



Head Start Research Findings

The following table lists the research findings associated with a selection of recent Head Start data sources and studies with rigorous descriptive and evaluation designs. These studies represent the largest and most well-known Head Start studies or surveys (Program Information Report, Family and Children Experiences Survey and Head Start Impact Study) as well as smaller-scale evaluations of program enhancements within the Head Start program (Head Start Research-Based, Developmentally Informed (REDI) project, Head Start Hip Hop to Health Jr., I Am Moving/I Am Learning, and Head Start Classroom-based Approaches and Resources for Emotion and Social (CARES) skill promotion Demonstration).¹ When reviewing these evaluation studies, as well as more descriptive Head Start data sources, it is important to assess the results in light of the program’s primary mandate, school readiness at the time of kindergarten entry.

In short, Head Start research findings provide conclusive evidence that the program is effective in improving child school readiness at kindergarten entry across multiple domains, including some cognitive outcomes (such as language and literacy), social-emotional outcomes, health status and dental care. Importantly, however, these impacts are neither large in size nor consistent across all areas and stages of development, indicating that there is room for improvement within the program. Within Head Start, specific small-scale, experimental evaluations of program enhancements targeting a variety of child outcomes such as socio-emotional skills and child overweight demonstrate significant positive impacts in the one to two-year follow up period. These studies indicate that enhancements can be made in Head Start to further improve children’s school readiness and health, at least in the short-term. Although long-term impacts are beyond the scope of the program’s legislative mandate, policymakers are interested in expanding programs for children that generate a long-term return on investment in terms of better outcomes into adulthood. Much of the current evidence on Head Start is focused on school readiness and while some studies follow children into elementary school, continued follow-up of program participants will be important to gauge the effectiveness of Head Start across the life course.

Source	Research Findings
Program Information Report (PIR)	PIR data has been used in descriptive analyses of how children in Head Start are performing and what levels of structural quality are being offered in Head Start classrooms. The following are a sample of findings.

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	<p>School Readiness Findings:</p> <ul style="list-style-type: none"> In 2010, 52% of children who entered Head Start without health insurance obtained it sometime during the program year. Likewise, by the end of the 2010 program year, 96% and 89% of Head Start children had an ongoing source of medical and dental care respectively.² <p>Program Structural Quality Findings:</p> <ul style="list-style-type: none"> In 2010, 76% of Head Start teachers had an associate degree or higher and 45% had a bachelor’s degree or higher.³
<p>Family and Child Experiences Survey (FACES)⁴</p>	<p>FACES, a non-experimental, recurring, nationally representative survey of Head Start programs, centers, classrooms, families and children, analyzes classroom characteristics and child outcomes to investigate child school readiness progress in Head Start, Head Start classroom quality, and associations between characteristics of Head Start programs and child outcomes.</p> <p>School Readiness Findings:</p> <p>Results from assessments of the 2009 FACES cohort demonstrate that Head Start involvement is statistically significantly associated with some school readiness gains.⁵</p> <ul style="list-style-type: none"> Children participating in Head Start scored on average below their peers of the same age in the general U.S. population in almost every cognitive development area at both Head Start entry and exit points. However, children also made statistically significant progress across many domains of school readiness. <ul style="list-style-type: none"> Children whose primary language was English: These children improved their scores across school readiness areas and scored at the national average on letter-word knowledge upon exit. Both three- and four-year olds made significant gains towards national norms in language, literacy and math; however, they still scored below national average at Head Start exit. Three-year olds scored closer to their same-age peers nationally than four-year olds in language development and letter–word knowledge, and made greater gains in these domains by the end of the Head Start year. Dual Language Learner children who were assessed in Spanish: These children scored significantly lower in all cognitive development categories compared to their English-speaking peers in Head Start, and only made gains towards the national average in letter-word knowledge by Head Start exit. Over the course of the Head Start program year, teachers identified statistically significant improvement in social skills, fewer problems behaviors, stronger executive functioning and social skills and more positive approaches to learning on average for Head start participants.

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They also reported that three-year olds demonstrated greater improvements in social skills from Head Start entry to exit than four-year olds, particularly in problem behaviors, aggressive behaviors and withdrawn behaviors.

- No significant changes in children’s body mass index (BMI) were found over the course of Head Start involvement. The majority of parents reported that their children were in excellent or very good health at Head Start entry and exit. Approximately one-third of children were reported as being overweight or obese at Head Start entry and exit according to the U.S. Centers for Disease Control and Prevention’s standards. Child health results for three and four years olds were not significantly different.

Head Start Quality/Effectiveness Findings:

Results from assessments of the 2009 cohort identified some statistically significant correlations between elements of Head Start program/classroom quality and child outcomes.⁶

- The study found a few statistically significant relationships between teacher characteristics and child outcomes. For example, for teachers, having a BA degree (relative to a high-school degree) is associated with higher executive functioning scores among children.
- Only two child outcomes, children’s letter-word scores and children’s social skills (teacher reported), were consistently significantly associated with classroom quality. Specifically, the study found a positive relationship between 1) children’s letter-word scores and Classroom Assessment Scoring System (CLASS) Instructional Support and CLASS Language Modeling ratings and 2) children’s social skills and CLASS Classroom Organization ratings.
- The study found that the relationship between some classroom quality measures and child outcomes is stronger in high quality compared to low quality classrooms. Specifically, there is a marginally ($p < 0.10$) stronger relationship between 1) children’s scores on receptive vocabulary and CLASS Instructional Support ratings and 2) children’s problem behaviors and the CLASS Positive Climate ratings in high quality compared to low quality classrooms.

Head Start Impact Study (HSIS)⁷

The Head Start Impact Study was a randomized controlled trial, begun in 2002, to assess the impact of an offer of Head Start services (treatment) compared to no offer of Head Start services (control). Head Start eligible children were randomly assigned to the treatment or control group and followed through the end of third grade. Below is a summary of the average impacts across all study participants at various points of follow-up.

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Head Start Impact Study (HSIS), continued

During the Intervention:

Significant effects:

- An offer of Head Start had a positive impact on quality of preschool programs attended by children (compared to the preschool programs attended by the control group). Children in the Head Start treatment group were more likely to attend center-based care than children in the control group.
- After one year of Head Start, compared to four-year olds in the control group, four-year olds in the Head Start treatment group demonstrated significant cognitive benefits in four measures of language and literacy, as well as higher access to dental care.
- After one year of Head Start, compared to three-year olds in the control group, three-year olds in the Head Start treatment group showed significant advantages in all four school readiness domains that were measured: cognitive development, social-emotional development, health status and services, and parenting practices.

Null/Mixed effects:

- Researchers found no significant impact of Head Start on oral comprehension or phonological awareness for three- or four-year olds or on parents' safety practices.
- There were no significant impacts in early math skills for either three- or four-year olds in the Head Start group compared to the control group.
- For three-year olds, there were no significant impacts on social skills, approaches to learning, or social competencies, and for four-year olds, there were no significant impacts on any of the three social emotional constructs studied.

No negative impacts of Head Start were found by researchers.⁸

After the Intervention:

- At the end of first grade, four-year olds in the Head Start group showed significantly improved vocabulary skills compared to children in the control group, and three-year olds in the Head Start group demonstrated improved oral comprehension.
- By the end of third grade, for both age cohorts, the school readiness skills of the control group generally caught up to those of the Head Start treatment group. Neither cohort demonstrated any significant health or health services impacts. Evidence of positive social emotional impacts for the four-year old Head Start cohort varied depending on if the measure was parent- or teacher-reported. Only one cognitive measure was still significant at the end of third grade for each Head Start age cohort, but these were of contradictory

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favorability: the four-year old cohort demonstrated significantly higher reading test scores, but the three-year old cohort had a lower child grade promotion rate than the control group. Neither of these effects had emerged in previous years. In sum, participating in Head Start did not produce impacts that significantly changed long-term child outcomes through the third grade.⁹

**Head Start
Research-Based,
Developmentally
Informed (REDI)
Intervention**

The REDI intervention was an experimental research study using random assignment that assessed the impacts on four-year old children’s social-emotional, language and emergent literacy skills of (1) a research-based enrichment curriculum and (2) professional development for teachers in Head Start programs. The results suggest that the REDI program had a positive impact for participants on some school readiness factors relative to a group of Head Start children who were not exposed to the REDI intervention (the control group).

During the intervention:

- Children participating in the REDI intervention classrooms had significantly higher scores in vocabulary, emergent literacy (blending, elision, and print awareness), emotional understanding (emotion identification and recognition), social problem solving (teacher ratings of social competence and aggression, observer ratings of social competence, and parent ratings of aggression) and learning engagement (observer ratings of task orientation and parent ratings of attention problems, language/communication skills and reading activities) compared to children in control classrooms.¹⁰
- The REDI intervention had no effect for REDI participants on grammatical understanding, sentence completion, parent ratings of children’s social competence, observer ratings of aggression, and teacher ratings of learning engagement and attention problems compared to children in control group classrooms.¹¹
- The REDI study found that children’s executive function skills, “as manifest in the capacity to inhibit a [...] dominant response and choose an alternative response,” were positively impacted by the intervention, and also moderated intervention effects.
 - Researchers found that the REDI model improved two types of child executive functioning skills, which they posit had indirect positive effects on school readiness. Specifically, the REDI intervention improved attention set shifting, as measured through the Dimensional Change Card Sort test, and task orientation, which the researchers suggest partially mediated intervention effects on school readiness in emergent literacy skills and social-emotional competencies.
 - Children’s initial executive function skills (measured prior to the REDI intervention) were found to be predictive of gains in cognitive and social-emotional skills and moderated the impact of the REDI program on some outcomes. For children with high executive

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functioning skills at baseline, there was no difference in gains in social competence, aggression and print knowledge between children in the REDI treatment and control classrooms. However, for children with lower executive functioning skills at baseline, those in the REDI treatment classrooms showed higher levels of social competence, reduced aggression and print knowledge than those in the control classrooms. Specifically, two behavioral performance executive functioning tasks, walk-a-line slowly and task orientation, moderated REDI intervention effects on social-emotional regulation outcomes (social competence and aggression ratings).¹²

After the intervention:

- One year after the REDI intervention, at the end of kindergarten, statistically significant beneficial impacts were sustained in several measures of child social-emotional skills. There was also a sustained benefit in one measure of language and emergent literacy. Some additional impacts of the REDI intervention were moderated by kindergarten context: positive impacts on child social competence and attention problems were statistically significant only for children who received the intervention and were attending elementary schools with low student achievement.¹³

Program Assessment Findings

Researchers suggest that REDI implementation was associated with child school readiness outcomes. The study assessed four dimensions of implementation: fidelity (“the degree to which the core elements of an intervention are conducted as planned”), dosage (“specific units of an intervention (e.g., number of lessons delivered) or amount of time that a participant is exposed to an intervention (e.g., hours of contact)”), generalization (“the degree to which the teacher encouraged and reinforced the application of relevant concepts outside of the formal lesson time”) and child engagement (“the degree to which children were interested and engaged in the lessons/activities”).

- Variation in implementation was associated with variation in a host of social-emotional child outcomes. In particular, higher fidelity, higher generalization and higher child engagement were associated with improved child social-emotional outcomes such as higher levels of social competence and reduced overt aggression. However, there were no positive associations between REDI implementation quality and child language or literacy outcomes.¹⁴

Researchers suggest that teacher-driven factors impact REDI implementation fidelity.

- Two distal teacher factors, years of education and emotional exhaustion were positively associated with implementation fidelity. All other distal factors (i.e. professional characteristics, personal resources, and perceptions of the work environment) were unrelated to

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	<p>implementation fidelity.</p> <ul style="list-style-type: none"> A teacher’s openness to consultation was found to be significantly related to implementation fidelity. Using these results, researchers suggest that teacher engagement in training processes is critical for REDI effectiveness.¹⁵
<p>Head Start Hip-Hop to Health Jr. Intervention</p>	<p>The Head Start Hip-Hop to Health Jr. intervention was a randomized controlled trial that assessed the impact of “a culturally proficient dietary/physical activity intervention on <u>changes</u> in body mass index” in Head Start children . The intervention was conducted separately in Head Start centers serving predominantly African-American children, and Head Start centers serving predominantly Latino children. In primarily African-American Head Start centers, the Hip-Hop to Health Jr. program was effective in reducing Body Mass Index (BMI) increases in children, but produced only limited impacts on children’s dietary habits. In primarily Latino Head Start centers, Hip-Hop to Health Jr. did not result in any significant impacts on child BMI or dietary habits either immediately after the intervention or at Years 1 and 2 of follow-up.¹⁶ Below are additional details of study results for children in the primarily African-American centers:</p> <p>Year 1 and Year 2 Impacts:</p> <ul style="list-style-type: none"> Children in the Hip-Hop to Health Jr. program experienced increases in BMI of only .06 kg/m² in year 1 and 0.54 kg/m² in year 2 following program participation, while children in the control group saw increases of 0.59 kg/m² in year 1 and 1.08 kg/m² in year 2. The difference in BMI increases between the two groups was statistically significant. In year 1 post-intervention, children in the Hip-Hop to Health, Jr. program consumed a significantly lower percentage of calories from saturated fat (11.6%) compared to children in the control group (12.8%). However, no significant differences were found in year 2 post-intervention. Researchers found no significant differences in dietary habits, physical activity or television usage between program and control groups across post-intervention years.¹⁷
<p>I Am Moving, I Am Learning – Head Start Implementation</p>	<p>The I Am Moving, I Am Learning (IM/IL) implementation evaluation assessed the degree to which Head Start grantees who received IM/IL training implemented this child obesity prevention approach in their programs. The results of the study were reported by the stage at which the data were collected: Stage 1 (questionnaires in March and April 2007), Stage 2 (telephone interviews in June through August 2007), or Stage 3 (site visits and classroom observations in November 2007 through January 2008).</p>

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<p>Evaluation Project</p>	<p>Stage 1 (Questionnaire) Findings:</p> <ul style="list-style-type: none"> 96% of programs tried to implement IM/IL in the year following IM/IL training, most of which gave the training-of-trainers (TOT) model a positive overall rating. Two-thirds of programs offered activities to alter the eating and physical activity behaviors of parents. Programs reported that managers did not have enough time to devote to IM/IL, which may pose as a barrier to successful implementation.¹⁸ <p>Stage 2 & 3 (In-Depth Interview, Site Visit & Classroom Observation) Findings:</p> <ul style="list-style-type: none"> To translate strategies introduced through the TOT model into IM/IL implementation, the majority of programs conducted activities in the following areas: assessment planning and goal setting, staffing and staff training, formation of community partnerships, written plans and guidance, and the acquisition of materials and equipment to support IM/IL implementation. No Stage 3 program administrators or staff explicitly developed a logic model or tool to outline their vision or expectations about how IM/IL implementation should be structured or what impacts it would have. The primary difference across programs was their selection of targeted audiences for IM/IL activities. Smaller programs tended to target only children compared to larger programs; while programs with home visiting tended to target parents more often than center-based programs. Only five of 26 Stage 2 programs targeted children, parents and staff in their IM/IL activities. Implementation challenges reported by programs included insufficient training at the management and front-line levels, difficulty obtaining buy-in from parents, staff and children, and time constraints for managers and teachers. Factors that supported or enhanced IM/IL implementation included the quality of the TOT training event, enthusiasm of teachers, IM/IL coordinators and parents, IM/IL program components (particularly the music and movement activities), prior/existing program goals related to physical activity and nutrition and the low start-up/maintenance costs of IM/IL.
<p>Head Start Classroom-based Approaches and Resources for</p>	<p>The Head Start CARES study, which is assessing the impacts on child outcomes of three different types of social-emotional program enhancements in Head Start, has not released any impact findings on child outcomes to date. However, CARES has released an implementation report which documents lessons learned from the planning and implementation of the coaching component of the CARES demonstration.</p> <p>Implementation Findings</p>

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Emotion and Social skill promotion (CARES) Demonstration

- “When selecting a coaching model, administrators need to carefully consider the variety of models that are available and choose the model that best suits their particular context.
- Communication about the coaching model and the coaching goals and objectives should include everyone who is involved in the coaching process.
- Successful implementation of the coaching model necessitates taking sufficient time to locate skilled coaches, providing support in multiple areas, and training coaches in advance of their work with teachers.
- Teachers need time and privacy in order to reflect on implementation processes with coaches.
- Incorporating coaching into day-to-day practices requires flexibility and is necessary for implementation success.
- Site-level administrators must be actively engaged in supporting and supervising coaching as well as general implementation processes.
- Building an infrastructure that allows for continuous quality assurance and monitoring of the coaching model is essential for high-quality program management.”¹⁹

Further implementation and impact reports for the CARES study are forthcoming.²⁰

Sources & notes:

¹ Note that this table presents a selection of evaluations of program enhancements in Head Start, but is not an exhaustive list of Head Start program enhancement studies.

² Schmit, S., & Ewen, D. (2012). *Putting children and families first: Head Start programs in 2010*. (CLASP Brief No. 10). Retrieved from <http://www.clasp.org/admin/site/publications/files/Head-Start-Trend-Analysis-Final2.pdf>.

³ Ibid.

⁴ Readers should note that this table presents a summary of descriptive findings from the main FACES reports submitted to the Office of Planning, Research and Evaluation. This summary may not capture every finding from FACES data as it does not include findings from other FACES analyses in the academic literature.

⁵ Aikens, N., Kopack Klein, A., Tarullo L., & West, J. (2013). *Getting ready for kindergarten: Children’s progress during Head Start. FACES 2009 Report* (OPRE Report 2013-21a). Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services; Moiduddin, Aikens, Tarullo, West & Xue, (2012).

⁶ Moiduddin, E., Aikens, N., Tarullo, L., West J., & Xue, Y. (2012). *Child outcomes and classroom quality in FACES 2009* (OPRE Report 2012-37a). Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

⁷ Readers should note that this table presents a summary of the experimental findings from the main HSIS reports submitted to the Office of Planning, Research and Evaluation. This summary may not capture every analysis as it does not include findings from other studies of HSIS findings in the academic literature.

⁸ Puma, M., Bell, S., Cook, R., Heid, C. & Lopez, M. (2005). *Head Start Impact Study: First year findings*. Washington, DC: Administration for Children and Families, U.S. Department of Health and Human Services. Retrieved from http://www.acf.hhs.gov/sites/default/files/opre/first_yr_finds.pdf.

⁹ Puma, M., Bell, S., Cook, R., Heid, C., Broene, P., Jenkins, F.,..., Downer, J. (2012). *Third grade follow-up to the Head Start Impact Study final report*. (OPRE Report 2012-45). Washington, DC: Office of Planning,

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- Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services. Retrieved from http://www.acf.hhs.gov/sites/default/files/opre/head_start_report.pdf.
- ¹⁰ Bierman, K.L., Domitrovich, C.E., Nix, R.L., Gest, S.D., Welsh, J.A., Greenberg, M.T., Gill, S. (2008). Promoting academic and social-emotional school readiness: The Head Start REDI program. *Child Development*, 79(6), 1802-1817.
- ¹¹ Ibid.
- ¹² Bierman, K.L., Nix, R.L., Greenberg, M.T., Blair, C. & Domitrovich, C.E. (2008). Executive functions and school readiness intervention: Impact, moderation, and mediation in the Head Start REDI Program. *Development and Psychopathology*, 20, 821-843.
- ¹³ Bierman, K.L., Nix, R.L., Heinrichs, B.S., Domitrovich, C.E., Gest, S.D., Welsh, J.A., & Gill, S. (2014). Effects of Head Start REDI on children's outcomes 1 year later in different kindergarten contexts. *Child Development*, 85(1), 140-159.
- ¹⁴ Domitrovich, C.E., Gest, S.D., Jones, J., Gill, S., & Sanford DeRousie, R. (2010). Implementation Quality: Lessons learned in the context of the Head Start REDI trial. *Early Childhood Research Quarterly*, 25(3), 284-298.
- ¹⁵ Domitrovich, C.E., Gest, S.D., Gill, S., Jones, D. & Sanford DeRousie, R. (2009). Individual factors associated with professional development training outcomes of the Head Start REDI Program. *Early Education and Development*, 20(3), 402-430.
- ¹⁶ Fitzgibbon, M. L., Stolley, M. R., Schiffer, L., VanHorn, L., KauferChristoffel, K. & Dyer, A. R. (2006). Hip-Hop to Health Jr. for Latino preschool children. *Obesity*, 14(9) 1616-1625.
- ¹⁷ Fitzgibbon, M. L., Stolley, M. R., Schiffer, L., VanHorn, L., KauferChristoffel, K. & Dyer, A. R. (2005). Two-year follow-up results for Hip-Hop To Health Jr.: A randomized controlled trial overweight prevention in preschool minority children. *Journal of Pediatrics*, 145(5), 618-625.
- ¹⁸ Finkelstein, D., Witaker, R., Hill, E., Fox, M.K., Mendenko, L., & Boller, K. (2007). *Results from the "I Am Moving, I Am Learning" Stage 1 survey, Final interim report*. Princeton, NJ: Mathematica Policy Research.
- ¹⁹ Lloyd, C.M. & Modlin, E.L. (2012). *Coaching as a key component in teachers' professional development: Improving classroom practices in Head Start settings*. (OPRE Report 2012-4). Washington, DC: Office of Planning, Research and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services, p.v.
- ²⁰ United States Office of Planning, Research and Evaluation. (2013). *Head Start CARES (Head Start classroom approaches and resources for emotion and social skill promotion), 2007-2015*. Retrieved from <http://www.acf.hhs.gov/programs/opre/research/project/head-start-cares-head-start-classroom-based-approaches-and-resources-for>.