

**Enhanced Early Head Start with Employment Services  
42-Month Impacts from the Kansas and Missouri Sites of the  
Enhanced Services for the Hard-to-Employ Demonstration  
and Evaluation Project**

**OPRE Report 2012-05**

**February 2012**

Office of Planning, Research and Evaluation (OPRE)  
Administration for Children and Families  
U.S. Department of Health and Human Services

Office of the Assistant Secretary for Planning and Evaluation  
U.S. Department of Health and Human Services

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The findings and conclusions in this report do not necessarily represent the official positions or policies of HHS.

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## Overview

As part of the multisite Enhanced Services for the Hard-to-Employ Demonstration and Evaluation Project, MDRC, together with its research partners, is leading an evaluation of parental employment and educational services delivered within Early Head Start (Enhanced EHS). The program model tested here aims to dually address the employment and educational needs of parents who are at risk of unemployment and the developmental needs of their children. The study is sponsored by the U.S. Department of Health and Human Services, with additional funding from the U.S. Department of Labor.

The study uses a rigorous random assignment design comparing outcomes for families and children who were offered Enhanced EHS with outcomes for those who could only access alternative services in the community. This report presents the final impact results approximately 42 months after families and children first entered the study.

### Key Findings

- **Because of implementation challenges, the Enhanced EHS program’s formalized employment, educational, and self-sufficiency enhancements were never fully integrated into core EHS services.** The field research uncovered substantial variation in how frontline staff addressed self-sufficiency issues. Therefore, although programs increased their focus on self-sufficiency, they did not provide employment, educational, or self-sufficiency assistance at an intensive level to most families.
- **At the 42-month follow-up, Enhanced EHS did not significantly affect parental employment and economic outcomes, parenting practices, or child development and well-being among the full research sample.** Thus, although Enhanced EHS at the 18-month follow-up point had produced scattered modest positive impacts on some of these outcomes, there is little evidence to suggest that these effects were sustained over the longer-term follow-up.
- **Enhanced EHS generated positive impacts on parental employment and economic outcomes for families who were expecting a child or who had an infant (a child younger than 12 months old) when they first entered the study.** Even so, Enhanced EHS did not produce significant effects on parenting behaviors and child well-being for this subgroup at the 42-month follow-up.

The results illustrate the challenges of integrating enhancements aimed at addressing parents’ education, employment, and self-sufficiency needs into a two-generational program that is focused primarily on goals related to parenting, family interactions, and child development. In the context of these implementation difficulties, Enhanced EHS had limited long-term impacts for the full sample. Yet Enhanced EHS had positive long-term impacts on parental employment and earnings for families who had an infant or who were expecting a child at the outset of the study. This suggests that the approach may be effective for some families.



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The Authors

## Executive Summary

Living in poverty can have profound effects on young children's development and their prospects for the future. One strategy for addressing the challenges that low-income parents and their young children face is a two-generational program that aims to address both children's developmental risks and low-income families' often-precarious and unstable economic circumstances.

As part of the multisite Enhanced Services for the Hard-to-Employ Demonstration and Evaluation Project (the Hard-to-Employ project), MDRC, together with its research partners, is conducting an evaluation of an enhanced version of Early Head Start (EHS), a two-generational, early childhood developmental program that serves low-income families who are expecting a child or who have a child under age 3. In the program model tested here, formalized parental employment and educational services were implemented within EHS (in a program called "Enhanced Early Head Start"). The Hard-to-Employ project is sponsored by the Administration for Children and Families and the Office of the Assistant Secretary for Planning and Evaluation in the U.S. Department of Health and Human Services, with additional funding from the U.S. Department of Labor.

This report presents the final results from a rigorous evaluation of the effects of Enhanced EHS on parents and their children in two sites in Kansas and Missouri approximately 42 months after families first enrolled in the study. MDRC randomly assigned families either to a program group that was eligible to receive Enhanced EHS or to a control group that was not enrolled in EHS services but could receive alternate services available in the local community. Any subsequent differences between families in the program and control groups can be attributed to Enhanced EHS.

### Key Findings

- **Because of implementation challenges, the program's formalized employment, educational, and self-sufficiency enhancements were never fully integrated into core EHS services.** The field research uncovered substantial variation in how frontline staff addressed self-sufficiency issues. Therefore, although programs increased their focus on self-sufficiency, they did not provide employment, educational, or self-sufficiency assistance at an intensive level to most families.
- **Enhanced EHS provided a comprehensive array of home visiting and center-based child care services, but control group members also re-**

**ported receiving relatively high levels of similar services.**<sup>1</sup> At the 18-month, interim follow-up point, a high proportion of families (91 percent) in the program group reported receiving child development, child care, parent education, and family support services, but many control group families (80 percent) also reported receiving assistance in these areas.<sup>2</sup>

- **Enhanced EHS affected children’s child care and early educational experiences.** Over the 42-month follow-up period, Enhanced EHS increased children’s receipt of formal child care — particularly EHS or Head Start (HS) care — and it decreased their receipt of home-based care provided by unrelated caregivers.
- **At the 42-month follow-up, Enhanced EHS did not have significant impacts on parental employment and economic outcomes for the full research sample.** These findings are not entirely surprising, given that the programs had difficulties implementing the programmatic enhancements that focused on parental employment and educational needs.
- **At the 42-month follow-up, Enhanced EHS did not significantly affect parenting practices or child development and well-being for the full research sample.** Although Enhanced EHS had produced scattered modest positive impacts on some aspects of parenting and child well-being at the 18-month follow-up point, there is little evidence to suggest that these effects were sustained over the longer-term follow-up.
- **The impact results at the 42-month follow-up point are more encouraging among families who were expecting a child or who had an infant (a child younger than 12 months old) when they first entered the study.** Enhanced EHS generated positive impacts on parental employment and economic outcomes for this subgroup. Even so, Enhanced EHS did not produce significant effects on parenting behaviors and child well-being for this subgroup at the 42-month follow-up.

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<sup>1</sup>For a detailed presentation of the implementation findings, see Hsueh, Jacobs, and Farrell, *A Two-Generational Child-Focused Program Enhanced with Employment Services: Eighteen-Month Impacts from the Kansas and Missouri Sites of the Enhanced Services for the Hard-to-Employ Demonstration and Evaluation Project* (New York: MDRC, 2011).

<sup>2</sup>Because families were likely to age out of the eligibility criteria for Enhanced EHS services by the longer-term, 42-month follow-up point, detailed measures about families’ receipt of child development, parent education, and family support services were not collected at the later follow-up, and this report does not assess the differential in service receipt at the 42-month follow-up point.

## **What Is the Program Model?**

The program model that is being tested in two sites in Kansas and Missouri is an expanded version of EHS. It includes an array of intensive early childhood developmental services, parent education, family support, and social service assistance that is commonly found in traditional EHS programs *plus* formalized services aimed at proactively addressing parents' employment, educational, and self-sufficiency needs. The programs used mixed-approach service delivery models in which home-based and center-based service options were offered. (See Table ES.1.) Families had the flexibility of receiving either service option, depending on their needs, but they could not receive both home- and center-based services at the same time. Before participating in this evaluation, the two programs in this study, like many traditional EHS programs, had limited capacities to address such needs or to offer such options.

The programmatic enhancements that were aimed at parents' employment, educational, and self-sufficiency needs include:

1. Hiring on-site "self-sufficiency" specialist(s) to oversee and develop the programs' employment and educational services; work directly with families on employment, educational, and self-sufficiency needs and goals; and act as "resource experts" by developing resource guides to help staff identify available employment and training-related opportunities in the community
2. Building partnerships with welfare agencies and local programs that provide employment and training services
3. Conducting staff trainings on the use of employment and educational resource guides to further develop the skills and competencies of frontline EHS staff, so that they were able to work with parents on employment, training, and self-sufficiency goals as needed
4. Conducting parent trainings focused on employment, educational, and self-sufficiency issues

## **Whom Did the Program Serve?**

Enhanced EHS targeted low-income families with infants and toddlers or families who were expecting a child. Beginning in 2004 and ending in 2006, in two program sites in Kansas and Missouri, a total of 610 families who were new applicants to Enhanced EHS were randomly assigned in this study. About 90 percent of the primary parents who are identified on the EHS

## The Enhanced Services for the Hard-to-Employ Demonstration

**Table ES.1**

### **Core Components and Service Delivery Options of Traditional EHS and Service Delivery Options of Enhanced EHS**

#### **Early Head Start with Enhanced Self-Sufficiency Services**

Component	
Home-based service option	Families receive weekly home visits with bimonthly group socialization experiences that facilitate interaction among families receiving EHS. Home visits are conducted by EHS program staff and primarily focus on conducting individualized developmental activities with children, demonstrating activities that parents and children can engage in together to foster parent-child interaction, modeling appropriate parenting behaviors, assessing children's developmental progress, and addressing families' social service needs.
Center-based service option	Families receive high-quality, center-based child care for at least 6 hours a day, 5 days a week, either directly through EHS/HS centers or through child care centers in the community that provide care in line with EHS quality and safety requirements. While in center-based care, children receive daily lesson plans and activities tailored to their individual developmental needs and those of other children in the classroom. Families also engage in parent-teacher conferences or home visits conducted on at least a quarterly basis (depending on the program site and where children receive center-based care) in which parent education and family support and social service needs are addressed.
Other specialized EHS services	All families, regardless of whether they receive home- or center-based service options, also are offered an array of health, mental health, nutrition, and child disability services directly through EHS or through referrals to other providers in the community.

application forms are women. More than half were single and never married when they entered the study. Of the parents in the sample, 86 percent identified themselves as white, 8 percent as black, and 5 percent as Hispanic/Latino(a) regardless of race. Slightly more than half worked more than 12 months in the three years prior to random assignment; about one-third worked 12 months or less; and 15 percent had not worked at all during that period. Slightly less than one-third of families were receiving Temporary Assistance for Needy Families (TANF), and slightly less than half reported ever having received TANF before random assignment. At study entry, relative minorities of the sample were pregnant (11 percent) or teenage parents (12 percent). As expected, children in the sample were about evenly distributed between boys and girls. On average, they were about 17 months old on entering the study. At the 42-month follow-up, children in the sample were between 3 and 7 years old.



Although the study's sample mirrors in many ways the range of characteristics of families being served by EHS programs across the United States, it does include relatively few prenatal cases and more white and fewer black and Hispanic/Latino(a) parents and children.<sup>3</sup> This difference could have implications for the impacts detected here. Among sample members in the Early Head Start Research and Evaluation Project examining the effects of traditional EHS services, for example, impacts on a range of outcomes — such as parenting and children's social and emotional, cognitive, and language development — are larger in magnitude for pregnant women at study entry and for ethnic minority families.<sup>4</sup>

## How Was Enhanced EHS Implemented?

The programmatic enhancements were implemented by the two Kansas and Missouri EHS programs from 2004 to 2007. The programs increased their focus on parental employment, educational, and self-sufficiency needs. However, several implementation challenges led to a relatively weak enhancement that was never fully integrated into core EHS services. Following is a summary of the key implementation findings from earlier reports on the evaluation:<sup>5</sup>

- **Not all families received the core EHS services, and fewer families received Enhanced EHS self-sufficiency assistance and services.** Approximately 81 percent of program group families received any EHS services. About 63 percent of program group families discussed employment, educational, or self-sufficiency issues with program staff, but most families were not discussing these issues regularly with staff.
- **The extent to which program staff delivered enhanced self-sufficiency services varied substantially.** Some frontline staff felt that they lacked the expertise to help families with self-sufficiency issues, and they called on the self-sufficiency specialists when families asked for such help; other frontline staff provided more direct assistance to families. One program, which employed two specialists, sought assistance from outside agencies to help the

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<sup>3</sup>Center for Law and Social Policy, "Early Head Start Participants, Programs, Families, and Staff in 2006" (Washington, DC: Center for Law and Social Policy, 2008).

<sup>4</sup>U.S. Department of Health and Human Services, Administration for Children and Families, *Making a Difference in the Lives of Infants and Toddlers and Their Families: The Impacts of Early Head Start*, Vol. I: *Final Technical Report* (Washington, DC: U.S. Department of Health and Human Services, Administration for Children and Families, 2002).

<sup>5</sup>Detailed analyses of the implementation findings are presented in earlier reports on this project. See Bloom et al., *Four Strategies to Overcome Barriers to Employment: An Introduction to the Enhanced Services for the Hard-to-Employ Demonstration and Evaluation Project* (New York, MDRC, 2007); and Hsueh, Jacobs, and Farrell (2011; cited above).

EHS families, but the other program, which had just one specialist, devoted less time to this effort.

- **Lack of interest on the part of some families might have reduced the overall level of self-sufficiency assistance that they received.** Staff noted that some parents were not interested in finding employment or pursuing an education, believing that it was better for them to spend time at home during their children's early years. Staff wanted to respect this decision, which was reinforced in the more rural areas by limited transportation and child care services and the lack of well-paying jobs.
- **Families with infants received more Enhanced EHS services than families with toddlers.** Families with younger children spent more time in Enhanced EHS, in part because they were less likely to age out of the program over the follow-up period and were more likely to receive home-based services, which provided opportunities to interact more directly with parents on a regular basis.

## **What Impacts Did Enhanced EHS Have at 18 Months?**

The short-term impact results at the 18-month follow-up indicate that, for the full research sample, the program affected the type of child care used by families and had a small positive impact on children's abilities to regulate their behaviors. Enhanced EHS had no significant impacts, however, on the full sample's parental employment, parenting behaviors, or other aspects of child development and well-being that were examined at the 18-month follow-up. At the same time — consistent with prior evaluations of EHS — the beneficial impacts of Enhanced EHS were more evident among families who had an infant or were expecting a child when they entered the study; among this subgroup, Enhanced EHS appears to have modestly improved parental employment and job characteristics, increased parental warmth, decreased parenting-specific stress and aggravation, and reduced children's social and emotional behavior problems according to parental reports. In contrast, the program's impacts were mixed among families who had a toddler at study entry; among this subgroup, Enhanced EHS had scattered unexpected negative impacts on parental employment and job characteristics and on parental psychological distress, but it also improved toddlers' self-regulation.

## Did Enhanced EHS Make a Long-Term Difference for Parents and Children?

Enhanced EHS had limited overall long-term impacts for the full research sample, with the exception of affecting families' receipt of EHS/Head Start (HS) services and the type of child care that they used for the focal child.<sup>6</sup> Among families with an infant or a pregnant woman at study entry, there is evidence of significant program impacts on selected employment and economic outcomes at the 42-month follow-up. These subgroup impacts differ significantly from the impacts on the same outcomes for families with a toddler at study entry. Because of small subgroup sizes, however, statistical imprecision in impact estimates can result, and so the magnitude of the subgroup impacts should be interpreted with caution.

Table ES.2 summarizes the key findings for the full research sample at the 42-month follow-up point, and these findings are discussed below.

- **Program group families were significantly more likely to receive EHS/HS services than their control group counterparts, although receipt of EHS/HS was fairly common among control group families.**

Differential receipt of EHS/HS between program and control group families was sustained over the longer-term follow-up. About 84 percent of families in the program group ever received any services from EHS/HS over the follow-up period, compared with 40 percent of families in the control group (Table ES.2). Receipt of EHS/HS services among control group families may have been fairly common in part because these families were able to access HS when their child turned 3 years old.

- **Enhanced EHS increased children's receipt of formal child care overall and of EHS/HS care, in particular. The program also decreased the use of home-based care provided by unrelated caregivers.**

Enhanced EHS increased the number of months that children spent in formal care and in EHS/HS care by an average of 3.6 and 6.1 months, respectively (Table ES.2). Over the 42-month follow-up period, the program encouraged some parents to trade other forms of formal care for EHS/HS care, as evidenced by a modest program-driven decrease of 1.6 months, on average, that children spent in other formal care. In addition, the program decreased — by 2.0 months, on average — the amount of time that children spent in home-based care provided by unrelated

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<sup>6</sup>As is true with all applications to EHS, families identify a particular child who is up to age 3 or during the prenatal period and who will be enrolled in the program. In this study's 42-month parent survey and direct child assessments, this child is identified as the *focal child* who is the target of program services and is the focus of all questions related to child care and early educational experiences, parenting practices, and child development and well-being.

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**Table ES.2**

**Impacts on Selected Outcomes 42 Months After Random Assignment**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Early Head Start (EHS)/Head Start (HS)</u></b>					
Received any EHS/HS child care and/or family development services since random assignment (%)	84.1	39.8	44.3 ***	0.90	0.000
<b><u>Child care use since random assignment</u></b>					
Any nonparental child care (%)	91.0	87.0	3.9	0.11	0.176
Number of months spent in:					
Any nonparental child care (months)	19.5	16.2	3.3 ***	0.27	0.007
Any formal care	11.1	7.5	3.6 ***	0.44	0.000
EHS/HS care	7.8	1.7	6.1 ***	1.53	0.000
Other formal care	4.5	6.2	-1.6 **	-0.20	0.022
Any home-based care	8.6	8.9	-0.3	-0.03	0.746
Care provided by relative	7.4	6.2	1.3	0.15	0.126
Care provided by nonrelative	2.9	4.9	-2.0 ***	-0.27	0.002
Total hours in any care per week in past month	21.6	22.7	-1.1	-0.05	0.598
<b><u>Maternal employment and earnings</u></b>					
Employment Year 1 <sup>b</sup> (%)	81.9	79.2	2.7	0.07	0.391
Employment Year 2 (%)	79.0	80.2	-1.2	-0.03	0.705
Employment Year 3 (%)	78.0	73.4	4.7	0.11	0.171
Ever employed (%), Quarters 2-15	91.8	89.1	2.7	0.09	0.245
Earnings Year 1 <sup>b</sup> (\$)	8,197	7,951	246	0.03	0.737
Earnings Year 2 (\$)	9,304	8,881	423	0.04	0.600
Earnings Year 3 (\$)	9,819	8,815	1,004	0.09	0.263
Total earnings (\$), Quarters 2-15	32,537	30,096	2,442	0.08	0.347
<b><u>Parental psychological well-being</u></b>					
Psychological distress (scale of 0-24)	5.4	4.6	0.7 *	0.18	0.078
<b><u>Interviewer assessment of child's task orientation</u></b>					
<b><u>(scale of 1-4)</u></b>	3.1	3.0	0.1	0.12	0.179

(continued)

**Table ES.2 (continued)**

SOURCES: MDRC calculations based on responses to the 42-month survey, direct child assessments, and the National Directory of New Hires (NDNH) database.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. The significance level indicates the probability that one would incorrectly conclude that a difference exists between research groups for the corresponding variable.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

Dollar values include zeroes for sample members who were not employed, unless otherwise noted.

The sample used in this analysis includes females from two-parent cases (41.3 percent), females from one-parent cases (57.1 percent), and males from one-parent cases (1.5 percent). Thirteen sample members are missing Social Security numbers and therefore could not be matched to employment data.

Sample sizes for survey-based measures vary as follows: EHS/HS services (total = 478: 237 program group, 241 control group); child care and psychological distress (total = 455: 229 program group, 226 control group); interviewer child assessment (total = 406: 202 program group, 204 control group). Due to missing Social Security numbers for 13 sample members, employment and earnings data are reported for 597 sample members (300 program group, 297 control group).

Outcomes in this table are defined in Boxes 2.1, 4.1, and 4.2.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>Quarter 1 is the calendar quarter in which random assignment occurred. This quarter may contain some earnings from the period prior to random assignment and is, therefore, excluded from follow-up measures. Accordingly, Year 1, Year 2, and Year 3 are defined as Quarters 2 to 5 after random assignment, Quarters 6 to 9 after random assignment, and Quarters 10 to 13 after random assignment, respectively.

caregivers. As such, Enhanced EHS did not affect the rate at which children were placed in nonparental care over the follow-up period, but it did affect the amount of time that children spent being cared for by others; program group children spent, on average, 3.3 more months in nonparental care than their control group counterparts over the course of the follow-up period.

- **At the 42-month follow-up, Enhanced EHS did not have significant impacts on parental employment and economic outcomes, parenting, or child outcomes among the full research sample.**

Enhanced EHS did not significantly affect parental employment and economic outcomes for the full research sample (Table ES.2). Even though the program produced scattered modest positive impacts on some aspects of parenting and on child well-being at the 18-month follow-up, its effects in these areas were not significant at the 42-month follow-up. This suggests that the positive effects of Enhanced EHS on these outcomes tended to fade over time, perhaps in part because the positive impacts for the program group deteriorated or because control group families engaged in child development, parent education, and family support services at relatively high levels since the 18-month follow-up. Lastly, somewhat unexpectedly,

the program slightly increased parental psychological distress for the full research sample, but the reasons for this are not clear.

- **Enhanced EHS generated positive impacts on parental employment and earnings among families with an infant or a pregnant woman at study entry.**

Enhanced EHS led to more positive impacts on employment and earnings for families with infants and pregnant women at study entry than for families with toddlers, though the magnitude of these impact estimates should be interpreted with caution because the subgroup sample size is small. As shown in Table ES.3, significant impacts on parental employment and earnings emerged later in the follow-up period for the program group families with infants. By Year 3, Enhanced EHS increased program group parental employment by 13 percentage points among families with infants at study entry. Similarly, two and three years after families with infants first entered the study, the program increased parental yearly earnings by \$2,400 and \$2,900, respectively. Over a follow-up period of three and a half years, program group parents earned about \$7,700 more than their control group counterparts. Interestingly, the timing of program-driven increases in parental employment and earnings corresponds loosely with children's preschool years (that is, among the subgroup of families with infants and pregnant women at study entry; infants were between 3 and 5 years old at the 42-month follow-up). Among the subgroup with infants at study entry, the program did not yield measurable significant improvements in families' economic circumstances, parenting behaviors, or child outcomes at the 42-month follow-up.

- **Enhanced EHS had mixed impacts on employment and earning outcomes for families with toddlers at study entry.**

The program did not have a significant impact on annual employment or earnings over the follow-up period among parents in families with toddlers at study entry (Table ES.3). According to the 42-month survey, program group parents with toddlers at study entry reported that they were less likely to be working for pay (not shown) and that they worked fewer hours per week than their control group counterparts (not shown). It is not clear why the program might have had more positive impacts on parental employment and earnings for families with infants than for families with toddlers. It could be that families with infants at study entry were engaged in the program for longer periods of time. In addition, families with infants and pregnant women were more likely to receive home-based EHS services, which provided more frequent opportunities for program staff to discuss employment and educational and self-sufficiency issues with parents.

**The Enhanced Services for the Hard-to-Employ Demonstration**

**Table ES.3**

**Impacts on Selected Outcomes 42 Months After Random Assignment, by Age of Child at Random Assignment**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Age of Child at Random Assignment									
	Infant Group					Toddler Group				
	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Early Head Start (EHS)/Head Start (HS)</u></b>										
Received EHS/HS child care and/or family development services since random assignment (%)	85.9	36.9	49.0 ***	1.01	0.000	82.5	42.3	40.3 ***	0.81	0.000
<b><u>Child care use since random assignment</u></b>										
Any nonparental child care (%)	91.8	85.8	6.0	0.17	0.191	91.1	87.2	3.8	0.11	0.313
Number of months spent in:										
Any nonparental child care	18.0	13.2	4.9 ***	0.42	0.006	21.1	18.2	2.9 *	0.22	0.089
Any formal care	9.6	4.1	5.5 ***	0.84	0.000	12.6	9.7	2.9 **	0.33	0.019
EHS/HS care	7.2	1.2	6.0 ***	1.89	0.000	8.3	2.0	6.2 ***	1.38	0.000
Other formal care	3.1	3.2	0.0	-0.01	0.951	6.0	8.0	-2.0 *	-0.22	0.063
Any home-based care	8.5	9.3	-0.7	-0.09	0.562	8.8	8.5	0.2	0.03	0.830
Care provided by relative	7.3	6.4	0.9	0.11	0.457	7.6	5.9	1.8	0.22	0.120
Care provided by nonrelative	3.5	5.5	-2.1 **	-0.28	0.047	2.4	4.5	-2.1 ***	-0.29	0.009
Total hours in any care per week in past month	26.4	24.8	1.6	0.06	0.644	18.4	20.8	-2.4	-0.12	0.337

(continued)

Table ES.3 (continued)

Outcome	Age of Child at Random Assignment									
	Infant Group					Toddler Group				
	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
										† <sup>b</sup>
<b><u>Maternal employment and earnings</u></b>										
Employment Year 1 <sup>c</sup> (%)	82.6	78.9	3.7	0.09	0.426	81.7	79.1	2.6	0.06	0.551
Employment Year 2 (%)	80.2	82.7	-2.5	-0.07	0.592	78.3	77.6	0.7	0.02	0.872
Employment Year 3 (%)	84.9	71.6	13.3 ***	0.30	0.006	73.2	74.3	-1.1	-0.02	0.823 ††
Ever employed (%), Quarters 2-15	92.14	93.03	-0.89	-0.04	0.7780	91.66	85.58	6.07 *	0.17	0.0760
Earnings Year 1 <sup>c</sup> (\$)	7,687	6,696	991	0.13	0.260	8,617	9,012	-395	-0.04	0.727
Earnings Year 2 (\$)	9,845	7,429	2,416 **	0.30	0.017	8,931	10,064	-1,133	-0.10	0.358 ††
Earnings Year 3 (\$)	10,132	7,224	2,908 ***	0.35	0.007	9,562	10,187	-625	-0.05	0.655 ††
Total earnings (\$), Quarters 2-15	32,774	25,117	7,657 **	0.31	0.015	32,405	34,300	-1,895	-0.05	0.637 †
<b><u>Parental psychological well-being</u></b>										
Psychological distress (scale of 0-24)	5.0	4.4	0.6	0.17	0.298	5.6	4.9	0.8	0.18	0.197
<b><u>Interviewer assessment of child's task orientation (scale of 1-4)</u></b>										
	2.7	2.7	0.0	0.07	0.667	3.3	3.2	0.1 *	0.23	0.057

(continued)



**Table ES.3 (continued)**

SOURCES: MDRC calculations based on responses to the 42-month survey, direct child assessments, and the National Directory of New Hires (NDNH) database.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. The significance level indicates the probability that one would incorrectly conclude that a difference exists between research groups for the corresponding variable.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

The infant group is defined as families with children younger than 12 months old at random assignment. The toddler group is defined as families with children 12 months or older at random assignment.

Dollar values include zeroes for sample members who were not employed, unless otherwise noted.

The sample used in this analysis includes females from two-parent cases (41.3 percent), females from one-parent cases (57.1 percent), and males from one-parent cases (1.5 percent). Thirteen sample members are missing Social Security numbers and therefore could not be matched to employment data.

Sample sizes for survey-based measures vary as follows: EHS/HS services (total = 478: 237 program group, 241 control group); child care and psychological distress (total = 455: 229 program group, 226 control group); interviewer child assessment (total = 406: 202 program group, 204 control group). Due to missing Social Security numbers for 13 sample members, employment and earnings data are reported for 597 sample members (300 program group, 297 control group).

Outcomes in this table are defined in Boxes 2.1, 4.1, and 4.2.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>Tests of differences across subgroups were conducted, and statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; and † = 10 percent.

<sup>c</sup>Quarter 1 is the calendar quarter in which random assignment occurred. This quarter may contain some earnings from the period prior to random assignment and is, therefore, excluded from follow-up measures. Accordingly, Year 1, Year 2, and Year 3 are defined as Quarters 2 to 5 after random assignment, Quarters 6 to 9 after random assignment, and Quarters 10 to 13 after random assignment, respectively.

In terms of parenting behaviors and child developmental outcomes at the 42-month follow-up, there is little evidence to suggest that the effects of Enhanced EHS varied for subgroups of families defined by the child's age.

## **What Are the Implications of the Results?**

The results at the 42-month follow-up indicate that Enhanced EHS had very limited long-term impacts on families and children in the full research sample. Thus, while Enhanced EHS produced scattered modest positive impacts on some aspects of parenting and child development and well-being at the interim follow-up, the results presented here suggest that these short-term effects generally tended to fade over time.

Overall, this study's results paint a cautionary picture about the challenges of integrating proactive services aimed at addressing parents' employment, educational, and self-sufficiency needs into an early childhood, two-generation program. The lack of overall significant impacts on parental employment and earnings outcomes for the full research sample are likely a function of the modest and inconsistent implementation of the programmatic enhancements that focused on parental employment, educational, and self-sufficiency needs. The implementation findings highlight real-world challenges and obstacles to implementing enhanced parental employment and educational services within the scope of an early childhood intervention. First, it was difficult to ensure that program staff viewed addressing parents' employment, educational, and self-sufficiency needs as core components of program services. Second, some staff were uncomfortable encouraging parents to pursue employment and educational activities, particularly when children were very young. Lastly, some parents who sought out early childhood developmental services were not interested in the program's parental employment, educational, and self-sufficiency services — in part because they preferred to be at home while their children were young.

At the same time, this study of Enhanced EHS finds evidence that the approach can be effective for some families. In line with an earlier evaluation of EHS, the positive effects of Enhanced EHS were clustered among families with very young infants and pregnant women at study entry. Enhanced EHS generated positive long-term impacts on parental employment and earnings for families with an infant or those who were expecting a child at study entry. Therefore, even though the program did not result in broader longer-term impacts on parenting practices or child development and well-being, the results for this subgroup of families are somewhat encouraging — particularly given the difficulties that the two sites had in implementing programmatic enhancements that focused on parental employment and educational needs and in regularly engaging parents in such services.

## **Chapter 1**

# **Introduction**

This report presents final results from a rigorous evaluation of a two-generational, early childhood program that was designed to address the developmental needs of young children living in poverty and was enhanced with services aimed at proactively addressing the employment and educational needs of their parents.

In the program evaluated here, proactive services focusing on low-income parents' employment, education, and economic self-sufficiency needs were implemented within a traditional Early Head Start (EHS) program. The enhancements together with traditional EHS services offered by the program are referred to as "Enhanced EHS." It included the addition of on-site self-sufficiency specialists to work with program staff and families on topics related to employment, education, and self-sufficiency; formalized employment and self-sufficiency services; and community partnerships with local employment-focused and educational agencies. The evaluation of Enhanced EHS is being conducted in two sites in Kansas and Missouri and represents one of four strategies being studied in the Enhanced Services for the Hard-to-Employ Demonstration and Evaluation Project (the Hard-to-Employ project). The evaluation is sponsored by the Administration for Children and Families and the Office of the Assistant Secretary for Planning and Evaluation in the U.S. Department of Health and Human Services (HHS), with additional funding from the Department of Labor.

## **The Background and Policy Relevance of the Evaluation**

The rate of child poverty in the United States remains persistently high. In 2007, over 13 million children under the age of 18 lived in families with incomes below the federal poverty level. When families living at or near poverty thresholds are considered — that is, below 200 percent of the federal poverty level — the number of children living in low-income families jumps to more than 28 million, or 39 percent of all children in the United States.<sup>1</sup> The statistics isolating the economic plight of families with infants and toddlers (children age 3 or younger) are even more troubling. Of the 12 million infants and toddlers living in the United States in 2007, 5.4 million (43 percent) lived in low-income families, and 2.7 million (21 percent) lived in families with incomes below the federal poverty level.<sup>2</sup>

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<sup>1</sup>Fass and Cauthen (2008).

<sup>2</sup>Douglas-Hall and Chau (2008).

Families' economic hardships and unstable financial circumstances can have harmful consequences for children. Numerous studies have found that living in poverty can impede young children's cognitive development and can contribute to poorer physical health outcomes, as well as social, emotional, and behavioral problems.<sup>3</sup> The children who appear to be at greatest risk are infants and toddlers and children whose families experience chronic and severe economic hardships.<sup>4</sup> Thus, there are particular concerns about the plight of very young children whose parents or families face serious obstacles to achieving stable employment and economic self-sufficiency; in essence, such risk factors as depression, severe stress, low levels of education, substance abuse, and family violence can make it difficult for parents to achieve economic stability and are often the same factors that impinge on their abilities to support and nurture their children and that place children at developmental risk.<sup>5</sup> At the same time, these relationships tend to be bidirectional, such that having children with chronic and severe developmental and physical health issues can also interfere with parents' abilities to maintain sustained employment and economic self-sufficiency.<sup>6</sup>

## **Evidence from Research on Two-Generational Services**

Very little is known about effective strategies that dually address low-income parents' employment and economic challenges and the developmental risks faced by their young children, but many see the appeal of a multipronged, two-generational approach.

In most child-focused, two-generational programs, early childhood educational services are offered to children, while parents are offered services to help them enhance their parenting skills and, sometimes, to address their social service needs. A review of several major studies of these kinds of programs highlights the potential of the two-generational approach for enhancing a wide array of children's developmental outcomes,<sup>7</sup> parenting behaviors,<sup>8</sup> and parental employment and economic self-sufficiency,<sup>9</sup> but the short-term effects are often modest in magni-

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<sup>3</sup>Duncan and Brooks-Gunn (1997, 2000).

<sup>4</sup>Duncan, Brooks-Gunn, and Klebanov (1994).

<sup>5</sup>Evans (2004); Evans and English (2002).

<sup>6</sup>Danziger, Kalil, and Anderson (2000).

<sup>7</sup>U.S. Department of Health and Human Services, Administration for Children and Families (2002); Brooks-Gunn, Klebanov, Liaw, and Spiker (1993); Campbell and Ramey (1994); Dokecki, Hargrove, and Sandler (1983); Ramey and Campbell (1991); St. Pierre, Layzer, Goodson, and Bernstein (1997); Wasik, Ramey, Bryant, and Sparling (1990).

<sup>8</sup>U.S. Department of Health and Human Services, Administration for Children and Families (2002); Dokecki, Hargrove, and Sandler (1983); Travers, Nauta, and Irvin (1982); Olds et al. (1999); St. Pierre, Layzer, Goodson, and Bernstein (1997).

<sup>9</sup>U.S. Department of Health and Human Services, Administration for Children and Families (2002); Olds et al. (1999); St. Pierre, Layzer, Goodson, and Bernstein (1997).

tude, and many of the effects fade over time.<sup>10</sup> Even so, there is diversity not only in the timing, duration, and intensity of child-focused and parenting services offered by the two-generational programs but also in the degree to which services proactively focus on parents' social service needs — particularly their employment, educational, and economic self-sufficiency needs.<sup>11</sup> In general, programs tend to react to parents' employment and economic crises (such as job loss), rather than proactively assisting parents to achieve more stable employment in order to become economically self-sufficient. This earlier research demonstrates the promise of a multipronged approach to address the challenges that low-income parents and their young children face,<sup>12</sup> and it highlights opportunities to enhance the early childhood, two-generational programs with a more proactive focus on parents' employment and economic self-sufficiency needs.

## **Description of the Program Model**

This evaluation tests a program model of proactive services focusing on low-income parents' employment, education, and economic self-sufficiency needs that were implemented within a two-generational, early childhood education program. The program model builds on two existing EHS programs that operated in Kansas and Missouri. It therefore includes an expanded service component to address parental employment and education needs plus an array of early childhood developmental services, parenting education, family support, and social service assistance that is commonly found in most traditional EHS programs.

### **Early Head Start**

Early Head Start (EHS), an early childhood program that serves pregnant women and families with children under age 3, targets and places a priority on high-need and low-income families, many of whom commonly experience barriers to employment and financial self-sufficiency. EHS focuses on promoting children's school readiness and developmental outcomes by providing a range of intensive child-focused, parent education, and family development services through home visits and high-quality, center-based child care. There is a strong programmatic emphasis on directly enhancing young children's physical, behavioral, language, and cognitive development. Another strong programmatic emphasis indirectly supports children's well-being by promoting positive parent-child relationships, addressing parents' mental health and families' social service needs, and promoting healthy prenatal outcomes for pregnant women.

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<sup>10</sup>U.S. Department of Health and Human Services, Administration for Children and Families (2002, 2010); Olds et al. (1999); St. Pierre, Layzer, Goodson, and Bernstein (1997); Wasik, Ramey, Bryant, and Sparling (1990).

<sup>11</sup>U.S. Department of Health and Human Services, Administration for Children and Families (2002).

<sup>12</sup>Brooks-Gunn, Berlin, and Fuligni (2000); Yoshikawa (1994).

Traditional EHS programs typically achieve their goals through a variety of program options. In this evaluation, the two participating programs in Kansas and Missouri used mixed-approach service delivery models. (Box 1.1 presents the core EHS service components, target population, and staff qualifications of the programs participating in this evaluation.) Families received all child-focused and family development services either through (1) *home-based services*, which were delivered through weekly home visits, and the program was responsible for ensuring that families who needed child care found high-quality care in the community, or through (2) *center-based services*, which families received through EHS centers or centers in the community that provided child care in line with Head Start (HS) quality and safety guidelines. Families had the flexibility of receiving EHS through either home-based or center-based service options; that is, families could cycle from one service option to the other, depending on their needs, but they could not receive both types of services at the same time.

### **Programmatic Enhancements to Existing EHS Self-Sufficiency Services**

The enhancements to the existing employment, educational, and self-sufficiency services were intended to (1) help parents who were not employed move into employment; (2) assist parents who had low levels of education in pursuing educational goals as a means of improving their employment and financial circumstances; and (3) help parents who were employed to find more stable employment, advance in their jobs, and earn higher wages. These programmatic enhancements were developed with funding from the Head Start program and in close collaboration with MDRC to include the following:

1. Hiring on-site “self-sufficiency” specialists(s) to oversee and develop the programs’ employment and self-sufficiency services; to work directly with families on employment, educational, and self-sufficiency needs and goals; and to act as “resource experts” by developing resource guides to help staff identify available employment and training-related opportunities in the community.
2. Building partnerships with welfare agencies and local programs that provide employment and training services.
3. Conducting staff trainings on the use of employment and educational resource guides to further develop the skills and competencies of frontline EHS staff, so that they were able to work with parents’ employment, training, and self-sufficiency goals as needed.
4. Conducting parent trainings focused on employment, educational, and self-sufficiency issues.

### Box 1.1

## Core Features of the Early Head Start Programs

### Enrollment

- **Target population.** Low-income families with infants and toddlers (up to age 3) and pregnant women.
- **Recruitment.** Staff recruited families for EHS at a number of settings, including community events, government agencies (such as the welfare agency), schools, health departments, doctors' offices, and community-based organizations that provide services to low-income families. Staff also left flyers at the doors of apartments and housing complexes.
- **Enrollment.** After families were assigned to EHS, staff met with parents individually to complete enrollment forms and sign an agreement outlining the program's and the parent's responsibilities. Staff collected documentation on the child's health history, assisted the family in developing a goal plan, and conducted assessments of the child's hearing and vision as well as motor, language, cognitive, and social-emotional development.

### Staff

- **Staff qualifications.** Most staff had a four-year college degree, and some had a master's degree or were working toward an advanced degree. The most common degrees were in early childhood development and education; the most common past work was in child care, education, or social services.
- **Staff training.** Formal training took place each August. Staff were trained on the curriculum, conducting assessments, home visitation, sexual harassment, and other issues that emerged.\*

(continued)

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NOTE: \*For staff training, both programs used the Parents-as-Teachers (PAT) Born-to-Learn curriculum until 2007, when they transitioned to the Creative Curriculum.

### Box 1.1 (continued)

#### Core Program

- **Home-based service option.** Families received weekly home visits lasting 90 minutes and, twice a month, could attend group socialization sessions that facilitated interaction among families receiving EHS. During visits, home visitors typically spent 60 minutes conducting individualized developmental activities with children, demonstrating activities that parents and children could engage in together to foster parent-child interaction, modeling appropriate parenting behaviors, and assessing children's developmental progress; the remaining 30 minutes were spent addressing the family's social services needs.
- **Center-based service option.** Families received high-quality, center-based child care for at least six hours a day, five days a week, either directly through EHS/HS centers or through child care centers in the community that provided care in line with EHS quality and safety requirements. While in center-based care, children received daily lesson plans and activities tailored to their individual developmental needs and those of other children in the classroom. Families also engaged in parent-teacher conferences or home visits conducted at least quarterly (depending on the program site and where children received center-based care) in which parent education and family support and social service needs were addressed.
- **Parental involvement.** The programs offered activities throughout the year as well as monthly parent committee meetings, organized by the parents, that featured guest speakers who spoke on topics of interest to the parents. In addition, the Head Start policy council included several parents to ensure that parents had a voice in decision-making.
- **Specialized services.** All families, regardless of whether they received home- or center-based service options, also were offered an array of health, mental health, nutrition, and child disability services directly through EHS or through referrals to other providers in the community.

## The Research Design, Sites, Characteristics of Sample Members, and Data Sources

This evaluation uses a random assignment research design to test the effects — on parents and their young children — of the package of Enhanced EHS services, including programmatic enhancements to self-sufficiency services. This section first describes how families became part of the research sample and were randomly assigned. Then it describes the sites participating in the evaluation and some characteristics of the study's sample members. The section



concludes with a discussion of the data sources used in this report and the follow-up periods for the impact analysis.

### **The Research Design, Sample Intake, and Random Assignment Process**

The target population for the study included low-income families with infants and toddlers and pregnant women who were new applicants to Enhanced EHS. The programs targeted families who met the following eligibility criteria:<sup>13</sup>

- Had a family income at or below the federal poverty threshold<sup>14</sup>
- Had a child under the age of 3 or were expecting a child
- Lived in the Enhanced EHS program's designated service area

New applicant families were recruited and randomly assigned into Enhanced EHS on a rolling basis beginning in late July or early August 2004 and ending in December 2006. A total of 610 families were randomly assigned — 305 families in each research group.

Figure 1.1 illustrates the sample intake and random assignment process. Families who were interested in receiving Enhanced EHS completed an application. After verifying their eligibility for Enhanced EHS, families were assigned a priority score based on their specific needs, barriers to employment, or circumstances. Priority was given to pregnant women and families who had infants or toddlers and those who had particular characteristics related to employment, welfare receipt, parent or child disability, or teenage parental status.<sup>15</sup> For the purposes of the evaluation, program staff then explained the study and the random assignment process. Families were not required to participate in the evaluation, but the only way they could receive program services was to consent to being randomly assigned. Families who agreed to

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<sup>13</sup>These eligibility criteria mirror those that were utilized by the existing EHS programs prior to participating in this evaluation.

<sup>14</sup>In some cases, the income requirement could be waived if the child or family had special needs or other selected criteria, like an older sibling enrolled in Early Head Start or Head Start (EHS/HS). Programs participating in this evaluation set their own criteria for circumstances in which the eligibility criteria could be waived. However, no more than 10 percent of a program's enrolled caseload could exceed the income eligibility requirement at any time.

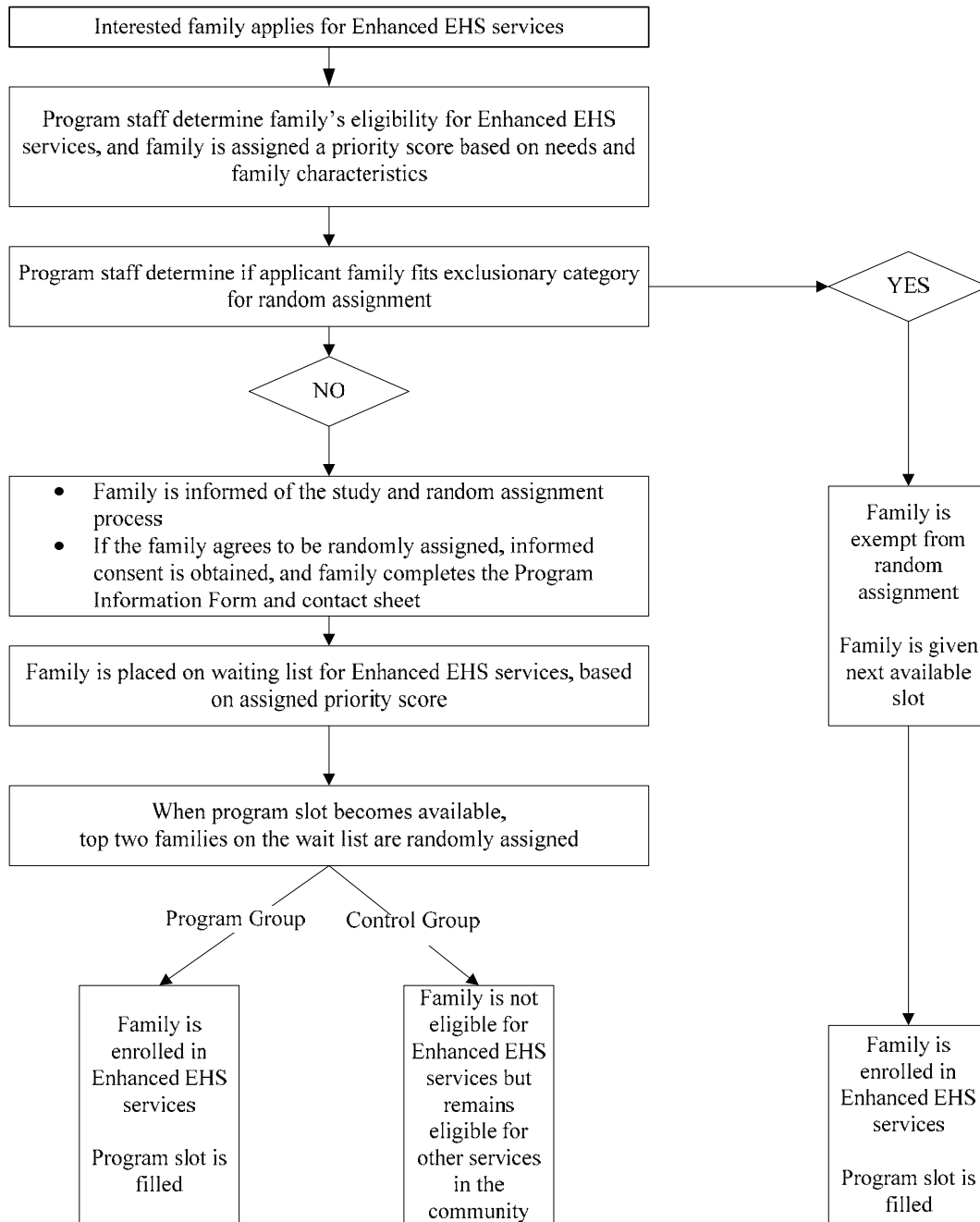
<sup>15</sup>To ensure that the neediest families (such as those with children who had disabilities) were not excluded from receiving services and that the programs were able to meet Head Start Program Performance Standards while random assignment continued, each program was given a set number of exemptions from random assignment per year (determined as a percentage of projected new enrollees to the program), to be used for families based on specific criteria defined by the programs before the start of the study (such as having a child with a disability or a sibling already enrolled in EHS/HS services). A small number of families who met these exemption criteria were allowed to bypass random assignment and were enrolled in Enhanced EHS, but they were excluded from the study sample and from this report's implementation and impact analyses.

## The Enhanced Services for the Hard-to-Employ Demonstration

Figure 1.1

### Random Assignment Flow Chart

#### Early Head Start with Enhanced Self-Sufficiency Services



this completed the Program Information Form and contact sheet and were then placed on the waiting list for Enhanced EHS in priority order, based on their needs and circumstances. When a program slot became available, paired random assignment was conducted with the top two eligible and interested families on the waiting list.

Families were randomly assigned to one of two research groups:

- **The Enhanced EHS program group.** If assigned to the program group, the family was enrolled in Enhanced EHS services, which included enhanced EHS self-sufficiency services as well as traditional EHS services.
- **The control group.** If assigned to the control group, the family was not able to access Enhanced EHS or traditional EHS provided by the two participating programs in Kansas and Missouri, but it was able to seek alternative services available in the community.

After the random assignment process was completed, program staff informed families about their research group designation. Families in the Enhanced EHS program group were contacted to set up their initial enrollment meeting with program staff and were enrolled in either the home-based or the center-based Enhanced EHS service option, depending on which program slot was available. Once families were enrolled in Enhanced EHS, they could cycle from one service option to the other, depending on their needs and on service option availability, but they could not receive both home- and center-based service options at the same time. Families who were assigned to the control group were given a resource list of available services that they could access in the community.

Parents and children in both research groups were tracked over time to determine the impacts of Enhanced EHS. Random assignment helps ensure that parents' and children's characteristics — both measured (such as child's gender and age) and unmeasured (such as motivation, parenting attitudes and beliefs) — are, on average, similar across the two groups at the beginning of the study. Hence, any subsequent average group differences in outcomes for parents and children in the program and control groups that are measured at the follow-up point can be attributed with a high level of confidence to Enhanced EHS.

## **The Study Sites**

This study evaluates two EHS programs in Kansas and Missouri that enhanced their existing services with formalized employment and self-sufficiency services. These programs were selected based on their histories of delivering high-quality EHS services, the use of a mixed-approach program model (a combination of home- and center-based services that the Early Head Start Research and Evaluation project points to as being potentially most effective for

enhancing young children's developmental outcomes),<sup>16</sup> their capacities to build sufficient waiting lists to sustain and justify random assignment, and support by their EHS policy councils for a random assignment study and programmatic enhancements to existing EHS services.

*Southeast Kansas Community Action Program (SEK-CAP) Early Head Start (Girard, Kansas)*

SEK-CAP is a community-based agency that serves low-income families and children in 12 rural counties of southeast Kansas.<sup>17</sup> It receives funding from a combination of federal and state grants to provide a mix of services — including family outreach, transportation, and housing services in addition to the early childhood educational services of EHS and Head Start (HS) programs. When families were first being enrolled in the study in Kansas, the SEK-CAP EHS program was able to serve up to 50 families at a time. In August 2006, the program received an additional grant from the state to serve an additional 30 families and to expand the service area, bringing the total number of families served by the EHS program to 80 families at a time. At the start of the evaluation, all participating families were offered a mix of EHS home-based services and center-based services through EHS community partnership child care centers; families could move seamlessly from one service option to another. All families received weekly home visits by family educators, and twice a month they attended group socialization sessions at which parents and children interacted with other EHS families, regardless of whether they also received child care through EHS community partnership centers. In 2007, the EHS program expanded services and opened EHS centers providing child care, at which time families who received EHS center-based child care services received home visits from program staff twice a month.

*Youth in Need Early Head Start (St. Charles, Missouri)*

Youth in Need is a multiservice agency that serves low-income families and children in eastern Missouri. In addition to operating EHS and HS programs, the agency provides residential treatment programs, outreach services for homeless individuals and families, after-school leadership and educational programs for youth, and individual and group mental health services. During the time that families were enrolled in the study, the Youth in Need EHS program, which was supported exclusively by federal grants, was funded to serve 199 families in three suburban counties and one rural county outside St. Louis, Missouri. The EHS program provided both home-based and center-based services. Families could move seamlessly from one service option to the other but did not receive both service options at once. Families who were exclu-

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<sup>16</sup>U.S. Department of Health and Human Services, Administration for Children and Families (2002, 2010).

<sup>17</sup>The counties are defined as being rural if they are not in Metropolitan Statistical Areas (MSAs), using the Office of Management and Budget (OMB) classification of counties in identifying rural or urban areas.

sively enrolled in EHS center-based child care services received parental support and child development services through daily interactions with teachers and center-based managers at EHS child care centers. Families who did not receive EHS center-based child care received weekly home visits by family educators and attended group socialization sessions twice per month, where parents and children interacted with other EHS families. However, families who received child care through collaborative partnerships at other community-based child care centers also received home-based services in the form of quarterly visits from a home visitor.

### **Characteristics of the Sample Members**

Table 1.1 presents selected characteristics of parents and children in the study sample at the time of random assignment, by research group, as well as the baseline characteristics of the full, pooled research sample (610 families). The sample is split evenly across study sites. Information on the demographic and background characteristics of families, parents, and children is drawn from the EHS application forms and assessments that were completed just before families were randomly assigned to research groups in SEK-CAP and Youth in Need. As expected with random assignment, the two research groups are very similar. Nearly all the primary parents who are identified on the EHS applications in the pooled sample are women (90 percent). More than half were single and never married (54 percent) at study entry. Of the parents in the sample, 86 percent identified themselves as white, 8 percent as black, and 5 percent as Hispanic/Latino(a) regardless of race. Slightly more than half the sample (52 percent) worked more than 12 months in the three years prior to random assignment; one-third worked 12 months or less; and 15 percent had not worked at all during that period. Slightly less than one-third of families (29 percent) were receiving Temporary Assistance for Needy Families (TANF) on entering the study, and slightly less than half (47 percent) reported ever having received TANF before random assignment. Small minorities of the sample members were pregnant women (11 percent) or teen parents (12 percent) at study entry. Slightly more than half the children in the sample (53 percent) are boys. On average, children in the sample were about 17 months old on entering the study. At the 42-month follow-up, children in the sample were between 3 and 7 years old.

Overall, the Enhanced EHS study population's characteristics are in line with the range of characteristics of families being served by EHS programs across the United States in 2006, with one noted exception.<sup>18</sup> This study sample includes more white parents and fewer black and Hispanic/Latino(a) parents, regardless of race. According to Program Information Report data available on EHS programs across the United States from the 2005-2006 program year, 42 percent of families identified as being white, 25 percent as black, and 30 percent as Hispanic/

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<sup>18</sup>Center for Law and Social Policy (2008).

**The Enhanced Services for the Hard-to-Employ Demonstration**

**Table 1.1**

**Characteristics of Sample Members at Baseline, by Research Group**

**Early Head Start with Enhanced Self-Sufficiency Services**

Characteristic	Program Group	Control Group	Total
<b><u>Primary parent</u></b>			
Female <sup>a</sup> (%)	89.8	89.4	89.6
Average age (in years)	25.7	25.9	25.8
Marital status (%)			
Single, never married	54.8	53.5	54.2
Married	26.2	31.4	28.8
Separated/divorced/widowed	18.9	15.1	17.0
Spanish/Hispanic/Latino(a) (%)	3.3	7.0	5.1 **
Race/ethnicity <sup>b</sup> (%)			
White	87.7	84.3	86.0
Black or African-American	7.3	9.4	8.3
Other	5.0	6.4	5.7
Highest education <sup>c</sup> (%)			
GED certificate/high school diploma	69.8	64.7	67.2
Postsecondary degree	7.9	7.2	7.5
None of the above	22.3	28.1	25.3
Primary parent employed during the past 3 years (%)			
Did not work at all	15.3	15.1	15.2
Worked 1 year or less	29.7	36.6	33.1
Worked more than 1 year	55.0	48.3	51.7
Prenatal <sup>d</sup> (%)	10.8	10.5	10.7
Teen parent (%)	11.5	12.5	12.0
Two-parent household (%)	39.0	44.9	42.0
Currently on TANF <sup>e</sup> (%)	29.2	28.9	29.1
Ever on TANF <sup>e</sup> (%)	48.2	45.1	46.6
<b><u>Child<sup>f</sup></u></b>			
Gender (%)			
Girls	47.5	46.5	47.0
Boys	52.5	53.5	53.0
Average age (in months)	17.7	16.3	17.0
Sample size	305	305	610

(continued)

**Table 1.1 (continued)**

SOURCES: MDRC calculations from Early Head Start (EHS) Program Information Forms (PIFs) and 18-month survey.

NOTES: In order to assess differences in characteristics across research groups, chi-square tests were used for categorical variables, and t-tests were used for continuous variables.

Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between research groups for the variable in question.

<sup>a</sup>This reflects the gender of the primary parent listed on the PIFs, which was completed at the time of random assignment.

<sup>b</sup>“Other” race/ethnicity was self-identified by the parent and may include biracial or multiracial individuals or a race/ethnicity category other than white or black/African-American.

<sup>c</sup>Calculations of highest education at baseline are based on responses to the 18-month survey and are available only for the survey sample. At the 18-month follow-up, respondents were asked about their highest credential — a GED certificate, high school diploma, associate’s degree, bachelor’s degree, or graduate degree — and, if any, when they received it. The highest credential at baseline includes only those that were obtained prior to random assignment. “Postsecondary degree” is defined as an associate’s, bachelor’s, or other graduate degree.

<sup>d</sup>Prenatal status indicates whether the mother was pregnant at the time of random assignment.

<sup>e</sup>“Currently on TANF” indicates whether the family was receiving TANF at the time of random assignment. “Ever on TANF” indicates whether the family had ever received TANF prior to random assignment.

<sup>f</sup>Prenatal cases are not included in these computations.

Latino(a). Differences in the racial and ethnic composition of the study sample from the broader EHS population could have implications for the impacts detected here. Among sample members in the Early Head Start Research and Evaluation project examining the effects of traditional EHS services, for example, impacts on parenting and child well-being were clustered and were larger in magnitude for pregnant women at study entry and for African-American families.<sup>19</sup> Given that the present study sample includes very few ethnic minority families, this suggests that the impacts of the program evaluated here could be somewhat smaller than the impacts identified by prior evaluation research.

### **Data Sources Used in the Report**

To study the longer-term effects of Enhanced EHS in Kansas and Missouri, the analyses presented in this report rely on several data sources, described below.

#### ***Baseline Data***

Demographic information on the sample members was drawn from common information across all the programs’ intake forms and assessments, which are completed as part of the EHS application process. The assessments generally have two components: a program

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<sup>19</sup>U.S. Department of Health and Human Services, Administration for Children and Families (2002).

eligibility determination and priority score assignment and an in-depth interview with the parent that covers certain aspects of family life.

### *The 18-Month — and 42-Month — Surveys of Parents*

Surveys were administered to all the primary caregivers in the research sample approximately 18 months and 42 months after random assignment.<sup>20</sup> Response rates were high: nearly 81 percent of parents completed the 18-month survey, and 79 percent of parents completed the 42-month survey.<sup>21</sup> The survey included questions about a wide range of topics, including parental and child service receipt, child care use, parental psychological well-being, parenting, and family functioning — such as activities with children<sup>22</sup> (social play and discipline) — and family routines that are direct targets of the program and that might account for the effects of Enhanced EHS on young children’s development, parents’ employment and job characteristics, family and parental income, receipt of public assistance, and children’s social, emotional, and cognitive development; early academic outcomes; and health and safety outcomes.

### *Direct Assessments of Children’s Developmental Outcomes*

Approximately 42 months after random assignment, interviewer assessments of children’s functioning were also conducted with all children at the time of the assessment. This information is intended to supplement the information learned about child well-being that is captured by the 42-month survey of parents. An interviewer asked all children to perform several self-regulation tasks that assess motor control, attention skills, impulsivity, and emotional state at the time of the assessment, though the specific tasks varied with the child’s age at the time of the assessment. These tasks included walking along a line at varying speeds, tapping a pencil varying number of times in line with the interviewer’s instructions, and sorting cards along varying dimensions. Children’s early academic skills were also assessed using the broad math and reading subscales of the Woodcock-Johnson III-R. Lastly, interviewers completed a checklist providing a global assessment of children’s attention, engagement, emotions, and

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<sup>20</sup>The survey sample was restricted to participants who were able to complete the survey in English. Less than 1 percent of the research sample were excluded from the survey sample because of a language barrier. In 90 percent of cases, the primary parent listed on the EHS application is female. The 42-month survey, however, focused on the female parent or guardian. Therefore, a higher percentage of survey respondents are female (98 percent).

<sup>21</sup>See Appendix A for an analysis of the response rates for the 42-month survey and for any implications that the response rates have for the impact analysis.

<sup>22</sup>As is true with all applications to EHS, families identify a particular child who is up to age 3 or during the prenatal period and who will be enrolled in the program. In this study’s 42-month parent survey and direct child assessments, this child is identified as the “focal child” who is the target of program services and is the focus of all questions related to child care and early educational experiences, parenting practices, and child development and well-being.



behaviors throughout the assessments. Sixty-seven percent of children in the research sample completed at least one assessment.<sup>23</sup>

### *Data from the National Directory of New Hires*

Parental employment and earnings data for all sample members were assessed using the wage data from the National Directory of New Hires. This national database maintained by the Office of Child Support Enforcement can provide information on earnings from employment both within and outside Kansas and Missouri.

## **A Review of the Implementation of Enhanced EHS**

This section reviews the study sites' experiences and challenges in implementing the program enhancements and the extent to which families received Enhanced EHS services at the 18-month follow-up.<sup>24</sup>

- **Implementation challenges lead to relatively weak employment, educational, and self-sufficiency enhancements that were never fully integrated into core EHS services.**

The sites found it difficult to make the programs' core set of services focus proactively on parental employment, education, and self-sufficiency. Many frontline staff had little experience and felt that they lacked the expertise to help families with self-sufficiency issues. Some staff felt uneasy encouraging parents to spend time outside the home in pursuit of employment or education when their children were very young. At the same time, staff noted a lack of interest on the part some parents in finding employment or pursuing an education. Parents were not interested in receiving self-sufficiency assistance for a variety of reasons: some parents expressed a preference for staying at home during their children's early years, and staff wanted to honor this choice; others were interested only in Enhanced EHS because of the child development and parenting education services being offered; and still others were living with another adult who worked, and although they had low incomes, they were getting by from a mix of earnings and public benefits (for example, food stamps, housing assistance, and the Women, Infants, and Children [WIC] program). Furthermore, most parents who received center-based services were already employed or in school and did not generally seek out or receive self-sufficiency assistance unless they lost their jobs.

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<sup>23</sup>See Appendix A for an analysis of the response rates for the direct child assessments and any implications for the impact analysis.

<sup>24</sup>In-depth summaries and detailed analyses of the implementation findings are presented in two earlier reports on the Hard-to-Employ project in Kansas and Missouri. See Bloom et al. (2007) and Hsueh, Jacobs, and Farrell (2011).

- **At the 18-month follow-up point, receipt of Enhanced EHS was high among program group families, but take-up of the enhanced employment and educational services was lower than expected.**

At the interim follow-up, about 81 percent of families in the program group had ever met with program staff or enrolled in EHS/HS child care; 63 percent of program group families had ever discussed employment, education, or self-sufficiency issues with program staff; and only 32 percent of program group parents had ever met with Enhanced EHS' self-sufficiency specialists. Moreover, while the majority of families had at least one discussion with program staff that focused on parental employment and education, many were not having regular discussions about these issues. These participation rates likely reflect the voluntary nature of EHS programs, the lack of interest on the part of some families in receiving employment and educational services and assistance, and difficulties in implementing the programmatic enhancements that focused on parental employment and educational and self-sufficiency needs.

- **Enhanced EHS provided a comprehensive array of home visiting and center-based child care services aimed at enhancing young children's development and well-being, but control group members also reported receiving relatively high levels of similar services.**

Like most traditional EHS programs, Enhanced EHS provided a suite of child-focused, parenting education, and family support services delivered through home visits and center-based child care services. Even though programs did not specifically seek to enhance these service components as part of the evaluation, such services remained the focus of Enhanced EHS. A high proportion of families (91 percent) in the program group reported receiving assistance across these domains at the 18-month follow-up. Yet similar services were also readily available in these communities. At the 18-month follow-up, 80 percent of families in the control group also reported receiving assistance in these areas. Thus, even though services offered by other community programs were generally less intense in terms of dosage and scope when compared with Enhanced EHS, it is possible that the differential in service receipt between program and control group families might not have been sufficient to yield significant program impacts on outcomes of interest.

- **At the 18-month follow-up point, a higher percentage of families with infants and pregnant women were engaged in Enhanced EHS, and for longer periods of time, than families with toddlers.**

At the interim follow-up, about 91 percent of program group families with infants and pregnant women at study entry ever met with Enhanced EHS program staff or enrolled in EHS center-based child care, compared with 73 percent of program group families with toddlers. Families with infants and pregnant women were also engaged in Enhanced EHS services for

longer periods of time than their counterparts with older children. Within the first 18 months following random assignment, program group families with infants and pregnant women were engaged in Enhanced EHS services for 13 months, on average, compared with 9 months for the families with toddlers. This difference probably reflects that families with infants and pregnant women at study entry were less likely to age out of Enhanced EHS over the course of the follow-up period. (At the 42-month follow-up point, for example, infants at study entry were between 3 and 5 years old, whereas toddlers at study entry were between 5 and 7 years old.) Furthermore, when compared with families with older children, families with infants and pregnant women at study entry who were receiving Enhanced EHS were more likely to get home-based EHS services, which provided more opportunities than center-based services for program staff to interact directly and regularly with parents and to discuss issues related to their employment and education. At some point over the course of the 18-month follow-up period, 83 percent of program group families with infants and pregnant women received services at home, compared with 64 percent of program group families with toddlers.

## **The Structure of This Report**

The remainder of this report is organized as follows:

- **Chapter 2** presents the effects of Enhanced EHS on receipt of EHS/HS services, including nonparental child care, and reports on children's early educational experiences.
- **Chapter 3** presents the impacts of Enhanced EHS on maternal employment, earnings, job characteristics, and household income.
- **Chapter 4** presents the impacts of Enhanced EHS on parenting practices, parental psychological well-being, and child development and well-being.



## Chapter 2

# Impacts on Service Receipt, Child Care, and Early Educational Experiences

The Enhanced Services for the Hard-to-Employ Demonstration and Evaluation Project is studying the effectiveness of offering parents employment and educational services within two traditional Early Head Start (EHS) programs: one offered by the Southeast Kansas Community Action Program (SEK-CAP) in Girard, Kansas, and one offered by the Youth in Need program in St. Charles, Missouri. The “Enhanced EHS” programs aimed to improve families’ economic circumstances and self-sufficiency and, thus, also to improve their children’s development. Families in the study were randomly assigned either to the Enhanced EHS program group (and could receive either home-based or center-based services) or to the control group, whose members could not access Enhanced EHS or traditional EHS from these two programs but could seek alternative services available in the community.

This chapter presents the impacts of Enhanced EHS on child care and on children’s early educational experiences as well as the impacts on receipt of any EHS or Head Start (HS) services (including home- and center-based services from SEK-CAP or Youth in Need) about 42 months after families entered the study. Changes in these experiences are expected to be among the primary ways by which the program supports children’s cognitive, social, and emotional development as well as parents’ abilities to maintain stable employment. An understanding of the impacts on these outcomes is therefore central to interpreting the impacts of Enhanced EHS on the child and parent outcomes that are presented in Chapters 3 and 4.

The analysis uses information about the receipt of any EHS or HS services, as well as children’s receipt of any nonparental child care, different types of child care, the amount of time that children spent in different care arrangements, and child care stability as collected by a survey administered to parents approximately 42 months after random assignment. (Box 2.1 discusses the measures of child care outcomes and defines the different types of child care.) This chapter first presents impacts for the full research sample and then considers how the impacts of Enhanced EHS might vary for infants and toddlers by examining subgroups of families defined by the age of the focal child<sup>1</sup> at random assignment.<sup>2</sup> (Box 2.2 explains how to interpret the estimated impacts shown in tables presented in the remainder of this report.)

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<sup>1</sup>As is true with all applications to EHS, families identify a particular child who is up to age 3 or during the prenatal period and who will be enrolled in the program. In this study’s 42-month parent survey and direct child assessments, this child is identified as the “focal child” who is the target of program services and is the focus of all questions related to child care and early educational experiences, parenting practices, and child development and well-being.

<sup>2</sup>Impacts on child care and receipt, by program site, are shown in Appendix Table B.1. Impacts by number of parents in the household were also explored (not shown); no statistically significant differences emerged for subgroups of families defined by the number of parents in the household.

### Box 2.1

#### Measures of Child Care Outcomes

Data about children's experiences with child care were collected by the 42-month survey of parents.

**Child care use.** The survey collected information from parents (primarily mothers) about different forms of child care that might have been used for at least 10 hours per week and for at least two weeks since random assignment. A composite measure of whether the child was ever placed in any form of care since random assignment was created using this information. In addition, different forms of child care were categorized into formal and home-based care. These categories are not mutually exclusive; that is, parents who reported placing their children in formal care may also have relied on home-based care at some point during the follow-up period.

- **Formal child care** includes Early Head Start (EHS), Head Start (HS) center-based care, and structured center-based or group child care provided outside the home in preschool, nursery school, summer daycare, or extended day programs.
- **Home-based child care** includes care provided by nonrelatives in another person's home (such as a babysitter not related to the child or family); daycare in the home; and care provided by siblings, grandparents, or other relatives.

In addition, because of the child development services delivered through EHS/HS child care, impacts are presented separately on the use of EHS/HS child care and other forms of formal care described above. Impacts are also presented separately for home-based care provided by relatives and by nonrelatives.

**Children's time spent in child care.** In addition to general information about the types of child care used since random assignment, parents were asked to report how many months since the time that they were interviewed for the 18-month survey (or since they first entered the study, if they did not complete the 18-month survey) the focal child spent in each form of care. Parents were also asked about how many hours per week in the past month the focal child spent in all forms of care arrangements. This information as well as information from the 18-month survey, if it was available, was used to calculate the average number of months that a child spent in formal or home-based care since random assignment and the average number of months in each form of care and the total hours in any care in a typical week in the past month.

**Child care stability.** Parents reported on (1) the total number of care arrangements used in the last month prior to the interview, (2) difficulties in arranging for care for the focal child, and (3) the extent to which the number of hours that the child spent in care (across all arrangements) changed from week to week in the month prior to the interview. For the last two indicators of child care stability, responses were recorded on a 4-point scale ranging from "hardly at all or rarely" to "always."

## Box 2.2

### How to Read the Estimated Impact Tables in This Report

Most tables in this report use a similar format, illustrated below. Several participation outcomes are shown for the program group and the control group. For example, about 84 (84.1) percent of the program group and about 40 (39.8) percent of the control group ever participated in any EHS/HS-related activity.

The “Difference (Impact)” column shows the differences between the two research groups’ participation rates — that is, the Enhanced EHS program’s estimated impact on participation. For example, the estimated impact on participating in EHS/HS services can be calculated by subtracting 39.8 percent from 84.1 percent, yielding a difference of 44.3 percentage points.

Differences marked with asterisks are “statistically significant,” meaning that it is quite unlikely that the differences arose by chance. The number of asterisks indicates whether the estimated impact is statistically significant at the 10 percent, 5 percent, or 1 percent level (the lower the level, the less likely that the impact is due to chance). For example, as shown below, the program group model had a statistically significant impact of 44.3 percentage points at the 1 percent level on participating in EHS/HS services. (One asterisk corresponds to the 10 percent level; two asterisks, the 5 percent level; and three asterisks, the 1 percent level.) The p-values show the exact levels of significance.

Impact estimates presented in this report are often referred to as “intent-to-treat” impact estimates. That is, the impacts are calculated by comparing all parents and children in the Enhanced EHS program group with all parents and children assigned to the non-Enhanced EHS control group, regardless of whether or how long they were engaged in Enhanced EHS services. The impact estimates are also regression-adjusted using background characteristics of the sample, including gender, age, race/ethnicity, prior employment, education, TANF receipt, number of children, child’s age and gender, two-parent case status, site, random assignment cohort, and length of time between random assignment and the survey/assessment date.

#### Impacts on Service Receipt and Child Care Outcomes

Outcome	Program Group	Control Group	Difference (Impact)	Effect Size	P-Value
<b><u>Early Head Start (EHS)/Head Start (HS)</u></b>					
Received any EHS/HS child care and/or family development services since random assignment (%)	84.1	39.8	44.3 ***	0.90	0.000
Length of engagement in EHS/HS (months)	13.4	10.3	3.1		
Sample size (total = 478)	241	237			

SOURCE: MDRC calculations based on responses to the 42-month survey.

The results indicate that the EHS program had significant impacts on children's receipt of different types of child care, which were sustained over the follow-up period, though the program had little effect on whether children were ever placed in any nonparental care. The program increased the use of formal care overall. This effect appears to have resulted from program-driven increases in EHS/HS care, as opposed to other forms of formal care. Enhanced EHS slightly decreased the extent to which children were cared for by unrelated caregivers, but it did not have an overall impact on the use of home-based child care. The Enhanced EHS pattern of impacts on child care and children's early educational experiences over the 42-month follow-up do not appear to have varied with the child's age at study entry.

## **Full-Sample Impacts on the Receipt of EHS/HS Services**

A first step in understanding the longer-term effects Enhanced EHS is to examine its impacts on service receipt as reported by study participants. On the 18- and 42-month surveys, parents were asked whether they had received any services from EHS or HS and whether the focal child had ever received any child care from EHS or HS for at least 10 hours per week for a two-week period or more since the last time that they were interviewed for the 18-month survey (or since they first entered the study, if they did not complete the 18-month survey).<sup>3</sup> From this information, a binary measure was created, indicating whether parents had ever received any EHS/HS services since random assignment.

- **The program group reported higher participation in EHS/HS than the control group, though the control group's receipt of EHS/HS was fairly common by the 42-month follow-up.**

Among the full sample, the first panel of Table 2.1 shows that about 84 percent of the program group, compared with 40 percent of the control group, reported receiving any EHS/HS services since random assignment. Furthermore, among those who reported ever receiving any EHS/HS services over the course of the follow-up period, program group families received about 13 months of services, on average, compared with their control group counterparts, who received EHS/HS services for an average of about 10 months over the follow-up period. Differential receipt of EHS/HS over the follow-up period can be explained, in part, by an embargo that prevented control group members from enrolling in EHS during the first three years after joining the study. However, because some families moved to other communities and

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<sup>3</sup>On the 18-month and 42-month surveys, respondents were not asked to distinguish between care that their child received from EHS or from HS. This is because the transition from EHS to HS is often seamless for children who age out of eligibility for EHS services, and so the research team felt that it would be difficult for parents to distinguish between care received across the two sources. Therefore, the impact estimates shown in Tables 2.1 and 2.2 are for EHS and HS care combined.



## The Enhanced Services for the Hard-to-Employ Demonstration

**Table 2.1**

### Impacts on Service Receipt and Child Care Outcomes Early Head Start with Enhanced Self-Sufficiency Services

Outcome	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Early Head Start (EHS)/Head Start (HS)</u></b>					
Received any EHS/HS child care and/or family development services since random assignment (%)	84.1	39.8	44.3 ***	0.90	0.000
<i>Length of engagement in EHS/HS (months)</i>	<i>13.4</i>	<i>10.3</i>	<i>3.1</i>		
Sample size (total = 478)	241	237			
<b><u>Child care use since random assignment</u></b>					
Any nonparental child care (%)	91.0	87.0	3.9	0.11	0.176
Total hours in any care per week in past month	21.6	22.7	-1.1	-0.05	0.598
Number of months spent in:					
Any nonparental child care	19.5	16.2	3.3 ***	0.27	0.007
Any formal care	11.1	7.5	3.6 ***	0.44	0.000
EHS/HS care	7.8	1.7	6.1 ***	1.53	0.000
Other formal care	4.5	6.2	-1.6 **	-0.20	0.022
Any home-based care	8.6	8.9	-0.3	-0.03	0.746
Care provided by relative	7.4	6.2	1.3	0.15	0.126
Care provided by nonrelative	2.9	4.9	-2.0 ***	-0.27	0.002
<b><u>Child care stability</u></b>					
Number of child care providers used in past month	1.5	1.5	0.0	0.01	0.937
Hours in child care frequently change from week to week (%)	8.2	9.3	-1.1	-0.04	0.679
Difficulties in arranging for child care frequently occur (%)	0.9	1.7	-0.8	-0.06	0.484
Sample size <sup>b</sup> (total = 455)	229	226			

SOURCES: MDRC calculations based on responses to the 42-month survey.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. The significance level indicates the probability that one would incorrectly conclude that a difference exists between research groups for the corresponding variable.

The measure shown in italic type is considered nonexperimental and is not tested for statistical significance.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

Outcomes in this table are defined in Box 2.1.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>Questions about child care use and ability were asked of respondents who see their children at least once per week.

were able to access EHS/HS from alternative providers, and because families in SEK-CAP were able to access HS after children turned 3 years old,<sup>4</sup> it is not surprising that receipt of EHS/HS was fairly common among control group families. This might raise questions about the extent to which the longer-term effects of Enhanced EHS on parents and children can be identified, especially if a substantial proportion of control group families received services that were similar to those offered by Enhanced EHS over the 42-month follow-up.

## Full-Sample Impacts on the Use of Child Care

By providing subsidized EHS center-based care, Enhanced EHS may be an effective strategy for shaping families' use of child care. This section examines the impacts of Enhanced EHS on whether children received nonparental care and how much time they spent in it over the 42-month follow-up period. The section also analyzes whether Enhanced EHS encouraged parents to use different types of child care over the course of the study.

While receipt of any nonparental care, in and of itself, is not expected to have strong links with children's developmental outcomes, based on findings in the nonexperimental literature, understanding Enhanced EHS-driven changes on the type and quantity of child care that children receive is important for generating hypotheses about the program's effects on children's development and well-being. In terms of cognitive and language development, children who receive high-quality or formal child care, such as structured center-based child care, tend to show better outcomes than those who receive other forms of care. Furthermore, children who receive higher-quality care tend to show better social and emotional outcomes and fewer behavior problems than their counterparts who receive lower-quality care. The literature is somewhat more mixed, however, as to whether the type and quantity of care that children receive has uniformly positive implications for their social and emotional development.<sup>5</sup>

The second panel of Table 2.1 shows the impacts of Enhanced EHS on child care use since random assignment. Several types of child care are defined for this analysis (Box 2.1): *formal child care* includes any EHS/HS center-based care and structured center- or group-based care provided outside the child's home in a preschool, nursery school, summer daycare, or extended day program; *home-based care* includes any care provided by a relative or by an

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<sup>4</sup>The Youth in Need program expanded the three-year embargo on control group members to include receipt of HS services as well, resulting in relatively low receipt of EHS/HS services by Youth in Need control group members at the 42-month follow-up point. Appendix B.1 shows that the impact on the receipt of EHS/HS services in Youth in Need is 63 percentage points, compared with 28 percentage points in SEK-CAP.

<sup>5</sup>NICHD early child care research network (2005).

unrelated caregiver in the child's or another person's home; and *nonparental care* includes any formal or home-based care. In addition, impacts are examined separately for EHS/HS care and other forms of formal child care described above, as well as for home-based care provided by relatives and unrelated caregivers.

- **Enhanced EHS did not have a significant overall impact on whether children were placed in nonparental care, but the program did increase the number of months that children spent in nonparental care.**

Enhanced EHS did not significantly affect whether children were ever in nonparental care since random assignment (Table 2.1). About 91 percent of program group children, compared with 87 percent of control group children, were in nonparental care at some point during the follow-up period. But the program did significantly increase the number of months that children spent in nonparental care. Over the follow-up period, program group children spent about 19.5 months, on average, in nonparental care, compared with an average of 16.2 months for control group children.

- **Among the full sample, Enhanced EHS increased the use of formal child care, primarily by increasing the use of EHS/HS care.**

Not surprisingly, Enhanced EHS increased the amount of time that children spent in formal child care, which includes the free or subsidized EHS/HS care provided by the programs over the follow-up period. Children in the program group spent, on average, 3.6 more months in any formal child care than their control group counterparts (Table 2.1). This impact appears to have been driven primarily by the program's impact on the use of EHS/HS care. Program group children spent an average of 7.8 months in EHS/HS care, compared with 1.7 months for control group children. In contrast, the program slightly reduced the time that children spent in non-EHS/HS formal care. Children in the program group spent, on average, 1.6 months less in other non-EHS/HS formal care than children in the control group.

- **Enhanced EHS decreased the use of home-based care provided by unrelated caregivers over the 42-month follow-up period.**

The program did not have an overall significant impact on the amount of time that children spent in any home-based child care. On average, children across the program and control groups spent close to nine months in home-based care since random assignment (Table 2.1). However, when home-based care provided by relatives, as opposed to unrelated caregivers, is considered, there are differential impacts. The program produced a modest reduction in the amount of time that children spent in the care of unrelated caregivers in home-based arrangements, by an average of 2.0 months over the follow-up period, whereas no significant impact was found on the care provided by relatives.

## Full-Sample Impacts on Child Care Stability

Related to the type and quantity of nonparental child care is the stability of their care experiences. While some child care changes are expected, frequent and unexpected changes in child care arrangements can disrupt family routines, challenge parents' abilities to stay employed, and undermine children's development.<sup>6</sup> The available measures from the 42-month parent-reported follow-up survey provide some insights into how Enhanced EHS might influence child care stability, which can generate hypotheses to explore in future research. These measures include the number of child care providers used in the month prior to the date of the follow-up survey as well as parental reports of whether the hours that their children were in care changed from one week to the next and whether the parents had difficulties arranging for children's care (Box 2.1). This section summarizes the impacts of Enhanced EHS on these outcomes.

- **Enhanced EHS does not appear to have had significant impacts on child care stability at the 42-month follow-up point.**

The third panel of Table 2.1 shows the impacts of Enhanced EHS on the available indicators of child care stability for the full study sample. The program did not significantly affect the number of child care providers that parents relied on; both program and control group families used, on average, 1.5 child care providers in the prior month. At the 42-month follow-up, Enhanced EHS also did not significantly affect the extent to which parents found it difficult to arrange for child care and experienced weekly changes in the hours that their children were in nonparental care. When considered in conjunction with the pattern of findings on the incidence and duration of care use over the follow-up period, the cumulative findings suggest that families in the program group may have been relying on the same number of child care providers as their counterparts in the control group in any given month, but perhaps for longer intervals over the follow-up period (as evidenced by program-driven increases in the number of months that children spent in any nonparental care and in different types of child care).

## Subgroup Impacts on the Receipt of EHS/HS Services, by Child's Age

This section presents impacts on the receipt of any EHS/HS services over the follow-up period discussed above, analyzed by the age of the child at random assignment. Because subgroup sample sizes are fairly small, however, it can be difficult to estimate program impacts with a high degree of certainty, and so the magnitude of the subgroup impacts should be interpreted with caution. These analyses assess program impacts for families with infants (those who were

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<sup>6</sup>Knox, London, and Scott (2003); Lowe, Weisner, Geis, and Huston (2005); Shonkoff and Phillips (2000).

expecting a child or who had a child younger than 12 months old at study entry) and for families with toddlers (those with children 12 months or older at study entry), and the analyses tested whether impacts differ for these subgroups.

- **Subgroup impacts on families' receipt of any EHS/HS services since random assignment do not differ by the child's age at study entry.**

Program impacts on families' receipt of EHS/HS services do not significantly differ by the child's age at study entry. The first panel of Table 2.2 shows that Enhanced EHS increased the percentage of program group families who received any EHS/HS services since random assignment by 49 percentage points and by 40 percentage points for subgroups of families with infants and toddlers, respectively. The findings at this later follow-up point vary somewhat from the pattern of impacts on EHS/HS service receipt at the 18-month follow-up. Earlier in the follow-up period, the program produced slightly larger impacts on the receipt of any EHS/HS services and on engagement in such services among families with infants at study entry when compared with families with older children. A review of these findings together suggests that the impacts on EHS/HS service receipt among families with infants likely dissipated over time because the control group showed higher levels of engagement in EHS/HS services at the later follow-up point.

## **Subgroup Impacts on Child Care Experiences, by Child's Age**

This section presents impacts on the child care outcomes discussed above, analyzed by the age of the child at random assignment. In general, nonparental care — and formal care, in particular — is less normative for very young infants than for toddlers, which might result in differential effects of Enhanced EHS on child care experiences by child's age at random assignment. At the 18-month follow-up, Enhanced EHS led to increased parental reliance on EHS/HS care, and, in turn, increased their reliance on formal child care overall. This pattern of impacts is evident for both families with infants and with toddlers at study entry, but the size of these impacts appears to have been larger among families with infants. At the 42-month follow-up, infants at study entry were between 3 and 5 years old, whereas toddlers at study entry were between 5 and 7 years old. It is expected that these differences may lessen over time as children in both groups grow older and parents' child care needs change. In addition, differential effects of Enhanced EHS on parental employment and earnings for subgroups of families defined by the age of the focal child (Chapter 3) may be related to differential program effects on children's child care experiences. Such possibilities are explored in this section.

- **Subgroup impacts on children's child care experiences mirror those of the full research sample and do not differ significantly by the child's age at study entry.**

**The Enhanced Services for the Hard-to-Employ Demonstration**

**Table 2.2**

**Impacts on Service Receipt and Child Care Outcomes, by Age of Child at Random Assignment**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Age of Child at Random Assignment									
	Infant Group					Toddler Group				
	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Early Head Start (EHS)/Head Start (HS)</u></b>										
Received EHS/HS child care and/or family development services since random assignment (%)	85.9	36.9	49.0 ***	1.01	0.000	82.5	42.3	40.3 ***	0.81	0.000
<i>Length of engagement in EHS/HS (months)</i>	<i>13.6</i>	<i>9.4</i>	<i>4.2</i>			<i>13.3</i>	<i>10.9</i>	<i>2.4</i>		
Sample size (total = 478)	102	104				139	133			
<b><u>Child care use since random assignment</u></b>										
Any nonparental child care (%)	91.8	85.8	6.0	0.17	0.191	91.1	87.2	3.8	0.11	0.313
Total hours in any care per week in past month	26.4	24.8	1.6	0.06	0.644	18.4	20.8	-2.4	-0.12	0.337
Number of months spent in:										
Any nonparental child care	18.0	13.2	4.9 ***	0.42	0.006	21.1	18.2	2.9 *	0.22	0.089
Any formal care	9.6	4.1	5.5 ***	0.84	0.000	12.6	9.7	2.9 **	0.33	0.019
EHS/HS care	7.2	1.2	6.0 ***	1.89	0.000	8.3	2.0	6.2 ***	1.38	0.000
Other formal care	3.1	3.2	0.0	-0.01	0.951	6.0	8.0	-2.0 *	-0.22	0.063
Any home-based care	8.5	9.3	-0.7	-0.09	0.562	8.8	8.5	0.2	0.03	0.830
Care provided by relative	7.3	6.4	0.9	0.11	0.457	7.6	5.9	1.8	0.22	0.120
Care provided by nonrelative	3.5	5.5	-2.1 **	-0.28	0.047	2.4	4.5	-2.1 ***	-0.29	0.009

(continued)

**Table 2.2 (continued)**

Outcome	Age of Child at Random Assignment									
	Infant Group					Toddler Group				
	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Child care stability</u></b>										
Number of child care providers used in past month	1.7	1.5	0.3	0.23	0.161	1.4	1.5	-0.1	-0.09	0.529
Hours in child care change frequently from week to week (%)	9.8	8.1	1.7	0.06	0.702	7.5	9.7	-2.1	-0.07	0.559
Difficulties in arranging for child care frequently occur (%)	1.1	1.0	0.2	0.02	0.921	0.7	2.4	-1.7	-0.11	0.291
Sample size <sup>c</sup> (total = 455)	97	99				132	127			

SOURCES: MDRC calculations based on responses to the 42-month survey.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. The significance level indicates the probability that one would incorrectly conclude that a difference exists between research groups for the corresponding variable.

The measure shown in italic type is considered nonexperimental and is not tested for statistical significance.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

The infant group is defined as families with children younger than 12 months old at random assignment. The toddler group is defined as families with children 12 months or older at random assignment.

Outcomes in this table are defined in Box 2.1.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control groups) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>Tests of differences across subgroups were conducted, and statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; and † = 10 percent.

<sup>c</sup>Questions about child care use and ability were asked of respondents who see their children at least once per week.

The second panel of Table 2.2 shows the impacts of Enhanced EHS on child care experiences when analyzed by the child's age at random assignment. The program's impacts among infants and among toddlers at study entry are similar in pattern and generally reflect the impacts on child care discussed above for the full research sample. For both subgroups of children, Enhanced EHS had no overall impact on whether children were in nonparental care, but it did increase how many months children spent in nonparental care over the follow-up period. The program significantly increased the number of months that infants and toddlers at study entry spent both in formal child care overall and in EHS/HS care when considered alone. The program led to similar decreases in the number of months that toddlers at study entry spent in other non-EHS/HS formal care (though this impact is not significant among infants at study entry). Lastly, the program did not have significant impacts on the number of months that infants or toddlers at study entry spent in home-based care overall, regardless of whether the caregiver was related or unrelated to the child.

The third panel of Table 2.2 shows the impacts of Enhanced EHS on parent-reported measures of child care stability when analyzed by the child's age at random assignment. According to parental reports, the impacts on week-to-week changes in the hours that children spent in child care or on parents' difficulties in arranging for children's care do not differ significantly for subgroups of families defined by the child's age at study entry.

## **Summary of Impacts on Child Care**

Enhanced EHS increased the use of formal care by encouraging some parents to substitute other forms of formal care with EHS/HS care. This finding is not surprising, given that subsidized center-based care was a key service offered to families participating in Enhanced EHS. The program also decreased parental reliance on home-based care provided by unrelated caregivers. This overall pattern of impacts also suggests that Enhanced EHS likely increased the overall quality of care that children received, inasmuch as prior research has generally identified EHS/HS care as being of high quality.

Taken together, the findings related to children's child care and early educational experiences are encouraging, since prior nonexperimental research has linked high-quality and formal care with more favorable outcomes for children, particularly with regard to domains of cognitive and language development.<sup>7</sup>

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<sup>7</sup>NICHD early child care research network (2005).



### Chapter 3

## Impacts on Employment, Earnings, and Household Income

The Enhanced Services for the Hard-to-Employ Demonstration and Evaluation Project is studying two traditional Early Head Start (EHS) programs in Kansas and Missouri that enhanced their services by offering parents employment and education assistance. Examining whether improving families' economic circumstances and self-sufficiency would improve children's development, the study assigned families, at random, to the Enhanced EHS program group, whose members could receive either home-based or center-based services, or to the control group, whose members could not access Enhanced EHS or traditional EHS from these two programs, although they could seek alternative services available in the community.

This chapter presents the impacts of Enhanced EHS on employment and earnings job characteristics, and household income. The analysis uses unemployment insurance data from the National Directory of New Hires (NDNH) to estimate the proportion of parents who were employed and their average earnings in each of the three years following random assignment and over the follow-up period as a whole. In addition, data from the 42-month survey of parents are used to estimate impacts on self-reported employment, job characteristics, and household income. The chapter first presents impacts for the full study sample and then presents subgroup impacts analyzed by the age of the focal child at random assignment.<sup>1</sup>

The results indicate that Enhanced EHS had little effect on employment, earnings, or job characteristics for the full sample. The subgroup analysis indicates that there were more positive impacts among families who had infants (younger than 12 months) at baseline than among families who had toddlers (12 months or older) at baseline. At the 42-month follow-up, infants at study entry were between 3 and 5 years old, and toddlers at study entry were between 5 and 7 years old. These subgroup results should be interpreted with caution, however, because of the small size of the samples.

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<sup>1</sup>As is true with all applications to EHS, families identify a particular child who is up to age 3 or during the prenatal period and who will be enrolled in the program. In this study's 42-month parent survey and direct child assessments, this child is identified as the "focal child" who is the target of program services and is the focus of all questions related to child care and early educational experiences, parenting practices, and child development and well-being.

## **Background Information for Interpreting Results**

The Enhanced EHS program aimed to provide more assistance with employment, education, and economic self-sufficiency to parents who were enrolled in the EHS programs participating in this evaluation. The enhancements were expected to produce positive impacts on employment and earnings by helping unemployed participants find employment (people who would have remained jobless without the program) and by helping employed participants stay employed and possibly advance in their jobs.

The intervention was provided, however, in the context of an early childhood program that focused on promoting and enhancing the development of the young children. Parents did not seek out the program in order to receive assistance with employment, and so not all parents were interested in finding employment immediately. Some parents who received home-based services believed that it was better that they spent time at home during their children's early years, and field research identified a reluctance on the part of some frontline staff to encourage mothers to leave home for work. Some staff were less comfortable discussing employment and self-sufficiency issues with families than they were discussing child development issues, which were generally aligned with their education, training, and interests.

Parents receiving center-based services were generally working, and the Enhanced EHS program was intended to provide these parents with assistance that would enable them to stay employed. Unlike the parents receiving home-based services, the parents did not meet one-on-one with frontline staff weekly, and they tended not to request self-sufficiency assistance until they had lost their job. Thus, the staff of the Enhanced EHS program had fewer opportunities to provide guidance to the parents.

Finally, the Enhanced EHS program provided fewer months of services to families who had toddlers than to families who had infants, partly due to the children's ages at program entry. Also, families with toddlers were more likely to receive center-based services and, thus, had fewer opportunities to interact directly with program staff.

## **Full-Sample Impacts on Employment, Earnings, and Income**

### **Quarterly Employment and Earnings**

This section presents impacts on mothers' quarterly employment and earnings outcomes from an analysis of NDNH unemployment insurance data.<sup>2</sup> Data are available for two

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<sup>2</sup>In the NDNH analysis, the sample that is referred to in the text as "mothers" includes males who were the only parent in the household (1.5 percent of the sample).

parents in cases where two parents are included on the program's Baseline Information Form. The analysis focuses on the mother or female guardian, for two reasons. First, a review of Enhanced EHS case files shows that the mother is more likely to have had contact with the program;<sup>3</sup> therefore, the program was more likely to affect maternal employment outcomes than paternal. Second, an analysis of mothers' employment outcomes is more comparable to the analysis of survey-reported outcomes, since nearly all survey respondents are female.<sup>4</sup>

- **Among the full sample, Enhanced EHS had no statistically significant impacts on maternal employment and earnings in any of the three years following random assignment or for the entire follow-up period.**

Table 3.1 shows impacts on annual employment rates and earnings for the mothers.<sup>5</sup> Across the follow-up period of three and a half years, there were no overall impacts on maternal employment or earnings. Among both the Enhanced EHS group and the control group, 82 percent and 79 percent, respectively, worked in Year 1; the employment rates declined for both groups by Year 3. Nearly all program group and control group mothers (92 percent and 89 percent, respectively) worked at some point during the follow-up period.<sup>6</sup>

For both the program and the control group, earnings increased over the follow-up period. Program group mothers earned about \$8,200 in Year 1, and this increased to about \$9,800 by Year 3. Control group mothers earned about \$8,000 in Year 1 and earned about \$8,800 by Year 3. Differences between earnings in each year for the program group and the control group are not statistically significant.

Given the high rates of employment among the control group, it may have been difficult to produce an impact on employment among the program group. In the control group, 89

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<sup>3</sup>In 90 percent of the cases, the first parent listed on the EHS baseline application is female. The case file review shows that only 26 percent of Enhanced EHS cases include any recorded contact between the program and the secondary parent.

<sup>4</sup>Although the primary parent – that is, the first parent listed on the baseline form – is male in 10 percent of cases, the survey focused on the female parent or guardian, if one was listed at baseline. Therefore, while 90 percent of primary parents are female, a slightly higher percentage of 42-month survey respondents are female (91 percent).

<sup>5</sup>Follow-up data for the full research sample were available for the 15 quarters following Quarter 1, the quarter of random assignment. Quarter 1 wages were not available for all sample members. Hence, Year 1 earnings are defined as the sum of impacts over Quarters 2 through 5; Year 2 earnings are the sum of impacts over Quarters 6 through 9; and Year 3 earnings are the sum of impacts over Quarters 10 through 13. Any measures that look over the entire follow-up period include Quarters 2 through 15.

<sup>6</sup>The impacts on maternal quarterly employment and earnings for the full research sample are shown in Appendix Table C.3. A statistically significant impact appeared on the maternal quarterly employment rate in Quarter 9, whereby the program increased the percentage of mothers employed in Quarter 9 by 7 percentage points. For the full research sample, there were no statistically significant impacts on maternal earnings in any quarter over the follow-up period.

**The Enhanced Services for the Hard-to-Employ Demonstration**

**Table 3.1**

**Impacts on Mothers' Employment and Earnings**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Employment</u></b>					
Year 1 <sup>b</sup> (%)	81.9	79.2	2.7	0.07	0.391
Year 2 (%)	79.0	80.2	-1.2	-0.03	0.705
Year 3 (%)	78.0	73.4	4.7	0.11	0.171
Ever employed (%), Quarters 2-15	91.8	89.1	2.7	0.09	0.245
Number of quarters employed, Quarters 2-15	8.8	8.7	0.2	0.04	0.635
Employed for 8 consecutive quarters (%)	49.2	45.6	3.7	0.07	0.346
<b><u>Earnings (\$)</u></b>					
Year 1 <sup>b</sup>	8,197	7,951	246	0.03	0.737
Year 2	9,304	8,881	423	0.04	0.600
Year 3	9,819	8,815	1,004	0.09	0.263
Total earnings, Quarters 2-15	32,537	30,096	2,442	0.08	0.347
Sample size (total = 597)	300	297			

SOURCE: MDRC calculations based on the National Directory of New Hires (NDNH) database.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; and \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between research groups for the variable in question.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

Dollar values include zeroes for sample members who were not employed, unless otherwise noted.

The sample used in this analysis includes females from two-parent cases (41.3 percent), females from one-parent cases (57.1 percent), and males from one-parent cases (1.5 percent). Thirteen sample members are missing Social Security numbers and therefore could not be matched to employment data.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>Quarter 1 is the calendar quarter in which random assignment occurred. This quarter may contain some earnings from the period prior to random assignment and is, therefore, excluded from follow-up measures. Accordingly, Year 1, Year 2, and Year 3 are defined as Quarters 2 to 5 after random assignment, Quarters 6 to 9 after random assignment, and Quarters 10 to 13 after random assignment, respectively.

percent of mothers were employed at some point within the three and a half years after random assignment, and about 94 percent had either a mother or a father employed during the follow-up period (Appendix Table C.1).

### **Survey-Reported Employment, Job Characteristics, and Income**

- **Among the full research sample, Enhanced EHS had no statistically significant impacts on mothers' or fathers' self-reported employment and job characteristics.**

Table 3.2 presents the impacts of Enhanced EHS on mothers' self-reported employment, partners' or spouses' employment (as reported by the mothers), and mothers' job characteristics as captured by the 42-month survey.<sup>7</sup> These results closely match the NDNH unemployment insurance data above. The survey data show no significant impacts on maternal employment rates over the follow-up period; about 94 percent and 91 percent of program group and control group mothers, respectively, indicated that they had been employed at some point since random assignment, and about 58 percent and 62 percent of mothers across the program and control groups, respectively, were working at the time of the survey. However, according to the survey data, the program did significantly decrease the average length of the longest job spell for mothers since random assignment, by about 2.5 months.

There were no significant impacts on partners' or spouses' employment; about 59 percent of the mothers reported that they had a spouse or partner who had worked since random assignment, and under 40 percent had a spouse or partner who was working at the time of the survey.<sup>8</sup>

Although Enhanced EHS had no overall impacts on employment, it was hypothesized that since the self-sufficiency enhancements were designed not just to help unemployed parents become employed but also to help employed parents gain better employment, the program might improve the job characteristics of participants. For example, some parents may have worked in

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<sup>7</sup>The survey was conducted with one parent from each family. In two-parent cases, the mother was targeted as the 42-month survey respondent; 91 percent of respondents are the mother or female guardian. In the analysis using survey-reported outcomes, the sample that is referred to in the text as "mothers" includes males who were the only parent in the household.

<sup>8</sup>About 65 percent of program group respondents and 62 percent of control group respondents (not a statistically significant difference) reported that they lived with a spouse or partner at the time of the survey. This spouse or partner may not be the same person identified at baseline as the second parent. Two-parent cases (those with a second parent at baseline) may not have had a spouse or a partner present at the time of the survey, and one-parent cases (those with only one parent at baseline) may have had a spouse or partner present at the time of the survey. The analysis of partners' or spouses' employment includes zeros if no spouse or partner was present.

**The Enhanced Services for the Hard-to-Employ Demonstration**

**Table 3.2**

**Impacts on Characteristics of Current Job**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Mothers' employment<sup>b</sup></u></b>					
Ever worked for pay since random assignment (%)	94.3	91.0	3.3	0.11	0.158
Working for pay at time of survey (%)	58.0	62.0	-4.0	-0.08	0.365
Longest job spell since random assignment (months)	21.1	23.6	-2.5 **	-0.20	0.037
<b><u>Partners'/spouses' employment<sup>c</sup> (%)</u></b>					
Spouse or partner worked for pay since random assignment	59.0	58.4	0.6	0.01	0.890
Spouse or partner working for pay at time of survey	38.1	35.7	2.4	0.05	0.570
<b><u>Characteristics of mothers' job<sup>b</sup></u></b>					
Hours worked per week	19.9	22.1	-2.3	-0.12	0.200
Not working (%)	42.0	38.0	4.0	0.08	0.365
Working part time (%) <sup>d</sup>	14.3	13.4	0.8	0.02	0.793
Working full time (%) <sup>d</sup>	43.5	48.6	-5.1	-0.10	0.264
Earnings per week (\$)	214	230	-17	-0.07	0.476
Hourly wage (\$)	6.04	6.24	-0.20	-0.03	0.722
Receiving any benefits (%)	41.8	42.5	-0.8	-0.02	0.867
Sick days with full pay	24.6	22.4	2.2	0.05	0.574
Paid vacation	29.6	30.3	-0.7	-0.02	0.862
Access to health care coverage	40.0	39.4	0.6	0.01	0.893
<b><u>Work and family interference</u></b>					
Perceived spillover from family to work (scale of 0-12) <sup>e</sup>	2.3	2.2	0.0	0.02	0.816
Perceived workplace flexibility (scale of 0-16) <sup>f</sup>	8.6	8.2	0.5	0.11	0.221
Sample size (total = 478)	241	237			

(continued)

**Table 3.2 (continued)**

SOURCE: MDRC calculations based on responses to the 42-month survey.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; and \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between research groups for the variable in question.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

Dollar values include zeroes for sample members who were not employed, unless otherwise noted.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>About 98 percent of survey respondents are female. This measure includes responses for some males (2 percent of cases) and may include responses from female guardians who were not the child's biological mother.

<sup>c</sup>About 65 percent of program group mothers and 62 percent of control group mothers (not a statistically significant difference) reported that they lived with a spouse or partner at the time of the survey. This spouse or partner may not be the same person identified at baseline as the second parent. Two-parent cases (those with a second parent at baseline) may not have a spouse or a partner present at the time of the survey, and one-parent cases (those with only one parent at baseline) may have a spouse or partner present at the time of the survey. The analysis of fathers' employment includes zeros if there is no spouse or partner present.

<sup>d</sup>This is based on the number of hours worked per week. Fewer than 30 hours is considered part time, and 30 hours or more is considered full time.

<sup>e</sup>The perceived spillover from family to work scale is the sum of three items, ranging from 0 ("never") to 4 ("always"), which asked respondents how often the following issues interfered with their ability to go to work: (1) family life, (2) the availability of affordable or reliable transportation, and (3) the availability of affordable or reliable child care.

<sup>f</sup>The perceived workplace flexibility scale is the sum of four items, ranging from 0 ("never") to 4 ("always"), which asked respondents how often (1) they were able to keep track of their children while at work, (2) their work was flexible enough to handle emergencies and family problems, (3) they felt drained at the end of the workday, and (4) they had flexible start and end times on the job.

jobs that did not offer health insurance or that had work hours that changed from week to week. Self-sufficiency coordinators and frontline staff may have helped those parents obtain positions with fringe benefits or with consistent work hours. Thus, even though there were no impacts on employment, Enhanced EHS could have led to impacts on job characteristics.

The third panel of Table 3.2 shows impacts on mothers' job characteristics at the time of the survey and indicates that Enhanced EHS had little effect. There were no significant impacts on hours worked per week (about 21 hours, on average, across program and control groups) or on working full time versus part time; about 44 percent of program group mothers and 49 percent of control group mothers were working full time, defined as at least 30 hours per week, while about 14 percent of mothers were working part time across program and control groups. The program also does not appear to have affected mothers' hourly wages or the receipt of benefits from the job. It also did not appear to have helped mothers better balance the responsibilities of family and work at the 42-month follow-up.

- **Among the full sample, Enhanced EHS produced no significant impacts on sources of household income, amount of individual or household income, or poverty.**

Table 3.3 shows other measures of families' economic well-being, including income, income source, and poverty outcomes captured by the 42-month survey. Not surprisingly, given that there were no impacts on employment or earnings for the full research sample, there were no impacts on any of these measures. For both groups, about 87 percent of mothers reported having income from either their own earnings or the earnings of someone else in their household in the month prior to the survey. During that time, about one-third of households were in poverty. Total household monthly income averaged \$2,300 for both groups, with mothers earning about 58 percent of their household's income, on average. Only about 11 percent of households were receiving cash assistance; over half the households were receiving food stamps.<sup>9</sup>

## **Subgroup Impacts on Employment, Earnings, and Income, by Child's Age**

The impacts of Enhanced EHS on maternal employment and job characteristics may vary by the age of the focal child when families entered the study. Mothers may make different employment decisions while their children are infants (younger than 12 months) than they do when their children are toddlers (12 months or older).

This section presents the results of a subgroup analysis examining employment-related impacts by the age of the focal child at random assignment.<sup>10</sup> The impacts of Enhanced EHS among families with infants are compared with the impacts among families with toddlers. Again, these subgroup results should be taken with caution because the sample sizes are small; the NDNH analysis includes 270 families with infants and 327 families with toddlers, and the survey analysis includes 206 respondents with infants and 272 respondents with toddlers.

- **Enhanced EHS had significant positive impacts on maternal employment and earnings among families with infants.**

The results of the subgroup analysis by child's age suggest that Enhanced EHS had a positive impact on maternal employment and earnings among families with infants. As shown

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<sup>9</sup>The federal Food Stamp Program was renamed the Supplemental Nutrition Assistance Program (SNAP) in the 2008 Farm Bill.

<sup>10</sup>Two other subgroup analyses were conducted: impacts examined by program site and by whether the family had two parents or one at random assignment. Neither analysis (not shown) found a pattern of subgroup differences.



## The Enhanced Services for the Hard-to-Employ Demonstration

**Table 3.3**

### Impacts on Household Income and Poverty Status Early Head Start with Enhanced Self-Sufficiency Services

Outcome	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Household income</u></b>					
Income source (%):					
Earnings	86.9	86.8	0.1	0.00	0.976
Child support	26.8	25.9	0.9	0.02	0.819
Public assistance	65.2	61.1	4.1	0.09	0.343
Cash assistance	11.2	11.4	-0.3	-0.01	0.925
Food stamps	57.6	53.7	3.9	0.08	0.378
Supplemental Security Income (SSI) or disability income	18.8	17.2	1.5	0.04	0.662
Total maternal income in prior month <sup>b</sup> (\$)	1,187	1,117	70	0.07	0.423
Total household income in prior month (\$)	2,299	2,301	-2	0.00	0.991
Percentage of household income from mother <sup>b</sup>	57.0	60.0	-3.0	-0.07	0.370
Does not know household income (%)	2.2	0.7	1.6	0.17	0.160
<b><u>Poverty status<sup>c</sup></u></b>					
Below federal poverty level (%)	32.1	31.2	0.9	0.02	0.837
Sample size (total = 478)	241	237			

SOURCE: MDRC calculations based on responses to the 42-month survey.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; and \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between research groups for the variable in question.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

Dollar values include zeroes for sample members who had no income, were not employed, or were not receiving child support or public assistance.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>About 98 percent of survey respondents are female. This measure includes responses for some males (2 percent of cases) and may include responses from female guardians who were not the child's biological mother.

<sup>c</sup>The poverty measure was calculated only for those respondents who reported a household income and the number of people in their household (total = 471). This is an estimate of poverty based on available data; it is not an official poverty measure.

in Table 3.4, impacts on annual employment rates began to emerge for the program group mothers with infants later in the follow-up period. Enhanced EHS increased their employment by 13 percentage points in Year 3, relative to their control group counterparts. The program increased program group mothers' earnings by about \$2,400 in Year 2 and about \$2,900 in Year 3, relative to the earnings of their control group counterparts. Over the 15-quarter follow-up period, program group mothers earned a total of about \$7,700 more than their control group counterparts. Though trends in maternal employment rates for the program group among families with infants shows a slight uptick toward the end of the follow-up period, the significant program impacts on maternal employment in Year 3 appear to have resulted in part because of a drop in maternal employment and earnings in Year 3 among control group families. It is not entirely clear why this might be. The results also suggest that Enhanced EHS had a positive impact on the stability of employment among mothers with infants, as represented by the number of consecutive quarters employed; they were significantly more likely to work in consecutive quarters, without a break in employment.<sup>11</sup>

While the program appears to have improved the mothers' employment and earnings, it did not have a positive impact on the job characteristics of mothers among families with infants. As shown in Table 3.5, both program and control group mothers with infants worked a similar number of hours per week and received an equivalent hourly wage and weekly earnings at the time of the survey. One positive impact on job characteristics emerged; program group mothers with infants were more likely to work in a job that provided sick leave. Finally, Table 3.6 shows that there were no impacts on the receipt of earnings or other sources of income.

The impacts on maternal quarterly employment and earnings for subgroups of families defined by child's age are shown in Appendix Table C.4. Statistically significant impacts on maternal quarterly employment rates emerged in Quarter 9, increasing the percentage of mothers in the program group who were employed in that quarter by 19 percentage points among families with infants. Statistically significant impacts on mothers' quarterly earnings emerged earlier; by Quarter 6, Enhanced EHS began to increase program group mothers' earnings among families with infants.

- **Enhanced EHS had no statistically significant impacts on maternal employment and earnings for families with toddlers.**

In contrast to the impacts among families with infants, Enhanced EHS resulted in few positive impacts on maternal employment and earnings among families with toddlers. The

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<sup>11</sup>Using the NDNH unemployment insurance data, impacts on employment and earnings from either a mother or a father were also examined for subgroups of families defined by child's age. The results are shown in Appendix Table C.2.

**The Enhanced Services for the Hard-to-Employ Demonstration**

**Table 3.4**

**Impacts on Mothers' Employment and Earnings, by Age of Child at Random Assignment**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Age of Child at Random Assignment										† <sup>b</sup>
	Infant Group					Toddler Group					
	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value	
<b><u>Employment</u></b>											
Year 1 <sup>c</sup> (%)	82.6	78.9	3.7	0.09	0.426	81.7	79.1	2.6	0.06	0.551	
Year 2 (%)	80.2	82.7	-2.5	-0.07	0.592	78.3	77.6	0.7	0.02	0.872	
Year 3 (%)	84.9	71.6	13.3 ***	0.30	0.006	73.2	74.3	-1.1	-0.02	0.823	††
Ever employed (%), Quarters 2-15	92.1	93.0	-0.9	-0.04	0.778	91.7	85.6	6.1 *	0.17	0.076	
Number of quarters employed, Quarters 2-15	9.5	8.4	1.0 **	0.22	0.050	8.4	8.8	-0.4	-0.08	0.433	†
Employed for 8 consecutive quarters (%)	59.5	39.3	20.2 ***	0.41	0.001	41.5	50.4	-8.9 *	-0.18	0.092	†††
<b><u>Earnings (\$)</u></b>											
Year 1 <sup>c</sup>	7,687	6,696	991	0.13	0.260	8,617	9,012	-395	-0.04	0.727	
Year 2	9,845	7,429	2,416 **	0.30	0.017	8,931	10,064	-1,133	-0.10	0.358	††
Year 3	10,132	7,224	2,908 ***	0.35	0.007	9,562	10,187	-625	-0.05	0.655	††
Total earnings, Quarters 2-15	32,774	25,117	7,657 **	0.31	0.015	32,405	34,300	-1,895	-0.05	0.637	†
Sample size (total = 597)	133	137				167	160				

(continued)

**Table 3.4 (continued)**

SOURCE: MDRC calculations based on the National Directory of New Hires (NDNH) database.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; and \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between research groups for the variable in question.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

The infant group is defined as families with children younger than 12 months old at random assignment. The toddler group is defined as families with children 12 months or older at random assignment.

Dollar values include zeroes for sample members who were not employed, unless otherwise noted.

The sample used in this analysis includes females from two-parent cases (41.3 percent), females from one-parent cases (57.1 percent), and males from one-parent cases (1.5 percent). Thirteen sample members are missing Social Security numbers and therefore could not be matched to employment data.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>Tests of differences across subgroups were conducted, and statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; and † = 10 percent.

<sup>c</sup>Quarter 1 is the calendar quarter in which random assignment occurred. This quarter may contain some earnings from the period prior to random assignment and is, therefore, excluded from follow-up measures. Accordingly, Year 1, Year 2, and Year 3 are defined as Quarters 2 to 5 after random assignment, Quarters 6 to 9 after random assignment, and Quarters 10 to 13 after random assignment, respectively.

**The Enhanced Services for the Hard-to-Employ Demonstration**

**Table 3.5**

**Impacts on Characteristics of Current Job, by Age of Child at Random Assignment**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Age of Child at Random Assignment									
	Infant Group					Toddler Group				
	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Mothers' employment<sup>c</sup></u></b>										
Ever worked for pay since random assignment (%)	94.0	91.4	2.6	0.09	0.478	94.2	91.0	3.2	0.11	0.304
Working for pay at time of survey (%)	64.0	59.4	4.6	0.09	0.499	52.8	64.8	-12.0 **	-0.25	0.046 †
Longest job spell since random assignment (months)	22.0	21.8	0.2	0.02	0.905	20.4	25.2	-4.9 ***	-0.38	0.003 ††
<b><u>Partners'/spouses' employment<sup>d</sup> (%)</u></b>										
Spouse or partner worked for pay since random assignment	59.7	61.7	-2.0	-0.04	0.762	57.7	56.7	1.0	0.02	0.853
Spouse or partner working for pay at time of survey	33.7	41.0	-7.4	-0.15	0.263	40.3	32.6	7.7	0.16	0.185 †
<b><u>Characteristics of mothers' job<sup>c</sup></u></b>										
Hours worked per week at current job	21.7	20.9	0.8	0.04	0.777	18.2	23.5	-5.3 **	-0.27	0.024 †
Not working (%)	36.0	40.6	-4.6	-0.09	0.499	47.2	35.2	12.0 **	0.25	0.046 †
Working part time (%) <sup>e</sup>	17.4	14.9	2.5	0.07	0.639	12.2	12.1	0.1	0.00	0.972
Working full time (%) <sup>e</sup>	46.2	44.6	1.6	0.03	0.818	40.5	52.7	-12.2 **	-0.24	0.046
Earnings per week (\$)	226	211	15	0.06	0.662	203	248	-45	-0.17	0.173
Hourly wage (\$)	6.64	5.85	0.79	0.14	0.332	5.57	6.60	-1.03	-0.17	0.173

(continued)

**Table 3.5 (continued)**

Outcome	Age of Child at Random Assignment										† <sup>b</sup>
	Infant Group					Toddler Group					
	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value	
Receiving any benefits (%)	44.8	36.1	8.7	0.18	0.208	39.0	48.2	-9.2	-0.18	0.133	†
Sick days with full pay	27.3	16.8	10.5 *	0.28	0.066	23.1	26.4	-3.4	-0.08	0.534	†
Paid vacation	31.3	25.1	6.3	0.15	0.315	28.3	34.6	-6.3	-0.13	0.279	
Access to health care coverage	43.4	33.0	10.4	0.22	0.129	36.9	45.0	-8.0	-0.16	0.183	††
<b><u>Work and family interference</u></b>											
Perceived spillover from family to work (scale of 0-12) <sup>f</sup>	2.3	2.4	-0.2	-0.08	0.586	2.3	2.1	0.2	0.10	0.439	
Perceived workplace flexibility (scale of 0-16) <sup>g</sup>	9.0	8.5	0.5	0.12	0.379	8.2	7.9	0.3	0.07	0.542	
Sample size (total = 478)	102	104				139	133				

(continued)

**Table 3.5 (continued)**

SOURCE: MDRC calculations based on responses to the 42-month survey.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; and \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between research groups for the variable in question.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

The infant group is defined as families with children younger than 12 months old at random assignment. The toddler group is defined as families with children 12 months or older at random assignment.

Dollar values include zeroes for sample members who were not employed, unless otherwise noted.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>Tests of differences across subgroups were conducted, and statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; and † = 10 percent.

<sup>c</sup>About 98 percent of survey respondents are female. This measure includes responses for some males (2 percent of cases) and may include responses from female guardians who were not the child's biological mother.

<sup>d</sup>About 65 percent of program group mothers and 62 percent of control group mothers (not a statistically significant difference) reported that they lived with a spouse or partner at the time of the survey. This spouse or partner may not be the same person identified at baseline as the second parent. Two-parent cases (those with a second parent at baseline) may not have a spouse or a partner present at the time of the survey, and one-parent cases (those with only one parent at baseline) may have a spouse or partner present at the time of the survey. The analysis of fathers' employment includes zeros if there is no spouse or partner present.

<sup>e</sup>This is based on the number of hours worked per week. Fewer than 30 hours is considered part time, and 30 hours or more is considered full time.

<sup>f</sup>The perceived spillover from family to work scale is the sum of three items, ranging from 0 ("never") to 4 ("always"), which asked respondents how often the following issues interfered with their ability to go to work: (1) family life, (2) the availability of affordable or reliable transportation, and (3) the availability of affordable or reliable child care.

<sup>g</sup>The perceived workplace flexibility scale is the sum of four items, ranging from 0 ("never") to 4 ("always"), which asked respondents how often (1) they were able to keep track of their children while at work, (2) their work was flexible enough to handle emergencies and family problems, (3) they felt drained at the end of the workday, and (4) they had flexible start and end times on the job.

**The Enhanced Services for the Hard-to-Employ Demonstration**

**Table 3.6**

**Impacts on Household Income and Poverty Status, by Age of Child at Random Assignment**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Age of Child at Random Assignment										† <sup>b</sup>
	Infant Group					Toddler Group					
	Program	Control	Difference	Effect	P-Value	Program	Control	Difference	Effect	P-Value	
	Group	Group	(Impact)	Size <sup>a</sup>		Group	Group	(Impact)	Size <sup>a</sup>		
<b><u>Household income</u></b>											
Income source (%):											
Earnings	89.8	87.9	1.8	0.06	0.681	84.3	86.3	-2.0	-0.06	0.646	
Child support	28.3	22.3	6.0	0.15	0.330	25.8	28.7	-2.9	-0.06	0.598	
Public assistance	66.8	58.5	8.3	0.17	0.214	64.2	63.0	1.1	0.02	0.848	
Cash assistance	11.7	12.6	-0.8	-0.03	0.854	10.2	11.1	-0.9	-0.03	0.822	
Food stamps	59.1	53.6	5.5	0.11	0.427	56.6	53.7	2.9	0.06	0.625	
Supplemental Security Income (SSI) or disability income	15.2	14.9	0.3	0.01	0.948	22.3	18.1	4.2	0.10	0.396	
Total maternal income in prior month <sup>c</sup> (\$)	1,206	1,094	111	0.11	0.355	1,166	1,156	10	0.01	0.934	
Total household income in prior month (\$)	2,325	2,379	-54	-0.03	0.806	2,259	2,243	16	0.01	0.938	
Percentage of household income from mother <sup>c</sup>	58.5	58.3	0.2	0.01	0.967	55.7	62.8	-7.2	-0.18	0.114	
Does not know household income (%)	1.0	0.0	1.0	N/A <sup>d</sup>	0.336	3.3	1.1	2.3	0.18	0.215	
<b><u>Poverty status<sup>e</sup></u></b>											
Below federal poverty level (%)	29.7	29.8	-0.1	0.00	0.990	33.3	32.9	0.4	0.01	0.947	
Sample size (total = 478)	102	104				139	133				

(continued)



**Table 3.6 (continued)**

SOURCE: MDRC calculations based on responses to the 42-month survey.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; and \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between research groups for the variable in question.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

The infant group is defined as families with children younger than 12 months old at random assignment. The toddler group is defined as families with children 12 months or older at random assignment.

Dollar values include zeroes for sample members who had no income, were not employed, or were not receiving child support or public assistance.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>Tests of differences across subgroups were conducted, and statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; and † = 10 percent.

<sup>c</sup>About 98 percent of survey respondents are female. This measure includes responses for some males (2 percent of cases) and may include responses from female guardians who were not the child's biological mother.

<sup>d</sup>The effect size could not be calculated because the control group's standard deviation is zero.

<sup>e</sup>The poverty measure was calculated only for those respondents who reported a household income and the number of people in their household (total = 471). This is an estimate of poverty based on available data; it is not an official poverty measure.

program did not have an impact on annual employment or on earnings among mothers with toddlers at study entry, although it did increase the percentage of mothers who were ever employed within the first 15 quarters, by 6 percentage points (Table 3.4). The program also significantly decreased the percentage of mothers who were employed for at least eight consecutive quarters over the follow-up period, by almost 9 percentage points among families with toddlers. The pattern of effects across these outcomes suggests that the program may have had a negative impact on employment stability for mothers with toddlers. Program group mothers with toddlers were less likely to be working for pay when they were surveyed 42 months following random assignment (Table 3.5). Some mothers in the program group also may have scaled back their work hours; compared with control group mothers, program group mothers with toddlers worked, on average, 5.3 fewer hours per week at their current jobs and were less likely to be working full time (Table 3.5).

It is not entirely clear why Enhanced EHS might be more positive for families with infants than for families with toddlers. The more positive impacts for families with infants could be driven by differences in program engagement. Recall from Chapter 1 that the families with infants were engaged in the program for longer periods of time than families with toddlers. Program group families with infants were also more likely than program group families with toddlers to receive home-based Enhanced EHS services, which provided more frequent opportunities for program staff to discuss employment, educational, and self-sufficiency issues with parents.

However, the employment impacts for the infant group did not emerge until Year 3, when the children were older and many were transitioning to Head Start or other preschool programs.<sup>12</sup> This supports findings from the field and implementation research: staff mentioned that many of the parents receiving home-based services were not interested in employment during their children's early years but were interested in working after their child entered school. It could be that mothers' employment was facilitated by the services provided to parents while in Enhanced EHS, coupled with the availability of Head Start center-based child care when the mothers were ready to return to work.

For families who entered EHS when their children were older and closer to moving into Head Start, the program group mothers were not more likely to be employed than their control group counterparts. One might hypothesize that their impacts would be more immediate, if they followed a similar trend of returning to work when their children were preschool age. Perhaps the fewer months of the Enhanced EHS services and lower levels of engagement in home-based

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<sup>12</sup>A separate analysis examined the impacts by the age of the child. For the program group mothers with infants at the time of random assignment, positive impacts on employment and earnings emerged when their children were between 31 months and 48 months.

Enhanced EHS services resulted in fewer opportunities to engage with program staff and discuss employment opportunities.

## **Summary of Impacts on Employment, Earnings, and Income**

Among the full study sample, Enhanced EHS produced almost no significant impacts on measures of employment, earnings, job characteristics, or income. There are several possible explanations for the lack of employment impacts for the full sample. First, due to several implementation challenges, there was less focus on the self-sufficiency components of the two programs than had been expected, and they may not have been strong enough to produce impacts. Second, given that the rate of employment was already high among the study sample, it is possible that the programs did not serve a population with a sufficiently strong need for or interest in employment services, making it difficult to produce an impact. Finally, these programs may have been operating in a relatively service-rich environment, in which control group members were able to access similar services elsewhere. As shown in Chapter 2, Enhanced EHS increased parents' reliance on EHS/HS care and, in turn, their reliance on formal care, though it did not affect the rate at which infants and toddlers at study entry were placed in nonparental care at some point over the follow-up period.

There is some evidence that Enhanced EHS may have led to a different pattern of impacts among families with infants than among families with toddlers. The program appears to have had more positive impacts on employment and earnings among parents with an infant or who were still pregnant at baseline than among parents with toddlers at baseline, though this impact may have been driven, in part, by an unexpected drop in maternal employment levels toward the end of the follow-up period among control group families with infants, and it is not clear why this might be.



## Chapter 4

# Impacts on Parenting Behaviors, Parental Psychological Well-Being, and Child Outcomes

Two Early Head Start (EHS) programs in Kansas and Missouri enhanced their traditional services by offering employment and education assistance to parents, with the goal of improving families' economic circumstances and self-sufficiency in order to improve children's development. Part of the Enhanced Services for the Hard-to-Employ Demonstration and Evaluation Project, this study randomly assigned families in these two sites either to the Enhanced EHS program group, which could receive home-based or center-based services, or to the control group, which could not access Enhanced EHS or traditional EHS from the two programs but could seek alternative services available in the community.

This chapter focuses on the impacts of Enhanced EHS on parenting practices, parental psychological well-being, and outcomes measuring child development. At the 18-month follow-up, the short-term effects of the program were mixed, but the story was still unfolding. There was scattered evidence that Enhanced EHS had short-term beneficial impacts on some aspects of parenting practices and on children's social and emotional development, particularly among families with infants (children less than 12 months old) and pregnant women at study entry. Whether these impacts were sustained over time is examined for the 42-month impact analysis.

This chapter first presents the impacts of Enhanced EHS on parenting practices and on parental psychological well-being. That is followed by the program's impacts on measures of child development and well-being.<sup>1</sup> For each set of outcomes, the impacts for the full research sample are presented first, followed by how the impacts might differ for subgroups of families with infants (children younger than 12 months) and pregnant women at study entry and families with toddlers (children 12 months or older) at study entry.<sup>2</sup>

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<sup>1</sup>As is true with all applications to EHS, families identify a particular child who is up to age 3 or during the prenatal period and who will be enrolled in the program. In this study's 42-month parent survey and direct child assessments, this child is identified as the "focal child" who is the target of program services and is the focus of all questions related to child care and early educational experiences, parenting practices, and child development and well-being.

<sup>2</sup>Two other subgroup analyses were conducted: impacts examined by program site and by whether the family had two parents or one at random assignment. Neither analysis (not shown) found a pattern of subgroup differences.

The 42-month follow-up results indicate that, for both the full research sample and the two subgroups defined by child's age at study entry, Enhanced EHS had limited significant impacts on parenting practices and on children's developmental outcomes. Some evidence suggests that the program slightly increased parental psychological distress for the full research sample, but the reasons for this are not clear. Among toddlers at study entry, the program also appears to have significantly improved the ability to stay on task during the administration of the direct child assessments, according to interviewer ratings. No other significant impacts on children's developmental outcomes were evident at the 42-month follow-up.

## **Impacts on Parenting Practices and Parental Psychological Well-Being**

Box 4.1 describes the measures of parenting practices and parental psychological well-being that were collected by the 42-month survey of parents. (See Appendix A.)

### **Impacts on Parenting Practices**

In general, low-income parents have been found to provide home environments that are less cognitively stimulating than those provided by more economically advantaged parents.<sup>3</sup> Low-income parents also tend to exhibit lower levels of emotional support for their children and more punitive and inconsistent discipline than higher-income parents.<sup>4</sup> Enhanced EHS could improve parenting practices through program-driven changes in parental employment and economic self-sufficiency, as well as through education aimed at modeling developmentally appropriate practices and teaching parents about young children's developmental norms and milestones.

- **There is little evidence that Enhanced EHS had significant long-term impacts on parenting behaviors among the full sample or the subgroups of families defined by child's age.**

The first panels of Tables 4.1 and 4.2 show the impacts of Enhanced EHS on parents' involvement and engagement with their children — that is, the frequency of parenting warmth and engagement in social play and cognitively stimulating activities — for the full sample and, separately, for the subgroups of families with infants and with toddlers at study entry.

Analyses indicate that the program had no overall impact on the extent to which parents showed warmth or engaged in social play and cognitively stimulating activities with their

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<sup>3</sup>Brooks-Gunn, Klebanov, and Liaw (1995); Watson, Kirby, Kelleher, and Bradley (1996).

<sup>4</sup>McLoyd (1990).

#### Box 4.1

### Measures of Parenting Practices and Parental Psychological Well-Being

Data about these measures were collected by the 42-month survey of parents.

**Parenting warmth.** A single item on the 18-month survey asked parents how often they showed physical affection to, hugged, or kissed the focal child in the past month. Responses were recorded on a 6-point scale ranging from “more than once a day” to “not at all” and were used to create a measure of whether parents reported showing physical affection, on average, at least once a day or less frequently.

**Social play and cognitive stimulation.** Parental engagement in activities that can stimulate children’s cognitive and language development was measured using a composite scale of six items. Parents were asked how often they engaged in the following cognitive-stimulating and social play activities with the focal child: playing with toys, singing songs or nursery rhymes, dancing, reading books, telling stories, and going to the park. Responses were recorded on a 6-point scale ranging from “more than once a day” to “not at all” and were used to create a measure of whether parents reported engaging in these activities, on average, at least once a day or less frequently.\*

**Discipline strategies.** To assess the severity of parents’ disciplinary strategies, the survey asked them how they would handle two common situations involving child misbehavior: throwing a temper tantrum in public and playing with breakable things. Parents provided open-ended responses that were coded for the degree of harshness of the disciplinary strategy, on a scale from 1 (“mild”) to 5 (“harsh”). These data were then used to create a binary outcome indicating whether parents used only mild disciplinary techniques (for example, preventing the situation, distracting the child, removing the child or object, talking to the child or explaining the issue, ignoring the behavior, putting the child in a time-out, or telling the child “no”).†

**Spanked child in past week.** Parents were asked whether they had spanked the focal child in the past week because the child was misbehaving or acting up.

**Parental psychological distress.** To assess parental psychological distress, the K6 Mental Health Screening Tool was used to ask parents about how often they experienced symptoms of depression and anxiety during the month prior to the interview. Responses were coded on a 5-point scale ranging from “none of the time” to “all of the time” and were summed to create a composite measure of parental psychological distress on a scale from 1 to 25. The internal consistency for the composite scale is 0.77.‡

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NOTES: \*Early Head Start Research and Evaluation Project (U.S. Department of Health and Human Services, Administration for Children and Families, 2002).

†Infant Health and Development Project (Brooks-Gunn, Klebanov, Liaw, and Spiker, 1993).

‡K6 Mental Health Screening Tool (Kessler et al., 2003).

children, regardless of the child's age at study entry. Table 4.1 shows that, among the full study sample, about 97 percent of parents in both the program group and the control group reported being warm and affectionate with their child at least once a day, and a little over half of parents in both groups reported engaging daily in cognitively stimulating and social play activities.

As shown in Table 4.2, among the subgroups, the parents of infants (about 95 percent) were less likely to report showing warmth daily than the parents of toddlers (about 99 percent). The parents of infants (about 62 percent) were also more likely to report engaging daily in social play and cognitively stimulating activities than the parents of toddlers (about 43 percent). These differences by child's age, however, are not statistically significant.

The second panels of Tables of 4.1 and 4.2 show the impacts of Enhanced EHS on parents' disciplinary strategies among the full study sample and, separately, the subgroups of families defined by child's age. Continuing a pattern of statistically nonsignificant impacts, the program did not have an impact on disciplinary strategies for the full study sample or for the subgroups of families with infants or toddlers. When asked to describe how they would discipline their misbehaving child in a hypothetical situation (for example, when the child was throwing a temper tantrum or playing with a breakable object), 90 percent of parents in the program group reported using only mild disciplinary strategies, compared with 87 percent of parents in the control group (Table 4.1). About one-quarter of parents in both the program and the control group reported spanking their child in the week before the 42-month follow-up interview.

Among the subgroups (Table 4.2), the parents of infants (91 percent) were more likely than the parents of toddlers (86 percent) to report using only mild disciplinary strategies with their children. The parents of infants (about 30 percent) were also more likely than the parents of toddlers (24 percent) to report spanking their child in the prior week. Again, however, these differences by child's age are not statistically significant.

### **Impacts on Parental Psychological Well-Being**

As discussed above, the expectation was that Enhanced EHS will benefit parents psychologically by directly supporting them and by providing a suite of family development services, which could include mental health services from EHS or other providers in the community.

- **For the full study sample, Enhanced EHS had a negative impact on parental psychological distress. This impact did not differ for the subgroups of families defined by child's age.**



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**Table 4.1**

**Impacts on Parenting Practices and Parental Psychological Well-Being**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Parental involvement and engagement (%)</u></b>					
Frequency of parenting warmth					
At least once a day	97.0	97.7	-0.7	-0.04	0.653
Frequency of social play and cognitive stimulation					
At least once a day	51.0	51.0	0.0	0.00	0.997
<b><u>Parental disciplinary strategies (%)</u></b>					
Suggested using only mild disciplinary strategies in hypothetical situations	90.1	86.6	3.6	0.11	0.247
Spanked child in past week	25.8	26.5	-0.7	-0.02	0.864
<b><u>Parental psychological well-being</u></b>					
Psychological distress (scale of 0-24)	5.4	4.6	0.7 *	0.18	0.078
Sample size (total = 455)	229	226			

SOURCE: MDRC calculations based on responses to the 42-month survey.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. The significance level indicates the probability that one would incorrectly conclude that a difference exists between research groups for the corresponding variable.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

Sample sizes may vary because of missing data.

Outcomes in this table are defined in Box 4.1.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

Overall, among the full research sample, it appears that Enhanced EHS slightly increased parental psychological distress (Table 4.1). When subgroup impacts by child's age are examined, the results do not yield reliable evidence to suggest that the impacts on parental psychological distress varied among families with infants and those with toddlers at study entry. It is not entirely clear why the program might have increased parental psychological distress. Some researchers have posited that interventions imposing multiple demands on parents can increase psychological distress. It may also be that different mediating influences contribute to program-driven increases in parental psychological distress. As discussed in Chapter 3, the

**The Enhanced Services for the Hard-to-Employ Demonstration**

**Table 4.2**

**Impacts on Parenting Practices and Parental Psychological Well-Being, by Age of Child at Random Assignment**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Age of Child at Random Assignment									
	Infant Group					Toddler Group				
	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Parental involvement and engagement (%)</u></b>										
Frequency of parenting warmth At least once a day	95.9	94.9	1.0	0.04	0.753	98.3	99.4	-1.2	-0.13	0.382
Frequency of social play and cognitive stimulation At least once a day	60.5	62.9	-2.4	-0.05	0.740	44.0	41.7	2.3	0.05	0.705
<b><u>Parental disciplinary strategies (%)</u></b>										
Suggested using only mild disciplinary strategies in hypothetical situations	90.8	90.8	0.1	0.00	0.989	89.4	83.5	5.9	0.16	0.176
Spanked child in past week	29.2	30.0	-0.8	-0.02	0.906	23.1	24.1	-1.0	-0.02	0.855
<b><u>Parental psychological well-being</u></b>										
Psychological distress (scale of 0-24)	5.0	4.4	0.6	0.17	0.298	5.6	4.9	0.8	0.18	0.197
Sample size (total = 455)	97	99				132	127			

(continued)

**Table 4.2 (continued)**

SOURCE: MDRC calculations based on responses to the 42-month survey.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. The significance level indicates the probability that one would incorrectly conclude that a difference exists between research groups for the corresponding variable.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

The infant group is defined as families with children younger than 12 months old at random assignment. The toddler group is defined as families with children 12 months or older at random assignment.

Sample sizes may vary because of missing data.

Outcomes in this table are defined in Box 4.1.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>Tests of differences across subgroups were conducted, and statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; and † = 10 percent.

program had some unexpected negative impacts on selected parental employment and job characteristics among families with toddlers at study entry, and these might be some factors contributing to the negative impacts on parental psychological distress. For families with infants — a group for whom the program increased parental employment and earnings — work may be psychologically taxing, particularly if it does not translate into improvements in the family’s economic circumstances.

## Impacts on Child Outcomes

This section presents the impacts of Enhanced EHS on children’s early academic skills and social and emotional development, as well as the impacts on their health and disability outcomes. Box 4.2 describes these child outcomes, which were measured through direct assessments of children’s functioning at the 42-month follow-up and by parent reports of children’s development and well-being as captured by the 42-month survey.

It is unclear whether Enhanced EHS would be expected to have notable impacts on the well-being of children, given the findings discussed in Chapters 2 and 3. The program was effective at promoting the use of formal child care overall — and of EHS/HS care in particular — but it had only scattered, mixed impacts on parental employment and economic outcomes, parenting, and parental psychological well-being. It might be that the provision of EHS/HS child care benefits children’s development. In contrast, the lack of significant findings on aspects of parenting and on employment and economic outcomes, as well as negative impacts on parental psychological distress for the full research sample, could diminish the program’s potential positive impacts on children’s development and well-being. At the same time, because Enhanced EHS produced a cluster of positive impacts on parental employment and earnings and on the use of formal child care and EHS/HS care, among families with infants, it could be that the program’s potential positive impacts on children’s development and well-being are more evident for this subgroup of families. Yet the clustering of unanticipated negative impacts on parental employment and earnings outcomes among families with toddlers at study entry could have countervailing influences on children’s development and well-being. These possibilities are also explored in this section. Small sample sizes, however, make it difficult to estimate program impacts with a high degree of certainty; therefore, the magnitude of the subgroup impacts should be interpreted with caution.

- **There is limited evidence that Enhanced EHS had longer-term impacts on children’s development and well-being.**

Tables 4.3 and 4.4 summarize the full-sample and subgroup impacts of Enhanced EHS on children’s early academic skills, social and emotional development, and self-regulatory outcomes. These collective impacts suggest that, at the time of the 42-month follow-up, the

## Box 4.2

### Measures of Child Outcomes

Data about children's early academic skills, social and emotional development, and health outcomes were collected primarily at the 42-month follow-up through direct assessments of children's functioning. This information was supplemented with parent reports of children's development and well-being on the 42-month follow-up survey.

**Early reading and math skills** were measured for all focal children at the 42-month follow-up using the Letter-Word Identification and Applied Problems subtests of the Woodcock-Johnson III-R, respectively. Because standardized norms on scores are not available for children younger than age 3, impacts are examined using children's age-normed scores on each of these subtests with a mean of 100 and a standard deviation of 15.

**Behavioral regulation** was measured for all focal children at the 42-month follow-up using a walk-a-line task in which the child was asked to walk a line once and then was directed to walk the same line two more times slowly. The relevant measurement method is whether the child was able to slow down the amount of time that it took to walk the line between the child's regular or baseline trial and the slow trials.\*

**Executive functioning/impulse control** was measured for focal children who were 36 months or older at the 42-month follow-up.

- **Pencil-tapping task.** Across a series of 16 trials, the child was asked to tap once when the assessor tapped twice and to tap twice when the assessor tapped once. The child is considered to have passed the task based on whether he or she was able to tap the correct number of times for at least 75 percent of the trials administered.†
- **Card-sorting task.** The child was asked to sort cards that varied along the dimensions of color and shape (for example, a blue rabbit and a red boat). After learning to sort the cards according to one dimension, the child was asked by the assessor to sort the cards along the other dimension. The child is considered to have passed the task based on whether he or she was able to sort the cards correctly in at least 75 percent of the trials administered after the switch from one dimension to the other.‡

**Interviewer assessment of child's task orientation** was collected using 13 items drawn and adapted from the Leiter-R Assessor Report.§ After administering the child assessment battery, interviewers rated the child's capacity to sustain attention to the tasks (for example, "Pays attention to instructions and demonstrations," "Sustains concentration; willing to try repetitive tasks"), to demonstrate self-regulation ("Can wait during and between tasks," "Modulates and regulates arousal level"), and to engage actively in goal-oriented focus ("Shows pleasure in accomplishment and active task mastery," "Careful, interested in accuracy"). Each item was rated on a 4-point scale. The internal consistency for the scale is 0.94).

(continued)

#### Box 4.2 (continued)

**Parent-reported behavioral, social, and emotional problems and competencies** was measured for all focal children at the 42-month follow-up using a set of items drawn from the ECLS-B, which adapted the items from the Preschool and Kindergarten Behavior Scales (PKBS-2) and from the Social Skills Rating System (SSRS).<sup>||</sup> Parents were asked to rate the focal child's behavioral, social, and emotional problems and competencies on a 5-point scale ranging from "never" to "very often." From this information, three composite scales were created to characterize (1) children's total social and emotional problems (such as "Child is physically aggressive"), (2) children's social and emotional competencies ("Child is accepted and well liked by other children"), and (3) children's attention and impulsivity problems ("Child pays attention well"). The internal consistencies for these scales, respectively, are 0.82, 0.78, and 0.78.

NOTES: \*McCabe, Hernandez, Lara, and Brooks-Gunn (2000); Murray and Kochanska (2002); Smith-Donald, Raver, Hayes, and Richardson (2007).

<sup>†</sup>Kochanska et al. (1996).

<sup>‡</sup>Zelazo (2006).

<sup>§</sup>Beirman et al. (2008); Roid and Miller (1997); Wakschlag, Leventhal, Briggs-Gowan et al., 2005; Smith-Donald, Raver, Hayes, and Richardson (2007).

<sup>||</sup>Merrell (2003) and Gresham and Elliott (1990), respectively.

program had little significant impact on developmental and well-being outcomes among children in the full research sample or among the subgroups of families with infants or with toddlers — with one exception. Among families with toddlers at study entry, the program slightly increased children's task orientation throughout the direct child assessments, according to interviewer ratings, but it had no significant impacts on other aspects of children's well-being and development.

It is likely that the program-driven changes in children's child care and early childhood educational experiences (Chapter 2) were not sufficient to generate positive impacts on the domains of child outcomes that were examined. Additionally, because the sample sizes are quite small, this study has limited power to detect the small effects that have been typical of early childhood interventions and prior evaluations of EHS.<sup>5</sup>

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<sup>5</sup>U.S. Department of Health and Human Services, Administration for Children and Families (2002).

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**Table 4.3**

**Impacts on Child Outcomes**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Behavioral regulation (%)</u></b>					
Walk a line: slowed down	79.0	81.6	-2.6	-0.07	0.491
<b><u>Executive functioning/impulse control (%)</u></b>					
Pencil tapping: passed	45.7	45.9	-0.2	0.00	0.963
Card sorting: passed	65.0	57.1	8.0	0.16	0.109
<b><u>Early academic outcomes (age-normed score)</u></b>					
Early reading skills	93.7	94.5	-0.9	-0.06	0.498
Early math skills	98.3	97.2	1.0	0.06	0.483
<b><u>Interviewer assessment of child's task orientation (scale of 1-4)</u></b>					
	3.1	3.0	0.1	0.12	0.179
Sample size (total = 406)	202	204			
<b><u>Parent-reported behavioral, social, and emotional adjustment (scale of 1-5)</u></b>					
Social and emotional problems	3.9	3.9	0.0	-0.04	0.686
Social and emotional competencies	2.4	2.3	0.1	0.09	0.364
Attention and impulsivity problems	3.2	3.2	0.0	-0.03	0.710
Sample size (total = 455)	229	226			

SOURCES: MDRC calculations based on responses to the 42-month survey and direct child assessments.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. The significance level indicates the probability that one would incorrectly conclude that a difference exists between research groups for the corresponding variable.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

Child outcomes in this table are defined in Box 4.2.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

**The Enhanced Services for the Hard-to-Employ Demonstration**

**Table 4.4**

**Impacts on Child Outcomes, by Age of Child at Random Assignment**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Age of Child at Random Assignment										† <sup>b</sup>
	Infant Group					Toddler Group					
	Program	Control	Difference	Effect	P-Value	Program	Control	Difference	Effect	P-Value	
	Group	Group	(Impact)	Size <sup>a</sup>		Group	Group	(Impact)	Size <sup>a</sup>		
<b><u>Behavioral regulation (%)</u></b>											
Walk a line: slowed down	64.1	69.1	-5.0	-0.11	0.476	90.7	91.0	-0.3	-0.01	0.948	
<b><u>Executive functioning/impulse control (%)</u></b>											
Pencil tapping: passed	14.1	18.3	-4.1	-0.11	0.488	67.3	65.5	1.8	0.04	0.768	
Card sorting: passed	58.0	51.5	6.4	0.13	0.433	69.1	61.8	7.3	0.15	0.250	
<b><u>Early academic outcomes (age-normed score)</u></b>											
Early reading skills	91.1	92.7	-1.6	-0.13	0.396	95.4	96.1	-0.7	-0.05	0.707	
Early math skills	98.8	96.2	2.6	0.17	0.256	98.3	97.5	0.8	0.05	0.694	
<b><u>Interviewer assessment of child's task orientation (scale of 1-4)</u></b>											
	2.7	2.7	0.0	0.07	0.667	3.3	3.2	0.1 *	0.23	0.057	
Sample size (total = 406)	86	91				116	113				
<b><u>Parent-reported behavioral, social, and emotional adjustment (scale of 1-5)</u></b>											
Social and emotional problems	3.9	3.8	0.0	0.03	0.847	3.9	3.9	-0.1	-0.13	0.382	
Social and emotional competencies	2.4	2.3	0.1	0.11	0.467	2.4	2.4	0.1	0.08	0.534	
Attention and impulsivity problems	3.2	3.2	0.0	0.01	0.959	3.2	3.2	0.0	-0.10	0.428	
Sample size (total = 455)	97	99				132	127				

(continued)



**Table 4.4 (continued)**

SOURCES: MDRC calculations based on responses to the 42-month survey and direct child assessments.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. The significance level indicates the probability that one would incorrectly conclude that a difference exists between research groups for the corresponding variable.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

The infant group is defined as families with children younger than 12 months old at random assignment. The toddler group is defined as families with children 12 months or older at random assignment.

Child outcomes in this table are defined in Box 4.2.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>Tests of differences across subgroups were conducted, and statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; and † = 10 percent.

## **Summary of Impacts on Parenting Behaviors, Parental Psychological Well-Being, and Child Outcomes**

The findings at the 18-month follow-up suggest that Enhanced EHS had scattered, modest positive impacts on parental warmth and children's social and emotional development (among infants at study entry) and on behavior regulation (among toddlers at study entry). At the 42-month follow-up, however, limited impacts were evident on parenting, parent-child relations, parental psychological well-being, and indicators of child development and well-being. The findings generally agree with prior evidence of the longer-term effects of traditional EHS, which suggests that some of the benefits may fade over time. Although there are some differences in impacts from this study and prior studies, this is expected, given that impact estimates from any study have a degree of uncertainty. It may also be difficult to detect the longer-term effects of Enhanced EHS because the current study's sample is relatively small and includes only a limited number of pregnant women and ethnic minority children — subgroups that prior research suggests may be most likely to benefit from EHS services and over longer periods of follow-up.<sup>6</sup> Because the current study's sample is constrained, the findings of Enhanced EHS may not be readily generalizable to the broader population of families who receive EHS.

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<sup>6</sup>U.S. Department of Health and Human Services, Administration for Children and Families (2002, 2010).

**Appendix A**

**Response Bias Analysis:  
42-Month Survey of Parents and  
Direct Child Assessments**



To examine the possibility of improving children’s development by improving families’ economic circumstances and self-sufficiency, the Hard-to-Employ Demonstration and Evaluation Project is studying two traditional Early Head Start (EHS) programs in Kansas and Missouri that enhanced their services by offering parents assistance with employment and education. Families in the study were randomly assigned either to the Enhanced EHS program group and could receive home-based or center-based services from Enhanced EHS or to the control group and could not access services from these two programs but could seek services available in the community.

Appendix A assesses the reliability of the impact results based on the 42-month data collection activities, which included a survey of parents and direct child assessments. The appendix examines whether the impacts for respondents to the parent survey and to the child assessments can be generalized to the full research sample — all the families who were randomly assigned during the sample intake period. (Appendix Box A.1 describes the research samples that are used in the analysis.)

The appendix first describes the components of the 42-month data collection and how the fielded samples were selected. Then it discusses the overall response rates for the parent survey and the child assessments and how these rates might differ by research group. Next, it compares the two research groups (the program group and the control group) among respondents to the parent survey and the child assessments. That is followed by a comparison of differences between respondents and nonrespondents to each of the data collection activities. The appendix then compares the impacts on employment and earnings — as calculated using administrative records — for the various respondent samples and for the fielded sample and/or the full research sample.

This appendix concludes, with some caution, that the impact analysis for outcomes assessed with the parent survey and direct child assessments is reliable and that the results for these respondent samples can be generalized to the full research sample. Despite some significant differences in baseline characteristics between respondents and nonrespondents and some differences in baseline characteristics among respondents in the two research groups, the impacts on administrative measures of employment are similar for the full research sample and for the respondent samples. In addition, the analysis weighting for nonresponse shows that the impact estimates from the parent survey and direct child assessments are not highly sensitive to weighting for nonresponse, suggesting that the impact estimates from the respondent data can be generalized to the full research sample.

#### Box A.1

### Key Analysis Samples

**Research sample:** All individuals in the study who were randomly assigned during the sample intake period, which extended from July 2004 through December 2006.

**Parent survey fielded sample:** All the sample members in the research sample, inasmuch as all were selected for the parent survey field interview.

**Parent survey respondent sample:** Sample members in the fielded sample who completed the 42-month parent survey.

**Parent survey nonrespondent sample:** Sample members in the fielded sample who were not interviewed for the parent survey because they were not located, refused to be interviewed, or had other reasons for not participating.

**Child assessment fielded sample:** The focal children of all the sample members in the research sample.

**Child assessment respondent sample:** Members of the child assessment fielded sample who completed at least one child assessment.

**Child assessment nonrespondent sample:** Members of the child assessment fielded sample who did not complete a child assessment because the child was not available or they were not located, refused to be interviewed, or had other reasons for not participating.

## Components of the 42-Month Data Collection

The 42-month data collection effort includes two components: a survey of parents and direct child assessments. The survey was used to measure service receipt, the use of child care, parents' psychological well-being, parenting practices, parents' employment and job characteristics, household income, and parent-reported measures of children's social, emotional, and cognitive development.

The same interviewer conducted the child assessments directly with the focal children.<sup>1</sup> In most cases, the assessments occurred immediately after the parent's survey interview, but, in some cases — because of time constraints, children's availability, or a child's inability to

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<sup>1</sup>As is true with all applications to EHS, families identify a particular child who is up to age 3 or during the prenatal period and who will be enrolled in the program. In this study's 42-month parent survey and direct child assessments, this child is identified as the "focal child" who is the target of program services and is the focus of all questions related to child care and early educational experiences, parenting practices, and child development and well-being.

participate because of tiredness or sickness — the assessments were conducted at a later date or not at all. The assessments included self-regulation tasks, including a walk-the-line activity, a pencil-tapping activity, and the broad math and reading subtests of the Woodcock-Johnson III-R. For a detailed description of these assessments, see Box 4.2 in Chapter 4.

## Selection of the Fielded Sample

The *full research sample* includes 610 sample members who were randomly assigned in equal numbers to the program and control groups from July 2004 to December 2006. The *parent survey fielded sample* — those who were selected to be interviewed — reflects the entire research sample. Child assessments were conducted only for a single focal child who was identified for each sample member (resulting in the *child assessment fielded sample*).

## Response Rates

Parents who were interviewed for the 42-month survey are referred to as “parent survey respondents” or the *parent survey respondent sample*, while parents who were not interviewed are referred to as “parent survey nonrespondents” or the *parent survey nonrespondent sample*. A total of 480 sample members, or 79 percent of the fielded sample, completed the parent survey. Eighty percent of the program group fielded sample (total = 243) and 78 percent of the control group fielded sample (total = 237) completed the survey. These response rates do not differ significantly across the research groups.

Children who began at least one child assessment are referred to as “child assessment respondents” or the *child assessment respondent sample*, while families with children who were not interviewed are referred to as “child assessment nonrespondents” or the *child assessment nonrespondent sample*. All families who completed a child assessment also responded to the parent survey. A total of 407 children, or 67 percent of the fielded sample, had focal children who completed a direct child assessment. Sixty-seven percent of the program group fielded sample (total = 203) and 67 percent of the control group fielded sample (total = 204) completed the survey. These response rates do not differ significantly across the research groups.

Overall, of the parent survey nonrespondent sample, 71 percent (92 out of 130) could not be located for the interview; 1.5 percent (2 out of 130) were located, but the interview was not completed; and 23 percent (30 out of 130) refused to participate in the interview.<sup>2</sup> Information on the frequency of reasons why some families completed a survey but did not have a

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<sup>2</sup>Other members of the fielded sample were not interviewed because they moved far away, could not complete the interview because of a language barrier, were incapacitated, or were deceased.

completed child assessment was not available. Whenever the response rate is lower than 100 percent, nonresponse bias may occur. That is, differences may exist between the respondent sample and the larger, fielded sample, owing to differences between sample members who completed the survey and those who did not. Furthermore, the impact estimates may be biased if the background characteristics of the research groups differ.

## **Comparison of the Research Groups within the Respondent Samples**

Random assignment designs minimize potential bias. There is the possibility in this case, however, that the characteristics of each research group differed due to the selective nature of the response process to each of the 42-month data collection components. If so, the reliability of impact estimates for the respondent samples may be affected.

Appendix Table A.1 shows selected characteristics of the parent survey respondents at baseline, analyzed by research group. In general, differences between the program group and control group are relatively small and not statistically significant, but some differences are significant. The research groups differed on employment history during the three years prior to random assignment and on child's age. A test of the joint significance of all baseline variables was conducted by running a regression predicting program group status versus control group status among parent survey respondents. It showed no significant difference between groups in baseline characteristics as a whole.

Appendix Table A.2 shows selected characteristics of the child assessment respondents at baseline, again by research group. As with the parent survey groups, the differences between the research groups are generally small and not statistically significant. However, the research groups do differ on the percentage Hispanic and on employment history during the three years prior to random assignment. A test of the joint significance of all baseline variables was conducted by running a regression predicting program group status versus control group status among child assessment respondents. It showed no significant difference between groups in baseline characteristics as a whole.

## **Comparison of Respondents and Nonrespondents Within the Fielded Samples for the Parent Survey and the Direct Child Assessments**

This section examines whether there are any systematic differences between those who responded to the parent survey and child assessments and those who did not.



**The Enhanced Services for the Hard-to-Employ Demonstration**

**Appendix Table A.1**

**Baseline Characteristics of Parent Survey Respondents, by Research Group**

**Early Head Start with Enhanced Self-Sufficiency Services**

Characteristic	Program Group	Control Group	Total
<b><u>Primary parent</u></b>			
Female <sup>a</sup> (%)	89.7	92.3	91.0
Average age (in years)	25.8	25.8	25.8
Marital status (%)			
Single, never married	53.1	54.7	53.9
Married	29.5	31.0	30.2
Separated, divorced, or widowed	17.4	14.2	15.9
Spanish/Hispanic/Latino(a) (%)	3.3	6.4	4.8
Race/ethnicity <sup>b</sup> (%)			
White	87.9	85.4	86.7
Black or African-American	6.7	10.3	8.5
Other	5.4	4.3	4.9
Primary parent employed during the past 3 years (%)			**
Did not work at all	15.1	15.5	15.3
Worked 1 year or less	28.5	38.5	33.3
Worked more than 1 year	56.5	46.0	51.4
Prenatal <sup>c</sup> (%)	12.8	11.8	12.3
Teen parent (%)	10.7	13.1	11.9
Two-parent household (%)	39.1	43.5	41.3
Currently on TANF <sup>d</sup> (%)	27.6	30.5	29.0
Ever on TANF <sup>d</sup> (%)	46.9	44.5	45.7
<b><u>Child<sup>e</sup></u></b>			
Gender (%)			
Female	45.5	44.9	45.2
Male	54.5	55.1	54.8
Average age (in months)	18.6	16.6	17.6 *
Sample size	241	237	478

(continued)

### Appendix Table A.1 (continued)

SOURCE: MDRC calculations from Early Head Start (EHS) Program Information Forms (PIFs).

NOTES: In order to assess differences in characteristics across research groups, chi-square tests were used for categorical variables, and t-tests were used for continuous variables.

Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between research groups for the variable in question.

<sup>a</sup>This reflects the gender of the primary parent listed on the PIFs, which was completed at the time of random assignment, not the gender of the respondent to the 42-month survey.

<sup>b</sup>“Other” race/ethnicity was self-identified by the parent and may include biracial or multiracial individuals or a race/ethnicity category other than white or black/African-American.

<sup>c</sup>Prenatal status indicates whether the mother was pregnant at the time of random assignment.

<sup>d</sup>“Currently on TANF” indicates whether the family was receiving TANF at the time of random assignment. “Ever on TANF” indicates whether the family had ever received TANF prior to random assignment.

<sup>e</sup>Prenatal cases are not included in these computations.

Appendix Table A.3 shows selected baseline characteristics of parent survey respondents and nonrespondents, including some differences. Respondents are more likely to be female and were more likely to have older children at random assignment. A test of the joint significance of all baseline variables was conducted by running a regression predicting survey response that included all baseline variables in the model. The model shows that the baseline coefficients as a group are not significantly different from zero, indicating that parent survey respondents are not systematically different from nonrespondents.

Appendix Table A.4 shows selected characteristics of the child assessment respondents and nonrespondents at baseline. Given that child assessments were conducted with children only after parents had completed the parent survey, it is not surprising that the results show similar differences between respondents and nonrespondents as were found with the parent survey. Child assessment respondent families are more likely than nonrespondents to be female and are more likely to be white. They were also more likely to have had older children at random assignment. A test of the joint significance of all baseline variables was conducted by running a regression predicting survey response that included all baseline variables in the model. The model shows that the baseline coefficients as a group are not significantly different from zero, indicating that child assessment respondents are not systematically different from nonrespondents.

**The Enhanced Services for the Hard-to-Employ Demonstration**

**Appendix Table A.2**

**Baseline Characteristics of Child Assessment Respondents, by Research Group**

**Early Head Start with Enhanced Self-Sufficiency Services**

Characteristic	Program Group	Control Group	Total
<b><u>Primary parent</u></b>			
Female <sup>a</sup> (%)	90.1	93.1	91.6
Average age (in years)	26.1	25.6	25.8
Marital status (%)			
Single, never married	53.0	55.0	54.0
Married	29.7	30.2	30.0
Separated, divorced, or widowed	17.3	14.9	16.1
Spanish/Hispanic/Latino(a) (%)	3.0	6.5	4.7 *
Race/ethnicity <sup>b</sup> (%)			
White	90.0	85.6	87.8
Black or African-American	6.5	9.9	8.2
Other	3.5	4.5	4.0
Primary parent employed during the past 3 years (%)			**
Did not work at all	15.1	13.4	14.2
Worked 1 year or less	26.1	38.7	32.3
Worked more than 1 year	58.8	47.9	53.4
Prenatal <sup>c</sup> (%)	12.8	12.7	12.8
Teen parent (%)	10.3	14.7	12.5
Two-parent household (%)	38.9	44.6	41.8
Currently on TANF <sup>d</sup> (%)	26.1	30.5	28.3
Ever on TANF <sup>d</sup> (%)	44.3	44.8	44.6
<b><u>Child</u></b>			
Gender (%)			
Female	46.5	43.5	45.0
Male	53.5	56.5	55.0
Average age (in months)	18.6	16.8	17.7
Sample size	203	204	407

(continued)

## Appendix Table A.2 (continued)

SOURCE: MDRC calculations from Early Head Start (EHS) Program Information Forms (PIFs).

NOTES: In order to assess differences in characteristics across research groups, chi-square tests were used for categorical variables, and t-tests were used for continuous variables.

Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between research groups for the variable in question.

<sup>a</sup>This reflects the gender of the primary parent listed on the PIFs, which was completed at the time of random assignment, not the gender of the respondent to the 42-month survey.

<sup>b</sup>“Other” race/ethnicity was self-identified by the parent and may include biracial or multiracial individuals or a race/ethnicity category other than white or black/African-American.

<sup>c</sup>Prenatal status indicates whether the mother was pregnant at the time of random assignment.

<sup>d</sup>“Currently on TANF” indicates whether the family was receiving TANF at the time of random assignment. “Ever on TANF” indicates whether the family had ever received TANF prior to random assignment.

<sup>e</sup>Prenatal cases are not included in these computations.

## Comparison of the Respondent Samples and the Full Research Sample

This section discusses whether the impacts among the respondents to the parent survey and the direct child assessments can be generalized to the full research sample. Consistency of impact findings among the samples is considered to be the best result, suggesting that impacts on measures calculated from respondent samples can be generalized to the full research sample. When impacts for the parent survey or direct child assessment respondent samples that are calculated using administrative data differ in size and direction from results for all other samples, the results using the respondent samples may be considered unreliable because of response bias.

Appendix Table A.5 shows the adjusted means and impacts on employment and earnings using administrative data for the full research sample, parent survey respondent sample, parent survey nonrespondent sample, child assessment respondent sample, and child assessment nonrespondent sample. These comparisons are useful in assessing whether the pattern of impacts change when using different samples.

For both the parent survey respondent sample and the child assessment respondent sample, the impacts look similar to the impacts for the full research sample. For both of those respondent samples, there are no significant impacts on employment or earnings over the follow-up period. This suggests that the respondent samples are not substantially different from the full research sample.

**The Enhanced Services for the Hard-to-Employ Demonstration**  
**Appendix Table A.3**  
**Baseline Characteristics of Parent Survey Respondents and Nonrespondents**  
**Early Head Start with Enhanced Self-Sufficiency Services**

Characteristic	Respondent Group	Nonrespondent Group	Total
<b><u>Primary parent</u></b>			
Female <sup>a</sup> (%)	91.0	84.5	89.6 **
Average age (in years)	25.8	25.9	25.8
Marital status (%)			
Single, never married	53.9	55.1	54.2
Married	30.2	23.6	28.8
Separated, divorced, or widowed	15.9	21.3	17.0
Spanish/Hispanic/Latino(a) (%)	4.8	6.3	5.1
Race/ethnicity <sup>b</sup> (%)			
White	86.7	83.5	86.0
Black or African-American	8.5	7.9	8.3
Other	4.9	8.7	5.7
Primary parent employed during the past 3 years (%)			
Did not work at all	15.3	15.0	15.2
Worked 1 year or less	33.3	32.3	33.1
Worked more than 1 year	51.4	52.8	51.7
Prenatal <sup>c</sup> (%)	12.3	4.6	10.7
Teen parent (%)	11.9	12.3	12.0
Two-parent household (%)	41.3	44.6	42.0
Currently on TANF <sup>d</sup> (%)	29.0	29.2	29.1
Ever on TANF <sup>d</sup> (%)	45.7	50.0	46.6
<b><u>Child<sup>e</sup></u></b>			
Gender (%)			
Female	45.2	52.9	47.0
Male	54.8	47.1	53.0
Average age (in months)	17.6	15.2	17.0 **
Sample size	478	132	610

(continued)

### Appendix Table A.3 (continued)

SOURCE: MDRC calculations from Early Head Start (EHS) Program Information Forms (PIFs).

NOTES: In order to assess differences in characteristics across groups, chi-square tests were used for categorical variables, and t-tests were used for continuous variables.

Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between groups for the variable in question.

<sup>a</sup>This reflects the gender of the primary parent listed on the PIFs, which was completed at the time of random assignment, not the gender of the respondent to the 42-month survey.

<sup>b</sup>“Other” race/ethnicity was self-identified by the parent and may include biracial or multiracial individuals or a race/ethnicity category other than white or black/African-American.

<sup>c</sup>Prenatal status indicates whether the mother was pregnant at the time of random assignment.

<sup>d</sup>“Currently on TANF” indicates whether the family was receiving TANF at the time of random assignment. “Ever on TANF” indicates whether the family had ever received TANF prior to random assignment.

<sup>e</sup>Prenatal cases are not included in these computations.

Appendix Table A.5 also shows, however, that the pattern of impacts for both the parent survey nonrespondent sample and the child assessment nonrespondent sample differs from the pattern for the respondent samples for each of these data collection activities. For the nonrespondent survey sample, there is a significant impact of about 9 percentage points on employment over the follow-up period. For the nonrespondent child assessment sample, there is an impact of about 6 percentage points on employment over the follow-up period, though this impact estimate is not statistically significant. The impacts for the respondent and nonrespondent samples for each of these data collection activities also do not differ significantly from each other. This suggests that it is not likely that the impact results using outcomes from the parent survey or the direct child assessment are affected by nonresponse bias.

**The Enhanced Services for the Hard-to-Employ Demonstration**

**Appendix Table A.4**

**Baseline Characteristics of Child Assessment Respondents and Nonrespondents**

**Early Head Start with Enhanced Self-Sufficiency Services**

Characteristic	Respondent Group	Nonrespondent Group	Total
<b><u>Primary parent</u></b>			
Female <sup>a</sup> (%)	91.6	85.6	89.6 **
Average age (in years)	25.8	25.8	25.8
Marital status (%)			
Single, never married	54.0	54.6	54.2
Married	30.0	26.5	28.8
Separated, divorced, or widowed	16.1	18.9	17.0
Spanish/Hispanic/Latino(a) (%)	4.7	6.0	5.1
Race/ethnicity <sup>b</sup> (%)			**
White	87.8	82.2	86.0
Black or African-American	8.2	8.6	8.3
Other	4.0	9.1	5.7
Primary parent employed during the past 3 years (%)			
Did not work at all	14.2	17.1	15.2
Worked 1 year or less	32.3	34.7	33.1
Worked more than 1 year	53.4	48.2	51.7
Teen parent (%)	12.5	10.8	12.0
Two-parent household (%)	41.8	42.4	42.0
Currently on TANF <sup>c</sup> (%)	28.3	30.5	29.1
Ever on TANF <sup>c</sup> (%)	44.6	50.7	46.6
<b><u>Child<sup>a</sup></u></b>			
Gender (%)			
Female	45.0	50.8	47.0
Male	55.0	49.2	53.0
Average age (in months)	17.7	15.8	17.0 *
Sample size	407	203	610

(continued)

### Appendix Table A.4 (continued)

SOURCE: MDRC calculations from Early Head Start (EHS) Program Information Forms (PIFs).

NOTES: In order to assess differences in characteristics across groups, chi-square tests were used for categorical variables, and t-tests were used for continuous variables.

Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between groups for the variable in question.

The child assessment fielded sample includes only children who were 6 months old or older at random assignment.

<sup>a</sup>This reflects the gender of the primary parent listed on the PIFs, which was completed at the time of random assignment, not the gender of the respondent to the 42-month survey.

<sup>b</sup>“Other” race/ethnicity was self-identified by the parent and may include biracial or multiracial individuals or a race/ethnicity category other than white or black/African-American.

<sup>c</sup>“Currently on TANF” indicates whether the family was receiving TANF at the time of random assignment. “Ever on TANF” indicates whether the family had ever received TANF prior to random assignment.

<sup>d</sup>Prenatal cases are not included in these computations.



**The Enhanced Services for the Hard-to-Employ Demonstration**

**Appendix Table A.5**

**Employment and Earnings Impacts for the Research Sample,  
Parent Survey Respondent and Nonrespondent Samples,  
and Child Assessment Respondent and Nonrespondent Samples**

**Early Head Start with Enhanced Self-Sufficiency Services**

	Program	Control	Difference	Effect	
Outcome	Group	Group	(Impact)	Size <sup>a</sup>	P-Value
Ever employed (%), Quarters 2-15 <sup>b</sup>					
Research sample/survey fielded sample	91.8	89.1	2.7	0.09	0.245
Parent survey respondent sample	90.5	89.6	0.9	0.03	0.726
Parent survey nonrespondent sample	96.5	87.7	8.8 *	0.32	0.077
Child assessment respondent sample	91.2	90.0	1.3	0.04	0.656
Child assessment nonrespondent sample	93.4	87.1	6.3	0.21	0.137
Total earnings (\$), Quarters 2-15 <sup>b</sup>					
Research sample/survey fielded sample	32,537	30,096	2,442	0.07	0.347
Parent survey respondent sample	32,760	30,124	2,636	0.08	0.352
Parent survey nonrespondent sample	30,237	31,316	-1,079	-0.03	0.871
Child assessment respondent sample	33,676	31,759	1,917	0.06	0.543
Child assessment nonrespondent sample	29,937	26,949	2,988	0.09	0.652
Sample size					
Research sample/survey fielded sample (total = 597)	300	297			
Parent survey respondent sample (total = 473)	240	233			
Parent survey nonrespondent sample (total = 124)	60	64			
Child assessment respondent sample (total = 401)	200	201			
Child assessment nonrespondent sample (total = 196)	100	96			

SOURCE: MDRC calculations based on the National Directory of New Hires (NDNH) database.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; and \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between research groups for the variable in question.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

Dollar values include zeroes for sample members who were not employed, unless otherwise noted.

The sample used in this analysis includes females from two-parent cases (41.3 percent), females from one-parent cases (57.1 percent), and males from one-parent cases (1.5 percent). Among the full research sample, thirteen sample members are missing Social Security numbers and therefore could not be matched to employment data.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>Quarter 1 is the calendar quarter in which random assignment occurred. This quarter may contain some earnings from the period prior to random assignment, and is therefore, excluded from follow-up measures.



## **Appendix B**

# **Impacts on Child Care**



**The Enhanced Services for the Hard-to-Employ Demonstration**

**Appendix Table B.1**

**Impacts on Service Receipt and Child Care Outcomes, by Site**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Site									
	YIN Group					SEK-CAP Group				
	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Early Head Start (EHS)/Head Start (HS)</u></b>										
Received EHS/HS child care and/or family development services since random assignment (%)	88.3	25.7	62.6 ***	1.26	0.000	80.4	52.8	27.6 ***	0.59	0.000 †††
<i>Length of engagement in EHS/HS (months)</i>	<i>23.8</i>	<i>6.8</i>	<i>17.0</i>			<i>24.0</i>	<i>18.4</i>	<i>5.6</i>		
<b><u>Child care use since random assignment</u></b>										
Any nonparental child care (%)	87.1	84.5	2.6	0.07	0.587	94.0	90.0	4.0	0.15	0.255
Total hours in any care per week in past month	22.0	23.8	-1.8	-0.07	0.607	21.4	21.5	-0.2	-0.01	0.945
Number of months spent in:										
Any nonparental child care	20.3	15.2	5.2 ***	0.34	0.008	18.8	17.1	1.6	0.13	0.299
Any formal care	12.6	7.7	5.0 ***	0.45	0.001	9.7	7.3	2.4 **	0.26	0.034
EHS/HS care	9.6	0.7	8.9 ***	0.92	0.000	6.1	2.6	3.6 ***	0.46	0.000
Other formal care	4.5	7.1	-2.5 **	-0.30	0.028	4.5	5.3	-0.8	-0.10	0.393
Any home-based care	7.9	7.8	0.2	0.02	0.900	9.2	9.9	-0.7	-0.08	0.539
Care provided by relative	7.3	5.0	2.3 *	0.25	0.060	7.6	7.2	0.4	0.04	0.746
Care provided by nonrelative	1.5	4.2	-2.7 ***	-0.48	0.001	4.2	5.6	-1.4	-0.18	0.159

(continued)

**Appendix Table B.1 (continued)**

Outcome	Site									
	YIN Group					SEK-CAP Group				
	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Child care stability</u></b>										
Number of child care providers used in past month	1.4	1.5	-0.1	-0.08	0.595	1.7	1.6	0.1	0.07	0.593
Hours in child care frequently change from week to week (%)	7.8	11.0	-3.2	-0.11	0.446	8.6	7.6	1.0	0.04	0.784
Difficulties in arranging for child care frequently occur (%)	0.2	2.5	-2.3	-0.19	0.177	1.8	0.8	1.0	0.09	0.515
Sample size (total = 455)	110	108				119	118			

SOURCES: MDRC calculations based on responses to the 42-month survey.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent. The significance level indicates the probability that one would incorrectly conclude that a difference exists between research groups for the corresponding variable.

The measure shown in italic type is considered nonexperimental and is not tested for statistical significance.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

The infant group is defined as families with children young than 12 months old at random assignment. The toddler group is defined as families with children 12 months or older at random assignment.

Outcomes in this table are defined in Box 2.1.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>Tests of differences across subgroups were conducted, and statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; and † = 10 percent.

## **Appendix C**

# **Impacts on Employment**





**The Enhanced Services for the Hard-to-Employ Demonstration**

**Appendix Table C.1**

**Impacts on Household Employment and Earnings**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Employment (%)</u></b>					
Year 1 <sup>b</sup>	88.3	85.9	2.4	0.07	0.353
Year 2	86.3	85.9	0.4	0.01	0.897
Year 3	86.0	80.8	5.1 *	0.13	0.077
Ever employed, Quarters 2-15	94.7	93.9	0.8	0.03	0.679
<b><u>Earnings (\$)</u></b>					
Year 1 <sup>b</sup>	14,947	14,754	194	0.01	0.870
Year 2	16,489	15,691	798	0.04	0.545
Year 3	17,375	15,592	1,783	0.09	0.198
Total earnings, Quarters 2-15	57,385	53,906	3,478	0.06	0.414
Sample size (total = 597)	300	297			

SOURCE: MDRC calculations based on the National Directory of New Hires (NDNH) database.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; and \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between research groups for the variable in question.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

Dollar values include zeroes for sample members who were not employed, unless otherwise noted.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>Quarter 1 is the calendar quarter in which random assignment occurred. This quarter may contain some earnings from the period prior to random assignment and is, therefore, excluded from follow-up measures. Accordingly, Year 1, Year 2, and Year 3 are defined as Quarters 2 to 5 after random assignment, Quarters 6 to 9 after random assignment, and Quarters 10 to 13 after random assignment, respectively.

**The Enhanced Services for the Hard-to-Employ Demonstration**

**Appendix Table C.2**

**Impacts on Household Employment and Earnings, by Age of Child at Random Assignment**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Age of Child at Random Assignment									
	Infant Group					Toddler Group				
	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Employment (%)</u></b>										
Year 1 <sup>c</sup>	87.0	85.6	1.4	0.04	0.726	89.6	85.9	3.6	0.10	0.301
Year 2	83.8	89.4	-5.6	-0.19	0.149	88.5	82.6	5.9	0.15	0.125 ††
Year 3	89.4	78.2	11.2 ***	0.28	0.007	83.5	82.8	0.7	0.02	0.868 †
Ever employed, Quarters 2-15	93.8	96.5	-2.7	-0.16	0.292	95.3	91.8	3.4	0.12	0.200 †
<b><u>Earnings (\$)</u></b>										
Year 1 <sup>c</sup>	15,103	13,036	2,067	0.14	0.196	14,680	16,375	-1,695	-0.09	0.331
Year 2	17,123	14,037	3,086 *	0.19	0.085	15,845	17,251	-1,406	-0.07	0.466 †
Year 3	18,091	13,563	4,528 ***	0.30	0.009	16,659	17,482	-823	-0.04	0.696 ††
Total earnings, Quarters 2-15	58,893	47,600	11,293 **	0.22	0.045	55,696	59,814	-4,118	-0.06	0.514 †
Sample size (total = 597)	137	133				160	167			

(continued)

## Appendix Table C.2 (continued)

SOURCE: MDRC calculations based on the National Directory of New Hires (NDNH) database.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; and \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between research groups for the variable in question.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

The infant group is defined as families with children younger than 12 months old at random assignment. The toddler group is defined as families with children 12 months or older at random assignment.

Dollar values include zeroes for sample members who were not employed, unless otherwise noted.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>Tests of differences across subgroups were conducted, and statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; and † = 10 percent.

<sup>c</sup>Quarter 1 is the calendar quarter in which random assignment occurred. This quarter may contain some earnings from the period prior to random assignment and is, therefore, excluded from follow-up measures. Accordingly, Year 1, Year 2, and Year 3 are defined as Quarters 2 to 5 after random assignment, Quarters 6 to 9 after random assignment, and Quarters 10 to 13 after random assignment, respectively.

**The Enhanced Services for the Hard-to-Employ Demonstration**

**Appendix Table C.3**

**Impacts on Mothers' Quarterly Employment and Earnings**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Program Group	Control Group	Difference (Impact)	Effect Size <sup>a</sup>	P-Value
<b><u>Employment (%)</u></b>					
Quarter 2	63.0	60.6	2.4	0.05	0.533
Quarter 3	64.9	62.8	2.1	0.04	0.584
Quarter 4	65.4	62.2	3.2	0.07	0.400
Quarter 5	63.1	66.3	-3.2	-0.07	0.397
Quarter 6	64.0	69.3	-5.3	-0.11	0.159
Quarter 7	63.8	67.3	-3.5	-0.07	0.354
Quarter 8	66.5	65.5	1.0	0.02	0.797
Quarter 9	67.1	59.9	7.2 *	0.15	0.061
Quarter 10	65.7	60.6	5.0	0.11	0.188
Quarter 11	62.0	60.9	1.1	0.02	0.778
Quarter 12	61.5	60.1	1.3	0.03	0.736
Quarter 13	60.9	59.3	1.6	0.03	0.679
Quarter 14	59.9	58.7	1.3	0.03	0.751
Quarter 15	56.9	53.6	3.3	0.07	0.411
<b><u>Earnings (\$)</u></b>					
Quarter 2	1,940	1,860	80	0.03	0.689
Quarter 3	1,961	1,931	30	0.01	0.884
Quarter 4	2,137	1,992	145	0.05	0.472
Quarter 5	2,159	2,168	-9	0.00	0.967
Quarter 6	2,167	2,252	-85	-0.03	0.685
Quarter 7	2,304	2,183	121	0.04	0.576
Quarter 8	2,397	2,293	104	0.04	0.643
Quarter 9	2,436	2,153	284	0.09	0.220
Quarter 10	2,569	2,225	343	0.11	0.148
Quarter 11	2,285	2,268	17	0.01	0.942
Quarter 12	2,502	2,136	365	0.11	0.150
Quarter 13	2,464	2,185	279	0.07	0.309
Quarter 14	2,683	2,257	426	0.10	0.140
Quarter 15	2,534	2,191	342	0.09	0.192
Sample size (total = 597)	300	297			

(continued)

### Appendix Table C.3 (continued)

SOURCE: MDRC calculations based on the National Directory of New Hires (NDNH) database.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; and \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between research groups for the variable in question.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

Dollar values include zeroes for sample members who were not employed, unless otherwise noted.

The sample used in this analysis includes females from two-parent cases (41.3 percent), females from one-parent cases (57.1 percent), and males from one-parent cases (1.5 percent). Thirteen sample members are missing Social Security numbers and therefore could not be matched to employment data.

For all measures, Quarter 1 is the calendar quarter in which random assignment occurred. Because this quarter may contain some earnings from the period prior to random assignment, it is excluded from follow-up measures. Moreover, data for the first quarter are not available for the full sample.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

**The Enhanced Services for the Hard-to-Employ Demonstration**

**Appendix Table C.4**

**Impacts on Mothers' Quarterly Employment and Earnings, by Age of Child at Random Assignment**

**Early Head Start with Enhanced Self-Sufficiency Services**

Outcome	Age of Child at Random Assignment									
	Infant Group					Toddler Group				
	Program	Control	Difference	Effect	P-Value	Program	Control	Difference	Effect	P-Value
	Group	Group	(Impact)	Size <sup>a</sup>		Group	Group	(Impact)	Size <sup>a</sup>	
<b><u>Employment (%)</u></b>										
Quarter 2	63.2	56.9	6.4	0.13	0.267	63.3	63.3	-0.1	0.00	0.992
Quarter 3	66.5	61.8	4.7	0.10	0.401	64.5	62.7	1.7	0.04	0.747
Quarter 4	65.7	62.5	3.1	0.06	0.587	65.3	61.9	3.4	0.07	0.509
Quarter 5	65.7	64.7	1.0	0.02	0.864	61.1	67.4	-6.3	-0.13	0.223
Quarter 6	66.9	67.9	-1.1	-0.02	0.849	62.3	70.0	-7.8	-0.17	0.135
Quarter 7	69.7	65.2	4.5	0.10	0.407	59.8	68.2	-8.4	-0.18	0.110 †
Quarter 8	72.0	67.3	4.7	0.10	0.398	62.6	63.5	-0.9	-0.02	0.866
Quarter 9	76.9	57.5	19.4 ***	0.39	0.001	59.6	61.6	-2.0	-0.04	0.712 †††
Quarter 10	73.4	57.3	16.1 ***	0.33	0.004	60.1	62.9	-2.8	-0.06	0.592 ††
Quarter 11	70.5	59.3	11.2 *	0.23	0.053	55.6	62.0	-6.4	-0.13	0.232 ††
Quarter 12	69.7	60.8	8.9	0.18	0.118	55.5	58.9	-3.4	-0.07	0.533
Quarter 13	67.1	56.7	10.4 *	0.21	0.075	56.6	60.9	-4.3	-0.09	0.425 †
Quarter 14	61.5	56.4	5.1	0.10	0.395	59.0	60.3	-1.2	-0.02	0.817
Quarter 15	59.4	49.6	9.8	0.20	0.103	55.0	56.9	-1.9	-0.04	0.724

(continued)

Appendix Table C.4 (continued)

Outcome	Age of Child at Random Assignment										† <sup>b</sup>
	Infant Group					Toddler Group					
	Program	Control	Difference	Effect	P-Value	Program	Control	Difference	Effect	P-Value	
	Group	Group	(Impact)	Size <sup>a</sup>		Group	Group	(Impact)	Size <sup>a</sup>		
<b><u>Earnings (\$)</u></b>											
Quarter 2	1,718	1,555	163	0.07	0.526	2,115	2,123	-8	0.00	0.978	
Quarter 3	1,788	1,696	92	0.04	0.717	2,101	2,130	-29	-0.01	0.926	
Quarter 4	2,046	1,662	383	0.19	0.113	2,214	2,270	-55	-0.02	0.860	
Quarter 5	2,135	1,782	352	0.17	0.172	2,187	2,490	-302	-0.10	0.359	
Quarter 6	2,246	1,749	497 *	0.23	0.06	2,117	2,668	-552 *	-0.18	0.082	††
Quarter 7	2,443	1,924	518 *	0.24	0.058	2,206	2,392	-186	-0.06	0.573	†
Quarter 8	2,530	1,967	562 **	0.26	0.045	2,297	2,567	-270	-0.09	0.431	†
Quarter 9	2,627	1,788	838 ***	0.35	0.004	2,311	2,437	-125	-0.04	0.721	††
Quarter 10	2,659	1,761	898 ***	0.40	0.002	2,489	2,631	-142	-0.04	0.695	††
Quarter 11	2,488	1,937	551 *	0.23	0.064	2,134	2,541	-407	-0.12	0.238	††
Quarter 12	2,596	1,764	832 ***	0.36	0.007	2,428	2,453	-25	-0.01	0.949	†
Quarter 13	2,388	1,761	627 **	0.27	0.043	2,511	2,562	-51	-0.02	0.907	
Quarter 14	2,569	1,882	687 **	0.27	0.042	2,767	2,584	183	0.06	0.686	
Quarter 15	2,541	1,886	655 *	0.24	0.085	2,528	2,453	75	0.02	0.839	
Sample size (total = 597)	133	137				167	160				

(continued)

## Appendix Table C.4 (continued)

SOURCE: MDRC calculations based on the National Directory of New Hires (NDNH) database.

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; and \* = 10 percent. The significance level indicates the probability that one would be making an error in concluding that there is a difference between research groups for the variable in question.

Results in this table are regression-adjusted using ordinary least squares, controlling for pre-random assignment characteristics.

The infant group is defined as families with children younger than 12 months old at random assignment. The toddler group is defined as families with children 12 months or older at random assignment.

Dollar values include zeroes for sample members who were not employed, unless otherwise noted.

The sample used in this analysis includes females from two-parent cases (41.3 percent), females from one-parent cases (57.1 percent), and males from one-parent cases (1.5 percent). Thirteen sample members are missing Social Security numbers and therefore could not be matched to employment data.

For all measures, Quarter 1 is the calendar quarter in which random assignment occurred. Because this quarter may contain some earnings from the period prior to random assignment, it is excluded from follow-up measures. Moreover, data for the first quarter are not available for the full sample.

<sup>a</sup>The effect size is calculated by dividing the impact of the program (the difference between the means for the program group and the control group) by the observed variation for that outcome within the control group (the standard deviation for the control group).

<sup>b</sup>Tests of differences across subgroups were conducted, and statistical significance levels are indicated as follows: ††† = 1 percent; †† = 5 percent; and † = 10 percent.



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## **MDRC Publications on the Enhanced Services for the Hard-to-Employ Demonstration and Evaluation Project**

*More Than a Job: Final Results from the Evaluation of the Center for Employment Opportunities (CEO) Transitional Jobs Program.*

2012. Cindy Redcross, Megan Millenky, Timothy Rudd, and Valerie Levshin

*Alternative Employment Strategies for Hard-to-Employ TANF Recipients: Final Results from a Test of Transitional Jobs and Preemployment Services in Philadelphia.*

2011. Erin Jacobs and Dan Bloom.

*Working toward Wellness: Telephone Care Management for Medicaid Recipients with Depression, Thirty-Six Months After Random Assignment.*

2011. Sue Kim, Allen LeBlanc, Pamela Morris, Greg Simon, and Johanna Walter.

*A Two-Generational Child-Focused Program Enhanced with Employment Services: Eighteen-Month Impacts from the Kansas and Missouri Sites of the Enhanced Services for the Hard-to-Employ Demonstration and Evaluation Project.*

2011. JoAnn Hsueh, Erin Jacobs, and Mary Farrell.

*Working toward Wellness: Telephone Care Management for Medicaid Recipients with Depression, Eighteen Months After Random Assignment.*

2010. Sue Kim, Allen LeBlanc, Pamela Morris, Greg Simon, and Johanna Walter.

*Recidivism Effects of the Center for Employment Opportunities (CEO) Program Vary by Former Prisoners' Risk of Reoffending.*

2010. Janine Zweig, Jennifer Yahner, and Cindy Redcross.

*Transitional Jobs: Background, Program Models, and Evaluation Evidence.*

2010. Dan Bloom.

*Alternative Welfare-to-Work Strategies for the Hard-to-Employ: Testing Transitional Jobs and Pre-Employment Services in Philadelphia.*

2009. Dan Bloom, Sarah Rich, Cindy Redcross, Erin Jacobs, Jennifer Yahner, and Nancy Pindus.

*Working toward Wellness: Early Results from a Telephone Care Management Program for Medicaid Recipients with Depression.*

2009. Sue Kim, Allen LeBlanc, and Charles Michalopoulos.

*Transitional Jobs for Ex-Prisoners: Implementation, Two-Year Impacts, and Costs of the Center for Employment Opportunities (CEO) Prisoner Reentry Program.*

2009. Cindy Redcross, Dan Bloom, Gilda Azurdia, Janine Zweig, and Nancy Pindus.

“Transitional Jobs for Ex-Prisoners: Early Impacts from a Random Assignment Evaluation of the Center for Employment Opportunities (CEO) Prisoner Reentry Program.” Working Paper. 2007. Dan Bloom, Cindy Redcross, Janine Zweig (Urban Institute), and Gilda Azurdia.

*Four Strategies to Overcome Barriers to Employment: An Introduction to the Enhanced Services for the Hard-to-Employ Demonstration and Evaluation Project.*

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*The Power of Work:*

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