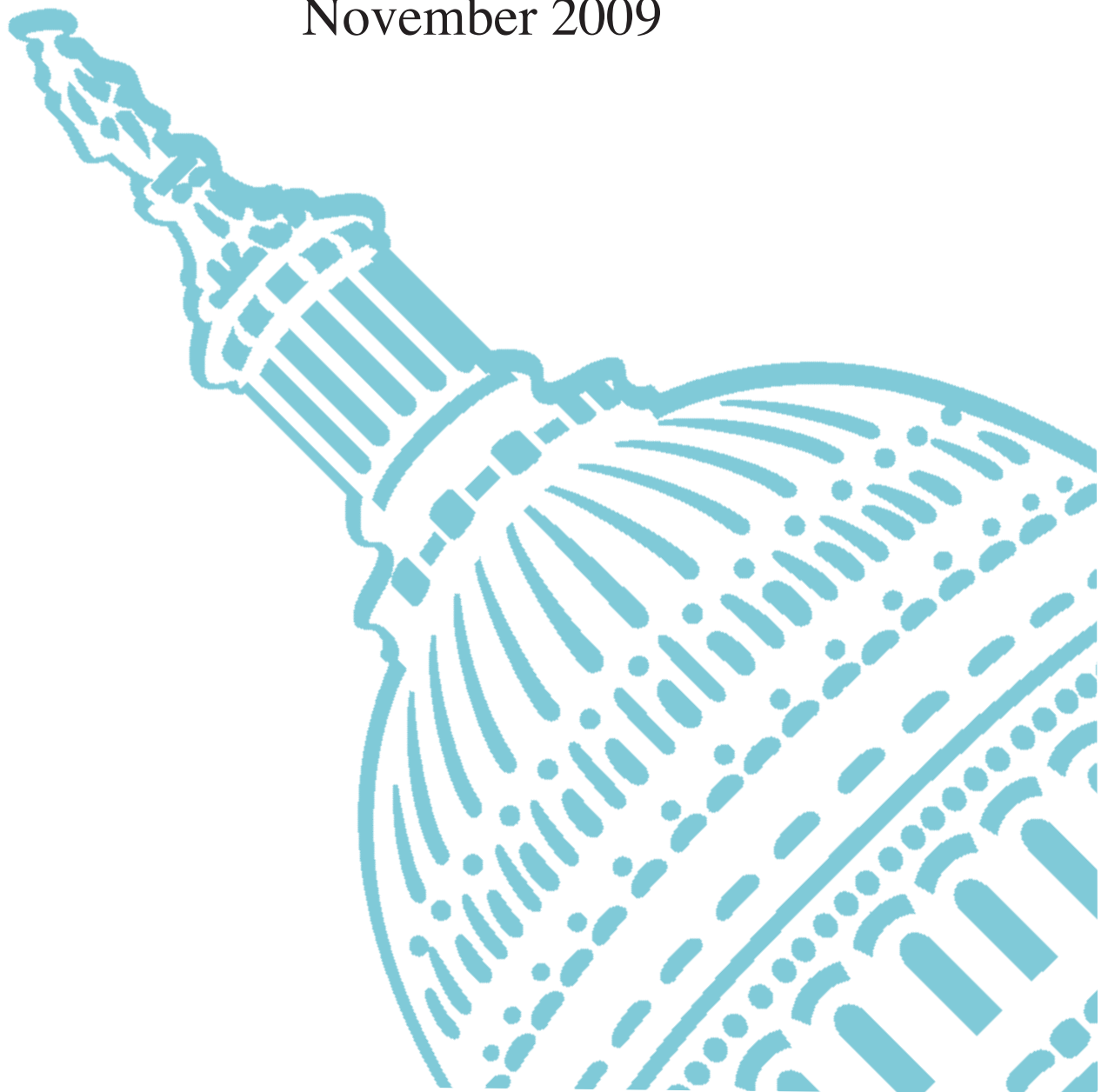




# **Maximizing the Value of P-12 Educational Resources in Indiana**

Briefing Report  
November 2009



# Maximizing the Value of P-12 Educational Resources in Indiana

## Indiana Family Impact Seminars

November 16, 2009

### Sponsoring Organizations

**Center for Families, Purdue University**

**Department of Family and Consumer Sciences, Ball State University**

**Family Service Council of Indiana**

**Indiana Association for the Education of Young Children**

**Indiana Association of Family and Consumer Sciences**

**The Institute for Family and Social Responsibility, Indiana University**

**Indiana Association for Marriage and Family Therapy**

**Indiana Extension Homemakers Association®**

**National Association of Social Workers – Indiana Chapter**

**Purdue Extension, Consumer and Family Sciences**

**Indiana Youth Institute**

## Purpose, Presenters and Publications

Family Impact Seminars have been well received by federal policymakers in Washington, DC, and Indiana is one of several states to sponsor such seminars for state policymakers. Family Impact Seminars provide state-of-the-art research on current family issues for state legislators and their aides, Governor's Office staff, state agency representatives, educators, and service providers. One of the best ways to help individuals is by strengthening their families. Therefore, the Family Impact Seminars speakers analyze the consequences an issue, policy or program may have for families.

The seminars provide objective, nonpartisan information on current issues and do not lobby for particular policies. Seminar participants discuss policy options and identify common ground where it exists.

*Maximizing the Value of P-12 Educational Resources in Indiana* is the twelfth in a continuing series designed to bring a family focus to policymaking. The topic was chosen by the very legislators these seminars are intended to inform. This twelfth seminar features the following speakers:

This briefing report and past reports can be found at Purdue's Center for Families website: [http://www.cfs.purdue.edu/cff/policymakers/policymakers\\_publications.html](http://www.cfs.purdue.edu/cff/policymakers/policymakers_publications.html) and on the Policy Institute for Family Impact Seminars national website: <http://familyimpactseminars.org>

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Phone: (765) 494-8252 FAX: (765) 496-1947 e-mail: [shepherds@purdue.edu](mailto:shepherds@purdue.edu)

We hope that this information is useful to you in your deliberations, and we look forward to continuing to provide educational seminars and briefing reports in the future.



# Assessing the Impact of Policies and Programs on Families

## Family Impact Checklist

**The first step in developing family-friendly policies is to ask the right questions:**

- What can government and community institutions do to enhance the family's capacity to help itself and others?
- What effect does (or will) this policy (or proposed program) have for families? Will it help or hurt, strengthen or weaken family life?

These questions sound simple, but they can be difficult to answer. These questions are the core of a family impact analysis that assesses the intended and unintended consequences of policies, programs, and organizations on family stability, family relationships, and family responsibilities. Family impact analysis delves broadly and deeply into the ways in which families contribute to problems, how they are affected by problems, and whether families should be involved in solutions. Guidelines for conducting a family impact analysis can be found at [www.familyimpactseminars.org/fi\\_howtocondfia.pdf](http://www.familyimpactseminars.org/fi_howtocondfia.pdf).

Family impact questions can be used to review legislation and laws for their impact on families; to prepare family-centered questions or testimony for hearings, board meetings, or public forums; and to evaluate programs and operating procedures of agencies and organizations for their sensitivity to families. Six basic principles serve as the criteria of how sensitive to and supportive of families policies and programs are. Each principle is accompanied by a series of family impact questions.

The principles are not rank-ordered and sometimes they conflict with each other, requiring trade-offs. Cost effectiveness also must be considered. Some questions are value-neutral and others incorporate specific values. This tool, however, reflects a broad bi-partisan consensus, and it can be useful to people across the political spectrum.

### **Principle 1. Family support and responsibilities.**

Policies and programs should aim to support and supplement family functioning and provide substitute services only as a last resort.

Does the proposal or program:

- support and supplement parents' and other family members' ability to carry out their responsibilities?
- provide incentives for other persons to take over family functioning when doing so may not be necessary?
- set unrealistic expectations for families to assume financial and/or caregiving responsibilities for dependent, seriously ill, or disabled family members?
- enforce absent parents' obligations to provide financial support for their children?

## **Principle 2. Family membership and stability.**

Whenever possible, policies and programs should encourage and reinforce marital, parental, and family commitment and stability, especially when children are involved. Intervention in family membership and living arrangements is usually justified only to protect family members from serious harm or at the request of the family itself.

Does the policy or program:

- provide incentives or disincentives to marry, separate, or divorce?
- provide incentives or disincentives to give birth to, foster, or adopt children?
- strengthen marital commitment or parental obligations?
- use appropriate criteria to justify removal of a child or adult from the family?
- allocate resources to help keep the marriage or family together when this is the appropriate goal?
- recognize that major changes in family relationships such as divorce or adoption are processes that extend over time and require continuing support and attention?

## **Principle 3. Family involvement and interdependence.**

Policies and programs must recognize the interdependence of family relationships, the strength and persistence of family ties and obligations, and the wealth of resources that families can mobilize to help their members.

To what extent does the policy or program:

- recognize the reciprocal influence of family needs on individual needs, and the influence of individual needs on family needs?
- recognize the complexity and responsibilities involved in caring for family members with special needs (e.g., physically or mentally disabled, or chronically ill)?
- involve immediate and extended family members in working toward a solution?
- acknowledge the power and persistence of family ties, even when they are problematic or destructive?
- build on informal social support networks (such as community/neighborhood organizations, religious communities) that are essential to families' lives?
- respect family decisions about the division of labor?
- address issues of power inequity in families?
- ensure perspectives of all family members are represented?
- assess and balance the competing needs, rights, and interests of various family members?
- protect the rights and safety of families while respecting parents' rights and family integrity?

## **Principle 4. Family partnership and empowerment.**

Policies and programs must encourage individuals and their close family members to collaborate as partners with program professionals in delivery of services to an individual. In addition, parent and family representatives are an essential resource in policy development, program planning, and evaluation.

In what specific ways does the policy or program:

- provide full information and a range of choices to families?
- respect family autonomy and allow families to make their own decisions? On what principles are family autonomy breached and program staff allowed to intervene and make decisions?
- encourage professionals to work in collaboration with the families of their clients, patients, or students?
- take into account the family's need to coordinate the multiple services they may require and integrate well with other programs and services that the families use?
- make services easily accessible to families in terms of location, operating hours, and easy-to-use application and intake forms?
- prevent participating families from being devalued, stigmatized, or subjected to humiliating circumstances?
- involve parents and family representatives in policy and program development, implementation, and evaluation?

## **Principle 5. Family diversity.**

Families come in many forms and configurations, and policies and programs must take into account their varying effects on different types of families. Policies and programs must acknowledge and value the diversity of family life and not discriminate against or penalize families solely for reasons of structure, roles, cultural values, or life stage.

How does the policy or program:

- affect various types of families?
- account for its benefits to some family types but not others? Is one family form preferred over another? Does it provide sufficient justification for advantaging some family types and for discriminating against or penalizing others?
- identify and respect the different values, attitudes, and behavior of families from various racial, ethnic, religious, cultural, and geographic backgrounds that are relevant to program effectiveness?
- acknowledge intergenerational relationships and responsibilities among family members?

## Principle 6. Support of vulnerable families.

Families in greatest economic and social need, as well as those determined to be most vulnerable to breakdown, should be included in government policies and programs.

Does the policy or program:

- identify and publicly support services for families in the most extreme economic or social need?
- give support to families who are most vulnerable to breakdown and have the fewest resources?
- target efforts and resources toward preventing family problems before they become serious crises or chronic situations?

The Institute aims to strengthen family policy by connecting state policymakers with research knowledge and researchers with policy knowledge. The Institute provides nonpartisan, solution-oriented research and a family impact perspective on issues being debated in state legislatures. We provide technical assistance to and facilitate dialogue among professionals conducting Family Impact Seminars in 28 sites across the country.

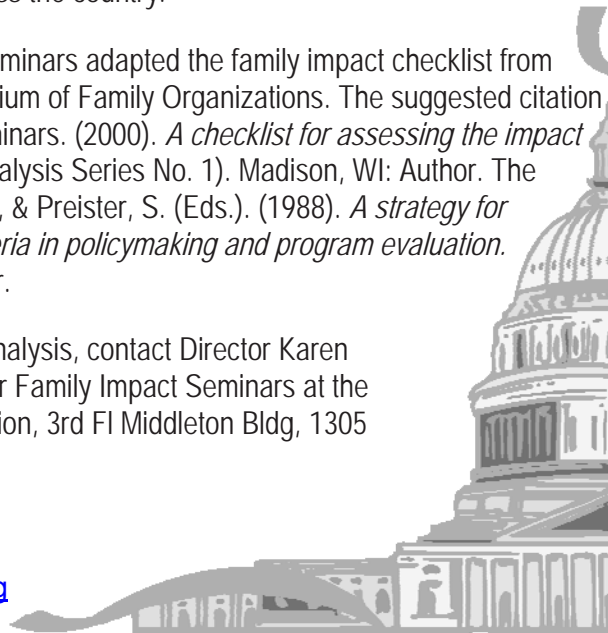
The Policy Institute for Family Impact Seminars adapted the family impact checklist from one originally developed by the Consortium of Family Organizations. The suggested citation is Policy Institute for Family Impact Seminars. (2000). *A checklist for assessing the impact of policies on families* (Family Impact Analysis Series No. 1). Madison, WI: Author. The checklist was first published in Ooms, T., & Preister, S. (Eds.). (1988). *A strategy for strengthening families: Using family criteria in policymaking and program evaluation*. Washington DC: Family Impact Seminar.

For more information on family impact analysis, contact Director Karen Bogenschneider of the Policy Institute for Family Impact Seminars at the University of Wisconsin-Madison/Extension, 3rd Fl Middleton Bldg, 1305 Linden Drive, Madison, WI 53706.

Phone (608) 263-2353

FAX (608) 265-6048

<http://www.familyimpactseminars.org>



## Sponsoring Organizations and Descriptions

The Center for Families at Purdue University focuses on improving the quality of life for families and strengthening the capacity of families to provide nurturing environments for their members. To accomplish this, the center works with four important groups whose efforts directly impact quality of life for families: educators, human service providers, employers, and policymakers. With informed sensitivity to family issues, these groups have the power to improve the quality of life for families in Indiana and beyond.

The Department of Family Relations at Ball State University includes a variety of majors from interior design and residential property management to nutrition and marriage and family relations. We offer courses in family relations, infant/toddler, child development, marriage, life-work management, family stress and family policy. Students are also required to take interdisciplinary coursework. In addition, students are required to complete a 400 hour internship at a family or child related facility which also includes government internships. Our curriculum has been designed to fulfill the academic requirements to become a Certified Family Life Educator (CFLE). CFLEs have received academic training in ten substantive areas related to the family, one of which is family policy, and are certified by the National Council of Family Relations, a professional organization.

The purpose of the Family Service Council of Indiana is to represent families and respond to their needs by strengthening member agencies and creating alliances to promote excellence in advocacy and service for families throughout Indiana. With 12 member agencies, the Family Service Council serves the citizens of nearly 60 Hoosier counties. FSCI member agencies offer a wide variety of programs, including counseling, sexual abuse assessment, homemaker services, children's programs, services for victims of domestic violence, as well as many other diverse programs for over 90,000 individuals, approximately 80 percent of whom are low income. These services are offered regardless of race, creed, or color on a sliding fee scale supported by local United Ways and governmental grants. Statewide, FSCI members employ approximately 1,000 people with various professional degrees and specific skills to assist clients in resolving their life issues. The total operating budgets for these member agencies range from \$220,000 to \$3.5 million.

The mission of the Indiana Association for the Education of Young Children (IAEYC) is to promote and support quality care and education for all young children birth through age eight in Indiana. IAEYC is the state's largest and most influential organization of early childhood care and education professionals and parents promoting and supporting quality care and education for all young children. Over the course of the last five years, the Association moved from operating on a \$60,000 budget with one part-time, paid staff working out of her home to an Association with 21 full-time and two part-time staff, over 1,900 members represented through fifteen local chapters, and a budget of over 3.1 million dollars. The annual Indiana Early Childhood Conference regularly sees an attendance of more than 3,500 participants.

The members of the Indiana Association of Family and Consumer Sciences focus on an integrative approach to the relationships among individuals, families and communities as well as the environments in which they function. The association supports the profession as it provides leadership in: improving individual, family and community well being; impacting the development, delivery and evaluation of consumer goods and services; influencing the creation of public policy; and shaping social change. The Indiana Association is part of the American Association of Family and Consumer Sciences.



The Institute for Family and Social Responsibility is a joint venture of the Schools of Social Work and Public and Environmental Affairs designed to bring the resources of Indiana University researchers to the assistance of public policy makers on issues impacting Hoosier families. The Institute's mission is to bring together the resources of citizens, governments, communities and Indiana University to better the lives of children and families. Ongoing research projects have examined the impacts of welfare reforms, the efficiency of the township system of government, the adequacy of child support guidelines, community responses to the Temporary Assistance to Needy Families legislation, performance contracting for intensive family preservation services, and AIDS education for incarcerated youth. The Institute serves as the National Child Support Enforcement Research Clearinghouse.

The Indiana Association of Marriage and Family Therapy is part of the American Association of Marriage and Family Therapy. Since the founding of AAMFT in 1942, they have been involved with the problems, needs and changing patterns of couples and family relationships. The association leads the way to increasing understanding, research and education in the field of marriage and family therapy, and ensuring that the public's needs are met by trained practitioners. The AAMFT provides individuals with the tools and resources they need to succeed as marriage and family therapists.

It is the mission of the Indiana Extension Homemakers Association® to strengthen families through continuing education, leadership development, and volunteer community support. We share information on new knowledge and research with our members and communities, promote programs on developing skills and family issues, and we support projects which help children and families in today's world.

The mission of the National Association of Social Workers – Indiana Chapter is to promote the quality and integrity of the Social Work profession while supporting social workers in their mission to serve diverse populations and to ensure justice and equality for all citizens of the state.

Purdue Extension Consumer and Family Sciences provides informal educational programs that increase knowledge, influence attitudes, teach skills, and inspire aspirations. Through the adoption and application of these practices, the quality of individual, family, and community life is improved. Consumer and Family Sciences Extension is a part of the mission of the College of Consumer and Family Sciences at Purdue University and the Purdue Extension Service

Indiana Youth Institute promotes the healthy development of children and youth by serving the institutions and people of Indiana who work on their behalf. It is a leading source of useful information and practical tools for nonprofit youth workers. Secondary audiences include educators, policymakers, think tanks, government program officials, and others who can impact the lives of Hoosier children. In addition, it is an advocate for healthy youth development on the local, state, and national level.

# Changing the Odds: Lessons learned from successful programs

Susan B. Neuman  
Professor, Director of Ready to Learn  
University of Michigan



## Changing the Odds:

Lessons learned from successful  
programs

Susan B. Neuman  
University of Michigan

- In order to effectively change the odds, we need to apply two kinds of information

From the “science of early literacy”



Information about the individual components of instruction and assessment that are most effective in raising achievement



From effective programs



Information about leadership, organization, and practices that are most effective in raising achievement

- A central problem in reading success arises, not from the absolute level of children’s preparation for learning to read, but from the diversity in their levels of preparation.

(Torgeson, 2009)



## Two important sources of diversity

1. Diversity in instruction
2. Diversity in preparation, and family supports for learning to read



- By 3-years, children exhibit large differences in word knowledge that correlate with income level (Hart & Risley, 1996).

	Yearly Exposure	Vocabulary Size
Higher - SES	11.2 million words	1116 words
Working Class - SES	6.5 million words	749 words
Lower - SES	3.2 million words	525 words

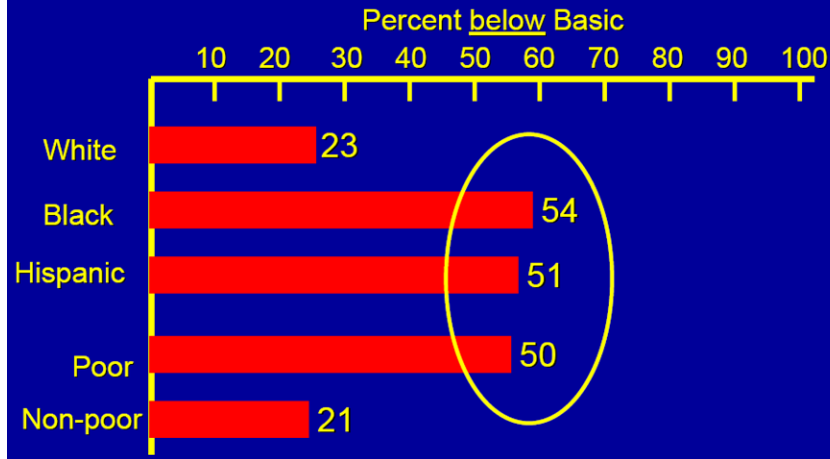
- These achievement differences (i) persist through high school (Biemiller, 2001), (ii) are highly correlated with later literacy skills (Hart & Risley, 2003), (iii) and perpetuate the ever-widening achievement gap (Stanovich, 1986).
- In elementary school, there is little emphasis on acquisition or new words (Biemiller, 2001) or instruction of vocabulary (Scott, Jamieson-Noel, & Asselin, 2003).



# The Challenge.....

## 2007 results from National Assessment of Educational Progress at 4<sup>th</sup> Grade

Overall, 34% of 4<sup>th</sup> graders performed below the Basic Level of Proficiency in 17,600 schools



# NAEP 2007

- When there is great diversity among students in their preparation for learning to read....
- Little variation in our teaching, and in our programs will always result in greater variation in student learning.



Diversity in Preparation and Ability for Learning to Read



Diversity of Educational Response



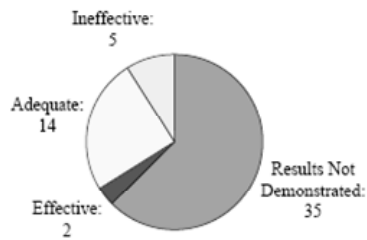
# Extending our reach

- Good hearted souls
- Weak interventions
- Short attention spans
- Ill-fitting interventions



# The problem...

Figure 2.7 PART Ratings For Education Programs



Source: US Department of Education (2005).



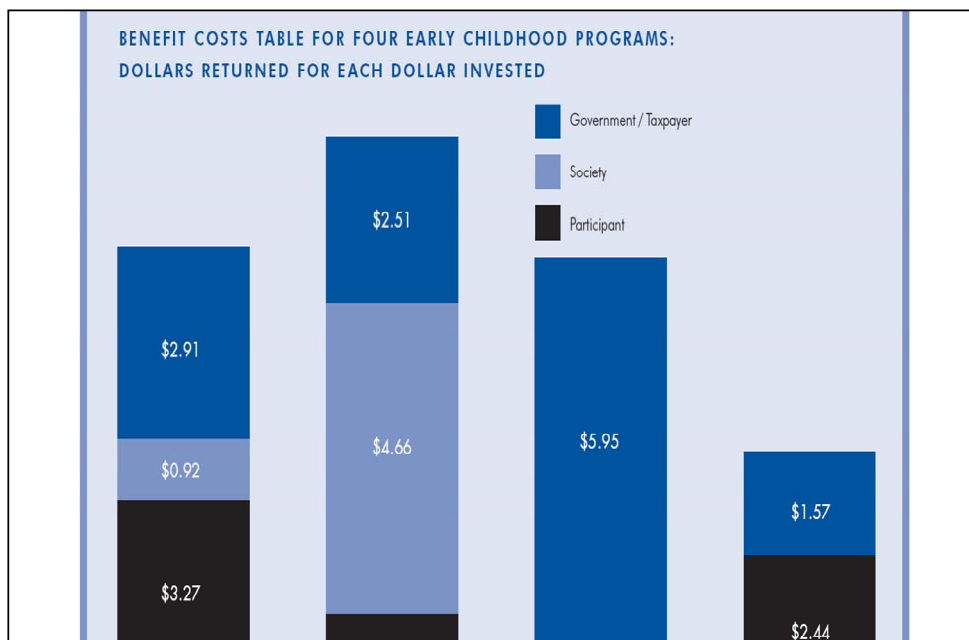
# The problem....

- Change the way we do business



## The Changing the Odds Strategy

- Lessons learned from successful programs:
- Avance Books Aloud
- Bright Beginnings America's promise
- Chicago Parent-child centers
- Early Head Start Nurse-family part
- Head Start
- Oklahoma Preschool Project
- Reach out and Read
- Reading Recovery
- Success for All



Bruner  
2004



# Cost/Benefit Analyses



1. Start early...

# The prevention of reading difficulties



2. Target our programs to children's needs



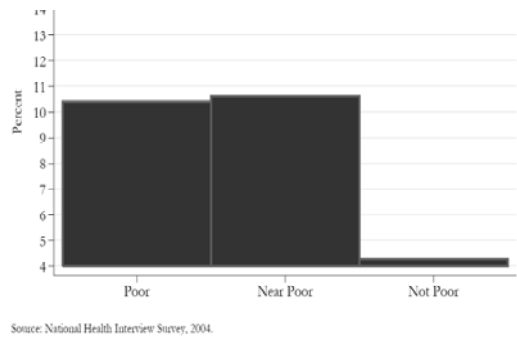
Phonological awareness  
Letter names  
Concepts of print  
Vocabulary  
Background knowledge-concepts  
Motivation to learn and self-regulation

## Skills that are essential for early literacy development



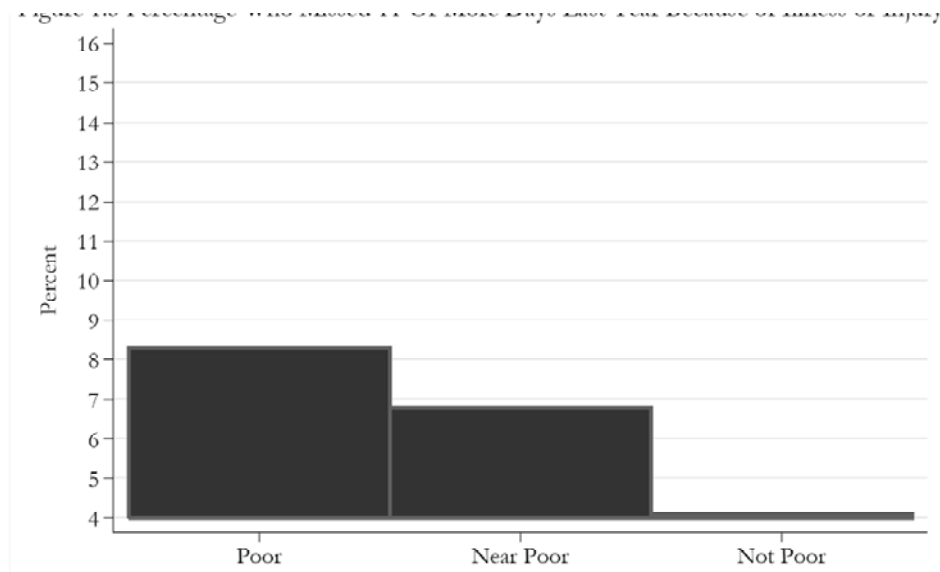
### 3. Comprehensive Services

- o Greater connectio  
to health services



Unmet Dental Needs





## Absenteeism due to illness

- 4, 5. Compensatory and Intensive instruction
  - Greater dosage
  - Greater depth
  - Targeted focus
  - Integrated instruction
    - Science
  - Parent involvement and engagement



Efforts to increase the quality, consistency,  
and reach of instruction

- a. Insuring teachers have excellent professional development
- b. Monitoring and supporting classroom instruction

Are teachers providing systematic and motivating instruction?

Is small group instruction differentiated to students' needs

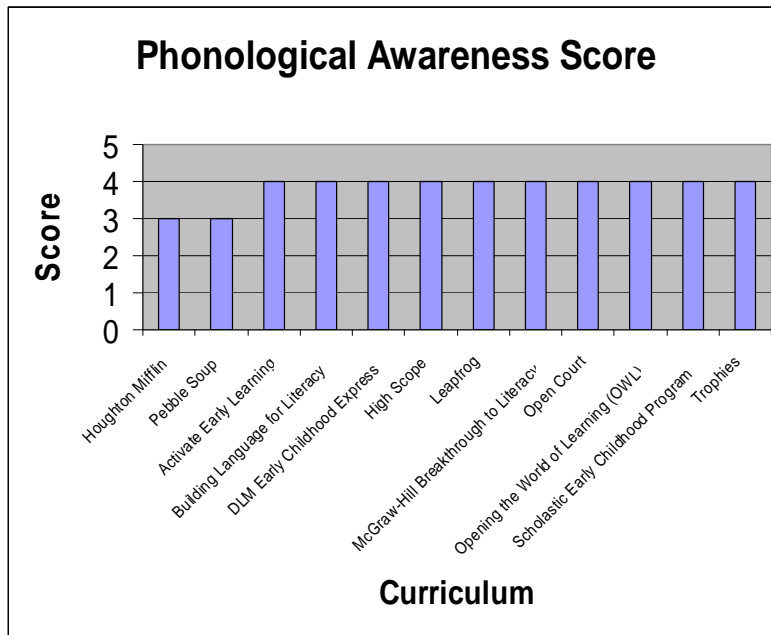
Are children engaged in thoughtful instruction?



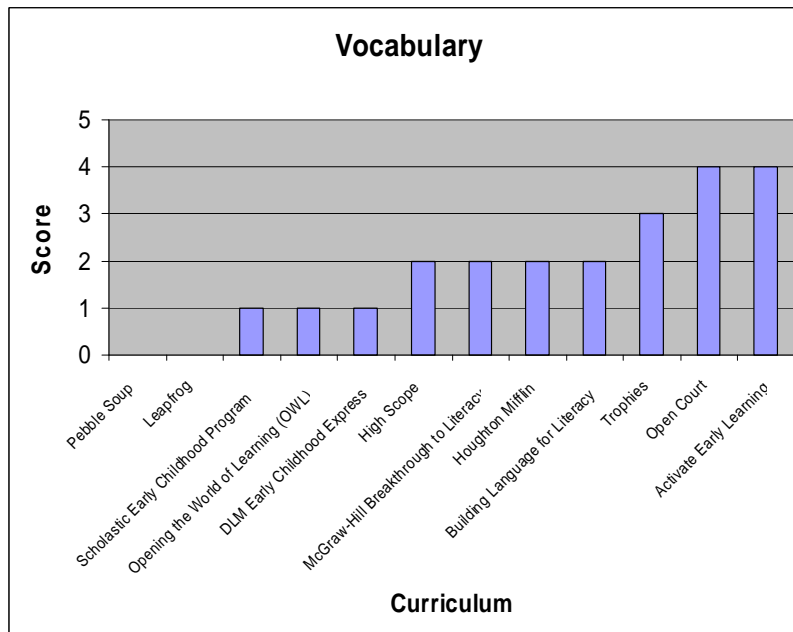
## Intensifying instruction

All curriculum are  
not equal





# Current Programs

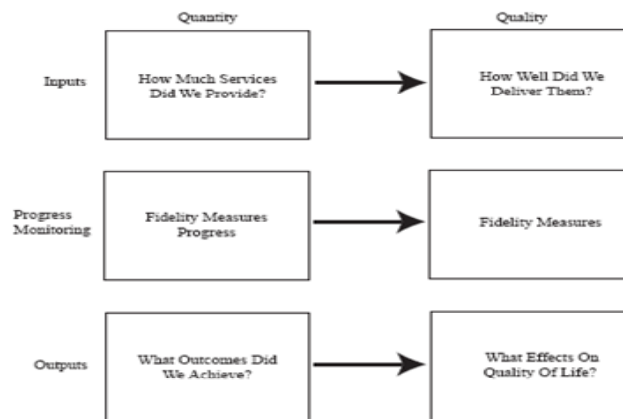


# Current Pre-K programs

- Highly trained professionals
  - No one-shot workshops
  - Focused pd tied to a curriculum most powerful strategy
  - Coaching



Figure 2.1 Results-Based Accountability



# Accountability

- More instructional time
- Small instructional groups
- More precisely targeted to student needs
- Clearer and more detailed explanations
- More systematic and detailed instruction
- More guided practice, review, corrective feedback

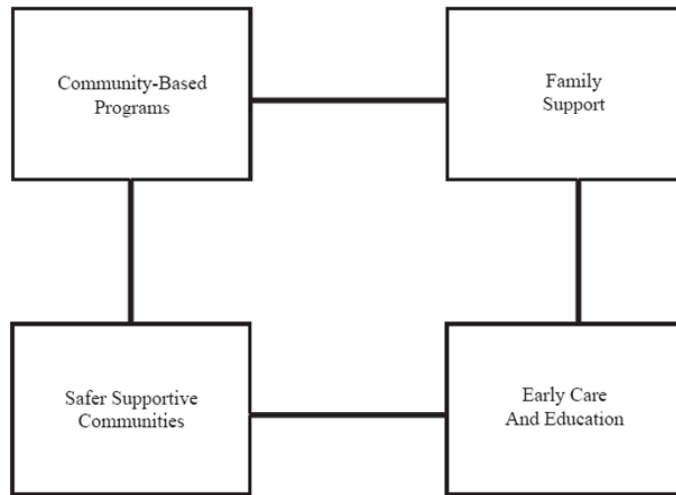


## Powerful instruction

- We need a school and community plan that is sufficiently powerful and targeted to ensure that all children can read, and are successful performers.



Figure 2.3 360° Early Learning System



We can't do it alone

Project Website:

<http://readytolearnresearch.org/>

Principal Investigator: Prof. Susan B. Neuman

Email: [sbneuman@umich.edu](mailto:sbneuman@umich.edu)




contact  
information



# How Early Childhood Development Can Inform P-12 Education

Tamara Halle  
Research Scientist  
Child Trends





## How Early Childhood Development Can Inform P-12 Education

Tamara Halle, Nicole Forry,  
Elizabeth Hair & Kate Perper  
Child Trends

In collaboration with  
Tom Schultz  
Council of Chief State School Officers

Family Impact Seminar  
Indiana Statehouse  
November 16, 2009

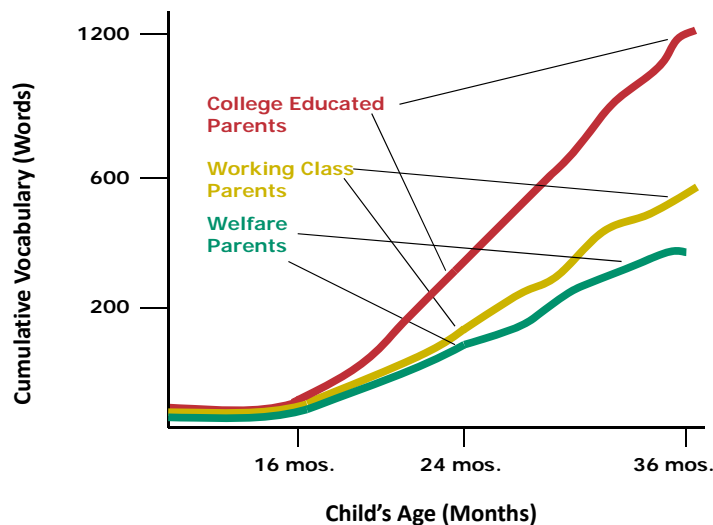


## Background

- Dramatic changes in development occur between the ages of 0 and 5.
- Research shows that targeted supports for at-risk children can help them thrive.
- Public investments for at-risk children 0-5 should be evidence-based.
- To date, most research has looked at disparities at kindergarten entry and beyond.

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## Disparities in Early Vocabulary Growth



Source: Hart & Risley (1995)

3

## Research Questions

- Are there disparities for cognitive development, general health, and social-emotional development at 9 and 24 months based on:
  - **Family income**
  - **Race/ethnicity**
  - **Home language**
  - **Maternal educational attainment**
- If disparities exist, what is the magnitude of the developmental gap?
- What proportion of infants and toddlers have multiple risk factors, taking into consideration low family income, racial/ethnic minority status, non-English home language, and low maternal education?
- What effect does cumulative risk have on cognitive, health, and socio-emotional outcomes?

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## Overview of the Study

- Nationally-representative sample of approximately 11,000 children born in 2001
  - Data collected at 9 months, 24 months, 48 months, and in Kindergarten
- Current analyses focus on 9 and 24 months
  - Analyses of the 9-month sample were limited to children aged 8-11 months (N = 7,400)
  - Analyses of the 24-month sample were limited to children aged 22-25 months (N = 7,200)
- Analyzed widely used measures of cognitive development, general health, and social-emotional development

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## Key Findings

- Disparities in child outcomes are evident at 9 months and grow larger by 24 months of age.
- These disparities exist across cognitive, social, behavioral and health outcomes.
- The most consistent and prominent risk factors are low income and low maternal education.
- The more risk factors a child has, the wider the disparities.

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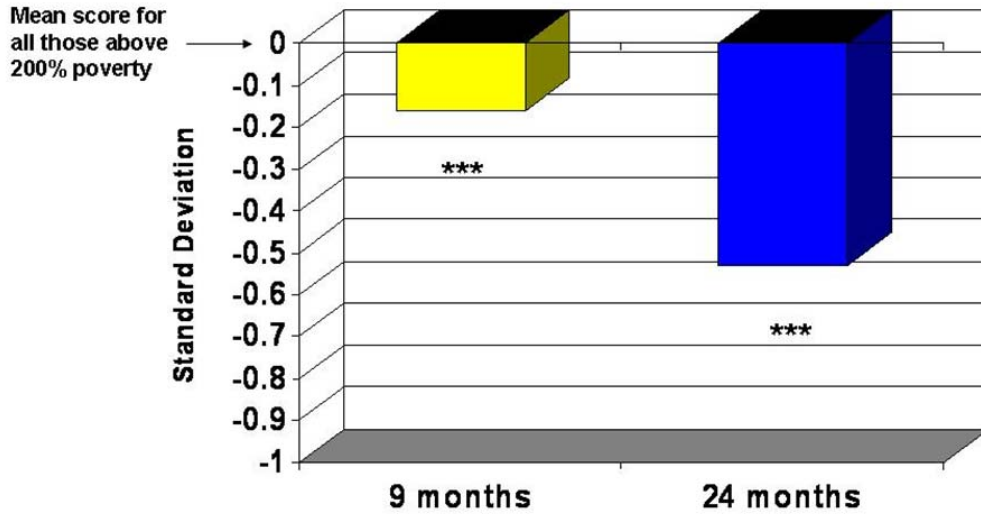
## Disparities by Family Income

- Infants and toddlers from low-income families<sup>1</sup> ...
  - Score lower on cognitive assessment than infants and toddlers from higher-income families at 9 and 24 months (Figure 1).
  - Are less likely than children in higher-income families to be in excellent or very good health at both 9 and 24 months.
  - Are less likely to receive positive behavior ratings at 9 and 24 months than children from higher-income families (Figure 2).

<sup>1</sup> Low-income families are those whose income is at or below 200% of the poverty threshold.

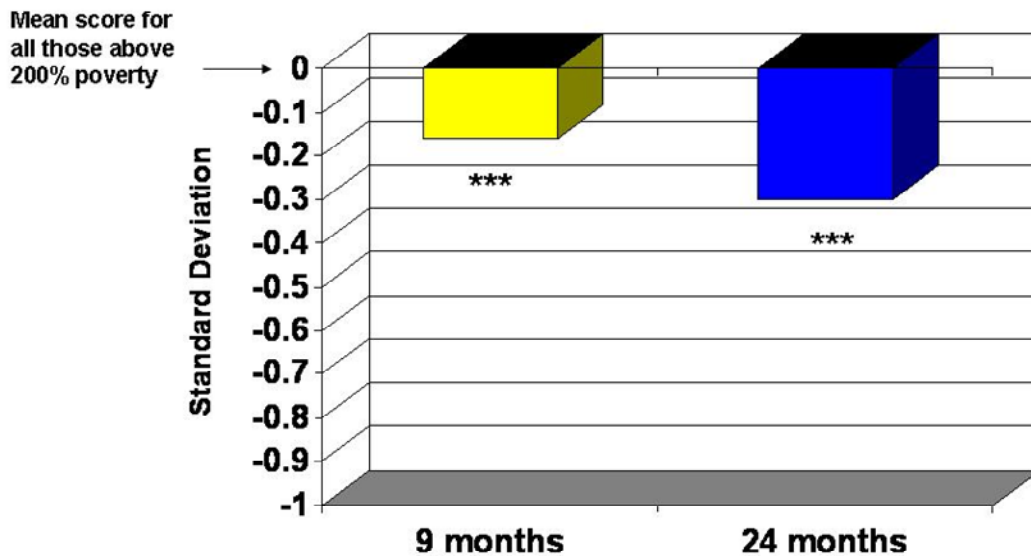
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**Figure 1: Disparities on the Bayley Cognitive Assessment between Higher- and Lower-income Infants at 9 and 24 Months**



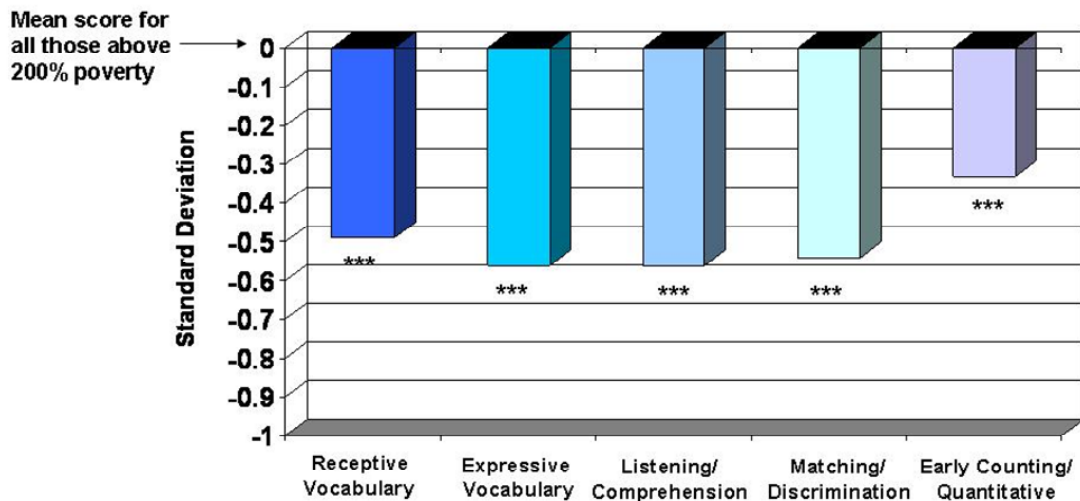
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**Figure 2: Disparities on the Positive Behavior Index Scores between Higher- and Lower-Income Infants at 9 and 24 Months**



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**Figure 3: Disparities in Mastery of Language and Cognitive Skills between Higher- and Lower-Income Toddlers at 24 Months**



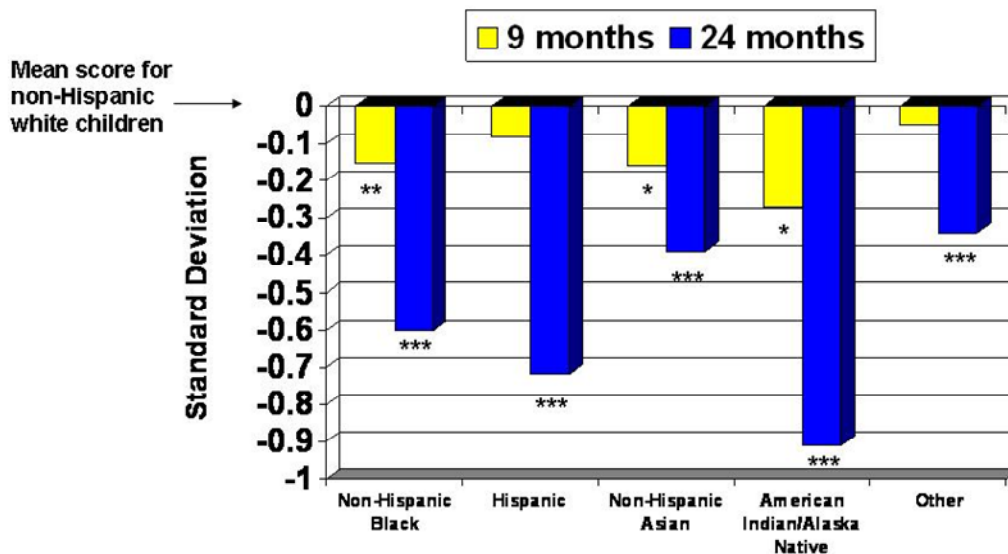
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## Disparities by Race/Ethnicity

- Though the effects are small to moderate among 9-month-olds, white infants score higher on measures of cognitive development than non-Hispanic black, Asian, and American Indian/Alaskan Native infants at 9 months
- Disparities by race/ethnicity are more pronounced among 24-month-olds, with toddlers from racial/ethnic minority backgrounds scoring lower than their white peers on the cognitive assessment

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**Figure 4: Disparities on the Bayley Cognitive Assessment at 9 and 24 Months by Race/Ethnicity**



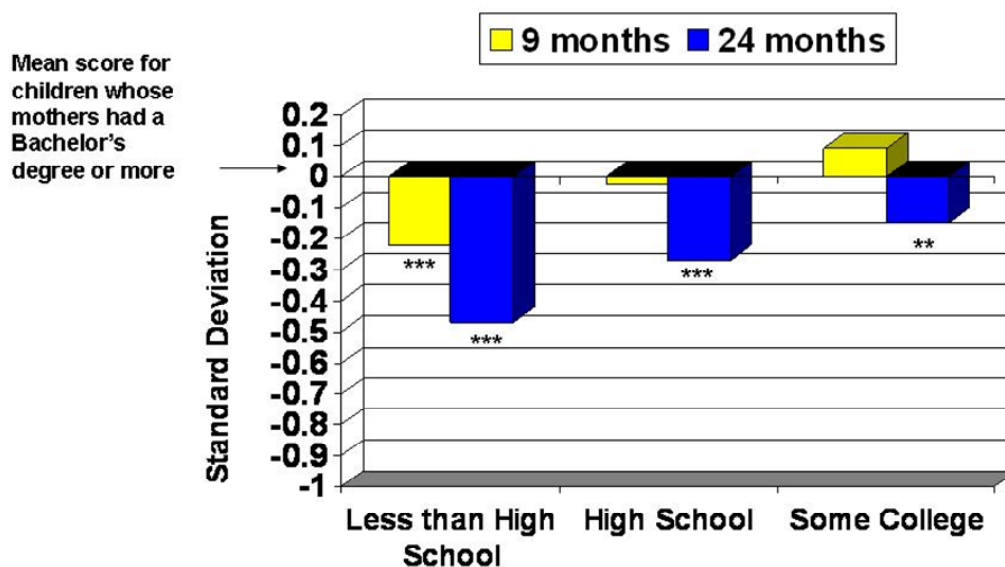
12

## Disparities by Maternal Education

- Infants and toddlers whose mothers have less than a high school degree:
  - **Score lower on the cognitive assessment than infants and toddlers whose mothers have a Bachelor's degree or higher**
  - **Score lower on the positive behavior index than infants whose mothers have a Bachelor's degree or higher. This disparity becomes more pronounced at 24 months**
  - **Are less likely to be in excellent or very good health compared to infants and toddlers whose mothers have a Bachelor's degree or higher**
- **Toddlers whose mothers have a Bachelor's degree or higher are more likely to have a secure attachment to their primary caregiver compared to toddlers whose mothers have less education**

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Figure 5. Disparities in Positive Behavior Index Scores at 9 and 24 Months, by Mother's Education



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## Multiple Risk Factors

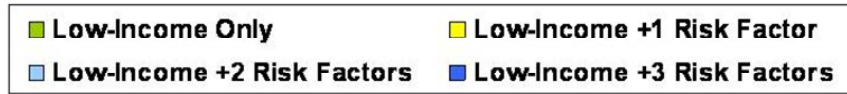
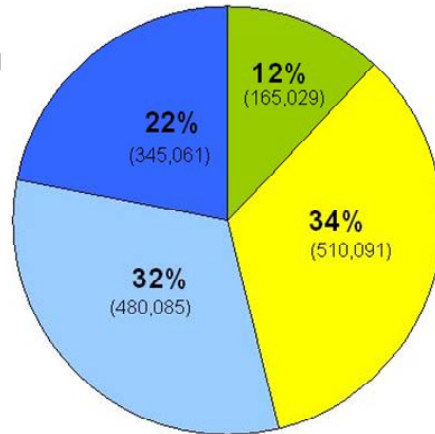
- The most prominent risk factors are low-income and low maternal education at both 9 and 24 months
- The more risk factors a child has, the more profound the disparities

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**Figure 6. Percentage of Infants Living At or Below 200% Poverty with Cumulative Risk Factors**

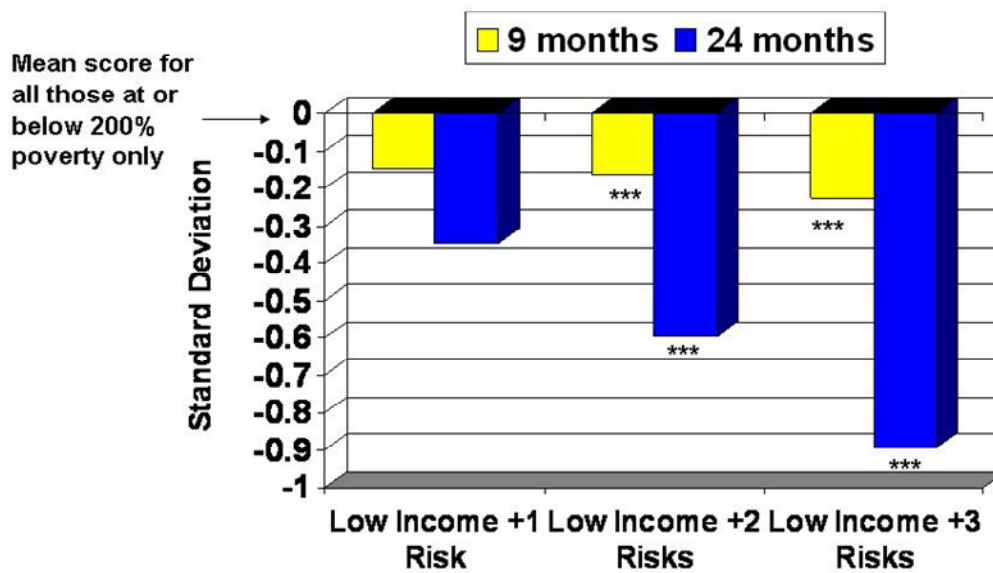
This represents 51% of 8-11 month olds in the ECLS-B analytic sample Weighted Population Estimate is 1,500,267



(Population estimates are in parentheses above.)

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**Figure 7. Disparities on the Bayley Cognitive Assessment Among Those At or Below 200% Poverty at 9 and 24 Months, by Cumulative Risk**



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## Key Findings

- Disparities in child outcomes are evident at 9 months and grow larger by 24 months of age.
- These disparities exist across cognitive, social, behavioral and health outcomes.
- The most consistent and prominent risk factors are low income and low maternal education.
- The more risk factors a child has, the wider the disparities.

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## Implications

### **Start Early**

- Interventions should be high-quality, comprehensive and continuous for children ages 0 to 3 as well as ages 3 to 5.

### **Target Low-income Children**

- As income is the most prevalent risk factor at 9 and 24 months, children in low-income households should be the main targets of early interventions aimed at improving children's health and well-being.

### **Promising Approaches:**

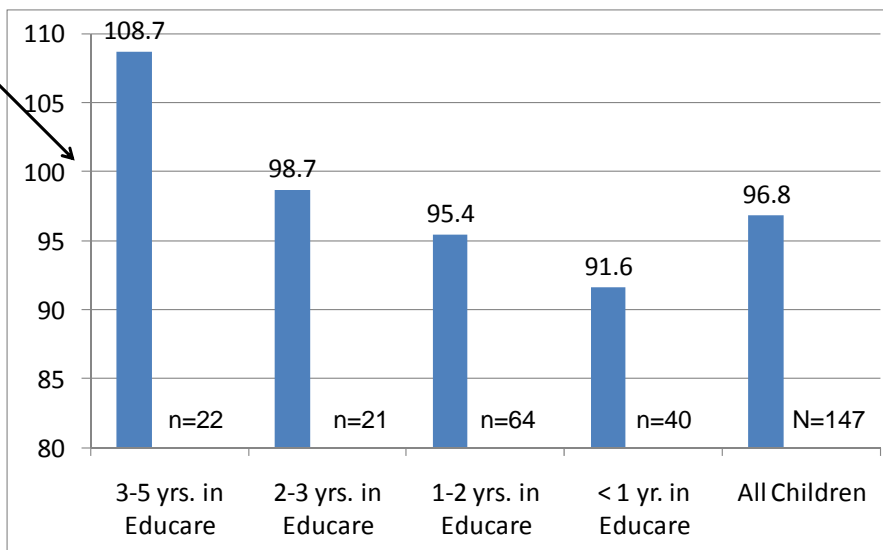
- Early Head Start/Head Start
- Educare

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## Children who spend more years in Educare emerge better prepared for kindergarten

National Average Score = 100

2008 School Readiness Score (Bracken Basic Concepts Scale)



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## Implications (cont'd)

### Engage and Support Parents

- Promotion of parent education is suggested, especially around issues of early childhood development for parents of infants and toddlers. Interventions that support parents in their own educational attainment and/or income self-sufficiency are also pertinent.

### Improve the Quality of Early Care Settings

- Research indicates that:
  - most infants and toddlers, especially those who are from low-income households, are cared for in home-based settings.
  - high-quality early care and education has the potential to moderate the effects of demographic risk factors for young children.

### Promising Approaches:

- Curriculum development and professional development within both home-based and center-based settings that serve infants and toddlers.
- Quality Rating Systems such as Indiana's Paths to QUALITY

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## Indiana's Paths to QUALITY

- A set of quality standards that apply to home-based and center-based child care
- A process of objectively assessing child care quality and maintaining accountability
- A system of training and technical assistance to help child care providers improve quality
- Incentives to encourage providers to reach higher levels of quality
- Public information to inform parents about what PTQ is and how to use it when they make child care decisions

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This presentation is based on a research brief by researchers at Child Trends for Thomas Schultz, Council of Chief State School Officers. Please contact Tamara Halle for more information.

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**Disparities in Early Learning and Development:  
Lessons from the Early Childhood Longitudinal Study – Birth Cohort (ECLS-B)**

**EXECUTIVE SUMMARY**

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Laura Wandner, Julia Wessel, and Jessica Vick**

**Child Trends**



**June 2009**

***Prepared for:*  
Thomas Schultz  
Council of Chief State School Officers**

# Disparities in Early Learning and Development: Lessons from the Early Childhood Longitudinal Study – Birth Cohort (ECLS-B)<sup>i</sup> Executive Summary

Education and business leaders and the public at large have grown increasingly concerned about the achievement gap between children from at-risk backgrounds and their more advantaged peers – a gap that is apparent even among young children.<sup>1-3</sup> To date, much of the research and policy attention on achievement disparities has focused on the preschool years (ages 3-5) leading immediately into the transition to kindergarten,<sup>3-5</sup> or in later elementary school and high school.<sup>6</sup> Research that has explored disparities based on sociodemographic risk factors<sup>ii</sup> at earlier ages has indicated that disparities in cognitive development are evident at 24 months of age,<sup>7-9</sup> with a few studies documenting developmental disparities based on sociodemographic risk within the first year of life.<sup>10-13</sup> Very little research, however, has used nationally representative data to explore whether disparities are found within the first year of life, and whether disparities are evident across a wider range of developmental outcomes.<sup>iii</sup> The data and analyses presented in this brief, however, indicate that disparities are apparent in infancy, with the gap widening in toddlerhood. Policy makers and early childhood professionals therefore need to take into account the entire period from birth to 5 years, including targeted interventions to address the developmental needs of at-risk children ages 0 to 3.

This brief uses a nationally-representative sample of infants born in the year 2001 to examine multiple characteristics that may serve as risk factors for developmental disparities at 9 and 24 months of age.<sup>iv</sup> (See the text box at the end of this brief for more information on the data source.) Three domains of development are examined: cognitive development, general health, and social-emotional development. This brief examines disparities in each of these domains associated with family income,<sup>v</sup> race/ethnicity, home language, and mother's educational attainment. Finally, overlap in these characteristics as well as effects of cumulative risk are examined. In the figures shown below, all findings are statistically significant unless otherwise noted.

## Key Findings

- **Disparities in child outcomes are evident at 9 months and grow larger by 24 months of age. These disparities exist across cognitive, social, behavioral, and health outcomes.**
  - **Disparities by family income**
    - Infants and toddlers from low-income families score lower on a cognitive assessment than infants and toddlers from higher-income families (see Figure 1).
    - Children from low-income families are less likely than children in higher-income families to be in excellent or very good health at both 9 and 24 months.
    - Children from low-income families are less likely to receive positive behavior ratings at 9 and 24 months than children from higher-income families (see Figure 2).

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<sup>ii</sup> Typical sociodemographic risk factors include low family income, low parental education, single parenthood, and teen parenthood.

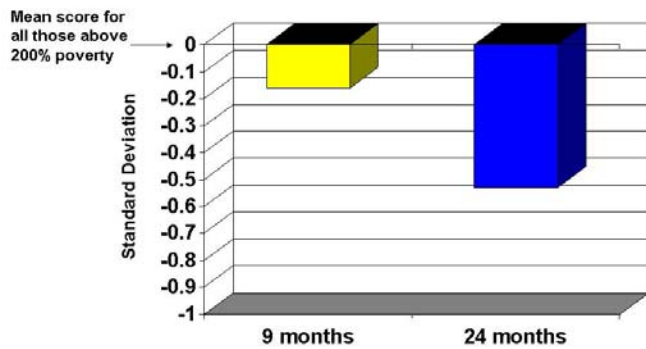
<sup>iii</sup> As a notable example of analyses of children's abilities in the age span of 0-3 using national data, see Snyder, T. D. (2008). *Child care quality and early academic skill acquisition among preschoolers*. Paper presented at the Head Start National Research Conference, June 23-25, 2008, Washington, DC.

<sup>iv</sup> Throughout the remainder of this brief, 9-month-olds are referred to as infants and 24-month-olds are referred to as toddlers.

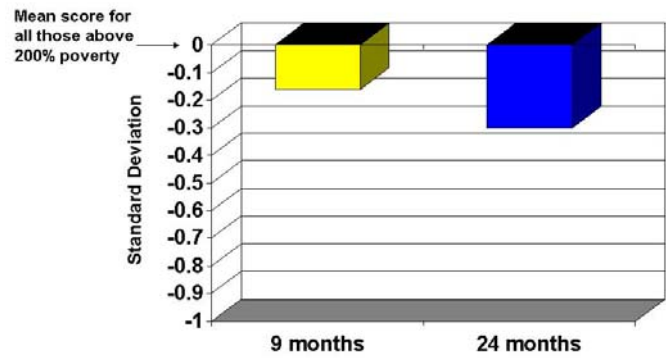
<sup>v</sup> Children in families at or under 200% of the federal poverty threshold are compared to children in families above this threshold.

Throughout this brief, we refer to the former as children in low-income families and the latter as children in higher-income families.

**Figure 1: Disparities on the Bayley Cognitive Assessment between Higher- and Lower-income Infants at 9 and 24 Months**



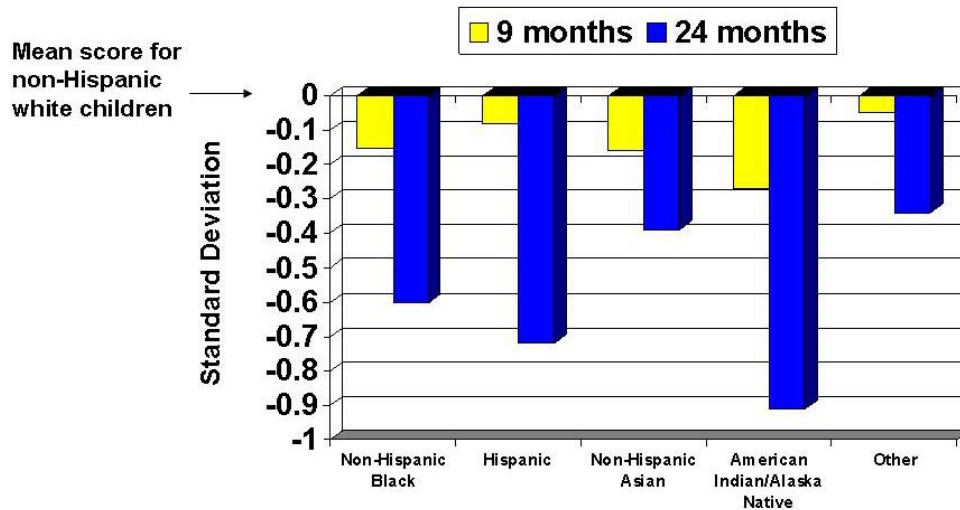
**Figure 2: Disparities on the Positive Behavior Index Scores between Higher- and Lower-income Infants at 9 and 24 Months**



➤ **Disparities by race/ethnicity, home language, and maternal education**

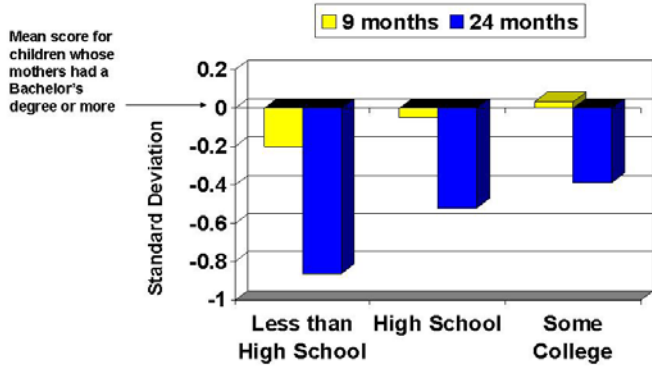
- In general, infants and toddlers from more at-risk backgrounds (i.e., children from racial/ethnic minority groups, whose home language was not English, and/or who had mothers with low maternal education<sup>vi</sup>) scored lower on cognitive and positive behavior ratings and were less likely to be in excellent or very good health than children from more advantaged backgrounds. See Figures 3-5 below for disparities on the Bayley Cognitive Assessment by race/ethnicity, mother’s education, home language.

**Figure 3: Disparities on the Bayley Cognitive Assessment by Race/Ethnicity at 9 and 24 Months**



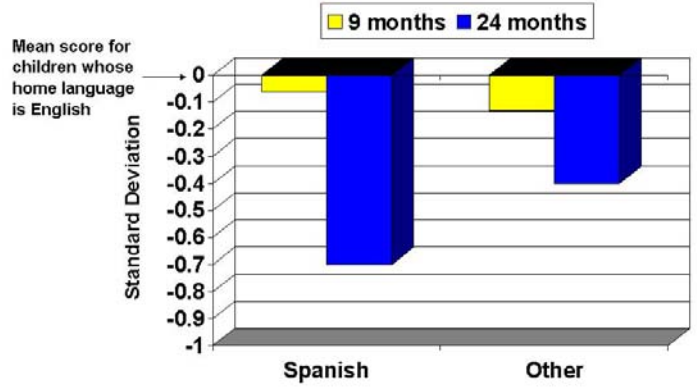
<sup>vi</sup> Low maternal education was defined as having a high school degree or less.

**Figure 4. Disparities on the Bayley Cognitive Assessment by Mother's Education at 9 and 24 Months**



Note: There were not statistically significant differences between the infants with mothers who had a high school degree or some college on the cognitive assessment when compared to infants with mothers who had a Bachelor's degree or more.

**Figure 5. Disparities on the Bayley Cognitive Assessment by Home Language at 9 and 24 Months**

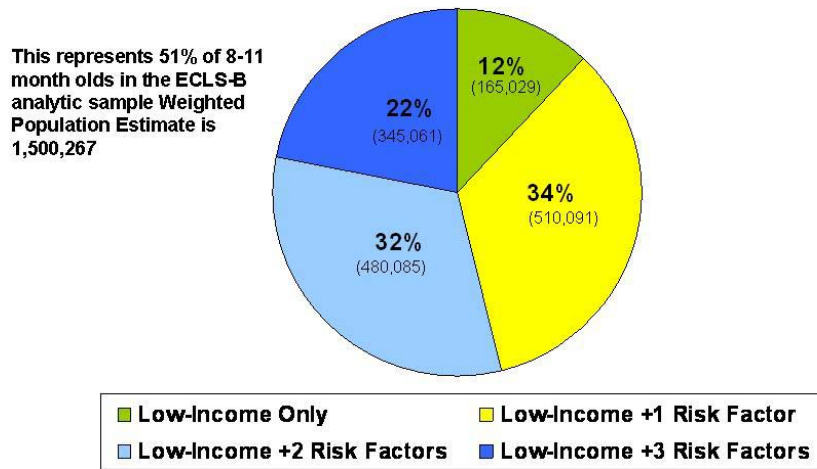


Note: There was not a statistically significant difference between infants from Spanish-speaking homes and infants from English-speaking homes on the cognitive assessment.

➤ **These findings may apply to a significant percentage of American infants and toddlers. Nearly half of all infants and toddlers – approximately 1.5 million children – are in families with incomes below 200% of poverty at 9 and 24 months of age, and many have multiple risk factors.**

- Fifty-one percent of infants and 46 percent of toddlers live in households with incomes at or below 200 percent of the poverty threshold.
- Among these children from low-income households, 89 percent of infants and 88 percent of toddlers have additional risk factors – racial/ethnic minority status, non-English home language, and/or low maternal education (see Figure 6 for distribution of infants).

**Figure 6. Percentage of Infants Living At or Below 200% Poverty with Cumulative Risk Factors**

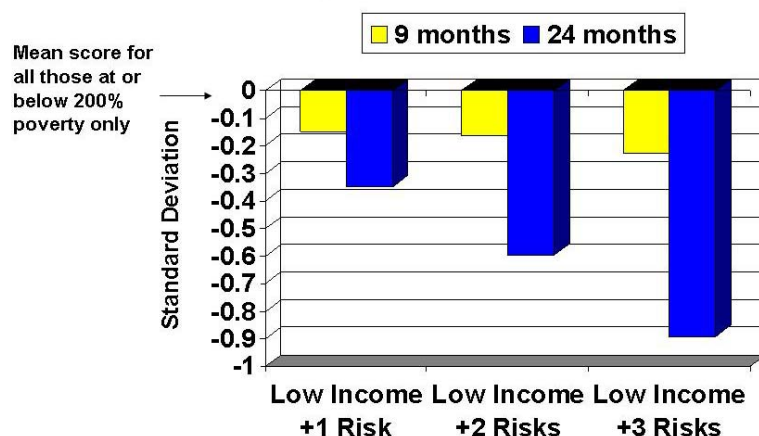


(Population estimates are in parentheses above.)



- **The most prevalent risk factors are low family income and low maternal education at both 9 and 24 months.**
  - Of the 34 percent of low-income children at 9 months with an additional risk factor (see Figure 6), 73.5 percent (that is, 25% of the 34% of low-income infants with one additional risk factor) both live in a low-income household and have a mother with low educational attainment. Of the 32 percent of low-income infants with two additional risk factors, 87.5 percent (i.e., 28% of the 32% of low-income infants with two additional risk factors) are living in a low-income household, have a mother with low educational attainment, and are of racial/ethnic minority status. A similar pattern is true for children at 24 months of age.
- **The more risk factors a child has, the wider the disparities across outcomes.**
  - Disparities grow larger with the number of cumulative risk factors at both 9 and 24 months (see, for example, Figure 7).

**Figure 7. Disparities on the Bayley Cognitive Assessment Among Those At or Below 200% Poverty at 9 and 24 Months, by Cumulative Risk**



Note: There were no significant differences between the low-income +1 risk group and the low income only reference group on the cognitive assessment for infants or for toddlers.

### Implications

- **Start Early** – Meaningful differences are being detected as early as 9 and 24 months; this speaks to the need to intervene early in children’s lives to address the gaps in development. In particular, research suggests that interventions should be high-quality, comprehensive and continuous for children ages 0 to 3 as well as ages 3 to 5.
- **Target Low-income Children** – As income is the most prevalent risk factor at 9 and 24 months, children in low-income households should be the main targets of early interventions aimed at improving children’s health and well-being.
- **Engage and Support Parents** – Given that maternal education is also noted as a prevalent risk factor, early childhood interventions should include a parental education component. A promising avenue is to promote the education of parents of infants and toddlers about issues related to early childhood development. In addition, interventions that support parents in their own educational attainment and/or income self-sufficiency are also pertinent.

- **Improve the Quality of Early Care Settings** – Research indicates that (1) most infants and toddlers, especially those who are from low-income households, are cared for in home-based settings; and (2) high-quality early care and education has the potential to moderate the effects of demographic risk factors for young children. In particular, it is important to ensure a safe, supportive and stimulating environment for young children. Two promising ways to address the quality of early care environments would be to focus on curriculum development and professional development within both home-based and center-based settings that serve infants and toddlers.

#### ABOUT THE DATA SOURCE USED IN THIS BRIEF

The data used for this brief were obtained from the Early Childhood Longitudinal Study – Birth Cohort (ECLS-B), gathered by the National Center for Education Statistics within the U.S. Department of Education. The ECLS-B is a nationally representative longitudinal study of approximately 11,000 children born in 2001. Data for this brief were collected at the 9- and 24-month data wave. Analyses of the 9-month sample were limited to children aged 8-11 months and analyses of the 24-month sample were limited to children aged 22-25 months.

In order to produce national estimates, person-level weights constructed for the ECLS-B were used for the analyses. The weights account for the probability of sampling the child in a given household, and adjust for the probability of sampling the child from among all eligible children in a given domain.

Analyses were used to compare characteristics of infants/ toddlers in the sample on indicators of cognitive mastery, general health, and social emotional development. Findings discussed in the brief are statistically significant at the .05 level unless otherwise noted. The magnitudes of differences in average scores, using the most advantaged infants/toddlers as the reference group, are presented in terms of standard deviations.

The cognitive mastery indicators included both an age-normed composite score on an adaptation of the Bayley cognitive assessment. One indicator of the infant/toddler’s general health was included. This indicator was based on parent/caregiver report of children’s overall health with responses ranging from excellent to poor. Indicators of social-emotional development included a composite score on an index of positive behaviors (9- and 24-month analyses) and an observational assessment indicating whether the child displayed a secure attachment to their primary caregiver (24-month analyses only).

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