RESEARCH TO PRACTICE

Preliminary Findings from the Early Head Start Prekindergarten Followup

EARLY HEAD START RESEARCH AND EVALUATION PROJECT

When tasked with designing Early Head Start, the Department of Health and Human Services' (USDHHS) Advisory Committee on Services for Families with Infants and Toddlers envisioned the continuation of high quality services after families completed the infant and toddler program. Smooth transitions into high quality Head Start and other preschool programs were seen as "important for ensuring continued accessibility to enriching early child development experiences and for providing ongoing family support services that promote healthy family development" (USDHHS, 1994). This vision, as well as research on continuity of early childhood services, guided the analyses of the prekindergarten followup of the Early Head Start Research and Evaluation Project. The primary research questions were:

- How did Early Head Start from birth to age 3 contribute to school readiness and family functioning?
- How did child development services from birth to age 5, including formal education and care program experiences between ages 3 and 5, contribute to school readiness and family functioning at the time of school entry?

Effects of Early Head Start at age 3

The Early Head Start evaluation followed 3,001 families from the time they enrolled in the program (or were assigned to the control group) to the prekindergarten period (see page 4).

By the end of the program, when children were 3 years old, Early Head Start had a pattern of modest-sized impacts across a broad range of child and parent outcomes.

- Overall, Early Head Start children performed better on measures of cognition, language and social-emotional functioning than their peers who did not receive Early Head Start. Additionally, they were less likely to be in the "at-risk" category of cognitive and language functioning, which could possibly reduce the need for special education services for these children in the future.
- Early Head Start parents were more supportive of children's emotional, cognitive and language development and they were more likely to be in education or in job training.

Different patterns of impacts emerged for subgroups based on family and program characteristics.

- There were larger effects found for some family subgroups, including African American families, families who enrolled during pregnancy, and families with moderate number of demographic risk factors. It is noteworthy that only one group based on family characteristics, families at the very highest level of demographic risk, did not show a pattern of positive impacts; there were no impacts for this group of families.
- In terms of program subgroups, those programs with a mixed approach to service delivery, providing both home-based and center-based services, as well as those programs that fully implemented the comprehensive Head Start Program Performance Standards, had a broader pattern of larger impacts.

Children's experiences from age 3 to 5

After leaving Early Head Start, many children participated in Head Start, prekindergarten programs, and formal child care (referred to here as formal programs). Only 50% of former Early Head Start children transitioned into formal programs at age 3. Many control group children also entered formal programs after age 3, but Early Head Start increased children's enrollment rates in Head Start and other formal programs relative to the control group. Forty-seven percent of Early Head Start children were in formal programs at both 3 and 4 vs. 42% of the control group. With variation in Early Head Start (experimentally controlled) and post-Early Head Start program participation (not experimentally controlled), the stage is set for examining the influences of these experiences on children and families at the time preceding kindergarten entry.

Children and families who participated in Early Head Start 0-3 and formal programs 3-5 had the most positive outcomes.

EARLY HEAD START

Question 1: How did Early Head Start from birth to age 3 contribute to school readiness and family functioning?

Analyses of sustained impacts of Early Head Start at the prekindergarten period, when children averaged 63 months old, found that a number of the impacts on children and parenting seen at age 3 are still present when children were about age 5. Some impacts seen at age 3 are no longer observed. A new impact emerges for maternal depression at the prekindergarten period, although no impact was observed at age 3. The overall impacts are still modest in size (Table 1).

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Impacts on children two years after completing Early Head Start:

- There were significant favorable impacts of the program on two aspects of children's socio-emotional development, behavior problems and approaches to learning. There were no impacts on aggressive behavior or on behavior observed during play with a parent (negativity and engagement).
- There were significant positive impacts on vocabulary for Spanish-speaking children but not for English-speaking children. There were no impacts on other achievement-related outcomes, including sustained attention, letter-word identification, and applied problem-solving.
- There were significant impacts on the probability of being in formal programs. There was no impact on the probability of having an Individualized Education Plan.

For parents, Early Head Start continued to have significant impacts on support for children's learning, evidenced in three measures: daily reading, the home environment, and teaching activities. There was no impact on parents' observed behavior during play (supportiveness and negativity), or on reported use of spanking. However, a new benefit emerged for parents—a reduction in their risk of depression.

Impacts for subgroups based on family and program characteristics are somewhat different than at age 3:

- In examining impacts for families with different levels of demographic and economic risks, there were sustained impacts for low and moderate risk groups. Among the highest risk families, some favorable impacts on parenting and the home environment emerged by the time children were about age 5.
- When impacts are examined by race/ethnicity, African American children continue to show the greatest benefits of Early Head Start. (African American children were particularly likely to be enrolled in formal programs following Early Head Start.)
- Program implementation of the Head Start Program Performance Standards is no longer an important factor; program approaches to service delivery is still important. However, the pattern changed. It is the 0-3 home-based programs that produced more and stronger impacts on both children and parents at age 5. (Home-based programs were particularly successful in getting children into formal programs following Early Head Start.)

Question 2: How did child development services from birth to age 5 contribute to school readiness and family functioning at the time of school entry?

Children and families who participated Early Head Start 0-3 and formal programs 3-5 had the most positive outcomes.

Services birth to age 3: Children in Early Head Start exhibited better social-emotional development and more positive approaches to learning than their peers. They also experienced more supportive home environments, received more support for learning from their parents, and had mothers with better mental health (Table 1).

Formal programs 3 to age 5: Nonexperimental, multivariate analyses show that children who were in formal programs after age 3 demonstrated better early reading-related skills, but also more aggressive behavior (Table 1).

Putting it all together: Children who experienced both Early Head Start and formal programs after age 3 received both the benefits of Early Head Start and the enhanced early reading-related skills associated with formal programs—but without the increase in aggressive behavior associated with formal programs (Table 2).

TABLE 1: Role of 0-3 Experiences (Experimental Analyses: Early Head Start vs. Control Group) and Role of Formal Programs at Age 3-5 (Nonexperimental Regression Analyses)

	Experimental Impacts of EHS[a]		Nonexperimental Associations of a Formal Programs at Age 3-4 and Age 4-5 with Outcomes[b]	
	Program-Control Difference	Effect Size	Parameter Estimate	Effect Size
Child Negative Social-Emotional				
Aggressive Behavior[1]	Ns		0.64*	.09
Behavior Problems[2]	-0.36*	-.10	0.42**	.12
Negativity During Play[5]	Ns		Ns	
Child Positive Social-Emotional				
Engagement During Play[5]	Ns		Ns	
Approaches to Learning[2]	0.25**	.12	Ns	
Child Academic Skills				
Attention Sustained[3]	Ns		Ns	
W-J Letter-Word Id[4]	Ns		1.37*	.09
W-J Applied Problems[4]	Ns		Ns	
Child Vocabulary				
PPVT receptive vocabulary[6]	Ns		Ns	
TVIP for Spanish Speakers[6]	10.01*	.27	Ns	
Educational Setting				
Individualized Education Plan[7]	Ns		0.02+	.09
In Formal Programs 3-4 & 4-5[7]	0.05*	.10	Not applicable	Not applicable
Positive Parenting				
Home Environment[8]	0.81**	.13	Ns	
Supportiveness During Play[5]	Ns		Ns	
Parent Support for Learning				
8 Teaching Activities[7]	0.28*	.09	Ns	
Daily Reading[7]	0.04*	.09	0.05*	.11
Negative Parenting				
Spanking[7]	Ns		Ns	
Negativity During Play[5]	Ns		Ns	
Parent Mental Health				
Depression[9]	-0.73*	-.10	Ns	

+ p<.10 * p<.05 ** p<.01

Sources of Data: [1]Achenbach; [2]FACES battery; [3]Leiter; [4]Woodcock-Johnson; [5]3 Bag Observed Play Task; [6]PPVT for English Speakers/TVIP for Spanish Speakers; [7]Parent Interview; [8]HOME Scale; [9]CES-D Short Form

[a] Intent-to-treat analyses are reported here. Per-participant impacts did not differ significantly from intent-to-treat analyses, although there was a trend for EHS children to be less likely to live with someone with a drug or alcohol problem. The estimated impact per eligible applicant is measured as the difference between the regression-adjusted means for all program and control group members. All impact estimates were calculated using regression models, in which each site was weighted equally. The effect size was calculated by dividing the estimated impact per eligible applicant by the standard deviation of the outcome measure for the control group.

[b] Non-experimental regression analyses are reported here. Controls in the models include: program control status, whether ever enrolled in Head Start, child functioning at 36 months, child age at assessment, child gender, whether child had a low birthweight, whether child was firstborn, race, whether mother was a teen when child was born, characteristics of mother's situation 26 months after enrollment (highest grade completed, average hours per week of work or school during followup, income as a percentage of the poverty level, marital status, living arrangements, and number of subsequent births), maternal depression when child was 3, mother's Woodcock-Muñoz score when child was 2, and site indicators. Effect sizes are calculated by dividing the parameter estimate by the standard deviation of the outcome for the control group.

TABLE 2: Summary of the Roles Participation in Early Head Start 0-3 and Formal Programs at Age 3-5 Had in Outcomes at Prekindergarten

Outcomes at Age 5 Domains	EHS 0-3	Formal Care 3-5	EHS and Formal Care 3-5
Child Negative Social-Emotional	+	-	+
Child Positive Social-Emotional	+		+
Child Academic Skills		+	+
Child Vocabulary	+ (Spanish speakers)		
Educational Setting (IEP)		+	+
Positive Parenting	+		+
Parent Support for Learning	+	+	+
Negative Parenting			
Parent Mental Health	+		+
Sample Size	657	412	497
Percentage in Each Group	30%	19%	22%

Note: The findings for each group represent the difference from the "no service" group (i.e., no Early Head Start and no formal programs the way it was defined for this study, N = 644, 29% of all children). The results presented describe findings from both the experimental (Early Head Start vs. control group) and nonexperimental (formal programs controlling for child, family, and community factors) analyses.

+ represents positive outcomes (e.g., reduced behavior problems and aggression, and higher achievement scores) while – represents negative outcomes (increased behavior problems and depression, and lower achievement scores).

The Study

The Early Head Start Research and Evaluation Project included studies of the implementation and impacts of Early Head Start. The research was conducted in 17 sites representing diverse program models, racial/ethnic makeup, auspice, and region. In 1996, 3,001 children and families in these sites were randomly assigned to receive Early Head Start services or to be in a control group who could utilize any community services except Early Head Start. Children, families, and children's child care arrangements were assessed when children were 14, 24, and 36 months old, and again prior to kindergarten entry, when children were, on average, 63 months old. Families were interviewed about services at 7, 16, and 28 months after random assignment. Child assessments included a wide array of child cognitive, language, and social-emotional measures using direct assessment and parent report. Parent assessments included observation (videotaped and by interviewers) and self-report. Families in the program and control groups were demographically comparable at baseline and assessment points. Several research briefs have been published based on findings from this study. A 5th grade followup is currently underway.

References

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