



Head Start Family and Classroom Supports for Kindergarten Outcomes: FACES 2009 Report

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Head Start Family and Classroom Supports for Kindergarten Achievement

FACES 2009 Report

OPRE Report 2017-70 September 2017

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ABSTRACT

This report focuses on describing aspects of Head Start children's family and classroom environments that may support children's kindergarten achievement, drawing on data from the 2009 cohort of the Head Start Family and Child Experiences Survey (FACES 2009). Other FACES 2009 reports describe the characteristics of children and their families, classrooms, and programs as children entered Head Start in fall 2009 (Hulsey et al. 2011) and during their first year in the program (Moiduddin et al. 2012) and child outcomes from program entry through program exit (Aikens et al. 2013). Another report takes a closer look at Head Start programs (Moiduddin et al. 2017). The current report extends the portrait of children, their family lives, and their classroom experiences to the spring of kindergarten. A related brief explores children's developmental progress and kindergarten environments in more depth (Aikens et al. 2017). This report focuses on the population of children who entered Head Start for the first time in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or 2012.

Key findings

- Our first goal is to describe Head Start children's family and home environments, with a focus on aspects of the environment that can support children's development. Examining home and family supports for children's development across Head Start and kindergarten shows the majority of Head Start families are healthy, working toward self-sufficiency, and supporting their children's development. On average, children experience most of the home language and literacy, math, and supportive activities measured. Cognitive/cultural home activities are less commonly experienced, but, on average, children still experience over half of these activities. One-fifth to one-third of children, however, live in families still in need of support in areas such as mental health, food security, education, and participation in their children's education.
- Our next goal is to describe aspects of children's Head Start classroom environments that can support their learning. Children's classroom learning environments provide a variety of experiences. The average child experiences most of the measured language and literacy and math activities daily or almost daily. On average, children's classrooms score in the low to middle range on measures of observed classroom quality.
- We next compare supports related to learning activities across children's home and classroom environments. Children's level of participation in these activities is similar across the home and classroom learning environments or higher in the classroom environment than in the home. Most children experience at least half of the activities in both settings.
- Finally, we explore whether home and classroom learning activities and classroom quality during Head Start are associated with children's kindergarten developmental outcomes. Overall, we find few associations between children's outcomes and home activities, classroom activities, and observed classroom quality. However, while not causal, some evidence indicates that Head Start family and classroom supports are correlated with kindergarten achievement. In particular, experiencing more home language and literacy activities is associated with higher receptive vocabulary and phonetic skills. Observed classroom quality in terms of materials is correlated with receptive vocabulary, and the quality of teacher-child interactions is associated with math achievement. The limited associations detected between outcomes and learning environments may reflect the limitations of measures of learning environments. Furthermore, some activities are not fully aligned with all of the skills directly assessed, particularly for math.

FACES 2009 is the fifth in a series of nationally representative cohort studies of Head Start children, their families, and the programs they attend (previous cohorts were initiated in 1997, 2000, 2003, and 2006). The FACES 2009 sample of children was selected to represent 3- and 4-year-old children as they entered their first year of the program, drawing on participants from 60 selected programs from across the country. FACES includes a battery of child assessments across many developmental domains; interviews with children's parents, teachers, and program managers; and observations of classroom quality.

EXECUTIVE SUMMARY

This report focuses on describing aspects of the family and classroom environment that may support Head Start children's kindergarten achievement, drawing on data from the 2009 cohort of the Head Start Family and Child Experiences Survey (FACES 2009). Other FACES 2009 reports describe the characteristics of children and their families, classrooms, and programs as the children entered Head Start in fall 2009 (Hulseley et al. 2011) and during their first year in the program (Moiduddin et al. 2012) and child outcomes from program entry through program exit (Aikens et al. 2013). Another report takes a closer look at Head Start programs (Moiduddin et al. 2017). The current report extends the portrait of children, their family lives, and their classroom experiences to the spring of kindergarten. A related brief explores children's developmental progress and kindergarten environments in more depth (Aikens et al. 2017). This report focuses on the population of children who entered Head Start for the first time in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or 2012. Additional information on the study design, instruments, and measures used for this report appears in the FACES 2009 data file user's manual (Malone et al. 2013) and an accompanying set of data tables (Kopack Klein et al. 2017).

Methods

FACES 2009 draws samples of 3- and 4-year-old children who are entering Head Start for the first time in fall 2009 and are expected to attend the program for one or two years before moving to kindergarten. Hence, in this report, Head Start exit refers to data collected in either spring 2010 (for most children sampled at age 4) or spring 2011 (for most children sampled at age 3), and the spring of kindergarten refers to data collected in either spring 2011 (for most children sampled at age 4) or spring 2012 (for most children sampled at age 3).

In total, 60 programs, 129 centers, 486 classrooms, 439 teachers, and 3,349 children and their parents participated in FACES in fall 2009. Of the 2,324 children enrolled in kindergarten, we interviewed 80 percent of their parents. Kindergarten teachers completed teacher child reports for 74 percent of the children. Direct assessments were completed for 86 percent of the children.

Data collection. This report draws on data from children, parents, and teachers at Head Start entry, Head Start exit (spring 2010 or spring 2011), and the spring of kindergarten (spring 2011 or 2012) as well as on Head Start classroom observations carried out at program exit. At each wave, parents and teachers were surveyed and children were administered a battery of direct child assessments. Data provide insight into children's home and classroom learning environments.

Population estimates. The statistics in this report are estimates of key characteristics of the population of children who entered Head Start for the first time in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or spring 2012; of their parents and families; and of their Head Start and kindergarten teachers and classrooms. The data are reported at the child level and weighted to represent the population of children who participated in the study through kindergarten. Unless otherwise noted, all cited differences and coefficients are statistically significant at the $p \leq .05$ level.

Sample. Children participating in the study during kindergarten are a diverse group. At program entry, 39 percent of children who entered Head Start for the first time in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or 2012 are Hispanic/Latino, 32 percent are African American, and 21 percent are White. Thirty percent of Head Start children live in households where a language other than English is the primary language spoken to them. Spanish is by far the most prevalent non-English language and the primary language spoken to 27 percent of children at home.

What is the nature of Head Start children's family and home supports for children's development into kindergarten?

Head Start actively supports parents in their role as children's first teachers because children's school readiness skills are built on a foundation of home experiences. Many aspects of the family and home environment can support children's learning. We use the Head Start Parent, Family, and Community Engagement (PFCE) Framework as an organizing framework to describe potential family and home supports for children's learning, including family well-being, parent-child

relationships, families as educators and leaders, families as learners, and connections to peers and community. We describe these aspects of children's home environments at Head Start entry, Head Start exit, and kindergarten to understand how children's environments both change and stay consistent over time.

Family well-being. At least half of children's parents report that they are in very good to excellent health, and about two-thirds have health insurance; both these proportions are similar over time. The majority of children live in homes where parents report alcohol and tobacco are not frequently used. At Head Start entry, most children's parents report no symptoms of depression, but 16 percent report moderate to severe symptoms. From Head Start entry to Head Start exit, the percentage of children's parents who report no symptoms of depression increases. Exposure to violence and crime at Head Start entry is generally infrequent but still occurs for up to 11 percent of children or their parents. The majority of children live with parents who are employed, although unemployment rates increase over time, coinciding with the economic downturn. Across time, about two-thirds of children live in households whose parent-reported total household income is at or below the federal poverty threshold. At all three time points, most children live in rental housing and have not moved in the past year. Although the majority of children live in families that are food-secure at Head Start entry, 21 percent of children's parents report low food security (or reduced quality, variety, or desirability of their diet), and an additional 9 percent report very low food security (with food intake also reduced).

Parent-child relationships. Parents more commonly endorse warm and consistent parenting practices rather than harsh and directive ones. Their child-rearing attitudes do not change from Head Start entry to Head Start exit. The percentages of children whose parents reported spanking them in the previous week decreases between entry and exit and between exit and the spring of kindergarten. Although the majority of parents report using "time out" for discipline across waves, the percentage decreases between Head Start exit and the spring of kindergarten. Many children have regular family routines, with about two-thirds brushing their teeth nightly and about 90 percent having regular bedtimes over time. Just under half eat dinner together nightly with their families at each time point.

Families as educators and leaders. Head Start parents provide a variety of activities to support their children's learning. About three-quarters of children are read to three or more times a week at Head Start entry and Head Start exit, increasing to 81 percent by the spring of kindergarten. Most have access to children's books in the home, with the average number increasing from Head Start entry to exit. More than half participated in a variety of activities with family members in the previous week (such as being told a story or playing with toys or games). Participation increases between program entry and exit for most types of activities but is unchanged from program exit to the spring of kindergarten. Activities generally occurring outside the home (such as visiting a library) in the previous month are less common; generally 30 to 50 percent of children participate in such activities at Head Start entry, increasing somewhat by Head Start exit. Participation is maintained, with no change from Head Start exit to the spring of kindergarten. Children's physical activity is generally under two hours on a typical weekday. The percentage of children spending more than two hours playing outside increases from Head Start entry to exit, when it reaches about one-third.

The majority of children have some exposure to screen media. About one-fifth of Head Start children watch more than two hours of television on a typical weekday. Access to home computers is fairly common and increases from program entry to exit, as children increasingly watch videos or DVDs or play computer games.

Parents report that they participate in their children's Head Start classrooms in a variety of ways, most commonly by attending parent/teacher conferences and observing the classrooms. These patterns continue when children are in kindergarten. Small percentages of parents participate in leadership activities in the Head Start program, such as policy council and committee meetings.

Families as learners. Over two-thirds of children have at least one parent who has at least a high school diploma or GED, with no significant change over time. Close to two-thirds of the mothers of children who live with their mothers have attained that level of education, and about half the fathers of children who live with their fathers have done so. Furthermore, parent participation in ongoing education increases from 27 percent at program entry to 36 percent at exit. Among those who participate, about 14 to 17 percent report that

Head Start helped them locate or enroll in courses, classes, or workshops. Among those not enrolled, the most common reasons reported for nonparticipation are time constraints and lack of child care or other child-related reasons.

Connections to peers and community. At the end of Head Start and in the spring of kindergarten, the majority of children have parents who report that they can always find support to meet various needs, such as finding a ride to take their children to the doctor or finding someone to watch their children. Among potential sources of support, parents are most likely to report that they find family members very helpful.

At program exit, less than one-quarter of Head Start children's parents report that household members have obtained various community services. Among those receiving services, parents most commonly report that Head Start provided assistance to help them attend school or college, obtain help or counseling for family problems, or enroll in classes in English as a second language.

What is the nature of Head Start classroom supports for children's development into kindergarten?

This report also describes children's classroom environments, including learning activities and classroom quality, which have been linked to children's development. Head Start teachers report that they engage in a variety of language, literacy, and math activities in their classrooms daily or almost daily. On average, children's classrooms score in the minimal to good range for classroom materials and arrangement and for the quality of teacher-child interactions, as measured by the Early Childhood Environment Rating Scale-Revised (ECERS-R). Instructional support is rated in the low range and emotional support and classroom organization in the middle range on the Classroom Assessment Scoring System (CLASS), a pattern consistent with those found by other studies.

How do supports related to learning activities compare across children's home and classroom environments?

Little research has examined whether children who experience strong support for learning at home experience similar levels of support in the classroom and vice versa. To compare home and classroom learning supports, we calculated the level of home and classroom learning activities (in

terms of the number of activities, although more activities are measured in classrooms than in homes) as reported by parents and teachers, respectively. Activity levels, indicating breadth, but not dosage or quality of the activities, provide information on language and literacy and math activities in both settings and cognitive/ cultural and other supportive activities in the home. During their time in Head Start, most children (90 percent or more) experience at least half of the home or classroom learning activities.

Head Start may influence children's environments indirectly through promotion of parent participation in home learning activities, in addition to directly providing classroom learning activities. Comparison of the home and classroom learning environments shows that the Head Start classroom tends to provide the same foundation for children, regardless of the level of home learning activities.

How are home and classroom learning activities and classroom quality during Head Start associated with children's kindergarten developmental outcomes?

Prior research has found associations between different aspects of the home and classroom environment and children's development, but patterns are not always consistent. We examined associations between home and classroom learning environments during Head Start and children's kindergarten outcomes. We found few associations between outcomes and home activities, classroom activities, and observed classroom quality. However, while not causal, the reported level of home language and literacy activities is associated with Head Start children's receptive vocabulary and phonetic skills into kindergarten. Observed classroom quality in terms of materials (that is, ECERS-R Provisions for Learning) is associated with receptive vocabulary in kindergarten, and the quality of teacher-child interactions (CLASS Instructional Support) is associated to math achievement. The limited associations detected between outcomes and learning environments may reflect the limitations of measures of learning environments, which rely on parent or teacher reports on only a few of all potential learning activities and which demonstrate restricted range. Furthermore, some activities are not fully aligned with all of the skills directly assessed, particularly for math, and the measurement of classroom quality is not domain-specific (that is, not specific to literacy and math). The lack of alignment in measurement may

underestimate possible associations between home and classroom learning environments and children's outcomes.

Nonetheless, this report provides a comprehensive picture of children's home and classroom environments that can be used to identify areas in which Head Start families may need additional support. Through extending our description of children's home environments into kindergarten, we gain a more complete picture of Head Start children's home and family environments over time. Understanding the role of children's home and classroom environments in supporting development can also support policy and programmatic decisions about how practices can foster children's school readiness in order to sustain development over the long term.

INTRODUCTION

This report focuses on Head Start family and classroom supports for children’s kindergarten achievement, drawing on data from the 2009 cohort of the Head Start Family and Child Experiences Survey (FACES 2009). Other FACES 2009 reports describe the characteristics of children and their families, classrooms, and programs as children entered Head Start in fall 2009 (Hulseley et al. 2011) and during their first year in the program (Moiduddin et al. 2012) and child outcomes from program entry through program exit (Aikens et al. 2013). Another report takes a closer look at Head Start programs (Moiduddin et al. 2017). This report extends the portrait of children, their family lives, and their classroom experiences to the spring of kindergarten. A related brief explores children’s developmental progress and kindergarten environments in more depth (Aikens et al. 2017). This report focuses on the population of children who entered Head Start for the first time in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or 2012.¹

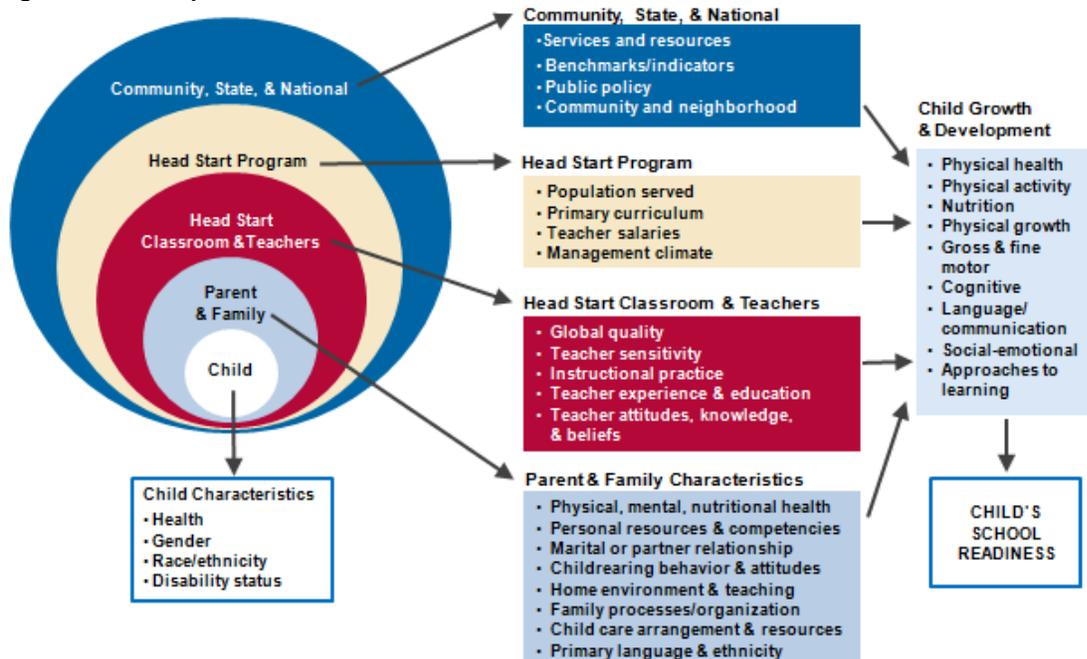
In 2008, the Office of Planning, Research and Evaluation (OPRE) in the U.S. Department of Health and Human Services (DHHS), Administration for Children and Families (ACF),

funded Mathematica Policy Research and its partners—Educational Testing Service and Juárez and Associates—to design and conduct FACES 2009, the fifth in the series of nationally representative cohort studies of Head Start children, their families, and the programs they attend. (Previous cohorts were initiated in 1997, 2000, 2003, and 2006.) FACES provides descriptive information on the Head Start population served; staff qualifications, credentials, and opinions; Head Start classroom practices and quality; and child and family outcomes. It includes interviews with children’s parents, teachers, and program managers; observations of classroom quality; and a battery of child assessments across many developmental domains. The FACES 2009 child sample was selected to represent 3- and 4-year-old children as they entered their first year of the program, drawing on participants in 60 programs across the country.

Conceptual model and framework

The conceptual framework for FACES 2009 illustrates the complex interrelationships that help shape the developmental trajectories of Head Start children (Figure 1). The child’s place is primary and constitutes the central core of the relationships depicted in the figure; broadly construed, Head Start’s ultimate goal is to foster the child’s progress toward school readiness.

Figure 1. Conceptual model for FACES 2009



The family context—encompassing health, economic, and educational resources as well as cultural factors—forms the first ring of influences surrounding the child. Membership in the Head Start community is reflected in the rings representing the child’s classroom and teachers and the wider Head Start program, all of which influence the quality of the early childhood learning experience. Factors affecting the child’s development and well-being also include teacher credentials, classroom quality, and program management. Finally, community, state, and national policy decisions, depicted in the outer ring, also affect the life of a Head Start child. These multidimensional contexts guide all aspects of the FACES study, from the selection of measures to the multilevel analyses needed to address fully the program and policy issues in today’s Head Start program.

The Head Start experience is designed to promote short- and long-term goals for children and families. For children, the experience includes preschool education, health screenings and examinations, nutritionally adequate meals, and opportunities to develop social-emotional skills that support school readiness. For parents, the experience provides opportunities to participate in policy and program decisions and chances to participate in the classroom. The program also strives to encourage parents’ active involvement in the education and development of their children. In addition, Head Start seeks to promote adult literacy and to further parent education, where needed and appropriate, and to provide parents with career opportunities and training in early childhood education. The program also seeks to promote family self-sufficiency through the provision of case management, assessment, referral, and crisis intervention services. Head Start acts as an advocate for needed family-focused social services through interagency coordination and agreements.

Measurement of these child and family outcomes, both during the program years and through follow-up at the end of kindergarten, allows fuller understanding of Head Start’s efforts to prepare children and their parents for the school experience.

Research background and questions for the report

Head Start actively supports parents in their role as children’s first teachers and sets standards for high quality classrooms, recognizing that

children’s school readiness skills are built on a foundation of both home and early care and education experiences. In this report, we describe a broad set of aspects of Head Start children’s home and classroom environments that may support learning at Head Start entry, Head Start exit, and kindergarten. We then explore how selected supports during Head Start individually and interactively predict children’s kindergarten outcomes.

As the FACES conceptual framework outlines, the family context is the most proximal influence on children’s development. This report describes many aspects of Head Start children’s family and home environments that can support children’s growth and development. We examine these supports at program entry, program exit, and in the spring of kindergarten and discuss change across these time points. We organize our discussion of family and home supports for children’s development by drawing on the parent and family outcomes identified in the Head Start Parent, Family, and Community Engagement (PFCE) Framework.² Although FACES 2009 preceded the release of the PFCE Framework, many topics covered in the FACES 2009 parent interview are relevant to family outcomes included in the PFCE Framework, such as family well-being, parent-child relationships, families as educators and leaders, families as learners, and connections to peers and community.

These various aspects of the home environment can support children’s learning. Family well-being, including parent employment and income and household food security, provides an important context related to children’s development and school readiness. Parent-child relationships are the foundation for children’s learning and interaction with others in varying environments. For instance, research has found that higher quality mother-child interaction predicts teacher reports of children’s social adjustment in kindergarten (Pianta et al. 1997). Further, parents are children’s first teachers, and research shows that children with stimulating home learning environments demonstrate higher cognitive skills, better social-emotional development (with more positive social skills and fewer problem behaviors), and more positive approaches to learning (Bradley et al. 2001; Fantuzzo et al. 2004; Foster et al. 2005; McWayne et al. 2004; Weiss et al. 2006). In addition, parents’ own learning and education can help parents create stimulating home learning environments and support their children’s cognitive development

(Harding 2015; Magnuson et al. 2009). Finally, parents' supports and networks can enhance their capacity to interact with institutions, such as schools, on behalf of their children (Sheldon 2002). Although we describe all of the home and family supports for children's learning described here, we focus on home learning activities as a predictor of children's development.

The FACES framework also envisions a relationship between the provision of high quality early care and educational services and children's developmental outcomes. This report presents information about children's classroom environments, including learning activities and observed classroom quality, and explores how they may support children's learning. Time spent in learning activities has been linked to children's development; for instance, young children showed somewhat larger gains in literacy and math skills when their teachers spent more time on literacy and math instruction (Zaslow et al. 2016). Furthermore, high quality child care has been shown to relate to positive child development (Zaslow et al. 2010). In classrooms with higher observed quality, improvements in instructional quality were associated with young children's language and literacy outcomes (Zaslow et al. 2016).

This report also explores how supports related to learning activities compare across children's home and classroom environments and how home and classroom environments interact to predict children's kindergarten outcomes. Despite limited information on their potential interaction, research suggests high quality Head Start classrooms may be beneficial regardless of home environment quality. Classroom quality may provide a buffer for homes with fewer resources (Bryant et al. 1994) or provide additional support; that is, Head Start children with richer home environments may experience greater benefits from high quality classrooms than children in home environments with fewer resources (Bulotsky-Shearer et al. 2012).

Overall, the report addresses four central research questions:

1. What is the nature of Head Start children's family and home supports for children's development into kindergarten?
2. What is the nature of Head Start classroom supports for children's development into kindergarten?

3. How do supports related to learning activities compare across children's home and classroom environments?
4. How are home and classroom learning activities and classroom quality during Head Start associated with children's kindergarten developmental outcomes? Do classroom learning activities and classroom quality moderate the relationship between home learning activities and children's kindergarten outcomes?

The next section of this report provides a brief background on the study methodology and sample. The remaining sections present findings related to the four research questions. We begin by describing aspects of the family and home environment at program entry, at program exit, and in the spring of kindergarten, focusing on those aspects that can support children's learning. Even though we use the PFCE Framework as an organizing framework to present aspects of the family and home environment, FACES 2009 preceded the release of the PFCE Framework. Thus, not all aspects of the family that can support children's learning presented in that framework may be addressed by using FACES 2009 data.

Next, we present the characteristics of children's learning environments, and build on the information about home learning activities in the previous section to compare home and classroom supports during Head Start. Finally, the last section examines the association of Head Start family and classroom supports (via learning environments) with children's developmental outcomes in the spring of kindergarten. Additional information on the study design, instruments, and measures used for this report appears in a set of accompanying data tables (Kopack Klein et al. 2017). The set of data tables also presents subgroup findings by race/ethnicity, family risk, and family structure.

METHODS

The FACES 2009 sample provides information at the national level about Head Start programs, centers, and classrooms and the children and families they serve. A sample of 65 Head Start programs was selected from the 2007–2008 Head Start Program Information Report (PIR).³ In all, 60 programs, 129 centers, 486 classrooms, 439 teachers, and 3,349 children participated in the study in fall 2009.

Data collection occurred in fall 2009, spring 2010, spring 2011, and spring 2012. FACES 2009 draws samples of 3- and 4-year-old children who are entering Head Start for the first time in fall 2009 and are expected to attend the program for one or two years before moving to kindergarten. Hence, in this report, Head Start exit refers to data collected in either spring 2010 (for most children sampled at age 4) or spring 2011 (for most children sampled at age 3), and the spring of kindergarten refers to data collected in either spring 2011 (for most children sampled at age 4) or spring 2012 (for most children sampled at age 3).

At each wave of data collection, children in the study participated in a battery of direct child assessments, their parents and teachers completed surveys, and teachers completed a set of ratings about the children in their classrooms.⁴ In addition, in fall 2009, interviews were conducted with the directors of the programs and centers in the sample and with education coordinators. In spring 2010 and spring 2011, children's Head Start classrooms were observed. More details on the study design and its implementation appear in the FACES 2009 data file user's manual (Malone et al. 2013).

This report draws data from the parent interviews, the surveys of Head Start and kindergarten teachers and the teacher child reports, Head Start classroom observations, and direct child assessments. Parent interviews were completed for 80 percent of the 2,324 children who were enrolled in kindergarten in spring 2011 or spring 2012.^{5,6} Kindergarten teachers completed teacher child reports for 74 percent of the children in spring 2011 or 2012.⁷ Direct child assessments were completed for 86 percent of children.⁸

Parent interviews

FACES 2009 used computer-assisted personal interviewing (CAPI) to collect information from Head Start parents in a variety of topic areas, including characteristics of households and household members.⁹ Parents reported information regarding aspects of the child's home life, such as routines, resources, screen time, physical activity, and home learning activities. Parents also reported their participation in Head Start and kindergarten, access to and use of community services, and sources of social support.

Teacher surveys and teacher child reports

Using CAPI, FACES 2009 conducted surveys with Head Start children's lead teachers about their backgrounds and classroom activities. In this report, we focus on teachers' reports on the frequency of various language, literacy, and math activities.

Children's kindergarten teachers were asked to complete a web-based survey,¹⁰ including questions about the schools where the FACES children were enrolled and teachers' backgrounds, credentials, and teaching experience. Teachers completed a teacher child report to rate each FACES child in their classrooms on their skills and behaviors, including approaches to learning.

Classroom observations

In FACES 2009, measures of the Head Start classroom environment were obtained from four-hour observations conducted in spring 2010 and spring 2011. The protocols included an abbreviated form of the Early Childhood Environment Rating Scale—Revised (ECERS—R; Harms et al. 1998), composed of 21 items, and the full Classroom Assessment Scoring System (CLASS; Pianta et al. 2008). More information on the ECERS—R and CLASS measures appears in the children's learning environments section of this report.

Direct child assessments

The battery of direct child assessments included a set of standardized assessments designed to measure children's cognitive (language, literacy, and math) and physical (height and weight) outcomes in an untimed, one-on-one assessment of each child. Except for a few differences, the procedures used to administer the direct child assessments were the same in each wave. In this report, we examine the following measures of children's developmental outcomes: receptive vocabulary (Peabody Picture Vocabulary Test, Fourth Edition; PPVT—4; Dunn and Dunn 2006); letter-word knowledge (WJ III Letter-Word Identification; Woodcock-Johnson Tests of Achievement, Third Edition; Woodcock et al. 2001); phonetic skills (WJ III Word Attack); math (WJ III Applied Problems); executive functioning (performance on the pencil tapping task; Blair 2002; Diamond and Taylor 1996; Smith-Donald et al. 2007); and social-emotional development

(teachers' ratings of children's approaches to learning; U.S. Department of Education 2002).

Population estimates

The statistics in this report are estimates of key characteristics of the population of Head Start children who entered Head Start for the first time in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or spring 2012; of their parents and families; and of their Head Start and kindergarten teachers and classrooms. The population of Head Start children analyzed in this report differs from the populations analyzed in earlier FACES 2009 reports; the population in this study requires participation in the study through kindergarten. Previous reports analyzed the population of Head Start children who were newly entering in fall 2009 (Hulseley et al. 2011), children who attended Head Start in fall 2009 and spring 2010 (Moiduddin et al. 2012), and children who completed Head Start after one or two years (Aikens et al. 2013).¹¹ The data pertaining to child, family, school, and classroom/teacher characteristics and child outcomes are reported at the child level and weighted to represent the population of children who participated in the study through kindergarten.¹² Unless otherwise noted, all cited differences and coefficients are statistically significant at the $p \leq .05$ level.¹³

Sample

In this section, we present key information on the sample of children and families included in this report—that is, those children who entered Head Start for the first time in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or spring 2012. Additional information about children's home and family characteristics appears in the "Family well-being" section.

Head Start serves a diverse population of low-income children and their families. Fifty-five percent of children are 3 years old when they first enter the program in the fall of a given school year, and others are 4 years old or older. Children are evenly divided between boys and girls (50 percent in each group). Thirty-nine percent are Hispanic/Latino, and about one-third (32 percent) are African American.¹⁴ Thirty percent of Head Start children live in households where a language other than English is the primary language spoken to them. Spanish is by far the most prevalent non-English language and is the

primary language spoken to 27 percent of children at home. Most children (95 percent) live with at least one of their biological or adoptive parents.¹⁵ Forty-four percent live with both of their biological or adoptive parents. Just over one-quarter (27 percent) live in households with their married parents, and 15 percent live in households with cohabiting parents.

WHAT IS THE NATURE OF HEAD START CHILDREN'S FAMILY AND HOME SUPPORTS FOR CHILDREN'S DEVELOPMENT INTO KINDERGARTEN?

Numerous aspects of children's home and family environments can support children's learning. In this section, we describe the nature of Head Start children's families and homes and the learning supports offered within the home environment as reported by their parents. We examine these supports at program entry, program exit, and in the spring of kindergarten and discuss changes over these time points.¹⁶ We use the PFCE Framework as an organizing framework to present the FACES topics related to aspects of family well-being, parent-child relationships, families as educators and leaders, families as learners, and connections to peers and community that support children's learning.¹⁷

Family well-being

First, we focus on parent reports of family well-being: parent health behaviors, parent mental health, family exposure to crime or violence, parent employment status, household income, housing and mobility, and household food security. Understanding family well-being provides an important context related to children's development and school readiness.

Parent health behaviors. Family health behaviors and the health status of children's caregivers can affect a child's health, well-being, and development by influencing the physical and emotional resources the caregiver can devote to the child. At Head Start entry, at least half of children's parents (52 percent) report that they are in very good to excellent health, and an additional 46 percent report that they are in fair to good health, and only 2 percent report they are in poor health, with similar percentages reported at Head Start exit and the spring of kindergarten. The proportion of parents with health insurance is consistent over time. About two-thirds of parents have health insurance at Head Start entry, Head Start exit, and the spring of kindergarten.

Substance use is not commonly reported by Head Start children's parents. As measured at Head Start exit and the spring of kindergarten, about 20 percent of children have a parent who smokes tobacco, and about 30 percent live in households where someone smokes tobacco. Of the 23 percent of children's parents who report drinking alcohol in the past month, over three-quarters have one to two drinks per day. In addition, at Head Start exit, only 2 percent of children live in households where parents report that someone has gotten into trouble with others or missed work or school because of the use of alcohol or drugs in the past year.

Parent mental health. The mental health status of children's caregivers is also of concern, as depressed caregivers may have a withdrawn or intrusive parenting style, either of which can lead to children's social and emotional problems (Downey and Coyne 1990; Field 2000; Shonkoff and Phillips 2000). FACES 2009 asks parents a set of questions from the Center for Epidemiological Studies Depression (CES-D) Scale (short form; Ross et al. 1983). Although the majority (63 percent) of children's parents report no symptoms of depression at Head Start entry, 21 percent report mild symptoms of depression, an additional 9 percent report moderate symptoms, and 7 percent report severe symptoms. From Head Start entry to Head Start exit, the percentage of children's parents who report no symptoms of depression increases to 68 percent. No other changes are evident from Head Start entry to Head Start exit or from Head Start exit to the spring of kindergarten.

Family exposure to crime or violence. Research suggests that exposure to domestic abuse and/or community violence can lead to educational and behavioral problems in children (Fowler et al. 2009; Veltman et al. 2001). In fall 2009, FACES asked parents about their experiences with and exposure to violence and crime in order to provide context for family needs, identify risk factors affecting child development, and describe the contextual factors that impede or facilitate family well-being. Eleven percent of children's parents know someone who was a victim of a violent crime in their neighborhoods, 9 percent have heard or seen violent crime in their neighborhoods, and 4 percent are victims. Three percent of children's parents report intimate partner abuse, and 5 percent report feeling unsafe because of a current or former partner. In addition, 10 percent report that they or their children feel unsafe or had been victimized in their

neighborhoods, while less than 1 percent report that their children have witnessed or have been victims of violent crime.

Parent employment status. The data on parent employment reflect employment status from 2009 to 2012, during a time of nationwide economic change. At Head Start entry, 91 percent of children live with at least one parent who is employed (79 percent work full-time and 12 percent work part-time). By Head Start exit, 80 percent of children have at least one employed parent, reflecting an increase in household unemployment (from 9 to 20 percent). At this time, there is also a decline in full-time employment (79 to 61 percent) but an increase in part-time employment (12 to 19 percent). In the spring of kindergarten, 71 percent of children have parents who are employed, reflecting a further decrease in household full-time employment (61 to 53 percent) and an increase in unemployment (20 to 29 percent).

Household income. Substantial research has linked higher family income with young children's higher achievement, fewer problem behaviors, and better executive functioning skills (Duncan et al. 2011; Yeung et al. 2002). In general, parent-reported household income does not change over time. At Head Start entry and exit and in the spring of kindergarten, almost two-thirds of children live in households in which total household income is at or below the federal poverty threshold (64, 62, and 62 percent, respectively).¹⁸

Housing and mobility. Housing quality and mobility may affect children's social, emotional, and academic outcomes (Coley et al. 2013; Leventhal et al. 2010). At Head Start entry, families most commonly live in rental housing (59 percent), 24 percent own the homes in which they live, and 12 percent live in public or subsidized housing.¹⁹ No differences in housing are detected at Head Start exit or in the spring of kindergarten. At Head Start entry, 68 percent of children have not moved in the past year, 23 percent have moved once, and 9 percent have moved at least twice. The percentage of those who have moved between Head Start entry and exit (which would be one or two years) is lower (19 percent) and then higher for the year from Head Start exit to the spring of kindergarten (27 percent).

Household food security. Research indicates that food insecurity puts children age 3 and younger at developmental risk and can affect

older children's academic outcomes, social skills, and weight status (Jyoti et al. 2005; Rose-Jacobs et al. 2008). At Head Start entry only, FACES 2009 asked parents questions to assess their food security in the past 12 months, which provides important context for understanding Head Start children's home environments. We used U.S. Department of Agriculture (USDA) guidelines to create a food security scale with three categories: (1) high/marginal food security indicates no or minimal food access problems or limitations; (2) low food security indicates reduced quality, variety, or desirability of diet but little or no indication of reduced food intake; and (3) very low food security indicates disrupted eating patterns and reduced food intake (Bickel et al. 2000; USDA 2013). The majority of children's parents (70 percent) report high/marginal food security. Twenty-one percent, however, report low food security, and an additional 9 percent report very low food security. Twenty-eight percent of parents report as sometimes true that, in the past 12 months, purchased food did not last and that there was no money to purchase additional food, and 25 percent report as sometimes true that they could not afford to eat balanced meals.²⁰ In addition, 18 percent of parents report that they ate less than they should have, and 9 percent were hungry but did not eat because they could not afford enough food.

Summary. At least half of children's parents report very good to excellent health, and about two-thirds have health insurance; both proportions remain unchanged over time. At Head Start exit and kindergarten, the majority of children live in homes in which parents report alcohol and tobacco are not frequently used. At Head Start entry, most children's parents report no symptoms of depression, but 16 percent report moderate to severe symptoms. From Head Start entry to Head Start exit, the percentage of children's parents who report no symptoms of depression increases. Exposure to violence and crime is generally infrequent but still occurs for up to 11 percent of children or their parents. The majority of children live with parents who are employed, although from fall 2009 to spring 2011 or 2012, the period coinciding with the economic downturn, unemployment increases. Over time, about two-thirds of children live in households in which parent-reported total household income is at or below the federal poverty threshold. Most live in rental housing and have not moved in the past year. Although the majority of children live in families that are food-secure, 21 percent of

children's parents report low food security, and an additional 9 percent report very low food security.

Parent-child relationships

In this section, we focus on topics related to parent-reported views on parenting and parenting practices: child-rearing attitudes, disciplinary practices, and household routines. These topics measured in FACES may relate to the PFCE Framework's family engagement outcome of positive parent-child relationships as the foundation for children's learning and interacting with others in varying environments.

Child-rearing attitudes. Parents' attitudes toward child rearing and child-rearing practices can affect children's well-being and development by affecting the relationship and interactions between parent and child as well as the consistency and types of discipline used by the parent. To address parenting approaches during Head Start, parents indicate the extent to which each of 13 items from the "Child-Rearing Practices Report" (Block 1965) describes them. From these items, four subscales are created. The parental warmth scale reflects a warm, supportive parenting model in which the parent encourages curiosity. The parental energy scale indicates the parent's energy and consistency in enforcing rules. The authoritative scale reflects a less harsh parenting style, with greater use of rationales for discipline. The authoritarian scale indicates a stricter, more directive parenting style. Parents indicate the degree to which each item is "like" them on a scale ranging from 1 ("not at all") to 5 ("exactly"). A higher score indicates that the construct is more reflective of the respondent's parenting approach. At Head Start entry, children's parents have a mean warmth score of 4.3, a mean energy score of 4.0, a mean authoritative score of 3.4, and a mean authoritarian score of 2.3. These scores suggest that parents more commonly endorse warm and consistent parenting practices and less commonly endorse harsh and directive parenting behaviors. In general, parents' child-rearing attitudes do not change from Head Start entry to Head Start exit.

Discipline. FACES also asks about specific disciplinary practices and routines in the home. Corporal punishment has been associated with children's later aggression and lower quality parent-child relationships, although causality is difficult to determine (Gershoff 2002). The percentage of children who were spanked in the previous week decreases between Head Start

entry and exit and between Head Start exit and the spring of kindergarten (32, 27, and 21 percent, respectively). At Head Start entry, 71 percent of parents report using “time out” for child misbehavior in the previous week. The percentage does not vary significantly from Head Start entry to Head Start exit, but it decreases from Head Start exit (68 percent) to the spring of kindergarten (63 percent).

Household routines. Parents’ interactions with their children at home, including the rules and routines the parents establish for them, set the stage for socialization at school. Studies have found that time spent eating meals together as a family is associated with fewer problem behaviors (Hofferth and Sandberg 2001) and that dinner table conversation supports literacy development (Beals and Snow 2006). The percentages of children’s families that report eating dinner together daily are similar at Head Start entry, Head Start exit, and the spring of kindergarten (44, 45, and 43 percent, respectively).²¹ The percentage of children brushing their teeth nightly does not change from Head Start entry (61 percent) to Head Start exit (63 percent) or from Head Start exit to the spring of kindergarten (67 percent).²²

Research has identified associations between the quality and quantity of children’s sleep and cognitive and social-emotional outcomes (Gaylor et al. 2010; Hofferth and Sandburg 2001), findings that are echoed in an analysis of FACES 2006 data (Atkins-Burnett and Aikens 2011). In general, the proportion of children with regular bedtimes does not change over time, with about 90 percent of Head Start children reported to have regular bedtimes at program entry and exit and in the spring of kindergarten.

Summary. Parents more commonly endorse warm and consistent parenting practices than harsh and directive ones. Their child-rearing attitudes do not change from Head Start entry to Head Start exit. The percentage of children who were spanked in the previous week decreases between Head Start entry and exit and between exit and the spring of kindergarten. Although the majority of parents use “time out” for discipline across waves, the percentage decreases between Head Start exit and the spring of kindergarten. Many children have regular family routines. Across time, parents report about two-thirds of children brush their teeth nightly, and about 90 percent have regular bedtimes. Just under half eat

dinner together nightly with their families at each time point.

Families as educators and leaders

Head Start children participate in a variety of activities—both inside and outside the home—that can support their social and cognitive development (Bradley et al. 2001; McWayne et al. 2004). In this section, we focus on topics related to how families support children’s development: reading to them, number of books in the home, learning activities inside and outside the home, and frequency of screen time and physical activity. We also describe families’ participation in their children’s Head Start and kindergarten classrooms. The ways in which parents may engage with Head Start include providing direct support in their children’s classrooms (for example, volunteering, joining field trips, or preparing materials), attending parenting/education meetings or events, and participating on parent committees or in fundraising.

Reading to children. Parents’ reading with their children bolsters language development and school success (Lonigan and Whitehurst 1998). Three-quarters of children are read to three or more times a week (including daily reading) during Head Start, with no significant change between Head Start entry and exit. The percentage increases to 82 percent between program exit and the spring of kindergarten.

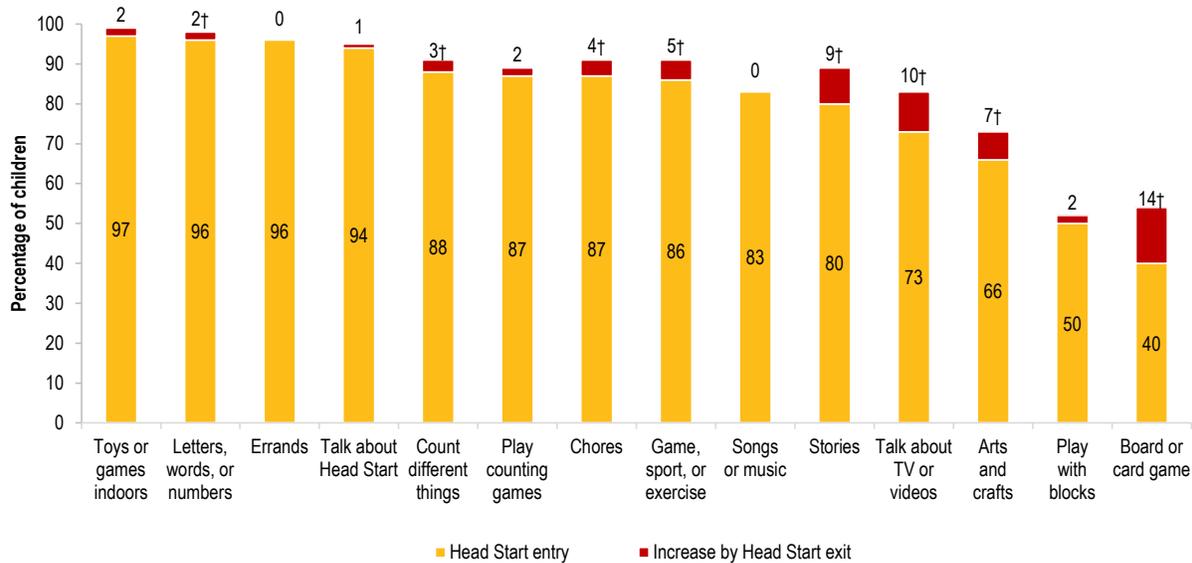
Number of children’s books in the home. The number of children’s books in the home may support parents’ reading to their children. At Head Start entry, parents report children have an average of 35 books in the home, increasing significantly to 42 books by Head Start exit.

Learning activities inside the home. In addition to reading to children, a variety of home activities—such as telling stories, singing songs, and playing games—are related to positive development and school achievement (McWayne et al. 2004; Foster et al. 2005; Senechal 2006). More than half of children engaged with family members during the previous week in most activities measured by FACES (which, for the most part, take place in the home). At Head Start entry, the most common activities (with more than 90 percent of children participating) include learning letters, words, or numbers; playing with toys or games indoors; going along on errands; and talking about Head Start. The percentages

increase between Head Start entry and Head Start exit for most types of activities. As shown in Figure 2, the largest increases (by 5 percentage points or more) are in being told a story; working

on arts and crafts; playing games or sports or exercising; talking about TV programs; and playing a board game or card game with family members.

Figure 2. Family members' activities with child in past week: Fall 2009 to spring 2010 or spring 2011



Source: Fall 2009, Spring 2010, and Spring 2011 FACES Parent Interview.

Note: Statistics are weighted to represent children who entered Head Start in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or spring 2012.

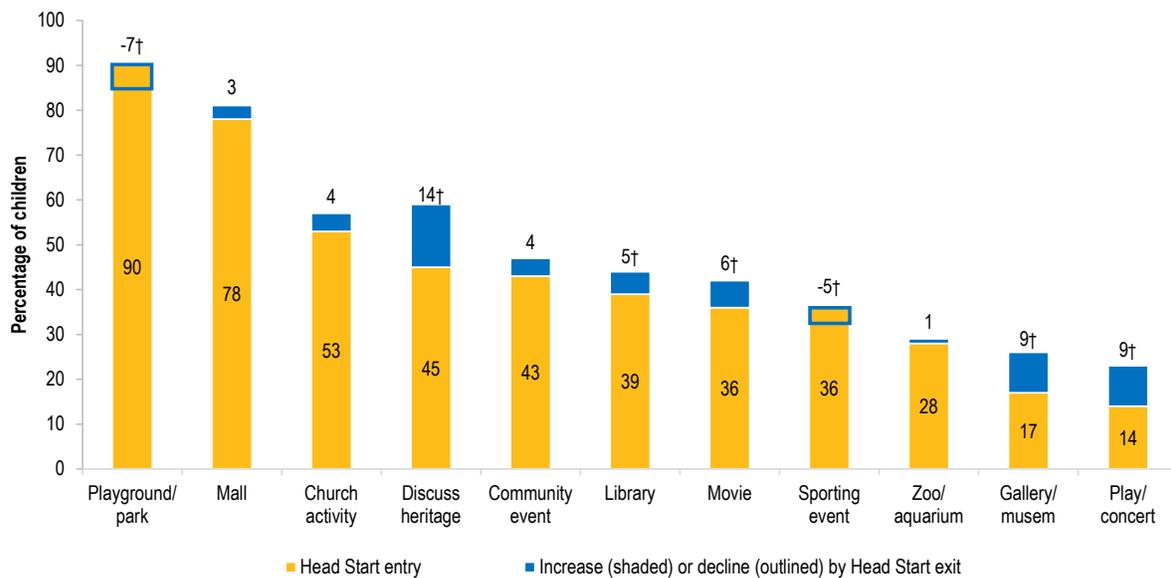
† indicates that the difference between Head Start entry and Head Start exit percentages is statistically significant at the $p \leq .05$ level.

Learning activities outside the home. Families also provide children with learning experiences outside the home—such as visiting libraries, playgrounds, or museums or going to movies—that support their development (Foster et al. 2005; Payne et al. 1994). These activities are less common than those inside the home reported for the previous week; generally 30 to 50 percent of children have participated in such activities with family members in the past month. At Head Start entry, the majority of children (50 percent or higher) visit a playground, go to a mall, or attend a church activity. As shown in Figure 3, the percentages engaging in most of these activities increase between Head Start entry and exit. The largest increases (5 percentage points or more) are in going to a library, movie, live performance, or museum/historical site or talking about one's family history or ethnic heritage in the past month. The percentages visiting a playground or attending a sporting event decline. From Head

Start exit to the spring of kindergarten, the percentages of children engaging in various activities do not change except for an increase in visiting the library.

Physical activity. Parental encouragement of physical activity and good nutritional choices at home can contribute to children's development of healthy habits and efforts to combat childhood obesity (Koplan et al. 2005). FACES measured physical activity by asking questions on the parent survey about frequency of outdoor play. The percentage of children who spend more than two hours playing outside on a typical weekday increases from 28 percent at Head Start entry to 32 percent at Head Start exit. The change is accompanied by a decrease in the percentage spending no time playing outside (from 18 to 13 percent) during Head Start, perhaps reflecting seasonal variations in the weather.

Figure 3. Family members' activities with child in past month: Fall 2009 to spring 2010 or spring 2011



Source: Fall 2009, Spring 2010, and Spring 2011 FACES Parent Interview.

Note: Statistics are weighted to represent children who entered Head Start in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or spring 2012.

† indicates that the difference between Head Start entry and Head Start exit percentages is statistically significant at the $p < .05$ level.

Screen time. During the period of FACES 2009, American Academy of Pediatrics' guidelines recommended that children should watch no more than two hours of entertainment media a day (American Academy of Pediatrics 2001). The percentage of children who watch more than two hours of television on a typical weekday is similar at Head Start entry (18 percent) and Head Start exit (21 percent). From program entry to program exit, however, parents report increases in the percentage of children who spend time watching videos or DVDs on a typical weekday (from 64 to 71 percent).

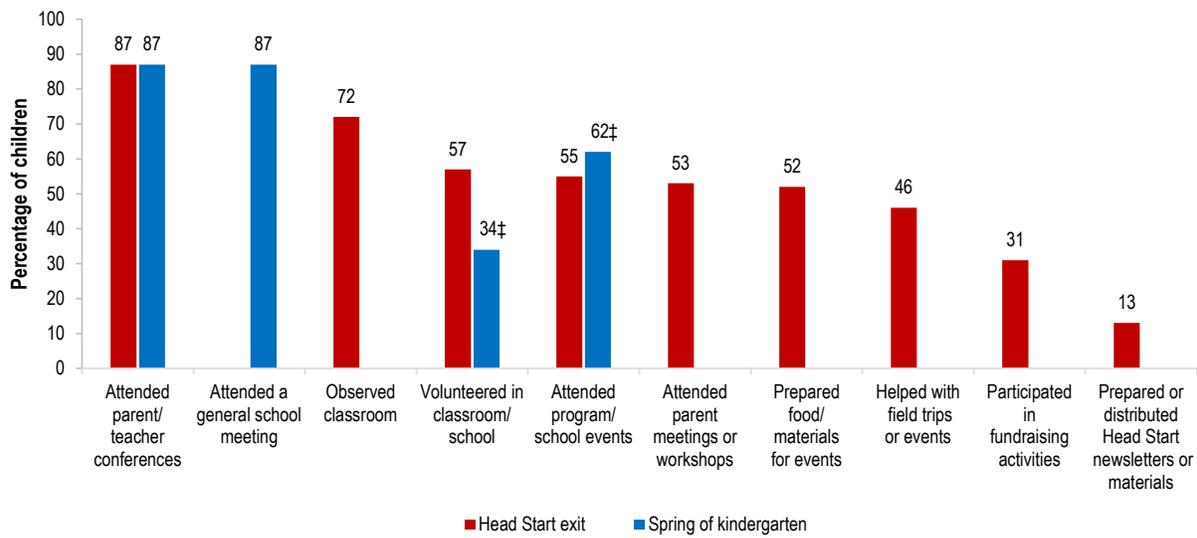
Many children also spend time using computers. A larger percentage has access to home computers at Head Start exit (70 percent) than at Head Start entry (61 percent). In addition, the percentage of children who spend any time playing computer games on a typical weekday increases from 55 percent at Head Start entry to 65 percent at Head Start exit.

Parent participation in classroom and school activities. The Head Start experience is designed to promote short- and long-term goals for children and families. To parents, Head Start offers opportunities for participation in policy and program decisions and classroom activities. In the spring of each year, FACES asks parents about

their participation in their children's Head Start program or kindergarten. Such participation provides an opportunity for supporting broader educational goals or assuming leadership roles.

Parents report that they participate in their children's Head Start classrooms in a variety of ways (Figure 4). At program exit, their participation is likely to take the form of attending parent/teacher conferences (87 percent), observing their children's classrooms (72 percent), and volunteering in the classroom (57 percent). The least common activities for parents include helping with field trips or special events (46 percent), participating in fundraising activities (30 percent), participating in parent committees or other planning groups (30 percent), participating in Head Start policy councils (15 percent), and preparing or distributing newsletters (13 percent). Once children are attending kindergarten, parents continue to participate in their children's education, most likely by attending parent/teacher conferences or general school meetings (both 87 percent). The percentage of parents who devote time to volunteering decreases (34 percent), but the percentage attending events increases (62 percent).

Figure 4. Parent participation in classroom and school activities at Head Start exit and spring of kindergarten: Spring 2010 to spring 2011 or spring 2011 to spring 2012



Source: Spring 2010, Spring 2011, and Spring 2012 FACES Parent Interview.

Note: Statistics are weighted to represent children who entered Head Start in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or spring 2012.

‡ indicates that the difference between the Head Start exit and spring kindergarten percentage is statistically significant at the $p < .05$ level.

Summary. Head Start parents report that they provide their children with a variety of activities that support their learning. About three-quarters of children are read to three or more times a week at Head Start entry and Head Start exit, increasing to 81 percent by the spring of kindergarten. Most children have access to children’s books in the home, with the average number increasing from Head Start entry to exit. Other activities with family members occur as well. More than half of children engaged in a variety of activities with family members in the previous week (such as being told a story or playing with toys or games). Participation increases between program entry and exit for most types of activities but is unchanged from program exit to the spring of kindergarten. Activities outside the home (such as visiting a library) are less common; generally 30 to 50 percent of children participate at Head Start entry, increasing somewhat by Head Start exit.

Children generally spend fewer than two hours in physical activity on a typical weekday. The percentage of children spending more than two hours playing outside increases from Head Start entry to exit, when it reaches about one-third of children.

The majority of children have some exposure to screen media. About one-fifth of Head Start children watch more than two hours of television on a typical weekday. Access to home computers is fairly common and increases from program entry to exit as children increasingly watch videos or DVDs or play computer games.

Parents report that they participate in their children’s Head Start classrooms in a variety of ways, most commonly by attending parent/teacher conferences and observing the classroom. These patterns continue when children are in kindergarten. Small percentages of parents participate in leadership activities in the Head Start program, such as policy council and committee meetings.

Families as learners

The educational advancement of parents can foster career development and improve parenting practices, thus influencing the well-being of children. In this section, we focus on topics measured in FACES related to families as learners—that is, parents’ highest education level and parents’ ongoing participation in courses, classes, or workshops.

Parent education. At Head Start entry, 67 percent of children live with at least one parent who has at least a high school diploma or GED.²³ Among children who live with either their mother or their father, 63 percent of mothers and 50 percent of fathers have at least a high school diploma or GED.²⁴ On average, no change occurs in parents' highest education level from Head Start entry to Head Start exit or from Head Start exit to the spring of kindergarten, perhaps reflecting the several years required to complete coursework and earn a degree.

Ongoing education. Even though parents' education status may not have changed (during the program year or from program exit to the spring of kindergarten), parents may be participating in adult education, continuing education, or on-the-job training during those periods. FACES 2009 asked parents about ongoing educational opportunities. At Head Start entry, 27 percent of children have at least one parent who currently attends courses, classes, or workshops for work-related or personal reasons, and the percentage increases to 36 percent by Head Start exit. From Head Start exit to the spring of kindergarten, no change in attendance occurs. Among those who participate in ongoing education, about 14 to 17 percent report Head Start helped them locate or enroll in courses, classes, or workshops (representing about 4 percent of children overall). Among parents not enrolled, the most common reasons reported for not participating are time constraints (47 percent at entry and 49 percent at exit) and lack of child care or other child-related reasons (29 percent at entry and 24 percent at exit).

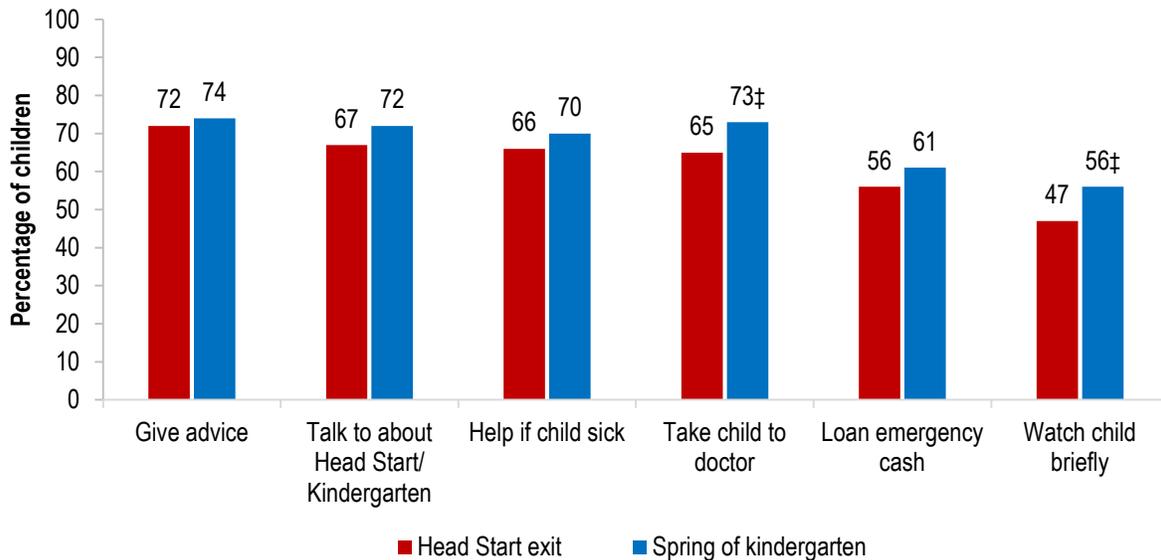
Summary. Over two-thirds of children have at least one parent who has at least a high school diploma or GED, with no significant change over time. Parent participation in ongoing education increases from 27 percent at program entry to 36 percent at program exit. Among parents engaged in ongoing education, they only infrequently mention Head Start as a source to help locate or enroll in a course.

Connections to peers and community

In this section, we focus on topics related to parents' receipt of social and community support: having someone to help out in various situations (for example, needing a ride, talking about child's problems at Head Start), receipt of community services (for example, help in finding a job, gaining access to medical care), and receipt of support from Head Start for those services. We discuss families' social support at exit from Head Start and in the spring of kindergarten and community services at Head Start exit. The supports and networks available to families enhance families' capacity to interact with institutions (e.g., schools) on behalf of their children.

Social support. A supportive social network can mitigate stressful life events, the stresses of daily living, and the stresses of parenting and can strengthen families' capacity to support their children's learning and development. Greater social support for parents has been linked to more responsive parenting, lower rates of parental depressive symptoms, and greater involvement in the child's school (Burchinal et al. 1996; Crockenberg 1981; Jackson 1999; Sheldon 2002). FACES asked parents about the types of social support that they receive from various sources, including Head Start. At the end of Head Start, half or more of children have parents who report that they can always find support to meet various needs, with one exception: only 47 percent report that they can always find someone to watch their children so that they can run an errand (Figure 5). By the spring of kindergarten, the majority of parents report that they can always find someone to watch their children (56 percent). Among potential sources of support, parents are most likely to report that they find family members (including those in the household) very helpful (86 percent in Head Start and 87 percent in kindergarten). Fifty-six percent report that they find Head Start staff very helpful. From Head Start exit to the spring of kindergarten, parents increasingly report that they always find support when they need a ride to get a child to the doctor and to talk with someone if their child is having problems in kindergarten. It is important to note that these estimates do not take into account how often parents have such needs, which may also vary.

Figure 5. Social support received by parents at Head Start exit and spring of kindergarten: Spring 2010 to spring 2011 or spring 2011 to spring 2012



Source: Spring 2010, Spring 2011, and Spring 2012 FACES Parent Interview.

Note: Statistics are weighted to represent children who entered Head Start in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or spring 2012.

‡ indicates that the difference between the Head Start exit and spring kindergarten percentage is statistically significant at the $p < .05$ level.

Receipt of community services. Head Start seeks to make available needed family-focused social services and acts as an advocate through interagency coordination and agreements. FACES asks parents about different community or government services household members may be receiving, including assistance with school or job training, English as a second language (ESL) classes, and various types of counseling. For those who accessed each type of service, FACES then asks whether Head Start made recipients aware of the community service or helped recipients to obtain it. At program exit, less than one-quarter of Head Start children’s parents report that household members have obtained various community services. Nineteen percent report the receipt of dental or orthodontic care, and 13 percent report the receipt of medical care. Small percentages of Head Start children’s parents report obtaining other types of community services at program exit (8 percent or fewer for a given service type). Among parents who did receive each community service, they report that Head Start most commonly made the household member aware of or helped the household obtain help to attend school or college (75 percent), help or counseling for family problems (67 percent), and help in identifying ESL classes (66 percent). Parents are least likely to report that Head Start helped make them aware of or helped them obtain

help with housing (17 percent) or medical care (21 percent).

Summary. At the end of Head Start and in the spring of kindergarten, the majority of children have parents who report that they can always find support to meet various needs. Among potential sources of support, parents are most likely to report that they find family members very helpful. At program exit, less than one-quarter of Head Start children’s parents report that household members have obtained various community services. Among those receiving services, parents most commonly report Head Start provided assistance with attending school or college, obtaining help or counseling for family problems, or enrolling in ESL classes.

WHAT IS THE NATURE OF HEAD START CLASSROOM SUPPORTS FOR CHILDREN’S DEVELOPMENT INTO KINDERGARTEN?

In this section, we describe potential classroom supports for children’s learning. We describe the number of classroom activities offered to children daily or almost daily (as opposed to the percentage of children participating in each activity). These measures do not reflect the

intensity or quality of the learning activities at home and in the classroom; rather, they reflect their breadth.

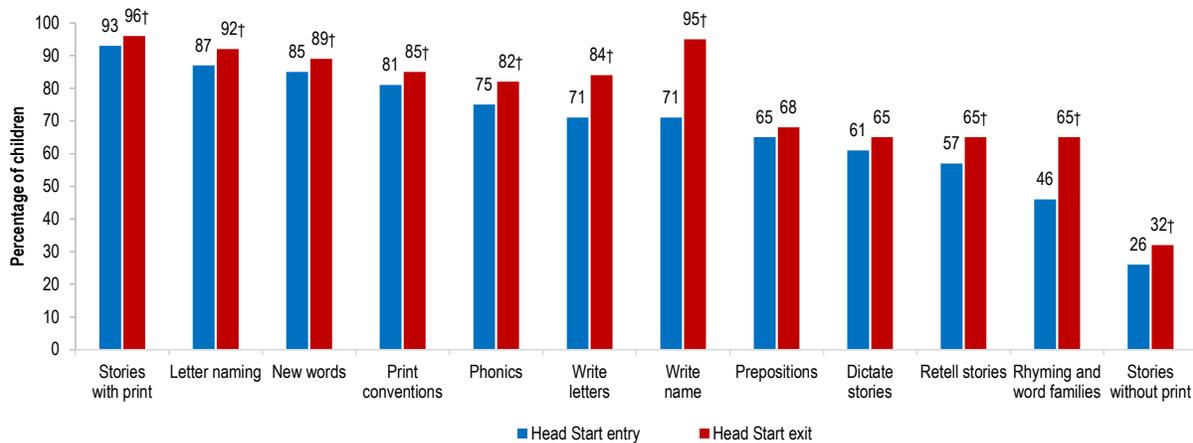
Furthermore, the FACES conceptual framework envisions a relationship between the provision of high quality early care and educational services and children’s developmental outcomes. We therefore describe the child’s Head Start classroom experiences (in terms of classroom learning activities and observed quality).²⁵

Classroom learning activities

FACES 2009 asked teachers about the types and frequency of early literacy and math learning activities commonly used in their classrooms at program entry and program exit. More than half of children’s teachers report engaging in most of the activities daily or almost daily (Figure 6). The most common reading and language activities (reported as occurring daily or almost daily in 70 percent or more of children’s classrooms) include working on letter naming, practicing writing letters, discussing new words, working on phonics, listening to the

teacher read stories while children see the print, learning about conventions of print, and writing names. Activities occurring less frequently, although still occurring daily or almost daily in at least 50 percent of children’s classrooms, include dictating stories to an adult, retelling stories, and learning about common prepositions. Similarly, teachers report frequent math-related activities in their classrooms. As shown in Figure 7, the most common activities (reported as occurring daily or almost daily in 70 percent or more of classrooms) include counting out loud, working with geometric and counting manipulatives, and engaging in activities that are calendar-related and those that involve shapes and patterns. All the other math activities of interest occur less often but still daily or almost daily in at least 50 percent of classrooms: playing math-related games, using music and creative movement or drama to understand math concepts, working with rulers or other measuring instruments, and engaging in activities related to telling time. From Head Start entry to Head Start exit, the percentage of children experiencing literacy and math activities increases.

Figure 6. Percentage of children participating in literacy activities daily or almost daily: Fall 2009 to spring 2010 or spring 2011

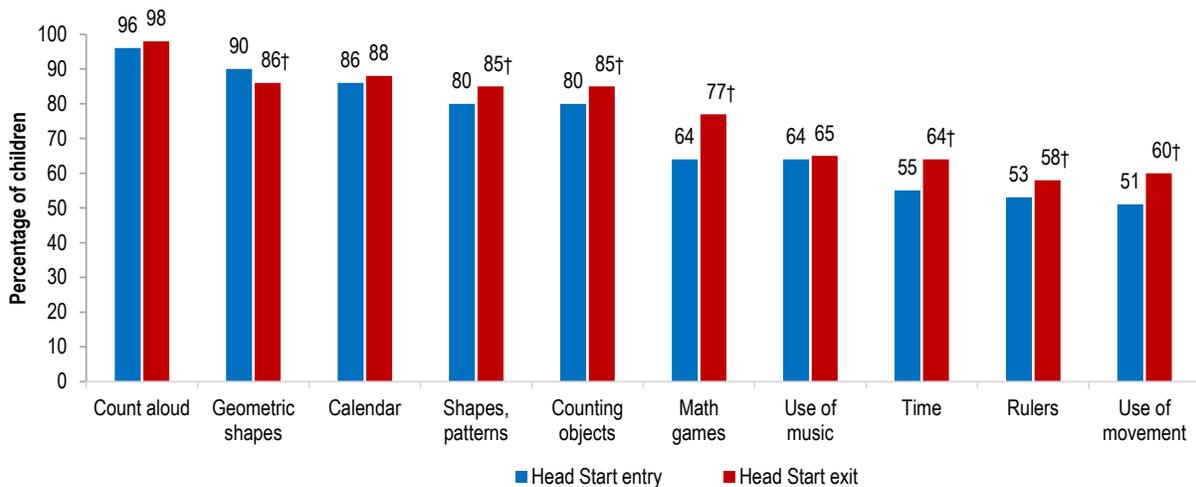


Source: Fall 2009, Spring 2010, and Spring 2011 FACES Head Start Teacher Interview.

Note: Statistics are weighted to represent children who entered Head Start in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or spring 2012.

‘†’ indicates that the difference between Head Start entry and Head Start exit percentages is statistically significant at the $p < .05$ level.

Figure 7. Percentage of children participating in math activities daily or almost daily: Fall 2009 to spring 2010 or spring 2011



Source: Fall 2009, Spring 2010, and Spring 2011 FACES Head Start Teacher Interview.

Note: Statistics are weighted to represent children who entered Head Start in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or spring 2012.

† indicates that the difference between Head Start entry and Head Start exit percentages is statistically significant at the $p < .05$ level.

Classroom observations

To measure the quality of Head Start classrooms, FACES 2009 used the Classroom Assessment Scoring System (CLASS; Pianta et al. 2008) in conjunction with a shortened version of the Early Childhood Environment Rating Scale-Revised (ECERS-R; Harms et al. 1998) in spring 2010 and spring 2011. The CLASS measures classroom quality in terms of both instructional and social-emotional aspects of the environment across three domains of interaction: Instructional Support, Emotional Support, and Classroom Organization. Instructional Support measures the quality of instructional practices used in the classroom. Emotional Support measures the social and emotional functioning in the classroom. Finally, Classroom Organization measures the teacher's ability to organize the classroom to make efficient use of class time. The ECERS-R is a global rating of classroom quality based on structural features of the classroom. It has been used historically in FACES. However, for the first time in FACES, FACES 2009 used a shortened form of the ECERS-R that includes an abbreviated set of items based on findings from other large-scale studies, resulting in two factor scores: Provisions for Learning and Teaching and Interactions.²⁶ The Provisions for Learning factor focuses on materials available in the classroom and the arrangement of classroom space,

whereas the Teaching and Interactions factor focuses on the quality of teacher-child interactions. The two factor scores reliably assess the areas of classroom quality most proximal to learning. Use of the two factors has grown, as reported in the Multi-State Study of Prekindergarten (Clifford et al. 2005) and the State-Wide Early Education Program (SWEEP; Early et al. 2005), among others.

Both the CLASS and the ECERS-R items are scored on a 7-point scale, with higher scores reflecting higher quality of care. Observations lasted for four hours, on average, and were typically completed in the morning.²⁷

The classroom quality data presented here represent child-level classroom quality at program exit (spring 2010 for 4-year-old children and spring 2011 for 3-year-old children) for children who entered Head Start for the first time in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or spring 2012. Moiduddin et al. (2012) present nationally representative classroom quality data measured at the end of the first Head Start year (spring 2010).²⁸

At Head Start exit, children's classrooms were more likely to score high on the ECERS-R Teaching and Interactions subscale (4.8) than on the Provisions for Learning subscale (4.1). Ninety percent fell in the minimal to good range (3 through 5 out of a possible 7) on the Provisions for Learning subscale, and an additional 9 percent scored below 3 (considered the threshold for minimal quality). On the Teaching and Interactions subscale, 87 percent of children's observed classrooms scored 3 through 5, 4 percent scored below 3, and 8 percent scored 6 or higher. The overall pattern of scores is similar to that reported in previous studies (Clifford et al. 2005; Early et al. 2005).

At Head Start exit, children's classrooms scored at the low end of the 7-point scale in the Instructional Support domain of the CLASS. Average quality was 2.2, with the majority (90 percent) rated in the low range (1 or 2). Ten percent of classrooms scored in the middle range in the domain (3, 4, or 5), and none scored in the high range (6 or 7). In both the CLASS Emotional Support and Classroom Organization domains, classrooms scored in the middle range of the scale. Average quality was 5.3 on Emotional Support and 4.7 on Classroom Organization. Nearly all classrooms were rated in the middle range in both domains (92 and 98 percent, respectively). The pattern in the scores (low for Instructional Support and middle for Emotional Support and Classroom Organization) is comparable to that reported in previous studies (Atkins-Burnett et al. 2010; Pianta et al. 2008).

HOW DO SUPPORTS RELATED TO LEARNING ACTIVITIES COMPARE ACROSS CHILDREN'S HOME AND CLASSROOM ENVIRONMENTS?

In this section, we focus on one aspect of parent and family engagement: the level of family participation in learning activities in the home and how it compares with participation in learning activities in the classroom. To analyze Head Start children's home and classroom supports, we compare the level of activities provided across the two settings as well as the average observed quality among groups of children with different levels of learning activities in the home. We defined the learning environments based on observation scores for the ECERS-R Provisions for Learning factor (as an indicator of the resources available) and the CLASS Instructional Support domain (as an indicator of the quality of instruction and teacher feedback), along with the

level of learning activities reported by parents (for the home) and teachers (for the classroom). Home learning activities include those that took place within the home in the past week (for example, told a story) and outside the home in the past month (for example, visited a library). We constructed indices for the level of home learning activities by summing the number of home activities reported by the parent during the time a child attended Head Start.²⁹ Home activities fall into one of four indices: language and literacy, math, cognitive/cultural, and other supportive activities. We categorized classroom learning activities (as reported by teachers during the child's time in Head Start) into a language and literacy index and a math index. Given that the number of activities differs across domain indices, we collapsed each domain index into three categories, as follows:

- High—all activities reported
- Middle—one-half or more but not all activities reported
- Low—less than one-half of all activities reported

Again, it is important to note that the measures reflect the breadth rather than the intensity or quality of the learning activities. In addition, they capture participation in a set of learning activities in the home or classroom rather than the full range of home and classroom supports for children's learning

Home learning activities

On average, children experience several activities during Head Start that demonstrate a stimulating home learning environment (Table 1). For example, the language and literacy index included 5 parent-reported items (such as telling the child a story and the frequency of reading to the child). On average, Head Start children experience 3.8 of these home learning activities. Children experience most of the math and other supportive activities measured (1.9 out of 2 and 6.2 out of 7, respectively). Cognitive/cultural activities (such as visiting a museum) are less common, with an average of 4.9 activities experienced out of 8 measured.

We find that, during their time in Head Start, most children experience a variety of home learning activities, with 90 percent receiving middle or high levels of literacy activities, 76 percent receiving middle or high levels of cognitive/cultural

activities, and 99 percent receiving middle or high levels of other supportive activities (more typically middle-level activities). Ninety-three percent of children receive high levels of math activities

(Figure 8). It is important to note, however, that the indices reflect occurrence of activities (mostly indicated by yes/no items) and not quality or more-detailed frequency or intensity.

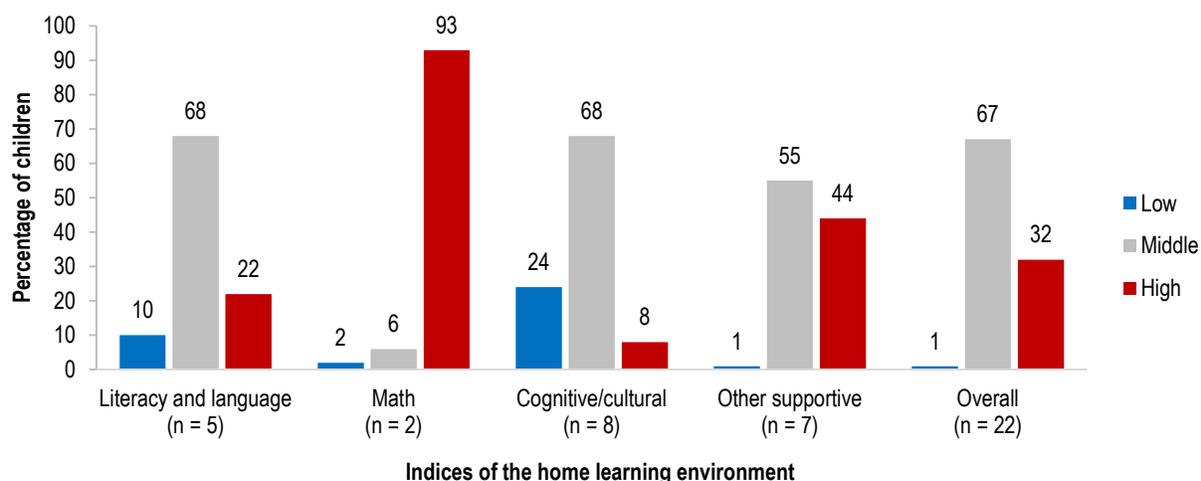
Table 1. Children’s home and classroom learning activity indices: Fall 2009 to spring 2010 or spring 2011

Domain	Mean	Potential range	Activities/resource
Home learning activities			
Language and literacy index	3.8	0–5	Visited library in past month; told story in past week; taught letters, words, or numbers in past week; read to three or more times in past week; 50 or more books in home
Math index	1.9	0–2	Counted different items in past week; played counting games in past week
Cognitive/cultural index	4.9	0–8	Experience of community resources in past month: play, concert, show; art gallery, museum, historic site; zoo or aquarium; talked about family history or ethnic heritage; community group event; church activity Cultural activities in past week: songs or music; arts and crafts
Other supportive activity index	6.2	0–7	Activities in past week: errands; chores; talked about what happened at Head Start; talked about TV or videos; played inside; played board or card game; played with blocks
Classroom learning activities			
Language and literacy index	10.5	0–12	Letter naming; letter writing; discussed new words; dictated stories; phonics; listened to stories where print is visible; listened to stories where print is not visible; retold stories; print conventions; wrote name; rhyming words and word families; common prepositions
Math index	8.9	0–10	Counted out loud; geometric manipulatives; counting manipulatives; played math games; used music; used creative movement; used rulers; calendar activities; telling time; shapes and patterns

Source: Fall 2009, Spring 2010, and Spring 2011 FACES Head Start Parent and Teacher Interviews.

Note: Statistics are weighted to represent children who entered Head Start in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or spring 2012.

Figure 8. Children’s home learning activity indices during time in Head Start: Fall 2009 to spring 2010 or spring 2011



Source: Fall 2009, Spring 2010, and Spring 2011 FACES Parent Interview.

Note: Estimates may not sum to 100 because of rounding.

Statistics are weighted to represent children who entered Head Start in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or spring 2012.

n = number of activities measured

Classroom learning activities

For the classroom literacy and math items, our indices reflect the number of activities that occurred daily or almost daily during Head Start in fall 2009 or spring 2010 or (for 3-year-old children) in spring 2011. As seen in Table 1, the classroom language and literacy index relied on 12 items (such as practicing writing letters, learning the names of letters, and retelling stories), with children’s teachers reporting that 10.5 activities on average occur daily or almost daily between Head Start entry and Head Start exit. On average, children’s teachers report that about 9 of the 10 math activities (such as working with manipulatives to learn operations and working with rulers) occur daily or almost daily. Similar to the home learning activities, we collapsed the classroom indices into three categories reflecting activity levels. Most children experience middle or high levels of literacy and math activities. Sixty-three percent experience middle and 36 percent experience high levels of literacy activities; for math, 44 percent experience middle and 53 percent experience high levels of activities.

Classroom and home learning environment comparison

To describe children’s experiences of learning activities (number and/or frequency) across the home and classroom environments, we compare

the categorical indices across the two settings as well as children’s average observed classroom quality (ECERS-R Provisions for Learning and CLASS Instructional Support, measured at Head Start exit) among groups of children with different levels of home activity indices. We conducted chi-square tests to examine the likelihood that children experience particular levels of home-classroom activities (for example, middle-level home activities with high-level classroom activities versus high-level home activities with high-level classroom activities). We also conducted t-tests to examine differences in observed quality between children who experience middle levels of activities in homes and those who experience high levels of activities in homes.³⁰ Consistent with the rest of this report, we considered a p-level less than or equal to .05 as indicating a statistically significant difference in the level of classroom activities between groups of children with varying levels of home learning activities.

Overall, we find that the Head Start classroom environment is similar for children from different home learning environments. Given that very few children experience low levels of both home and classroom activities, the finding is not unexpected. Chi-square tests of home and classroom activities demonstrate that the classroom learning environment does not vary by the home learning environment. About one-half of children experience high levels of total classroom

activities, regardless of their total home learning activity level (ranging from 42 to 54 percent).³¹ The same holds for math activities, regardless of their home math activity level, over one-half of children experience high levels of classroom math activities (ranging from 53 to 55 percent). In a comparison of the literacy environments across settings, about one-third of children who experience low-, middle-, and high-level home literacy activities experience a high level of classroom literacy activities (34, 37, and 35 percent, respectively). For observed quality, the average ECERS-R and CLASS scores did not differ between children from home learning environments with middle or high levels of activities (for a total level across all activities).

HOW ARE HOME AND CLASSROOM LEARNING ACTIVITIES AND CLASSROOM QUALITY DURING HEAD START ASSOCIATED WITH CHILDREN'S KINDERGARTEN DEVELOPMENTAL OUTCOMES?

Children's kindergarten outcomes reflect experiences both before schooling and during the kindergarten year. Head Start actively supports parents as educators and sets standards for high quality classrooms, recognizing that children's school readiness skills are built on a foundation of both home and early care and education experiences. Home learning activities can foster children's social and cognitive development (Bradley et al. 2001; McWayne et al. 2004), and classroom quality has been shown to relate to positive child development (Zaslow et al. 2010). Furthermore, research suggests that home and classroom learning environments may interact to support children's development. Head Start classroom quality may provide a buffer for homes with fewer resources (Bryant et al. 1994) or provide additional support, as Head Start children with richer home environments may experience greater benefits from high quality classrooms than children in home environments with fewer resources (Bulotsky-Shearer et al. 2012).

We used multiple regression analysis to examine the associations between children's home and classroom learning environments and different child outcomes, controlling for a set of child, family, Head Start, and kindergarten characteristics that may account for differences in children's outcomes and learning environments. We also explored whether the quality of children's Head Start classrooms and the classroom learning environment moderates the relationship

between home learning activities and later child outcomes.

As with the descriptive findings, we weighted the analyses to represent children who entered Head Start for the first time in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or spring 2012. All analyses account for the multistage clustering of the sample (children within classrooms and classrooms within programs), because children in the same programs share a common set of preschool experiences, so their outcomes are not independent. The analyses exclude children with missing data on any of the covariates.³²

We estimated six separate models of children's developmental status in the spring of kindergarten. Outcomes included children's receptive vocabulary (PPVT-4); letter-word knowledge (WJ III Letter-Word Identification); phonetic skills (WJ III Word Attack); math (WJ III Applied Problems); executive functioning (performance on the pencil tapping task); and social-emotional development (teachers' ratings of children's approaches to learning). The language, literacy, and math outcomes in the models used standard scores, which allow for comparisons of an individual's performance to that of children of the same age (or grade) in the general population. Standard scores have a mean of 100 and a standard deviation of 15. An increase in a standard score signifies that the child is making progress relative to others of the same age (or grade) in the general population. The executive functioning and social-emotional development outcomes in the models used raw scores, allowing for measurement of change or growth in performance over time. Raw scores are, however, an indicator of absolute, rather than relative, performance. For the cognitive outcomes, analyses focus on children assessed in English in spring of kindergarten, with one exception. Analysis of the PPVT-4, which is available for all children regardless of language of assessment, includes all children with a valid score on the spring kindergarten assessment.³³ All outcomes were z-scored, allowing the coefficients to be interpreted as the change in child outcome in standard deviation units for each one-point increase in the respective independent variable.

In the spring of kindergarten, Head Start children score below norms in receptive vocabulary and math but above norms in letter-word knowledge and phonetic skills.³⁴ For the pencil tapping task, on average, children are able to inhibit their initial

impulse and respond correctly 87 percent of the time by the end of kindergarten. On average, kindergarten teachers rate children's approaches to learning above the midpoint of the scale, indicating that children "often" display positive approaches to learning.

The child and family control variables included child age at assessment, gender, race/ethnicity, household language, household poverty ratio, maternal education, parental depressive symptoms, and children's fall standard score from the Expressive One-Word Picture Vocabulary Test (EOWPVT). The Head Start control variables included teacher education, program type (full-versus part-day program), and exposure to Head Start (one versus two years). The kindergarten control variables included teacher education, program type (full- versus part-day program), and classroom composition by percentage of classmates with limited English proficiency and eligibility for free or reduced-price lunch. Aikens et al. (2017) present detailed information about children's kindergarten outcomes and school environments.

Stepwise regressions were modeled. For each child outcome, we first examined variables measuring the home learning environment during Head Start for three of four indices: language and literacy, cognitive/cultural, and other supportive activities (for example, going on errands, talking about what happened at Head Start, playing board or card games; Table 1). We excluded the index of at-home math activities given limited variation, with virtually all children experiencing both measured activities. Then we added variables measuring the classroom learning environment: activities across Head Start (language and literacy and math) and observed classroom quality at Head Start exit (ECERS-R Provisions for Learning and CLASS Instructional Support). Next, we entered the set of controls. Finally, we tested for three interactions between home and classroom learning environments: the home language and literacy index separately with the classroom language and literacy index, ECERS-R Provisions for Learning, and CLASS Instructional Support.

We present effect sizes (ES), which may be interpreted as the standard deviation change in the child outcome associated with a standard deviation change in the respective independent variable. For example, an effect size of 0.10 on the home language and literacy index on math skills would indicate that children with one home

language and literacy activity would perform on average 0.10 standard deviations (or 1.5 points for a standard score) higher than children with no activities or that children with all five activities present would perform 0.50 standard deviations higher than children with no activities. Consistent with the rest of this report, we considered a p-level less than or equal to 0.05 as indicating that the association between family and classroom supports and outcomes is statistically significant.

Children's cognitive outcomes

Home learning environment. Initially (for the models with only the home learning indices), the home language and literacy index was associated with all four cognitive outcomes in kindergarten (ES = .11 to .30). Other home learning indices are not associated with cognitive outcomes except for the other supportive activities with receptive vocabulary (ES = .06). Once all of the control and classroom learning environment variables are considered, children's home language and literacy indices are associated with kindergarten receptive vocabulary (ES = .10) and phonetic skills (ES = 0.09). We found no other associations between the home learning indices and kindergarten cognitive outcomes.

Classroom learning environment. A second step in our models was to consider the classroom learning indices and observed quality association above and beyond the home learning environment. Initially, without controls, the CLASS Instructional Support domain is associated with language, literacy, and math outcomes except for children's phonetic skills measured by WJ III Word Attack (ES = .12 to .15). Children's phonetic skills are initially associated with the classroom literacy and math indices and the ECERS-R Provisions for Learning (ES = -.07, .06, and .08, respectively). In addition, the ECERS-R Provisions for Learning are initially associated with receptive vocabulary (ES = .10). Once all controls are included, most classroom learning factors are no longer associated with children's kindergarten outcomes. Children's receptive vocabulary, however, is positively associated with the ECERS-R Provisions for Learning (ES = .07), and children's math skills on the WJ III Applied Problems are positively associated with the CLASS Instructional Support domain (ES = .14).

Table 2. Summary of associations of children's home and classroom learning environments with spring kindergarten outcomes from several regression models, controlling for child, family, Head Start, and kindergarten characteristics

	PPVT-4	WJ III: Letter- Word	WJ III: Word Attack	WJ III: Applied Problems	Pencil tapping	ECLS-K Approaches to Learning
Home language and literacy index	0.10	--	0.09	--	--	--
Home cognitive/cultural index	--	--	--	--	--	--
Home other supportive index	--	--	--	--	--	--
Classroom language and literacy index	--	--	--	--	--	--
Classroom math index	--	--	--	--	--	--
ECERS-R Provisions for Learning	0.07	--	--	--	--	--
CLASS Instructional Support	--	--	--	0.14	--	--

Source: Fall 2009 and Spring 2011 or Spring 2012 FACES Direct Child Assessment; Fall 2009 and Spring 2010 or Spring 2011 FACES Parent Interview; Fall 2009 and Spring 2010 or Spring 2011 FACES Head Start Teacher Interview; Spring 2010 or Spring 2011 FACES Classroom Observation; Spring 2011 or Spring 2012 FACES Kindergarten Teacher Questionnaire.

Notes: Analyses are weighted to be representative of children who entered Head Start for the first time in fall 2009, completed one or two years of the program, and were attending kindergarten in spring 2011 or 2012. Estimates are significant at the $p \leq .05$ level and represent effect sizes for the standardized mean difference in the kindergarten outcomes for a one-unit change in the learning environment variable.

-- not statistically significant

Home-classroom learning environment interactions. No significant interactions occur between home language and literacy activities and classroom learning environment and children's kindergarten cognitive outcomes. Even though the home or classroom learning environments experienced by children may be associated with language, literacy, or math outcomes separately, the association between the classroom environment and children's outcomes does not differ for children in homes with different levels of home learning environment. That is, there is no evidence that children demonstrate improved outcomes when they experience high levels of learning activities in both home and classroom environments or that the classroom experience can offset any adverse effects of a home with few learning activities. As described in the previous section, most children experience at least half of the activities.

Children's social-emotional outcomes

Home learning environment. In general, we did not identify any significant associations between children's home learning indices during Head Start and their executive functioning or approaches to learning in the spring of kindergarten (either initially or with all controls considered). One exception is that the home language and literacy activity index is initially associated with approaches to learning ($ES = .11$), but not once all controls are considered.

Classroom learning environment. We did not identify any significant associations between children's Head Start classroom learning activities or observed quality and their executive functioning or approaches to learning in the spring of kindergarten (either initially or with all controls considered).

Home-classroom learning environment interactions. There is no evidence of significant interactions between the home language and literacy index and classroom learning and children's executive functioning or approaches to learning.

Summary

We examined associations between home and classroom learning environments during Head Start and children's kindergarten outcomes. We found few associations between outcomes and home activities, classroom activities, or observed quality (Table 2). Home language and literacy activities during Head Start, however, are associated with Head Start children's receptive vocabulary and phonetic skills measured in the spring of kindergarten. Observed classroom quality in terms of materials (that is, ECERS-R Provisions for Learning) is associated with receptive vocabulary in kindergarten, and the quality of teacher-child interactions (CLASS Instructional Support) is associated with math outcomes.

The limited associations between outcomes and classroom and home learning environments (along with the interaction between them) may reflect limitations of the measures of learning environments. By relying on parent or teacher reports, our indices sometimes included a limited number of activities. In terms of observed quality, research on the association of classroom quality with child outcomes shows consistent although modest associations (Burchinal et al. 2011; Zaslow et al. 2010), but the possible existence of threshold effects means stronger associations at the higher end of the quality continuum (Burchinal et al. 2011, 2010). Further, some activities are not fully aligned with all of the skills directly assessed, particularly for math, and the measurement of classroom quality is not domain-specific (that is, not specific to literacy and math practices). Domain- or content-specific observations may demonstrate stronger associations with school readiness outcomes than more global classroom environment observations (Zaslow et al. 2010, 2011). The lack of alignment in measurement may

underestimate possible associations between home and classroom learning environments and children's outcomes. In addition, as mentioned, the indices are based on the occurrence of a set of activities. Information on the quality or dosage (beyond breadth) of these activities may be critical for understanding their relationships. Finally, there was limited variation in children's learning activities, with few children experiencing low levels of home and classroom activities.

Nonetheless, understanding the role of children's home and classroom environments can support policy and programmatic decisions about how practices can foster children's school readiness in order to sustain development over the long term. Such an understanding, along with information on the activities occurring across settings, can guide program decisions about home-program alignment, family initiatives, and quality improvement.

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NOTES

¹ Two cohorts of children are included in FACES 2009—those who entered Head Start at age 3 and those who entered at age 4. Children entering at age 3 completed the program in spring 2011, and those entering at age 4 completed it in spring 2010.

² Head Start Resource Center 2011; <http://eclkc.ohs.acf.hhs.gov/sites/default/files/docs/policy-im/pfce-framework.pdf>.

³ The sample frame excluded Migrant and Seasonal Head Start (MSHS) programs, American Indian and Alaska Native (AI/AN) programs, programs in Puerto Rico and other U.S. territories, and programs serving 3-, 4-, and 5-year-old children (such as Early Head Start). The Office of Head Start provided information about any defunded (or soon-to-be defunded) programs before sampling, and we deleted these programs from the sample frame.

⁴ Mathematica data collection teams assessed the children at their Head Start centers while they were in Head Start and at their homes while they were in kindergarten. In fall 2009, 84 percent of parents were interviewed by telephone and the rest in person during a week-long visit by FACES data collection teams. In the subsequent waves, parent interviews were completed by telephone. Parents who did not have telephones, who preferred not to be called at home, or who did not want to use their cell phone minutes had the option of completing the interview by telephone at their children's Head Start center or face to face with a member of the data collection staff. Only 2 percent of parent interviews in spring 2010 were completed in person. In spring 2011 and spring 2012, all parent interviews were completed by telephone. A computer-assisted personal interview was conducted with Head Start teachers, and kindergarten teachers were asked to complete a web-based survey (optionally, they could complete a paper version of the survey). Head Start teachers completed 79 percent of teacher child reports on the web in fall 2009 and 80 percent in spring 2010. Preference for the web-based teacher child report over the paper instrument continued to increase through subsequent waves.

⁵ To be eligible for the kindergarten wave of data collection, a child had to be enrolled in kindergarten and to have been enrolled in Head Start the previous spring.

⁶ By the spring of kindergarten, 2,324 of the original 3,349 children remained in the study. Sample attrition was related to several reasons. During Head Start, children may have left before completing the program ($n = 731$) or transferred to a Head Start program not in FACES ($n = 155$). Other children completed Head Start in a sampled program but were not in kindergarten by the spring 2012 wave ($n = 31$), or their status could not be determined ($n = 106$). Only two cases that originally consented later refused to participate in subsequent rounds.

⁷ Children whose kindergarten teachers responded differ along several characteristics (such as child's and teacher's race/ethnicity and whether child's school was eligible for Title I funding) from those children whose teachers did not respond. The differences do not, however, translate into meaningful differences in the profiles of the children whose kindergarten teachers responded as compared to all children eligible for kindergarten data collection (Carlson and West 2010). From this, we can infer that we suffer little bias attributable to kindergarten teacher nonresponse when analyzing key child-level measures in kindergarten, especially when we use nonresponse-adjusted weights.

⁸ Response rates are unweighted marginal response rates and do not account for earlier stages of sampling and participation. The cumulative weighted response rates, which take into account the response rates for earlier stages of the sample (such as program, center, and child response rates), as well as fall 2009 consent rates, are by definition lower. The cumulative child response rate is 86 percent. The corresponding cumulative response rates associated with completing the child assessments, parent interviews, and teacher surveys and ratings are 72, 69, and 64 percent, respectively.

⁹ The preferred respondent for the spring interviews was the child's biological mother or the fall 2009 respondent. Ninety-five percent of the spring 2010 interviews were completed by the same respondents who were interviewed in fall 2009 (and 87 percent were the children's biological mothers); 93 percent of the spring 2011 interviews were completed by the same respondents who were interviewed in fall 2009 (and 87 percent were the children's biological

mothers); and 92 percent of the spring 2012 interviews were completed by the same respondents who were interviewed in fall 2009 (and 82 percent were the children's biological mothers).

¹⁰ Teachers had the option of responding by using a paper-and-pencil version of the survey and teacher child report, but most opted for the web-based versions.

¹¹ Due to the difference in populations analyzed, estimates may differ across reports for similar time points.

¹² Weights compensate for the differential probabilities of selection at the sampling stage (for example, we selected programs, centers, and classrooms with probability proportional to size, and we selected a fixed number of children per classroom out of a variable number of eligible children) and adjust for changes in children's eligibility status and the effects of nonresponse. The child-level weight used to prepare this report, PRA16OCW, has a positive value for those children who have at least one parent interview in combination with either teacher child report data or direct child assessment data in all rounds through kindergarten (spring 2011 or spring 2012) as well as teacher survey data and classroom observation data in the prekindergarten year (spring 2010 or spring 2011) and teacher survey data in the kindergarten year (spring 2011 or spring 2012).

¹³ We do not describe all statistically significant differences in this report or in the accompanying set of data tables (Kopack Klein et al. 2017). Some differences and coefficients, although statistically significant, are very small and may not always be practically meaningful (for example, those with a difference smaller than 5 percentage points or an effect size smaller than .25).

¹⁴ All references to African American pertain to African American, non-Hispanic; all references to White pertain to White, non-Hispanic.

¹⁵ All references to mothers, fathers, or parents include both biological and adoptive parents.

¹⁶ FACES measured some topics (for example, household food sufficiency) in only one or two waves, so status or change estimates may not be calculated.

¹⁷ Among the seven PFCE Framework outcomes, FACES 2009 did not capture detailed parent information related to Family Engagement in Transitions. The information on Families as Advocates or Leaders is combined with information on Families as Educators, given that the leadership information relates to parent involvement in children's programs. .

¹⁸ Household income is not used to estimate eligibility for Head Start. Head Start qualifying criteria are based on family (not household) income, and there are other (non-income) ways to qualify for the program.

¹⁹ These percentages pertain to children who live in houses, apartments, or trailers with their families or with one or more other families. Separate analyses indicate that .05 percent of all children who entered Head Start in fall 2009 live at entry in transitional housing or homeless shelters.

²⁰ Responses were on a scale of often, sometimes, or never true in the past 12 months.

²¹ The average number of days per week that children's families eat dinner together also does not change between Head Start entry (5.3 days), Head Start exit (5.4 days), and the spring of kindergarten (5.4 days).

²² The average number of nights in the past week that children brushed their teeth before going to bed increased, but only slightly, between Head Start entry (5.7 nights) and exit (5.9 nights).

²³ The first interview asked about parent education, with updates in subsequent interviews. The respondent reported on his or her own education and that of the other parent. Though it happened infrequently (less than 10 percent of the time), a different respondent completed later interviews, which could have resulted in differences in reporting over time. If a particular wave was missing education data, we used the level reported in the previous wave.

²⁴ References to children living with their mothers include those living with the mother only or with the mother and a nonbiological father. References to children living with their fathers include those living with the father only or with the father and a nonbiological mother.

²⁵ A previous FACES 2009 report titled *Child Outcomes and Classroom Quality in FACES*

2009 (Moiduddin et al. 2012) provided a description of classroom quality at the end of the first year in Head Start (that is, spring 2010). Another report, titled *A Portrait of Head Start Programs: Findings from FACES 2009* (Moiduddin et al. 2017), considered classroom quality at the end of the first year at the program level. The current report presents classroom quality information at Head Start exit (that is, spring 2010 for most 4-year-old children and spring 2011 for most 3-year-old children).

²⁶ The Multi-State Study of Prekindergarten (Clifford et al. 2005) identifies 21 items that represent the key dimensions of quality tapped by the 43 items on the full ECERS-R. The items are used in FACES 2009.

²⁷ Classroom observations were completed in a representative sample of 320 classrooms of 3- and 4-year-old children at Head Start exit. Observers were trained and certified to meet reliability standards showing proficiency to administer each instrument. Reliability was defined as within one point of the gold standard observer on the scale or dimension score at least 80 percent of the time. Sixteen of the 17 classroom observer/gold standard observer pairs were in agreement at least 80 percent of the time on the ECERS-R, and 100 percent of the observer and gold standard scores were within one point of each other on the CLASS. To minimize observer drift, one quality assurance visit (that is, a paired observation) was conducted during the field period. If a discrepancy occurred between the observer and the gold standard, the gold standard score was used as the final score.

²⁸ The FACES 2009 report titled *Child Outcomes and Classroom Quality in FACES 2009* (Moiduddin et al. 2012) reported observation scores from spring 2010. The current averages (for two years) are very similar (within 0.1 point).

²⁹ We see, on average, increasing numbers of children experiencing home learning activities from Head Start entry to Head Start exit. At the child level, about 10 percent of children's parents report an activity in the fall but not in the spring. Therefore, to capture children's experiences fully, we define participation in activities as at least one wave of participation (entry or exit) because the child would have had some experience during his or her time in Head Start (fall 2009 to spring 2010 or spring 2011).

Therefore, the index for 3-year-old children was based on three time points; for 4-year-old children, it was based on two time points. We followed the same approach for classroom learning activities reported by the teacher.

³⁰ The number of children experiencing low levels of home activities was less than 1 percent; therefore, we did not compare the observed quality of those children's classrooms to children experiencing middle or high levels of activities in their homes.

³¹ The definition of total activity levels was based on the specific cut points across all indices. For total home activities, low reflects 0 to 8 activities experienced (the child would have at least one of four home indices at a "low" level), middle reflects 9 to 18 activities, and high reflects 19 to 22 activities (so that a child had to experience at least one of the four home indices at a "high" level to be considered at high level overall). It is important to note that the minimum value for the total home activities was 5. In creating the total classroom activity levels, we considered the two classroom indices' cut points: low indicates 0 to 9 activities experienced (the child would have at least one classroom domain at a "low" level), middle indicates 10 to 20 activities, and high represents 21 to 22 activities (so that a child had to experience at least one classroom domain at a "high" level to be considered at a high level overall).

³² Of the 3,349 children who participated in the study in fall 2009, 1,167 to 1,336 had kindergarten outcomes. Final models with child, family, Head Start, and kindergarten characteristics resulted in the inclusion of 812 to 835 children in the analysis, based on available data from parents and teachers.

³³ In spring 2011 and spring 2012, most children were assessed in English. We tested a model with only those children assessed in English, finding no differences in significant findings or effect sizes.

³⁴ FACES 2009 administers the third edition of the Woodcock Johnson to children. The Woodcock Johnson III norms were developed using U.S. Census population projections for 2000. Thus, standard scores on the assessment compare children to same-age peers in 2000, predating the time when most children in the United States were attending preschool.

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