



*Executive Summary*



# A First Look at the Head Start CARES Demonstration

Large-Scale Implementation of  
Programs to Improve Children's  
Social-Emotional Competence

## EXECUTIVE SUMMARY

# **A First Look at the Head Start CARES Demonstration: Large-Scale Implementation of Programs to Improve Children's Social-Emotional Competence**

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The Authors

## Executive Summary

Low-income preschool children face a number of risks that can cause their social-emotional development to lag behind that of their more affluent peers.<sup>1</sup> This imbalance is of concern because early social-emotional development is associated with better school readiness and peer relationships, which may contribute to a lower likelihood of high school dropout or lower rates of delinquency.<sup>2</sup> It has been suggested that social-emotional skills may allow children to engage more fully in the classroom, setting them up for even better classroom participation and potentially better academic outcomes.<sup>3</sup> Direct intervention to close the gap in social-emotional development between low- and higher-income children is, therefore, thought to be one way to boost low-income children's readiness for kindergarten, by helping to prepare them for the behavioral expectations of school.

This goal takes on considerable importance given that many preschool teachers report that they lack strategies and techniques to support children who have social-emotional challenges, and kindergarten teachers consistently rank children's emotional and behavioral issues as a top concern.<sup>4</sup> However, the evidence base is limited on the effectiveness of interventions to improve children's social-emotional competence, and there is even less evidence on the support systems that are needed to implement such interventions. To date, the evidence that does exist comes from small-scale tests in which the interventions' developers are directly involved and which they actively oversee, providing little information about how effective the interventions would be when implemented on a larger scale in a wider range of settings.

Head Start, which is the largest federally funded early childhood education program in the United States, aims to increase school readiness among low-income children from birth to age five years by boosting their cognitive, social, and emotional development. The Head Start CARES ("Classroom-based Approaches and Resources for Emotion and Social skill promotion") demonstration was designed to expand the current evidence base by evaluating enhancements to the standard curricula that have been used in Head Start classrooms.

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<sup>1</sup>The Center on the Social and Emotional Foundations for Early Learning (CSEFEL) defines social-emotional development as the developing capacity of the child from birth through five years of age to form close and secure adult and peer relationships; experience, regulate, and express emotions in socially and culturally appropriate ways; and explore the environment and learn — all in the context of family, community, and culture. For more information, see Yates et al. (2008).

<sup>2</sup>Dobbs, Doctoroff, Fisher, and Arnold (2006); Hawkins et al. (1999); Heckman, Stixrud, and Urzua (2006); Kellam et al. (1998); McClelland, Acock, and Morrison (2006); McWayne, Fantuzzo, and McDermott (2004); Raver et al. (2008); Reid, Eddy, Fetrow, and Stoolmiller (1999); Reynolds, Temple, and Ou (2010); Woodward and Fergusson (1999); Nagin and Tremblay (2001); Hamre and Pianta (2001).

<sup>3</sup>Morris et al. (2013); Raver et al. (2008).

<sup>4</sup>La Paro and Pianta (2000).

The demonstration included (1) selection of three different strategies, or program “enhancements,” that in smaller-scale tests showed positive effects on children’s social-emotional outcomes, such as reducing problem behaviors and promoting positive peer relationships; (2) implementation of these three enhancements in many different kinds of classrooms that operate within the regular Head Start system; and (3) the same professional development model, technical assistance, and program monitoring to support each of the three enhancements, in order to help ensure that they were implemented as designed while efforts were made to rapidly increase their scale, as Head Start CARES envisioned.

This report, which focuses on how well the three enhancements and the related supports were implemented, is part of a larger Head Start CARES randomized control trial that is also examining the impact of the approaches on classrooms and the children in them. The Head Start CARES demonstration was conceived and sponsored by the Office of Head Start and the Office of Planning, Research and Evaluation in the Administration for Children and Families in the U.S. Department of Health and Human Services. The demonstration was conducted by MDRC, a nonprofit, nonpartisan education and social policy research organization, in collaboration with MEF Associates and several academic partners.

## **The Head Start Cares Demonstration**

As noted above, Head Start CARES sought to provide a fair test of the effectiveness of three different social-emotional approaches for preschool teachers that were implemented on a large scale in the Head Start system. In order to conduct this test, it was important that the approaches be implemented with reasonable quality and intensity. While the level of support that was put in place to help achieve this objective was less than might be expected in small “hothouse” studies (which are tightly controlled and have extensive resources), the full intervention, which included prepared classroom materials, ongoing teacher training and coaching, technical assistance, and continuous monitoring, extended beyond the typical implementation of a new preschool intervention.<sup>5</sup> Therefore, this demonstration approaches an “effectiveness” study, but with “efficacy” supports included: that is, it evaluates whether a fully developed intervention that has been shown to be efficacious under limited or ideal conditions is effective when it is implemented under more typical conditions through an independent study.<sup>6</sup>

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<sup>5</sup>For example, see Odom (2009); Wise, da Silva, Webster, and Sanson (2005).

<sup>6</sup>See University Council for Educational Administration (n.d.) for the Institute of Education Science’s definition of an “efficacy study” versus an “effectiveness study.”



## **The Participating Head Start Grantees**

The demonstration was conducted over the course of one academic year with 17 Head Start grantees located across the United States.<sup>7</sup> Each grantee had at least four centers where classes were held, which were similar in the racial and ethnic composition of the children who were enrolled and in the mix of full- and part-day classrooms.<sup>8</sup> Each center generally had at least two classrooms that served primarily four-year-olds. Typically four or eight centers were grouped together as a “block,” and each center in a block was randomly assigned to one of the three social-emotional enhancements (the program group) or to a “business as usual” control group. Random assignment ensures that any observed effects, or “impacts,” on outcomes (for example, teachers’ classroom management skills, in this study) are a result of the intervention.

Four grantees that participated during the 2009-2010 school year (representing 24 centers and 78 classrooms) were in Cohort One, and 13 grantees that participated during the 2010-2011 school year (representing 80 centers and 229 classrooms) were in Cohort Two. A total of 104 centers, 307 classrooms, and over 3,600 children were part of the study. This report focuses on the 78 centers and 230 classrooms that were assigned to receive one of the three enhancements in either Cohort One or Cohort Two. (The remaining 26 centers and 77 classrooms were in the control group.)

Grantees varied on a number of characteristics, including organizational setting, geographic location, urban/rural status, size, and racial or ethnic composition. Centers had between one and six participating classrooms, with an average of three classrooms participating. Average quality ratings in the Head Start CARES classrooms were similar to the national averages for Head Start on measures of classroom quality.<sup>9</sup>

## **The Three Program Enhancements**

The three interventions described below are referred to as “enhancements” in this report because they enriched and complemented the classroom curricula and practices that already existed in the Head Start system. The three enhancements were selected to represent three types of social-emotional programming. That is, while all three enhancements were aimed at children’s

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<sup>7</sup>A grantee is the local public or private nonprofit agency that has been designated as a Head Start agency.

<sup>8</sup>Two-thirds of classrooms were full day (more than 3.5 hours) and one-third were part day (3.5 hours or less, taught in the morning or afternoon); some teachers conducted two part-day classes per day.

<sup>9</sup>Classroom quality was measured using the Classroom Assessment Scoring System (CLASS), a widely used measure of teacher-child interactions (Pianta, LaParo, and Hamre, 2008). CLASS is composed of three domains: Instructional Support, Emotional Support, and Classroom Organization. Head Start CARES CLASS scores were compared with the Head Start Family and Children Experience Survey (FACES) CLASS scores. For more information, see Xue et al. (2012).

social-emotional development, they varied in their approach to changing this set of child outcomes by targeting somewhat different teacher practices.

### *The Incredible Years*

The Incredible Years Teacher Training Program focuses on training teachers to create an organized classroom climate that supports children's ability to regulate their own behavior in the context of positive teacher-child relationships. The program includes problem-solving practices, classroom organization (rules and routines), clear and consistent methods for setting limits with the children, a system for rewarding children's positive behavior, praise and incentives to motivate students' learning, and proactive discipline and strategies. For instance, in "circle time" (a large-group activity period), some children may be sitting quietly, ready to learn, while others are playing with their friends and yelling. An Incredible Years teacher might say, "I really like the way Juan is sitting with his hands in his lap," instead of mentioning the children who are misbehaving.

### *Preschool PATHS*

Preschool PATHS (Promoting Alternative Thinking Strategies) focuses on training teachers to use clearly outlined lessons to improve children's social problem-solving skills, including the ability to recognize and regulate emotions, define problems, and engage in "anticipatory planning," which considers the consequences of various reactions to problems. Teachers can use PATHS' weekly lesson plans during circle time, and they can incorporate other activities throughout the rest of the day, such as singing a song about an emotion or painting different emotions on faces, to give children opportunities to practice the targeted skills. In a PATHS classroom, teachers talk about their feelings and encourage children to think about their and others' feelings. For example, if two children are playing nicely together, the teacher might talk about the emotions they had been discussing in their lesson that day. She might say, "How do you think Ann felt when Neveah gave her a hug? That's right, she felt happy! How do you look when you feel happy? What makes you feel happy?"

### *Tools of the Mind — Play*

Tools of the Mind focuses on training teachers to use adult-supported "make-believe" play and other activities to strengthen children's ability to regulate their own behavior, emotions, and thoughts ("self-regulation").<sup>10</sup> The Tools program requires the teacher to restructure the room and the school day, devoting large blocks of time to planning and enacting role-

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<sup>10</sup>Make-believe (or "pretend") play is a form of high-level play in which children use their imaginations to role-play, become different "characters," play out different stories, and enact various scenarios that rely on and encourage creativity.

playing games. A central component of Tools, for instance, is a daily 50-minute period of make-believe play to enhance children's planning skills, understanding of social roles (such as "parent," "friend," or "family"), memory and focused attention, and social-emotional understanding. This time is characterized by "scaffolding," in which the teacher supports and encourages the children in their attempts to take on a challenging task or acquire a skill that is just beyond their current level of ability. For example, a child might first draw a picture showing that she intends to play house and will be the mother. The teacher would then help the child write out and expand on her plans, asking, "What will you do as the mother? How could you make dinner for your children?" She would help the child come up with a more complex role-play scenario. Then, while the child is playing, the teacher might help her expand the role-play even further, asking questions such as, "What might you need before you are able to cook dinner? How would you get to the grocery store?" In this way, the teacher helps the child to build self-regulation, including mental flexibility, memory, and inhibition of automatic responses, by creating a plan, sticking with a role for an extended period of time, and shifting between her own perspective and the perspective of the character she is pretending to be.

### **The Professional Development Model**

The professional development model for the Head Start CARES demonstration included structured teacher training with follow-up coaching in the Head Start classrooms.

Teacher training included the use of well-developed manuals and other materials for each of the three enhancements; delivery of four to six training sessions to both lead and assistant teachers and to coaches throughout the school year; and trainers' support of coaches and teachers through classroom visits two to three times a year.

Coaching involved 60 minutes of scheduled in-classroom observation and a 30-minute meeting each week with the lead and assistant teachers jointly. Coaches, who were selected by the grantees, reflected with teachers on their practice, identified and helped resolve issues that hindered implementation of the enhancements, demonstrated techniques to use in the classroom, and set goals and planned for the next week. Fifty-two coaches provided support to an average of four classrooms each. The Head Start CARES coaching component was designed to focus on the teachers' practices, foster a collaboration between the coach and both teachers, provide instruction to teachers, identify areas for support, and place the coach in an evaluative but nonsupervisory position.

### **Technical Assistance and Program Monitoring**

MDRC provided technical assistance to the developers of the three enhancements, trainers, coaches, teachers, and a member of each grantee's staff (called the "grantee liaison"). The technical assistance included the development of materials to support grantees' selection of

coaches, a toolkit to support the coaching process, a launch meeting to introduce all key stakeholders to the demonstration and the enhancements, support for planning the teacher training sessions, using data from a management information system (MIS) to determine what kind of technical assistance was needed, regular conference calls for coaches across the grantees, MDRC site teams' regular check-ins with grantee liaisons, and MDRC technical assistance team's check-ins with enhancement developers.

Program monitoring, also provided by MDRC, included use of the MIS, which served as a repository for coaches and trainers to submit information about how teachers were implementing the enhancements and how often coaches, teachers, and trainers interacted. The system included online weekly and monthly surveys. As part of ongoing monitoring, classrooms were rated on a scale of 1 (low) to 5 (high), with a rating at or above a 3 considered to be satisfactory.

## Findings

This report focuses on whether the professional development supports and the in-classroom social-emotional enhancements were implemented at scale with fidelity to the original design — that is, in the amount and with the quality that the developers intended, as described in Box ES.1.

Overall, high levels of participation in the training and coaching components supported satisfactory levels of classroom implementation of all three enhancements, which received fidelity scores of 3 or higher. Despite challenges and some variation in the fidelity with which the three enhancements were implemented in the classroom, each enhancement led to the changes in teacher practices that it was designed to influence. Thus, it appears that the demonstration did ensure a fair test of large-scale implementation of the three enhancements, thereby providing a sound basis for evaluating their impact on children and classrooms in the Head Start system.

### **Fidelity to the Professional Development Model for Teacher Training and Coaching**

On the whole, teacher training and coaching were delivered as intended to support implementation of the enhancements in the classroom.

- **Training quality and attendance were generally strong across all grantees and enhancements.**

Teacher attendance at the training sessions was high, with 93.5 percent of classrooms sending a lead teacher to training, and lead and assistant teachers attending together 82.4 percent of the time. Teachers reported that the training material was presented in an accessible way and that the trainers were supportive and concerned about their progress. Teachers also reported that

## Box ES.1

### Defining Fidelity in Head Start CARES

Fidelity in Head Start CARES focused on two components: *implementation* fidelity, meaning fidelity to the professional development model; and *intervention* fidelity, meaning fidelity to the design of the enhancement.

#### **Implementation Fidelity: Fidelity to the Professional Development Model**

**Training Fidelity.** Fidelity to the training component was achieved when grantees offered all of the planned training sessions, trainers delivered the full content of the training, and lead and assistant teachers attended enhancement training sessions together. Fidelity was assessed by examining (1) the dosage (that is, frequency and duration) of training received; (2) the quality of the training received; and (3) the trainer support received.

**Coaching Fidelity.** Fidelity to the coaching component was assessed by examining (1) the dosage of coaching received in classrooms; and (2) the quality of the coaching received in classrooms.

#### **Intervention Fidelity: Fidelity of Classroom Implementation**

Fidelity to the enhancement design was rated on a scale of 1 (low) to 5 (high), with a rating of 3 considered satisfactory. The rating reflected whether the teachers, children, and classrooms were clearly steeped in an evidence-based, social-emotional enhancement. For example, one item in the scale was, “The children are actively engaged in [specific enhancement] throughout the day. It is not just seen as a special event.” Fidelity to the enhancement as designed was measured in terms of dosage and quality: high fidelity indicated that the enhancement was implemented exceptionally well and often, and low fidelity indicated that the enhancement was implemented poorly or rarely.

the training supported their relationships with the coaches and prepared them to successfully implement the enhancement’s practices with their students.

- **Coaching dosage (frequency and duration) and coaching quality were generally high.**

Coaches met with teachers weekly to reflect on implementation for 51 minutes on average, which was longer than expected. Coaches met with their trainers for feedback and support as expected, about two to three times a month on average, although this rate varied by each enhancement’s plan for coach support. Trainers found the coaches to be of moderately high quality — rating them 3.97 out of a possible 5, meaning that the coaches were professional, knowledgeable, and attentive to teachers’ needs. Incredible Years and Tools of the Mind trainers gave

moderately high ratings to their coaches (3.74 and 3.89, respectively), and Preschool PATHS trainers gave a high rating to their coaches on average (4.30).

### **Fidelity to the Enhancement Design**

- **All three enhancements were generally well received by teachers and other staff.**

Teachers reported that the enhancements made sense to them and that they were able to implement them in the classroom as the developers intended. Teachers did, however, feel that some of the less scripted, more theoretical enhancement components (like supporting make-believe play) were more difficult to implement than the more highly scripted activities (such as using written lessons). When asked in interviews how children responded to the enhancements, lead and assistant teachers, center directors, and other center-based staff believed that children benefited from them.

- **Coaches and trainers reported that each of the enhancements was implemented with satisfactory fidelity, as defined by quality and dosage. Fidelity improved over time.**

Both coaches and trainers evaluated fidelity of classroom implementation over the course of the year, with the average Head Start CARES classroom scoring 3.47 out of a possible 5. As rated by coaches, fidelity improved between September and April from acceptable implementation (around a score of 3) to proficient implementation (around a score of 4). Coaches rated fidelity somewhat higher than trainers did. Coaches reported that most (83 percent) Head Start CARES classrooms scored higher than the “satisfactory” threshold of 3 in January, and in April, 60 percent of Head Start CARES classrooms had scored higher than 4, indicating that they were implementing the enhancements well and consistently.

- **Fidelity in the classroom varied somewhat across the three interventions. The structure, goals, and activities that are intrinsic to each enhancement shaped their implementation.**

As rated by coaches and trainers, the average fidelity score for The Incredible Years (3.69 over the year) and Preschool PATHS (3.73) exceeded the “satisfactory” threshold of 3. Tools of the Mind implementation was not as strong (an average of 2.97 over the year), but was close to the rating of 3 that was considered satisfactory. Additionally, data about the ease and challenges of implementing the enhancements were synthesized from site visits, group technical assistance calls with coaches, and interviews with teachers, coaches, and trainers. Themes emerged from this review that reflected how the structure, goals, and activities of each enhancement were integral to the way in which teachers implemented it.

### *The Incredible Years*

The Incredible Years enhancement may have been relatively easy for teachers to implement because they did not need to alter their classroom schedules to allow for additional lessons and activities. However, it may have been more difficult for teachers who had been using specific classroom management techniques to integrate the Incredible Years techniques into their practice. Incredible Years implementation required teachers to be mindful of their moment-to-moment interactions with children, and in some cases they had to break old habits and develop new ones.

### *Preschool PATHS*

Preschool PATHS was also relatively easy for teachers to implement because it was generally highly structured, took up a defined and limited amount of time each week, and was well scripted. PATHS included a regular daily activity, a weekly lesson during circle time, a weekly activity that extended the concept from the week's lesson into other parts of the day, and generalization, in which teachers integrate the themes and core practices of the specific lesson into different activities throughout the day and week.

### *Tools of the Mind*

Tools of the Mind required teachers to physically rearrange their classrooms and implement a block of Tools-specific activities daily. While some of the activities had helpful manuals and supportive materials, and were easy to implement, other activities required a considerable amount of effort by the teachers, including their acceptance of the enhancement's general philosophy. Tools also required a high degree of teacher focus and individualized attention for each child; instead of doing paperwork during the children's play time, for example, which is fairly typical, the teachers had to actively engage children in playing make-believe and had to intentionally scaffold their efforts.

## **Implementation Challenges**

- **While teachers found it relatively easy to implement The Incredible Years and Preschool PATHS, they still faced some significant implementation challenges across all three enhancements.**

Challenges implementing the enhancements included a lack of basic classroom supplies (such as books or play clothes), as well as the need for translation of enhancement materials and manuals into Spanish. Teachers who taught two part-day sessions daily had difficulty finding time to prepare and meet with coaches during the school day, although they had more flexibility at the end of the week because they generally taught Monday through Thursday only. Additionally, teachers had only limited time to talk and share materials and support across classrooms,

and there was little collaboration within centers, which made it difficult for teachers to work together to find solutions to the implementation challenges they experienced. Organizational requirements that were triggered by, for example, new curricula or assessments made it difficult for teachers to make time to implement Head Start CARES. In addition, Head Start programs must comply with Head Start Program Performance Standards and be monitored regularly, which may have contributed to teachers' stress or feeling that study participation was just one more burdensome task.

- **The level of organizational support that grantees provided for the enhancements influenced fidelity to the original design when the enhancements were delivered in the classroom.**

The Head Start CARES data do not permit a formal test of the relationship between organizational capacity and overall fidelity. However, organizational support in the demonstration was evaluated from many different perspectives. In order to identify characteristics of a strong grantee, assessments by coaches, trainers, developers, and the research team were combined into a single rating system. These ratings suggest that organizational capacity played a key role in ensuring quality professional development and classroom implementation of the enhancements.

The grantees that demonstrated greater fidelity sent teachers strong messages of support for the enhancements, hired coaches with appropriate qualifications in a timely manner, provided administrative supervision and support for coaches, supported efforts to cross-walk and integrate the enhancement with their core curriculum, made time and space available for teacher training, and devised creative solutions to time management challenges. Among grantees that were rated lower on organizational support, messaging and communication between center and grantee staff were consistently cited as a challenge. The research team's perception was that grantee "buy-in" of and opinions about specific enhancements also seemed to influence implementation in the classroom.

### **Did Implementation of the Enhancements Lead to Changes in Teacher Practice?**

- **Each enhancement emphasized a specific teacher practice. As hypothesized, these practices improved in the program group classrooms, where the enhancements were implemented, compared with the control group classrooms.**

In the Head Start CARES demonstration, changes in teacher practice were conceptualized as "first order" effects; that is, teacher practice was considered the direct target of these enhancements. It was hypothesized that in order to see change in "second order" outcomes such as classroom interactions or children's social-emotional behaviors, change would first need to be



observed in the “first order” practices. Information about teacher practice was collected through an independent classroom observation called the Adapted Teaching Style Rating Scale (Adapted TSRS).<sup>11</sup> The measure focused on three distinct practices, representing each of the enhancements, and rated classrooms from 1 (low) to 5 (high).<sup>12</sup> The hypothesis for each enhancement is outlined below, and the results of the Adapted TSRS observations appear in Table ES.1.

### *The Incredible Years*

The Incredible Years enhancement was expected to affect teachers’ classroom management, which includes the ability to apply consistency and routines, preparedness for the day, awareness of what is happening around the classroom, and the use of positive behavior management practices instead of negative behavior management practices — that is, focusing on positive behavior (“Juan is sitting quietly”) or using incentives to encourage good behavior rather than reprimanding children for negative behavior (“Timmy, stop yelling!”). In fact, on average, The Incredible Years resulted in small to moderate improvements in classroom management scores and social-emotional instruction scores in the centers that were in the program group, compared with the control group centers’ average scores. These impacts are approximately the same magnitude as the lower range of effects that were observed in two smaller, more intensive trials of The Incredible Years (CSRP, formerly known as the Chicago School Readiness Project, and the Foundations of Learning demonstration).<sup>13</sup>

### *Preschool PATHS*

PATHS was expected to affect teachers’ social-emotional instruction, which includes modeling appropriate labeling (that is, identification) and regulation of emotions, supporting children’s expression of emotions (whether positive or negative), encouraging children to regulate their emotions, facilitating children’s social awareness and empathy, and teaching children social problem-solving skills. In fact, PATHS had a large positive impact on social-emotional instruction scores in program group centers compared with the control group centers’ average scores. This impact was comparable to the upper range of effects found in a previous trial of PATHS and a language intervention (REsearch-based, Developmentally Informed, or REDI).<sup>14</sup>

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<sup>11</sup>The Adapted TSRS was created by C. Cybele Raver, Celene E. Domitrovich, Mark T. Greenberg, Pamela A. Morris, and Shira Kolnik Mattera as part of the Head Start CARES demonstration.

<sup>12</sup>This scale is different from the one described earlier, on page 6, which measured fidelity.

<sup>13</sup>See Raver et al. (2008) for the CSRP study, formerly known as the Chicago School Readiness Project (not associated with The Chicago School®, which is a trademark of The Chicago School of Professional Psychology), and Morris et al. (2013) for the Foundations of Learning study.

<sup>14</sup>Domitrovich et al. (2009).

**Head Start CARES Demonstration**

**Table ES.1**

**Classroom-Level Impacts: Teacher Practice Observations**

Component	Control Group Rating	Incredible Years (IY)			Preschool PATHS			Tools of the Mind		
		Program Group Rating	Difference (IY vs. Control)	Effect Size <sup>a</sup>	Program Group Rating	Difference (PATHS vs. Control)	Effect Size <sup>a</sup>	Program Group Rating	Difference (Tools vs. Control)	Effect Size <sup>a</sup>
Classroom management	3.79	4.09	0.30 **	0.44	3.90	0.12	0.17	3.89	0.10	0.15
Social-emotional instruction	1.76	1.98	0.22 *	0.30	2.42	0.66 ***	0.92	1.78	0.02	0.02
Scaffolding	1.44	1.41	-0.03	-0.06	1.48	0.05	0.09	1.78	0.35 ***	0.68
Sample size <sup>b</sup>										
Center	26	26			26			26		
Classroom	77	77			77			76		

SOURCE: MDRC calculations based on observational assessments completed using the Adapted Teaching Style Rating Scale (Adapted TSRS).

NOTES: Statistical significance levels are indicated as follows: \*\*\* = 1 percent; \*\* = 5 percent; \* = 10 percent.

Rounding may cause slight discrepancies in sums and differences.

All models are based on pooled analyses of program group status, controlling for the pretest and blocking variable used to randomly assign 4, 8, or 12 centers to the program group.

Each component was rated on a scale of 1 (low) to 5 (high), reflecting fidelity of classroom implementation.

<sup>a</sup>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 standard deviation for the control group.

<sup>b</sup>For all variables in the table, data are available for 100 percent of the sample.

### *Tools of the Mind*

Tools of the Mind was expected to affect teachers' scaffolding of peer interactions and play by helping children plan for and expand their activities in ways that are challenging or novel. In fact, Tools exerted a moderate to large increase in the average scaffolding scores in the program group centers, compared with the control group centers' average scores. In a previous small-scale Tools trial, effect sizes for the early childhood environment and teachers' scaffolding practices were substantially larger than those found in this study.<sup>15</sup>

## **Summary and Conclusion**

The Head Start CARES enhancements were implemented at scale as intended — that is, with fidelity to their design — and led to the hypothesized effects on teacher practice. Notably, a substantial support system helped to achieve these results. The support system included interventions that had prepared manuals and other materials to use in the classroom, knowledgeable trainers, and intensive coaching, as well as technical assistance and ongoing monitoring by a centralized entity using a flexible MIS. Fidelity was also facilitated when all involved parties demonstrated a sustained and coordinated commitment, including a clear and consistent message from the grantees' administration about the importance of the intervention.

In Head Start CARES, the theory of change specifies how the enhancements are hypothesized to change child outcomes at the end of the preschool year, as follows: (1) implementation of the enhancements with fidelity would strengthen existing teacher practices and/or lead to changes in teacher practice; (2) changes in teacher practice would lead to improved classroom interactions; and (3) improved classroom interactions would lead to improved child outcomes. This report focuses on the first of those three steps, and concludes that each enhancement was implemented with fidelity to its developer's design, which led to the expected changes in teacher practice. A separate report on the Head Start CARES demonstration examines the impacts of the three enhancements on teacher-child interactions and children's outcomes.<sup>16</sup>

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<sup>15</sup>Barnett et al. (2008).

<sup>16</sup>Morris, Mattera, Castells, and Bangser (forthcoming).

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