measure was last taken. When results were mixed (gray squares), the age refers to the last age when the effect was significant. CPC = Child-Parent Center, PCDC = Parent-Child Development Center, FDRP = Family Development Research Program, CARE = Carolina Approach to Responsive Education, IHDP = Infant Health and Development Project, PEIP = Prenatal/Early Infancy Project.

The programs thus led variously to the following advantages for program participants relative to those in the control group:

- Many of these statistically significant differences turn out to be of substantial magnitude. For example, three programs resulted in IQ differences between treatment participants and controls at the end of program implementation that approached or exceeded 10 points, a large effect by most standards. The difference in rates of special education and grade repetition at age 15 in the Abecedarian project participants exceeded 20 percentage points. In the Elmira, New York, Prenatal/Early Infancy Project (PEIP), participating children experienced 33 percent fewer emergency room visits through age 4 than the controls, and their mothers were on welfare 33 percent less of the time. In the Perry Preschool program, children's earnings when they reached age 27 were 60 percent higher among program participants.

It is also apparent from Figure 1, however, that for most programs, most indicators are not measured. This is even truer of the maternal analysis. These analyses thus represent only a partial accounting of program benefits. Furthermore, most evaluations did not involve long-term follow-ups, and some benefits could take a number of years to accrue (some could also erode with the passage of time).

What Are the Savings?

Some people may think that the benefits of targeted early intervention programs for participating families are enough to justify public expenditures on them. Others may appreciate the benefits to disadvantaged children but may be reluctant to raise tax burdens to accomplish such goals or may wish, at least, for broader favorable ramifications from an investment of public funds. One source of broader benefit is the potential savings the government (and thus taxpayers) realizes when families participating in early interventions require lower public expenditures later in life. Participating children may spend less time in special-education programs. 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.

Figure 2 compares program costs with eventual government savings for two of the nine programs--Perry Preschool and the Elmira PEIP. The Perry Preschool program enrolled 123 disadvantaged African American children in Ypsilanti, Michigan, in the mid-1960s. The program was a part-time preschool that included weekly home visits by the teacher and lasted for one or two school years. For the Elmira PEIP, 400 disadvantaged, primarily nonminority families received home visits by nurses trained in parent education and in linkage of the family to support networks and other services. These two interventions were chosen for three reasons:

- They were random trials that satisfied sample size and attrition criteria.
- They measured progress on various indicators that could be expressed in monetary terms.
- They followed the children long enough for benefits to accrue. The latest Elmira PEIP follow-up was at age 15 and Perry Preschool at age 27.

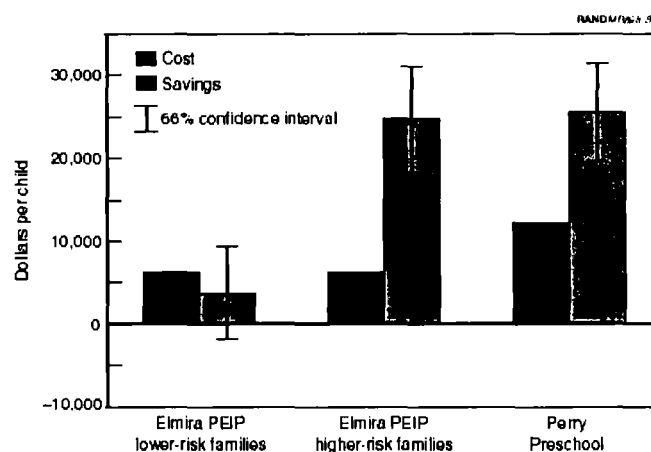


Figure 2--Program Cost Versus Savings to Government (Taxpayers)

For the Elmira PEIP estimates, the results were split into two groups. One

contained the higher-risk families (those with single mothers and low socioeconomic status) and the other the lower-risk families. Figure 2 shows costs and savings to the government for the two Elmira PEIP groups and for the Perry Preschool participants. [1] Costs are known with a fair degree of certainty. The precision of the savings estimates, however, depends on the sample sizes, and the vertical lines indicate the 66 percent confidence band (that is, there is a 66 percent probability that the true benefit level falls along the vertical line). A vertical line of twice the length shown would indicate a 95 percent confidence band.

For the Perry Preschool and the higher-risk families of the Elmira PEIP, the research team's best estimates of the savings to government are much higher than the costs (about \$25,000 versus \$12,000 for each participating Perry child; \$24,000 versus \$6,000 for Elmira). Although there is considerable uncertainty with respect to the benefit estimates, from a statistical point of view one can be quite confident that the benefits exceed the costs. [2] It is worth pointing out, however, that although benefits exceed costs, the costs accrue immediately, while the benefits are realized only as the years pass and children mature through adolescence to adulthood.

In the case of the lower-risk participants of the Elmira PEIP, the savings to government are unlikely to exceed the costs. Thus, the researchers' best estimate of the net savings is that they are negative. This result illustrates the importance of targeting programs to those who will benefit most if the hope is to realize government savings that exceed costs.

It should be emphasized, however, that while the full costs of the programs are included, the full benefits are not. The Elmira PEIP, which has followed participating children only to age 15 so far, provides no basis for calculating the amount these children may save the government in welfare costs or the extra taxes they may pay as adults. The Perry savings may also be underestimated because benefits to mothers were not measured.

Furthermore, the programs generate additional benefits to society beyond the government. These include the tangible costs of the crimes that would eventually have been committed by participating children, had they not participated in the program. The benefits also include the extra income earned by participating families, which can be reckoned as a benefit to the overall economy. RAND estimated these two benefit sources combined as roughly \$3,000 per family in the case of the lower-risk Elmira participants, about \$6,000 for the higher-risk Elmira participants, and over \$24,000 in the Perry case.

While the net savings and other benefits from these programs appear promising, caution must be exercised for various reasons in drawing generalizations for public policy. Most of these reasons are explained below, but two relate specifically to the cost-savings approach. First, costs and savings have been estimated for only two programs, and it is risky to generalize from such a small

sample. Second, because there was some variation between the two programs in the indicators of success measured, it cannot be concluded from the different net savings numbers that one program is better than the other.

One final caveat: Cost-savings analysis is a useful tool because, when the results are positive, it provides strong support for program worth. That is, it shows that only a portion of the benefits--those easily monetizable--outweigh the program's entire cost. [3]However, because only some of the benefits are taken into account, a negative result does not indicate that a program shouldn't be funded.

What Remains Unknown and What Does It Mean for Policy?

There is still much that we do not know about these programs, and this limits the degree to which these conclusions can be generalized to other early intervention programs. For example, we do not know the following:

- *How early interventions can best be targeted to those who would benefit most.* It is not yet known which eligibility criteria would generate the most positive benefit/cost ratios.
- *Whether the model programs evaluated to date will generate the same benefits and savings when implemented on a large scale.* The demonstrations have been undertaken in a more resource-intensive context than is likely to be achievable in full-scale programs.
- *What the implications of the changing social safety net are.* Previous demonstrations were carried out under the now-superseded welfare system. Costs and savings may be different under the new system.

These unknowns will have to be resolved if wise decisions are to be made among early intervention alternatives and if the programs chosen are to be designed to fully realize their potential for promoting child development--and saving money. In particular, research is needed into why programs work. Otherwise, inferences cannot be drawn about new program designs, and every such design would be unproven until tested and evaluated.

The scope of further research should depend on the specific information sought or the scale of the program. *New demonstrations are needed* to answer questions about program design or the changing safety net, and broader testing of previous designs is required to answer questions of scale-up. However, on questions of targeting and other issues, much could also be gained--and less expensively--by *making the most of evaluations already under way*, for example, by undertaking more follow-ups and expanding the set of benefits measured. Finally, where governments see fit to initiate large-scale public programs on the basis of current knowledge, *careful evaluation should be a component*. Then, when budgets tighten again and choices need to be made, the value of these programs will be more clearly understood.

[1] Dollars shown have been converted to present value--i.e., future costs and savings have been discounted (at 4 percent per year) to recognize the standard assumption in economics that, even apart from inflation, people attach less value to future dollars than to current ones. "Present" here is the year of the child's birth. All amounts are in 1996 dollars.

[2] There are, however, other uncertainties that are not related to sample size and that cannot be measured with statistical methods.

[3] A decision as to whether to fund a program must, of course, also take into account budgetary constraints and other uses for the money.

RAND research briefs summarize research that has been more fully documented elsewhere. This research brief describes work done for The California Wellness Foundation; it is documented in *Investing in Our Children: What We Know and Don't Know About the Costs and Benefits of Early Childhood Interventions*, by Lynn A. Karoly, Peter W. Greenwood, Susan S. Everingham, Jill Houbé, M. Rebecca Kilburn, C. Peter Rydell, Matthew Sanders, James Chiesa, MR-898-TCWF, 1998, 182 pp., \$15.00, ISBN 0-8330-2530-9, available from RAND Distribution Services (Telephone: 310-451-7002; FAX: 310-451-6915; or Internet: order@rand.org). Abstracts of all RAND documents may be viewed at this website (<http://www.rand.org>). Publications are distributed to the trade by National Book Network. The full report is available in PDF format at this website. RAND is a nonprofit institution that helps improve policy and decisionmaking through research and analysis; its publications do not necessarily reflect the opinions or policies of its research sponsors.

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SUMMARY

Over the last year or so, there has been a renewed interest in the influence of early childhood—especially the first 3 years of life—on child health and development, educational attainment, and economic well-being. Public attention has been stimulated by television shows and stories in national news magazines, and governors and legislators have been initiating programs to direct budgetary surpluses to services for young children. Much of this activity 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 such social stressors as poverty and dysfunctional home environments. The response has been an attempt to promote healthy child development, particularly among disadvantaged children, with home visits by nurses, parent training, preschool, and other programs.

It is unclear what will happen to these programs once the media spotlight moves on and budgets tighten. Perhaps a public clamor over the next hot issue will draw funds away from early childhood programs; perhaps it should. The current period of relative largesse provides the opportunity not only to initiate programs but to undertake the kind of rational evaluation of those programs that will help clarify the choices that must eventually be made. In this report, we assemble the evidence now available on early childhood interventions to try to answer two questions that will be of interest to policymakers who must allocate resources and to the public who provides those resources:

- *Do early interventions targeted at disadvantaged children benefit participating children and their families?* After critically reviewing the literature and discounting claims that are not rigorously demonstrated, we conclude that these programs can provide significant benefits.
- *Might government funds invested early in the lives of some children result in compensating decreases in government expenditures?* Here, we examine the possibility that early interventions may save some children (and their parents) from placing burdens on the state in terms of welfare, criminal justice, and other costs. Again, after updating and refining earlier estimates, we find that, at least for some disadvantaged children and their families, the answer to this question is yes.

We use words like “can” and “might” deliberately. We cannot freely generalize these conclusions to all kinds of targeted early interventions, especially not to large-scale programs, because of various limitations in the evidence collected to date. We pay special attention in our analysis to these limitations, which have important implications for future initiatives. In particular, these limitations suggest that better evaluations of new and continuing intervention efforts would be of great value to future decisionmaking.

WHAT ARE THE BENEFITS?

The term “early intervention” can be broadly applied. It can be used for services generally available to and needed by many children, such as immunizations and child care, and to programs not specifically aimed at children, such as Food Stamps and Medicaid. In this report, we restrict its application to programs targeted to overcome the cognitive, emotional, and resource limitations that may characterize the environments of disadvantaged children during the first several years of life.

Even the term “targeted early intervention” is a broad concept. It covers programs concerned with low-birthweight babies and those concerned with toddlers in low-income families; interventions targeting children as well as those targeting their mothers; services offered in homes and those offered in centers; programs 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.

This diversity makes it impossible to draw overall generalizations about “targeted early intervention” and limits us to inferences as to what some programs *can* do, depending on the characteristics of the program and the families it serves. Furthermore, given the shortcomings and limitations in the design of many early intervention evaluations and the measures omitted from them, what we don’t know about the effects of early childhood intervention may exceed what we know (more on this appears below). Nonetheless, our review supports the proposition that, in some situations, carefully targeted early childhood interventions *can* yield measurable benefits in the short run and that some of those benefits persist long after the program has ended.

We reached that conclusion after examining a set of nine programs in which evaluations had been performed that assessed developmental indicators, educational achievement, economic well-being, and health for program participants and compared them with the same measures for matched controls. In most of the programs, controls were selected by random assignment at program outset. We also sought programs with participant and control groups large enough at program implementation and follow-up to ensure unbiased results, although resource limitations on these programs did not always permit that.

Figure S.1 schematically summarizes the results of our review of the effects of these programs on participating children.¹ The filled squares show which of a number of developmental, educational, economic, and health indicators were measured for each program reviewed. Blue indicates a favorable (and statistically significant) result, and black indicates no statistically significant result; gray

¹The nine programs are the Early Training Project, Perry Preschool, Chicago Child-Parent Center (CPC), Houston Parent-Child Development Center (PCDC), Syracuse Family Development Research Program (FDRP), Carolina Abecedarian, Project CARE (Carolina Approach to Responsive Education), Infant Health and Development Project (IHDP), and Elmira (New York) Prenatal/Early Infancy Project (PEIP). We also review Project Head Start, but results are not summarized in Figure S.1 because there are multiple evaluations that cannot be readily summarized.

RAND MR296-S.1

Program (age of child at final follow-up)	Cognitive/ Emotional Development		Education						Economic Well-Being			Health		
	IQ—Short Run	IQ—Long Run	Behavior	Achievement— Short Run	Achievement— Long Run	Special Education	Grade Repetition	High School Graduation	Crime/Delinquency	Employment	Income	Welfare Participation	ER Visits	Teen Pregnancy
Early Training Project (19)	6	17		7	17	10	18	18						18
Perry Preschool (27)	5	7		9	14	27	27	27	19	27	27			19
Chicago CPC (14)			9	9	14	14	14		14					
Houston PCDC (11)	2		4-7		8-11	8-11	8-11							
Syracuse FDRP (15)	8	6	3			15	15		15					
Carolina Abecedarian (15)	8	12		8	15	15	15							
Project CARE (5)	5													
IHDP—full sample (8)	3	8	3		8	8	8							
IHDP—heavier low-birthweight children (8)	3	8	5		8	8	8							
Elmira PEIP—full sample (15)		4						15					4	
Elmira PEIP—higher-risk children (15)		4						15					4	

Favorable and statistically significant results

Mixed results

No statistically significant results

Not measured

SOURCE: See Table 2.2.

NOTE: Number in box refers to age of child when measure was last taken. When results were mixed (gray squares), the age refers to the last age when the effect was significant. See text note for full program names.

Figure S.1—Effects of Selected Early Intervention Programs on Participating Children

denotes mixed findings.² As the figure shows, each program favorably affected at least one indicator, and most of them affected several (that is, participants had better outcomes on these indicators than did children in the control group).³ Although many studies did not find favorable outcomes across the full range of effects they examined (especially in the long run), favorable effects dominate. A companion analysis of program effects on mothers also showed that measured results tended to be favorable, although the ratio of favorable to null results across all programs was not as high.

The programs thus led variously to the following advantages for program participants relative to those in the control group:

- Gains in emotional or cognitive development for the child, typically in the short run, or improved parent-child relationships.
- Improvements in educational process and outcomes for the child.
- Increased economic self-sufficiency, initially for the parent and later for the child, through greater labor force participation, higher income, and lower welfare usage.
- Reduced levels of criminal activity.
- Improvements in health-related indicators, such as child abuse, maternal reproductive health, and maternal substance abuse.

While many significant differences between participants and controls were found, a statistically significant difference is not necessarily an important one. The size of the difference also needs to be taken into account—and the size of many of the differences could be fairly characterized as substantial. For example, the Early Training Project, Perry Preschool, and the Infant Health and Development

²A favorable result may be either an increase or decrease in an indicator among program participants relative to controls—depending on the indicator. For example, while a favorable result for IQ means that the IQ was *higher* for treatment children compared with controls, a favorable result for criminal behavior occurs when the incidence is *lower* for the treatment group.

³In addition, in most cases even when results were not statistically significant (black in the figure), the difference between treatment and control groups was in the expected direction for the program to produce beneficial results.

Project (IHDP) found IQ differences between treatment participants and controls at the end of program implementation that approached or exceeded 10 points, a large effect by most standards. The difference in rates of special education and grade retention at age 15 in the Abecedarian project participants exceeded 20 percentage points. In the Elmira, New York, Prenatal/Early Infancy Project (PEIP), participating children experienced 33 percent fewer emergency room visits through age 4 than the controls, and their mothers were on welfare 33 percent less of the time. In the Perry Preschool program, children's earnings when they reached age 27 were 60 percent higher among program participants. Thus, we conclude that there is strong evidence to support the proposition that at least some early interventions can benefit participating children and their mothers.

It is also apparent from Figure S.1, however, that for most programs, most indicators are not measured. This is even truer of the maternal analysis, where five of the nine evaluations paid no attention to possible effects on the mother other than parental development. Our analyses thus represent only a partial accounting of program benefits. Furthermore, most evaluations did not involve long-term follow-ups, and some benefits could take a number of years to accrue (some could also erode with the passage of time).

WHAT ARE THE SAVINGS?

Some people may think that the benefits of targeted early intervention programs for participating families are enough to justify public expenditures on them. Others may appreciate the benefits to disadvantaged children but may be reluctant to raise tax burdens to accomplish such goals or may wish, at least, for broader favorable ramifications from an investment of public funds. One source of broader benefit is the potential savings the government (and thus taxpayers) realize when families participating in early interventions require lower public expenditures later in life. Participating children may spend less time in special-education programs. 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.

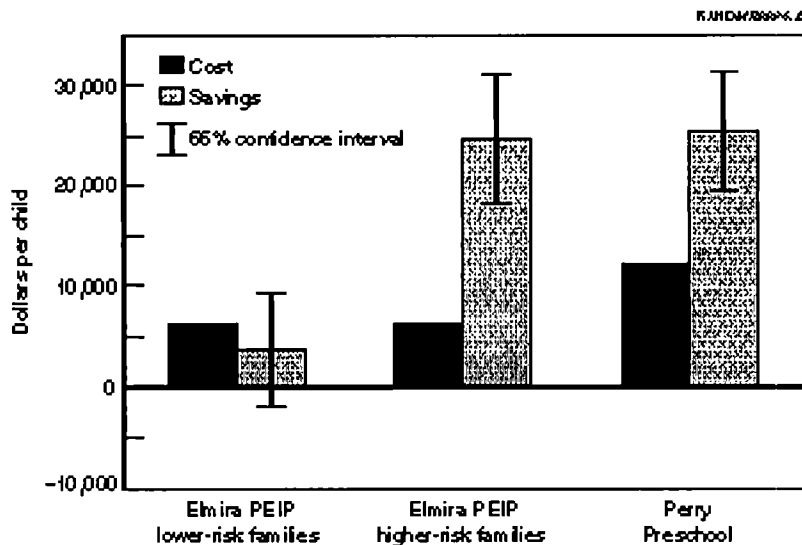
In Figure S.2, we compare program costs with eventual government savings for two of the nine programs—Perry Preschool and the

Elmira PEIP. The Perry Preschool program enrolled 123 disadvantaged African American children in Ypsilanti, Michigan, in the mid-1960s. The program was a part-time preschool that included weekly home visits by the teacher and lasted for one or two school years. For the Elmira PEIP, 400 disadvantaged, primarily nonminority families received home visits by nurses trained in parent education, establishment of support networks for the mother, and linkage of the family to other health and human services. Mothers received an average of 32 visits from the fourth month of pregnancy through the child's second year. We chose these two interventions for three reasons:

- They were random trials that satisfied sample size and attrition criteria.
- They measured progress on developmental, educational, economic, criminal justice, and health measures that could be expressed in monetary terms.
- They followed the children long enough for benefits to accrue. The latest Elmira PEIP follow-up was at age 15 and Perry Preschool at age 27.

For the Elmira PEIP estimates, we followed the approach taken in the evaluation of that project, which was to split the results into two groups. One contained the higher-risk families (those with single mothers *and* low socioeconomic status) and the other the lower-risk families. Costs and savings for the two Elmira PEIP groups and for the Perry Preschool participants are shown in Figure S.2.⁴ Costs are known with a fair degree of certainty. The precision of the savings estimates, however, depend on the sample sizes, and the vertical lines indicate the 66 percent confidence band (that is, there is a 66 percent probability that the true benefit level falls along the vertical line). A vertical line of twice the length shown would indicate a 95 percent confidence band.

⁴Dollars shown have been converted to present value—i.e., future costs and savings have been discounted (at 4 percent per year) to recognize the standard assumption in economics that, even apart from inflation, people attach less value to future dollars than to current ones. “Present” here is the year of the child's birth. All amounts are in 1996 dollars.



NOTE: All amounts are in 1996 dollars and are the net present value of amounts over time where future values are discounted to the birth of the participating child, using a 4 percent annual real discount rate.

Figure S.2—Program Cost Versus Savings to Government (Taxpayers)

For the Perry Preschool and the higher-risk families of the Elmira PEIP, our best estimates of the savings to government are much higher than the costs (about \$25,000 versus \$12,000 for each participating Perry family; \$24,000 versus \$6,000 for Elmira). Although there is considerable uncertainty with respect to the benefit estimates, from a statistical point of view we can be more than 95 percent certain that the benefits exceed the costs.⁵ It is worth pointing out, however, that while benefits exceed costs, the costs accrue immediately, while the benefits are realized only as the years pass and children transition through adolescence to adulthood.

⁵There are, however, other uncertainties that are not related to sample size and that cannot be measured with statistical methods.

In the case of the lower-risk participants of the Elmira PEIP, the savings to government are unlikely to exceed the costs. In fact, our best estimate of the net savings is that they are negative: The government savings, while positive, are not enough to offset program costs. This result illustrates the importance of targeting programs to those who will benefit most if the hope is to realize government savings that exceed costs.

We emphasize, however, that while we included the full costs of the programs, we could not account for all benefits. The Elmira PEIP, which has followed participating children only to age 15 so far, provides no basis for calculating the amount these children may save the government in welfare costs, or the extra taxes they may pay as adults. We might expect such savings even for the lower-risk participants, although the longer-run savings may be less than those generated by children in the higher-risk families. The Perry savings may also be underestimated because benefits to mothers were not measured.

Furthermore, the programs generate additional benefits to society beyond the government. These include the tangible costs of the crimes that would eventually have been committed by participating children, had they not participated in the program. The benefits also include the extra income generated by participating families (not just the taxes on that income), which can be reckoned as a benefit to the overall economy. We estimated these two benefit sources combined as roughly \$3,000 per family in the case of the lower-risk Elmira participants, about \$6,000 per family for the higher-risk Elmira participants, and over \$24,000 per family in the Perry case.

While the net savings and other benefits from these programs appear promising, caution must be exercised for various reasons in drawing generalizations for public policy. We explain most of these reasons below, but two relate specifically to the cost-savings approach. First, because these are the only two programs whose evaluation characteristics permit estimates of long-term savings with any accuracy, we cannot say that different programs would also generate such savings (by the same token, we cannot say that they wouldn't). Second, because there was some variation between the two programs in the indicators of success measured, we cannot conclude from the different net savings numbers that one program is better than the other.

One final caveat: Cost-savings analysis is a useful tool because, when the results are positive, it provides strong support for program worth. That is, it shows that only a portion of the benefits—those easily monetizable—outweigh the program's entire cost.⁶ However, because only some of the benefits are taken into account, a negative result does not indicate that a program *shouldn't* be funded. Policymakers must then decide whether the nonmonetizable benefits—e.g., gains in IQ, in parent-child relations, in high-school diplomas—are worth the net monetary cost to the government.

WHAT REMAINS UNKNOWN AND WHAT DOES IT MEAN FOR POLICY?

On the basis of research conducted to date, we know that some targeted early intervention programs have substantial favorable effects on child health and development, educational achievement, and economic well-being. We also know that some of these programs, if targeted to families who will benefit most, have generated savings to the government that exceed the costs of the programs. There is still much that we do not know about these programs, however, and this limits the degree to which these conclusions can be generalized to other early intervention programs. One of the big unknowns is why successful programs work—and others don't. In particular, we do not know the following:

- *Whether there are optimal program designs.* There have not been enough controlled comparisons that can support choices between focusing on parents versus children (or both), intervening in infancy versus the preschool years, integrating interventions versus running them independently, or tailoring to individual needs versus treating children the same but treating a greater number.
- *How early interventions can best be targeted to those who would benefit most.* It is not yet known which eligibility criteria would generate the most positive benefit/cost ratios. In addition,

⁶A decision as to whether to fund a program must, of course, also take into account budgetary constraints and other uses for the money.

whatever criteria are used will have dramatic implications for program cost and implementation.

There are other unknowns:

- *Whether the model programs evaluated to date will generate the same benefits and savings when implemented on a large scale.* The demonstrations have been undertaken in a more resource-intensive, focused environment with more highly trained staff than is likely to be achievable in full-scale programs.
- *What the full range of benefits is.* Typically, evaluations have focused on those aspects of development that the intervention was intended to influence. But we know from some studies that programs can have a broad array of effects beyond their principal objectives.
- *What the implications of the changing social safety net are.* Previous demonstrations were carried out under the now-superseded welfare system. To some extent, those interventions depended on that system for collateral support of families, and the savings generated were partly in terms of welfare costs that the government may not now be paying out anyway.

These unknowns will have to be resolved if wise decisions are to be made among early intervention alternatives and if the programs chosen are to be designed to fully realize their potential for promoting child development—and saving money. In particular, research is needed into *why* programs work. Otherwise, inferences cannot be drawn about new program designs, and every such design would be unproven until tested and evaluated.

The scope of further research should depend on the specific information sought or the scale of the program. *New demonstrations are needed* to answer questions that require variations in program design or that reflect the evolving society and economy, and broader testing of previous designs is required to answer questions of scale-up. However, on questions of targeting, benefits beyond objectives, and other issues, much could also be gained—and less expensively—by *making the most of evaluations already under way*—e.g., by further follow-ups and expansion of the set of benefits measured. Finally, where governments see fit to initiate large-scale public programs on

the basis of current knowledge, *careful evaluation should be a component*. Then, when budgets tighten again and choices need to be made, the worth (or lack of worth) of these programs will be more firmly established.

The research required represents a substantial commitment of funds—most likely in the millions or even the tens of millions of dollars. However, the early intervention programs that may prove warranted (and that some people are already advocating) will represent a national investment in the hundreds of millions or billions of dollars. A modest if substantial expenditure initiated now could thus ensure that maximum benefits are achieved from a much larger expenditure over the long term.

ISSUES RELEVANT TO INVESTMENT DECISIONS

This chapter summarizes the findings of the previous chapters and outlines their implications for future research and for policy. So far, we have shown that early intervention programs can improve childhood development and maternal well-being and may generate future savings that more than offset their costs. While these results are encouraging for policymakers considering future investments in targeted early intervention programs, they are based on a limited number of mostly smaller-scale demonstration programs implemented up to three decades ago. These limitations raise the following issues, which remain to be addressed:

- The optimal design of programs in terms of the services they provide and the developmental stage at which intervention occurs.
- The ways in which programs can best be targeted to those children and families who will benefit most.
- The replicability of findings from smaller-scale studies to full-scale implementation of model programs.
- Recognition of the full range of benefits yielded, including those outside the original program objectives.
- The implications of the changing social safety net.

In the following pages, we discuss these issues, concluding with potential roles for policymakers at different levels of government who are exploring further investments in early childhood programs.

WHAT WE KNOW ABOUT EARLY CHILDHOOD INTERVENTION

Early intervention programs are not designed to a single standard. This report has documented that early childhood intervention programs display a range of characteristics, depending on the objectives of each particular program. Programs differ in terms of which members of the family they target, the risk factors used to select participants, the segment of childhood during which the intervention takes place, and the services offered as part of the treatment.

Despite the diversity of design, most programs share the same underlying assumption: Early childhood—the prenatal period through the beginning of school—is a unique developmental period that serves as a foundation for behavior, well-being, and success later in life. Some children are subjected to stressors during early childhood that impede normal development. These stressors may include insufficient cognitive stimulation, nutritional deprivation, inadequate health care, and maladaptive social interaction. Early intervention to correct these impediments has the potential to promote healthy development in at-risk children.

Numerous studies have documented a range of potential benefits of early intervention for children and their families. These benefits span the domains of cognitive and behavioral outcomes, educational attainment, economic resources, and health. Our cost-savings analysis and the work of others (Barnett, 1993) have shown that these benefits have the potential to generate savings to government that more than pay for the cost of the program generating them. However, one of the most important findings of this report is that programs do not always generate savings to offset their costs. What seems to make a difference in terms of whether a program generates savings to government?

- *Targeting.* Programs that target children and families who will benefit most from the services offered have the highest chance of repaying their costs. In most cases, more disadvantaged children are likely to realize the greatest benefits. In some cases, however, children who face the greatest number of risks may require even more specialized services, so they may benefit less from a particular program than children who face only a few risks.

- *The time horizon required for the payback of program costs.* In contrast to program costs, which accrue during the course of the program, most program savings are not realized for years, accumulating over the life of the child and mother. The longer the time period permitted for the payback, the greater the chance that the savings generated by program benefits will outweigh the program's costs.
- *The evaluation's inclusion or exclusion of outcome measures for the mother* (typically determined by whether the program's objectives include improving the mother's effectiveness or well-being). One of the findings of this report is that while early childhood programs are generally designed to improve children's well-being and achievement, many of the programs also influence mothers' outcomes. Improvements in mothers' outcomes may generate savings to government that are as large or larger than the savings generated by improvements in the children's outcomes. In addition, savings arising from changes in mothers' outcomes often accrue immediately as well as in the future.

In sum, early intervention programs show promise in their potential for helping program participants and having positive spillover effects for other members of society:

- For high-risk children, early intervention may lower the chance that they will become chronic or violent criminals or fall behind in schoolwork, and may raise the likelihood that they achieve economic self-sufficiency.
- For high-risk mothers, these programs may improve their quality of life not only by improving their children's well-being and achievement, but also by giving them such benefits as increased employment, reduced drug dependency, and more.¹

¹It might have been anticipated that programs such as nurse home visits would improve parenting and child outcomes at the expense of maternal employment and income. Instead, higher-risk families in the Elmira PEIP exhibited improvements in maternal income *and* in child outcome measures.

- For individual states and communities, early intervention programs may be a means of reducing the escalating costs of corrections, welfare, and special education.
- For the economy as a whole, early intervention may be a way to improve overall social welfare, while reducing the pain and suffering associated with criminal victimization.

These benefits, together with the savings realized from some of these programs, raise the question, Why aren't we spending more as a nation on early intervention? Currently, the bulk of public-sector spending on children occurs during the school-age years (Haveman and Wolfe, 1995). For example, in 1992, about 8 percent of the total public investment in the average child was spent during the first five years—the first quarter—of childhood. That amounted to about \$1,500 per year per child (in 1992 dollars) and included expenditures for early childhood development, welfare, and health care. For children age 6 to 18, public spending averaged approximately \$6,500 per child per year (in 1992 dollars). The difference was due primarily to expenditures on primary and secondary schools. Other public expenditures for children those ages include funds for criminal justice, youth employment, and other youth programs.

We do not know to what extent, if any, a greater balance should be sought between these two amounts. Why not? First, because even interventions with exemplary designs and evaluations have been marked by methodological irregularities or constraints, leaving some room for uncertainty about the validity of their findings. Second, because, methodology aside, there are still many important aspects of these programs about which we know relatively little. The next segment of this chapter enumerates these factors and discusses why they are important. The final segment discusses further steps in early intervention research and evaluation that could help resolve some of the unknowns and determine whether broad funding of these promising programs is justified.

WHAT WE DON'T KNOW ABOUT EARLY CHILDHOOD INTERVENTION

The two most important things we don't know about early childhood intervention programs is why the successful programs work—and

why those not shown to be successful don't. If we knew which aspects of program design and clientele targeting influenced program success, it would be possible to make educated judgments about the likelihood of a program's success. Under the current state of knowledge, however, such predictions cannot be made with certainty, and any new proposal would have to be tested and evaluated if it is to be regarded as promising. The first two unknowns discussed below are elaborations on this theme. The final three are other important issues yet to be answered.

Are There Optimal Program Designs?

There are many aspects of program design that early intervention researchers would like to learn more about. Some of the unanswered questions regarding design are fundamental and relate to the macro-level design features of the program. These include the following:

- Can better results be achieved by treating both the child and the mother rather than by focusing on only one?
- At what point in early childhood is it best to intervene—infancy or preschool? Or, is it better to intervene continuously throughout the entire period of early childhood?
- Would programs combining interventions (e.g., training for parents and classroom experience for children) yield greater, fewer, or the same benefits as those expected from the sum of the individual interventions?
- Does the intensity of the program make a difference, such as the frequency of home visits or the number of hours spent in center-based care?
- What are the implications of the quality of the services provided, including the background, training, and supervision of day-care providers, educators, or those making home visits, and the resources used in the program (e.g., staff to child ratios, curriculum, educational materials)?
- Should the intervention be the same for each child, or should it vary with the special needs of each child?

Although these issues remain largely unexplored, the programs we reviewed in Chapter Two provide some insight. For example, the evaluation of the Chicago CPC suggests that the duration of time spent on preschool and school-age interventions does matter. Likewise, the experimental design features of the Abecedarian and Project CARE programs demonstrate the effectiveness for some outcomes of combining preschool and after-school interventions, and the advantage of combining home visits and center-based day care. Based on findings from the IHDP, more-intensive participation in intervention services appears to generate more-favorable effects. A comparison across programs suggests that programs targeting both parent and child may be most effective. Other child care research has shown that more provider training appears to yield greater benefits for children, but it is not clear how much more provider training is optimal or what type is needed (Roupp et al., 1979; Whitebook et al., 1989). While these findings are suggestive, they provide only limited guidance for designing optimal programs.

Unanswered questions regarding program design must be faced not only by individuals responsible for implementing early intervention programs but also by government policymakers deciding whether to fund them. For example, it is popular to tailor programs to meet the needs of specific communities, such as offering bilingual preschool in Hispanic communities. It is unclear how to balance the advantages of tailoring program designs to community needs against the potential disadvantages of deviating from standardized program designs that strive to achieve optimal training, intensity, and curriculum.

How Can Programs Best Be Targeted to Those Who Will Benefit Most?

As discussed in numerous places in this report, one of the unifying concepts of the early intervention programs we surveyed was the idea that the beneficiaries of treatment would be children who were at risk. By "at risk" we mean children who were subjected to one or more stressors in the form of cognitive, emotional, or resource deficiencies. A number of studies document larger gains for subjects who are at lower levels of socioeconomic or developmental status (e.g., see the review in Barnett, 1995; and Olds et al., 1997), although

the presence of many risk factors may actually make it difficult to improve outcomes through standard intervention programs (Liaw and Brooks-Gunn, 1994). The importance of targeting is verified by our study of the differences in cost-savings from the Elmira PEIP delivered to a "higher-risk" sample and a "lower-risk" sample. Our analysis shows that while the savings generated by the program through children's age 15 more than offset the costs for the higher-risk group, the program does not generate nearly as much savings for the lower-risk group. Despite these and other findings, whether and how to target are still controversial issues (Liaw and Brooks-Gunn, 1994; Ramey and Ramey, 1994; Reynolds et al., 1997).

Targeting thus remains an imprecise concept, and knowledge regarding the merits of alternative definitions of risk is scant. For instance, it is unknown whether the children who would benefit most from early intervention are best identified on the basis of biological, cognitive, emotional, or resource risk factors (or some combination thereof). Children who face multiple risks may require even more specialized interventions than those that are effective for children who experience one or only a few risks. Furthermore, children may be exposed to varying levels of different types of risk over the course of their lives, raising the possibility that the optimal targeting strategy might fluctuate with age, or that risk might compound over time. The possible linkages and interactions between programs that target at-risk children early in life and those that intervene later on are other issues that deserve further attention.

The choice of risk criterion may be influenced by the total number of children who meet it—a number that has obvious budgetary implications. Data limitations preclude a careful assessment of the exact number of young children who might be deemed "at risk" based on various measures of socioeconomic, cognitive, or biological factors. To provide a rough guide to the number of children that might be targeted using socioeconomic criteria, we tabulated data from the March 1996 Current Population Survey (CPS), a nationally representative sample of approximately 60,000 civilian households. Demographic characteristics, household structure, and annual family income information reported in the CPS can be used to identify young children in households with the following three risk factors: single-mother family, mother less than age 19 at birth of child, and family income less than 200 percent (or 150 percent or 100 percent)

of the poverty line.² Similar criteria were used, for instance, to select mothers and children for participation in the Elmira PEIP.

Based on data for the cohort born in the year prior to the March 1996 CPS interview, Table 4.1 reports the estimated number of children born each year with any one of the three risk factors, first for all children and then for first-born children (another selection criteria used in the Elmira PEIP). Of the approximately 3.3 million births identified in the CPS that year, between 3 and 43 percent (113,000 to 1.4 million) would meet one of the risk factors listed in the table. The largest fraction are born into families with annual income less than 200 percent of the poverty line. That percentage is reduced by half when the income cutoff is 100 percent of the poverty line. Over 1 in 7 children is born to a single mother. A much smaller share, about 3

Table 4.1
Number and Percentage of Children Born with Various Risk Factors

		Risk Factor				
		Single-Mother Family	Mother Less Than Age 19	Family Income Less Than x Percent of the Poverty Line		
	Total			$x = 200$	$x = 150$	$x = 100$
All children						
N (1,000s)	3,277	482	113	1,418	1,083	737
Percentage	100.0	14.7	3.4	43.3	33.0	22.5
First-born children						
N (1,000s)	1,166	129	52	363	256	172
Percentage	100.0	11.1	4.5	31.1	22.0	14.8

SOURCE: Authors' tabulations using March 1996 Current Population Survey.

NOTE: Weighted count of children age less than 1 in families with reported characteristics as of March 1996.

²We show results for three income levels relative to the poverty line because program targeting criteria may not be limited to those who are defined as officially poor using the current government definition. For example, in the IHDP, at-risk children were defined based on biological risk; while this was correlated with poverty, only about half the families had income less than 150 percent of the poverty line. In recognition of the limits of the current poverty standard for identifying disadvantaged families, some targeted, even means-tested, programs are using multiples of the poverty line. For example, many of the state Medicaid expansions include families with incomes up to 185, 200, 225, and even 300 percent of the poverty line.

percent, are born to a teenage mother. About 35 percent of all children are born to first-time mothers. (Within this group, the percentages in most risk categories are lower than that for all mothers, since first-time mothers are less likely to be single parents or poor.)

When risk factors are considered together (using a poverty cutoff of 150 percent), the tabulations reveal that 36 percent of all children born (1.2 million) are subject to at least one of the three risk factors, and just under 14 percent (451,000) are subject to two or more risk factors. Only a small fraction, 1.3 percent, are subject to all three risk factors.

Keeping in mind that these data are only intended to provide rough approximations, it is clear that a substantial number of children might be targeted for early intervention, at least based on socioeconomic criteria. For example, the selection criteria used in the Elmira PEIP would target upwards of 25 to 30 percent of all children born to first-time mothers. If the same criteria were applied to all newborns, an even larger percentage—approximately three times the absolute number of children—would be affected. If the results of the Elmira PEIP were replicated on a larger scale, the benefits measured in that model program might accrue to a large number of the nation's children.

Can Model Programs Be Replicated on a Large Scale?

One of the key unknowns regarding widespread government administration of early intervention programs is what is referred to as the "scale-up" issue (Gomby et al., 1995). With the exception of Head Start and the Chicago Child-Parent Centers, the programs reviewed in Chapter Two are small-scale model programs, implemented in a specific community by researchers with expertise in child development. The concern here is that early childhood programs administered by public agencies in a diverse array of communities will not replicate the model programs researchers studied, for several reasons:

- It is unclear whether public agencies would garner enough resources to adequately duplicate the model programs. Recent public sentiment indicates fiscal conservatism (see Hosek and Levine, 1996) mixed with a reluctance to eliminate public

spending on current programs oriented toward children (see Reynolds et al., 1997).

- Public programs would be unlikely to attract staff with the same training and stake in the outcomes as the staff who implemented the research programs. For example, the Perry Preschool staff were certified to teach in elementary, early childhood, and special education, and they participated in ongoing supervisory and training activities. In contrast, teachers in the Head Start program have historically had considerably lower levels of training, although recent efforts have aimed to improve teacher quality (Zigler and Styfco, 1993; Zigler, Kagan, and Hall, 1996).
- Programs administered by government on a large scale would have to deal with issues that the model programs did not face, such as how to ensure consistency across many program sites and how to screen large numbers of children. Also, as “free” resources, they would face demands for inclusion by lower-risk individuals and groups whose children could cost the same to serve but benefit less than those for whom the program was originally intended.

In the end, the expansion or replication of a given early intervention model may dilute some program benefits, while others may remain equally strong.

Our primary example of large-scale national implementation of a program modeled after an experimental program is Head Start, and this example highlights the importance of the issues just enumerated. At its inception in the 1960s, Head Start enjoyed great public support. In contrast, in recent budgetary recommendations the Congressional Budget Office recommended eliminating Head Start (CBO, 1997). What accounts for this turnabout are research findings that Head Start does not meet its expectations regarding improvements in IQ scores and academic achievement. Best publicized are findings that the cognitive gains achieved by Head Start children fade after only a few years of elementary school (see, for example, McKey et al., 1985). Even the favorable findings of the Perry Preschool project across a variety of outcome measures failed to mollify Head Start’s critics, who pointed out the difficulty of replicating such demonstration projects. For example, CBO (1997) writes: “Some early intervention efforts have provided evidence of long-term im-

provement in the lives of participants, but those projects were much more intensive—and expensive—than Head Start” (p. 166). At the same time, the limitations of many of the Head Start evaluations, highlighted in Chapter Two, cast doubt on firm conclusions about the program’s benefits or lack of benefits.

While the research community recognizes the issue of large-scale replication as an important unanswered question, few examples other than the Head Start experience provide much insight into the issue.³ One effort currently under way, which may contribute greatly to understanding scale-up issues for one of the model programs reviewed in Chapter Two, is being conducted by the University of Colorado’s Center for the Study of Prevention of Violence. This initiative, known as “Blueprints,” will assist communities in replicating the Elmira PEIP home-visits program and others across multiple sites (Pentz, Mihalic, and Grotmeter, 1997; McGill, Mihalic, and Grotmeter, 1997). In addition, with support from the Department of Justice, issues of larger-scale implementation are being studied for the PEIP model through new programs implemented in six low-income neighborhoods in cities in California, Florida, Missouri, and Oklahoma.

What Benefits Do Programs Generate Beyond Their Objectives?

This report has stressed that there is not one accepted model of early childhood intervention but rather that programs vary in their design features: the criteria used to target children and families, the services provided, the child’s age at which treatment occurs, the type and level of treatment for parents, and a number of other dimensions. The features of a program typically reflect its objectives. For in-

³Several of the two-generation programs reviewed in St. Pierre, Layzer, and Barnes (1995) and IRP (1997b) have been implemented on a large scale, although in several cases they are not replicating a proven model program. Results based on experimental evaluations of these programs for short-term effects (through age 5) are mixed. It is difficult to assess whether the absence of strong beneficial effects (consistent with those of the model programs we review in Chapter Two) is because of the program design, implementation, or quality of the evaluation. In most cases, the two-generation programs deliver less-intensive services for children, compared in particular with such model programs as the IHDP and the Carolina Abecedarian, which may explain the absence of even short-term cognitive effects for the children.

stance, programs like the Perry Preschool (which emphasized preparing children for school) may select children based on cognitive and socioeconomic criteria, may choose preschool as the primary treatment, and may involve the parent little. On the other hand, programs that focus on improving child health and development might choose a different slate of design features. An example of the latter type is the Elmira PEIP, which selected participants on the basis of socioeconomic status only, used nurse home visits as the principle treatment, and interacted primarily with the parent rather than the child.

Results from both of the interventions highlighted in our cost-savings analysis indicate, however, that a program may generate benefits beyond the compass of its objectives. For example, the Perry Preschool not only fulfilled the objectives many people might associate with preschool—developmental and short-term educational benefits—it also yielded long-term educational, economic, crime prevention, and health-related benefits. Program evaluations, however, do not always account for these extended benefits. The Abecedarian project emphasized improving cognition and education and only measured those outcomes. But the results of the Perry program, which also provided intensive child care, suggest that the Abecedarian children would have been likely to exhibit other improvements.

If program designers recognize that benefits may exceed objectives, they would be more likely to monitor a range of outcomes beyond their focus. This would enrich our understanding of the relationship between program design and outcomes.

What Are the Implications of the Changing Social Safety Net?

All of the early intervention benefits we have highlighted may depend upon the other private and public resources that form the social safety net. The recent federal welfare reform act (the 1996 Personal Responsibility and Work Opportunity Reconciliation Act) and associated state and local reform efforts may dramatically change the environments of children most at risk, along with the resources available to them. The nature of these effects is currently uncertain, so the implications for the costs and savings presented in this report are unpredictable. We highlight two possible implications here.

First, many of the model intervention programs we evaluated integrated their services with other components of the social safety net. For example, in Elmira, New York, one of the components of the PEIP was to link program participants with social services for which they qualified. Other programs, too, increased participants' awareness of other public-sector programs that they could participate in. Thus, the magnitudes of the effects of the interventions may be due to both the services provided by the program and the linkage to other publicly provided social services. If those services were not available, the measured benefits of the intervention may be different. To the extent that the intervention and other social service programs are complementary, the magnitude of the intervention effects would most likely be smaller. Alternatively, to be most effective in the post-welfare reform environment, early intervention programs may need to incorporate new services and features to compensate for aspects of the social safety net that have been altered. These new program components would most likely increase costs and further alter the cost-savings equation.

Second, to the extent that expenditures on welfare by all levels of government decline, the savings that early intervention generates by reducing welfare costs will also decline. The effect on savings generated in other cost categories is unclear. Again, our understanding of this issue depends upon further study of intervention programs under the new welfare regime. For the present, it may be helpful to qualitatively review some of the possible outcomes of the legislation:

- Some mothers previously on AFDC will get jobs and improve their socioeconomic status. This may have the effect of turning some "higher-risk" families into "lower-risk" families. That, in turn, may decrease the number of families likely to provide a return to the government on an early intervention investment. Whether it does will depend partly on the quality of day care received by the children of these newly working mothers. If that care is better than what they might receive as part of an intervention, the savings to government from early intervention for some population groups will probably drop and possibly disappear.
- Some mothers previously on AFDC will not get jobs, but their loss of welfare income from higher levels of government (i.e., the

federal level) will largely be compensated by lower levels (i.e., state and local governments). For such mothers in the “higher-risk” category, the savings to government from returns on early investment may not change much, depending on the specifics of implementing state or local welfare benefits.

- Some mothers previously on AFDC will not get jobs and will not see their federal aid replaced in any meaningful way by state or local governments. Children of such families could become even greater burdens to government in terms of future special-services and criminal justice costs than they are now. Their future earning power could also decrease, and with it the taxes they pay. The government could thus realize even greater savings in attempting through early intervention to avert such costs. It is uncertain whether the increase in those savings would offset the decrease in welfare-related savings resulting from the welfare cutback.

At this time, we cannot predict the portion of currently high-risk families that will fall into each of these categories. The implications for the benefits associated with any of the model early intervention programs reviewed in Chapter Two and the associated cost-savings analysis conducted in Chapter Three are thus unknown.

A related issue concerns the social and economic changes that have transformed the opportunities and challenges faced by today’s families with young children. What do these changes imply for the costs and benefits of early intervention programs? Most of the targeted early intervention programs reviewed in Chapter Two were conducted in the 1960s and 1970s. While this has permitted long-term follow-up of the participants’ outcomes, the magnitude of the effects of these programs measured for earlier cohorts may differ for today’s counterparts. It is difficult to infer whether the effects of similar programs implemented today would be larger or smaller.

Each of these concerns suggests that there is further uncertainty over the exact magnitudes of the benefits that will be generated by future early intervention programs, and the cost-savings estimates associated with those programs. This uncertainty points, even more strongly, toward the need for ongoing evaluations of early interven-

tion programs involving more recent cohorts of children and their families.

NEXT STEPS FOR RESEARCH AND POLICY

Clearly, more research is needed to address the unanswered questions surrounding early childhood intervention programs. As federal, state, and local entities proceed to implement early childhood intervention programs, it is essential that these efforts be accompanied by careful, well-designed evaluation studies so that we continue to learn about which investments have the greatest payoff. While the expansion of existing programs and the initiation of new programs appear to be proceeding on a decentralized basis, our understanding of how these programs work and what their benefits are will be enhanced through a more centralized, coordinated, and comprehensive research program.

New demonstrations are needed to answer questions that require variations in program design or that reflect the evolving society and economy, and broader testing of previous designs is required to answer questions of scale-up and replicability of program benefits for diverse communities and other at-risk populations. However, on questions of targeting, benefits beyond objectives, and other issues, much could also be gained—and less expensively—by making the most of evaluations already under way. This could include several strategies:

- *Continuing to follow participants in existing samples* so that follow-up periods are long enough to measure such long-term implications as high school graduation, welfare participation, and adult earnings. For example, the Consortium for Longitudinal Studies pooled original data from 11 intervention programs in the 1960s (including the Early Training Project and the Perry Preschool discussed in Chapter Two) and then, in 1976, conducted a collaborative follow-up of the original subjects (Lazar and Darlington, 1982).
- *Expanding the range of outcomes measured in ongoing evaluations* so that a comprehensive understanding of the potential benefits of alternative interventions could be developed. For instance, rather than simply measuring IQ and special education

placement, child care interventions could also monitor health and behavior. Other interventions that focus on parents as well as children could measure short-run and long-run outcomes for both.

- *Making more effort to collect measures that are comparable to those of other studies* so that better comparisons could be made across intervention strategies, targeting criteria, or other variations in program designs.

In addition, researchers need to continue to develop and employ appropriate statistical and econometric techniques that allow evaluation of quasi-experimental or nonexperimental designs. It may not always be possible or desirable to implement randomized control trials when evaluating new, possibly larger-scale, intervention programs. Ethical concerns or resource constraints may pose barriers to implementing the number of randomized control trials necessary to investigate the range of design questions that need to be answered. However, as demonstrated by the recent evaluations of Head Start and the Chicago Child-Parent Centers discussed in Chapter Two, reasonable inferences can be drawn about program effects using state-of-the-art methodologies to account for nonrandom program participation, yielding important insights that can help guide program development and implementation. These strategies may be useful for evaluating many of the larger-scale programs already under way, or those that will soon begin in communities across the country.

Any effort to fund new and expanded demonstrations and enhance data collection from ongoing evaluations would benefit from a strong federal role. Despite the changes in welfare funding, the federal government still stands to benefit greatly from early intervention through increases in income and Social Security tax revenues and decreases in federal public assistance and criminal justice system spending. In addition, the federal government, through its broader jurisdiction, has greater potential to coordinate, if not fund, an integrated program of research and development in early childhood intervention. The federal role could encompass establishing standards for program evaluation, encouraging the implementation of multiple site programs, and disseminating the results of diverse program efforts.

State governments also stand to gain by playing a leading role in further development of early intervention programs. State legislators should find in early intervention programs an additional option for addressing crime, welfare, and special education needs that may cost less than the current approaches and be less punitive and stigmatizing than other options. Governors and their staffs have the opportunity to take the lead in sponsoring model programs—and in ensuring that responsible evaluation accompanies innovative programs. Though a given state would be unlikely to invest in the array of programs that the federal government could test, the accumulation of experience across a variety of state models would be useful to all concerned.

While federal and state agencies could provide funding and expertise as to what works and what doesn't, designers of particular demonstrations may also benefit from the knowledge and expertise of community-based organizations and local agencies in adapting their programs to local needs. Such organizations could also provide an existing structure for recruiting and training staff and conducting community outreach, and could provide support for rigorous evaluation. Community-based organizations would presumably welcome these programs, not only for their child development benefits but also as another tool in building an integrated strategy to achieve various community aims including, for example, violence prevention and poverty reduction. And local agencies principally interested in issues other than child development would appreciate the potential spillover benefits from early intervention—for example, in the quality of life and financial independence of young mothers.

While all efforts should be made to pursue low-cost, high-payoff strategies across all levels of the public sector, the nation should not shrink from major research investments in demonstrations, evaluations, and other activities that will address the issues we raise in this chapter. These activities will require a substantial commitment of funds—most likely in the millions or even the tens of millions of dollars. However, the early intervention programs that may prove warranted, and that some people are already advocating, will represent a national investment in the hundreds of millions or billions of dollars. A modest if substantial expenditure initiated now could thus ensure that maximum benefits are achieved from a much larger expenditure over the long term.

To put the need for a continuing research program in perspective, it is worth noting that in areas such as health, energy, and transportation, about 2 to 3 percent of total expenditures are devoted to research and development (R&D) efforts that improve the efficiency and effectiveness of spending in those areas. In contrast, recent estimates indicate that less than four-tenths of one percent of total federal government expenditures on children and youth in the United States goes toward R&D—about \$2 billion out of \$500 billion in fiscal year 1995 (National Science and Technology Council, 1997).⁴ Including private sector spending almost certainly lowers the share of total spending on children that is devoted to R&D.

Given the gap between the share of expenditures devoted to R&D for children compared with the share for other areas of major national concern, we are almost certainly underinvesting in R&D related to children. As new initiatives lead to increased spending on the period of early childhood, it is essential that a comprehensive, sustained, and coordinated R&D program accompany those efforts. By adding to our understanding of which programs work and why, we can help ensure that investments made in the nation's children produce the highest possible benefits.

⁴This estimate corresponds with our information about R&D spending in the Head Start program: In fiscal year 1996, an estimated one-third of one percent of the federal expenditure for Head Start went toward R&D (Reynolds et al., 1997).

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Many countries have already achieved or substantially met the universal preschool goal which U.S. states set as a target for the year 2000. Generally, the Ministry of Education in other countries provides free, public kindergarten or similar educational programs for most children aged 5, as do most U.S. school districts. However, many other countries, along with some U.S. school districts, also include children at ages 4 and 3 in their provisions for public education. In drawing education parallels internationally, comparisons of other countries with U.S. states are more relevant than with the nation as a whole. Individual U.S. states are comparable economically to the nations (other than the U.S., which is a member) of the Organization for Economic Co-operation and Development (OECD) (Moss, 1990; OECD, 1993). This digest compares the efforts of U.S. states and OECD countries to finance center- and facility-based preschool.

ACCESS TO PUBLICLY FINANCED EARLY CHILDHOOD PROGRAMS

In many other countries, public preschool is more widely available than in the U.S., where 66 percent of 5-year-olds, 36 percent of 4-year-olds, and 14 percent of 3-year-olds are enrolled in public programs (GAO 1995).

Two OECD countries considered very successful in providing almost universal access to public preschool are France and Italy. France established free public education in 1881, including preschool as the first level. Today in France, 100 percent of children ages 3 through 5 attend preschool, most in public programs. In Italy, municipal governments began opening preschools in the 1950s, and by 1968 the national government established free preschools for virtually all children. Today in Italy, about 92 percent of children ages 3 through 5 attend preschool, most in public programs.

The following statistics on public preschool enrollment have been reported to OECD or the European Union. Data by single year of age and private enrollments are not available for all countries (GAO, 1995; Moss, 1990; OECD, 1993).

* DENMARK AND GERMANY. 80 percent of 5-year-olds, 70 percent of 4-year-olds, and 30 percent of 3-year-olds.

* UNITED KINGDOM AND THE NETHERLANDS. Compulsory schooling at age 5; almost all 4-year-olds also attend.

* BELGIUM. About 95 percent of children aged 3-5.

* LUXEMBOURG. Nearly all 4-year-old children.

* GREECE. 65-70 percent of 3- to 5-year-olds.

* SPAIN. Over 90 percent of 4- to 5-year-olds.

According to data from the 1990 decennial U.S. census, participation rates in preschool, including both public and private programs, are 81 percent of 5-year-olds, 50 percent of 4-year-olds, and 30 percent of 3-year-olds. Some states have achieved considerably higher rates of enrollment than these national averages by providing coverage through public schools. Income is the best predictor of participation, and most poor children are not enrolled (GAO, 1994). Those poor children who do participate are mostly in public programs, such as Head Start and preschool programs in public schools (GAO, 1993). These

* percentages provide a rough indication of the need for greater access to preschool programs.

COMPARATIVE WEALTH AND EDUCATIONAL EXPENDITURES OF U.S. STATES AND OECD COUNTRIES

The 1993 International Indicators Project of the U.S. Department of Education compared the gross state product per capita with the gross domestic product per capita of OECD countries as of 1988. The report of this project (Salganik et al., 1993) explains that the gross domestic or state product shows the resources available to a country or state. According to the report, countries or states that have large gross products per capita have higher capacity for investment and thus are better able to provide educational services. From this comparison, we find that most U.S. states have a higher capability of providing educational services than many countries that have provided far more for their children. PCI
states

Twenty-two U.S. states had a higher per capita income (PCI) than Switzerland, the OECD country with the highest PCI; 38 states had a higher PCI than Luxembourg and Germany; 45 states had a higher PCI than Australia, Japan, Sweden and Denmark. All 50 states had a higher PCI than New Zealand, Spain, Ireland, Portugal, and Turkey (Salganik et al., 1993). * 2

The state and country per-student expenditures for education for preprimary through secondary levels, cited in the report mentioned above, reflect the public investment in each student in the education system. Of the 22 U.S. states that had higher per capita income than Switzerland, only 3 spent more per student at all levels combined, preprimary through secondary, in 1988. Luxembourg, Sweden, Norway, and Denmark all spent more than the U.S. national average, while Italy spent more than six U.S. states.

MULTIPLE FUNDING SOURCES

These statistics on educational investments actually underestimate the investments made in OECD countries because they do not account for regional and local government expenditures. In some cases, local governments match or provide complementary funding along with the national contribution for their early childhood programs. The diversity of funding sources has been an effective strategy in helping to promote wide access to programs.

In Denmark, for example, the early childhood program is financed by multiple sources, including: (1) two block grants to municipal governments; (2) revenues collected through local taxes; and (3) parent contributions, which can be only as high as 30 percent of the actual per-child program cost.

In France, teacher salaries are a national expenditure through the Ministry of Education, while local governments provide for facilities, lunches, auxiliary staff, and after-school care. Parents may pay a nominal share of some costs, such as for meals and after-school and vacation care (GAO 1995).

* In U.S. states, public school kindergarten programs are similar to programs in many OECD countries. Funding for the kindergarten year, like other years of compulsory schooling, involves multiple levels of government financing of various aspects of the schooling. Some preschool classes in U.S. public schools are also financed through multiple levels of government, but there are two major differences in this funding compared to funding in some OECD countries:

* Most U.S. public programs are targeted exclusively for the poorest children and for disabled children, while in other countries all children are included in the regular preschool classes, and children with various special needs receive additional benefits.

* In other countries, financing is complementary so that various sources fund different parts of a single, comprehensive program or target different ages entirely, thus avoiding the fragmentation and conflicting eligibility requirements of publicly financed U.S. programs, almost all of which are targeting various qualifying individuals in essentially the same population of poor children.

PRIVATE SECTOR EARLY CHILDHOOD PROGRAMS

Intro:
Pub.
6
Private
Because the private sector, financed almost exclusively by parent fees, has traditionally been the major supplier of early childhood education and care in the United States, interest has recently increased in examining how these sites contribute to child development. A U.S. research study (Helburn et al., 1995) designed to examine the relationships among the costs of child care, the nature of children's experiences in various center settings, and the effects of these experiences on children found that while sites vary widely within and between states and among the various types of providers, quality was generally poor.

The study found that 76 percent of 511 child care centers and preschool classrooms were rated less than good quality. Further, "...most U.S. child care is mediocre in quality, sufficiently poor to interfere with children's emotional and intellectual development." The conclusion reached by the study was that market forces "constrain the cost of child care and at the same time depress the quality of care provided to children" (Helburn et al., 1995).

The study also found that sites operated by public agencies, such as public schools, sites receiving direct public funding, and employer-sponsored sites generally provided higher quality programs than sites that did not have access to financial support other than parent fees (Helburn et al., 1995).

CONCLUSION

into u. conclusion
Many OECD countries that are far less capable financially than most U.S. states have been making far greater investments in educating their young children than have U.S. states. In these countries, there is a shared belief in the value of public investments to ensure the care of children, and strong public support for early childhood programs across a spectrum of political persuasions. Furthermore, given recent research indicating the general inability of the U.S. private sector to achieve broad coverage or high quality in preschool education and care without some means of additional support beyond tuition, U.S. states would be well-advised to focus additional expenditures on children. Increasing investments in children will strengthen the foundation that is critical to the education of tomorrow's citizenry.

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CHILDREN

Do you favor or oppose having more of your tax dollars spent on programs to help children in areas such as these (i.e., immunization, nutrition, health insurance, day care, prenatal health care, preschool education)?

Time/CNN

May 10, 1996

favor	73%
oppose	22
not sure	5

Universe: United States

From: Yankelovich Partners
250 West First Street
Suite 320
Claremont, CA 91711
(714) 756-8880
fax (714) 756-2710

Method: telephone

Sample size: 1011

get Bradena's leg. debate
1969

SCHOOLS, PUBLIC, Early childhood education

Thinking now about government programs to help the nation's children... In general, do you think each of the following programs for children should be among the highest priorities for government, an important priority but not among the highest, a low priority, or not a priority at all? Providing preschool education programs for children.

Time/CNN

May 10, 1996

highest priority	45%
important priority	34
low priority	13
not a priority	7

Universe: United States

From: Yankelovich Partners
250 West First Street
Suite 320
Claremont, CA 91711
(714) 756-8880
fax (714) 756-2710

Method: telephone

Sample size: 1011

CHICAGO, IL

Is this (are these) half-day programs or full-day programs? (those with child who goes to some kind of child care)

Metro Chicago Information Center

1993

all half day	192
some half/ some full	18
all full day	100
other (e.g. babysitter)	91
not enrolled	297

Notes: Note: children who goes to nursery school, Headstart program, preschool program, day care center, kindergarten; number of respondents reported.

Universe: Local

Chicago, IL metro area

From: Metro Chicago Information Center

104 S. Michigan Ave, Suite 300

Chicago, IL 60603

(312) 580- 2878

Method: telephone

Sample size: 3027

CHILD CARE

What types of child care did you use?

Arizona Republic

Dec 16, 1993

licensed day care or	
child care center	31%
relatives	29
preschool	25
take child to a care	
givers home	15
care giver comes to	
home	12
community after school	
program	7
nanny	5

Notes: Note: multiple answers acceptable

Universe: Local

Maricopa County, AZ

From: Arizona Republic/ Phoenix Gazette

200 E. Van Buren St.

Phoenix, AZ 85041

(602) 271-8000

Method: telephone

Sample size: 200*

Notes: *have children under 12 and child care

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HEAD START

For each statement that I read, please tell me if you strongly agree, agree, disagree, or strongly disagree. The federal government should fully fund Head Start and other preschool programs.

Capstone Poll

spr, 1993

strongly disagree	3.8%
disagree	24.8
agree	55.9
strongly agree	9.5
no opinion	2.2
don't know/ no answer	3.8

Universe: State

Alabama

From: The University of Alabama
Institute for Social Science Research
Box 870216
Tuscaloosa, AL 35487-0216
(205) 348-6233

Method: telephone

Sample size: 451

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SCHOOLS, PUBLIC, General

A proposal has been made to make ~~child-care centers available for all preschool children~~ as part of the public school system. This program would be supported by taxes. Would you favor or oppose such a program in your school district?

Phi Delta Kappa

1993

	total	no children in school	public school parents	non- public school parents	
favor	59%	56%	67%	47%	
oppose	38	40	32	52	
don't know	3	4	1	1	

Universe: United States

From: Gallup Poll

Phi Delta Kappa

P.O. Box 789

Bloomington, IN 47402-0789

(800) 766-1156

Method: telephone

Sample size: 1,306

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SCHOOLS, PUBLIC, Funding for

Let's assume that preschool programs are to be paid for only by those parents whose children use the programs. ~~Would you be willing, or not willing, to pay more taxes for funding free preschool programs for those children whose parents are unable to pay for them?~~

Phi Delta Kappa

1993

	total	no children in school	public school parents	non- public school parents	
willing to pay	61%	62%	62%	46%	
not willing to pay	36	35	34	51	
don't know	3	3	4	3	

Universe: United States

From: Gallup Poll

Phi Delta Kappa

P.O. Box 789

Bloomington, IN 47402-0789

(800) 766-1156

Method: telephone

Sample size: 1,306

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SCHOOLS, PUBLIC, General

Do you approve or disapprove of **mandatory preschool education** to improve public school education?

Star-Ledger/Eagleton Poll

Mar 1, 1992

strongly approve	43%
mildly approve	18
mildly disapprove	16
strongly disapprove	19
don't know	3

Universe: State

New Jersey

From: Eagleton Institute of Politics
Rutgers University
New Brunswick, NJ 08901
(201) 828-2210

Method: telephone

Sample size: 800

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Poll--Eagleton Institute of Politics--Rutgers University.

SCHOOLS, PUBLIC, General

Do you approve or disapprove of having mandatory preschool education at an estimated statewide yearly cost of \$250 million?

Star-Ledger/Eagleton Poll

Mar 1, 1992

strongly approve	18%
mildly approve	18
mildly disapprove	17
strongly disapprove	40
don't know	6

Universe: State

New Jersey

From: Eagleton Institute of Politics

Rutgers University

New Brunswick, NJ 08901

(201) 828-2210

Method: telephone

Sample size: 800

Reproduced with permission of the Star-Ledger/Eagleton

Poll--Eagleton Institute of Politics--Rutgers University.

SCHOOLS, PUBLIC, General

Do you approve or disapprove of having mandatory preschool education at an estimated statewide yearly cost of \$250 million?

Star-Ledger/Eagleton Poll

Mar 1, 1992

strongly approve	18%
mildly approve	18
mildly disapprove	17
strongly disapprove	40
don't know	6

Universe: State

New Jersey

From: Eagleton Institute of Politics

Rutgers University

New Brunswick, NJ 08901

(201) 828-2210

Method: telephone

Sample size: 800

Reproduced with permission of the Star-Ledger/Eagleton

Poll--Eagleton Institute of Politics--Rutgers University.

SCHOOLS, PUBLIC, General

It has been proposed that the public schools make preschool programs available to 3- and 4-year-olds whose parents wish such programs. These programs would be supported by taxes. Would you favor or oppose such programs?

1991

favor	55%
oppose	40
don't know	5

Universe: United States

From: Phi Delta Kappa

P. O. Box 789

Bloomington, IN 47402-0789

(812) 339-1156

Method: in person

Sample size: 1500

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SCHOOLS, PUBLIC, Funding for

Let me read you a number of proposals that have been suggested as ways to improve education in Arizona's public schools. Please tell me whether you favor or oppose each proposal. Putting more money into preschool programs for children at risk of failing academically.

Arizona Republic

Nov 20, 1991

favor	72%
oppose	26
don't know	2

Universe: State

Arizona

From: Arizona Republic/ Phoenix Gazette
200 E. Van Buren St.
Phoenix, AZ 85041
(602) 271-8000

Method: telephone

Sample size: 809

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Gazette.

CHILD CARE

Are you satisfied with your existing child care? Yes or no.

Arizona Republic

Sep 14, 1989

yes	95%
no	5

Notes: (Base: women with sitters or use preschool or a day care facility.)

Universe: Local

Maricopa County, AZ

From: Arizona Republic/ Phoenix Gazette

200 E. Van Buren St.

Phoenix, AZ 85041

(602) 271-8000

Method: telephone

Sample size: 606 (w)

Notes: (w) working women

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Gazette.