

# Data Tables for *Child Outcomes and Classroom Quality in FACES 2009 Report*

OPRE Report 2012-37b

SEPTEMBER 2012



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**OPRE Report 2012-37b**

**September 2012**

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## INTRODUCTION

Head Start is a national program that aims to promote school readiness by enhancing the social and cognitive development of children through the provision of educational, health, nutritional, social, and other services to enrolled children and families. The Head Start program provides grants to local public and private nonprofit and for-profit agencies to provide comprehensive child development services to economically disadvantaged children and families; the Office of Head Start places special emphasis on helping preschoolers develop the reading and mathematics skills they need to be successful in school. The program also seeks to engage parents in their children's learning and to promote their progress toward their own educational, literacy, and employment goals (Administration for Children and Families [ACF] 2009).

This set of tables describes children who entered Head Start for the first time in fall 2009 and completed a year in the program in spring 2010, as well as their family backgrounds and the classrooms and programs that serve them. It is designed to accompany the research brief *Child Outcomes and Classroom Quality in FACES 2009* (Moiduddin et al. 2012). Data are drawn from the Head Start Family and Child Experiences Survey (FACES), which was first launched in 1997 as a periodic, longitudinal study of program performance. Successive nationally representative samples of Head Start children, their families, classrooms, and programs provide descriptive information on the population served; staff qualifications, credentials, and opinions; Head Start classroom practices and quality measures; and child and family outcomes. 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. In 2008, the Office of Planning, Research and Evaluation in the HHS 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.

FACES 2009 is the fifth in a series of national cohort studies—previous cohorts were initiated in 1997, 2000, 2003, and 2006. The FACES 2009 child sample

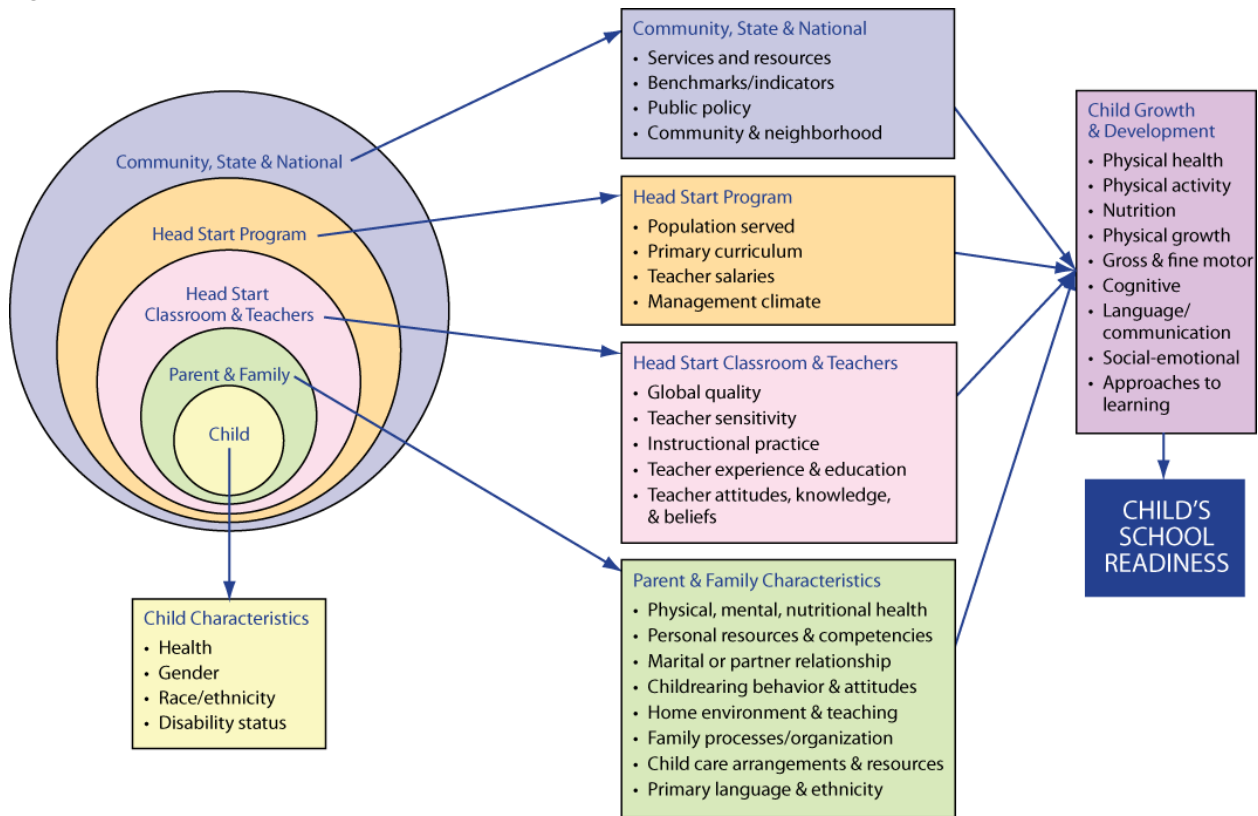
was selected to represent 3- and 4-year-old children as they entered their first year of the program, drawing on participants from 60 selected programs from across the country.<sup>1</sup>

Following this introduction to the study methodology and sample as well as the measures used in FACES 2009, the tables in the first section (Section A) provide information on the children's characteristics, family demographics, and home life. In the next three sets of tables, we provide information about child cognitive (Section B) and social-emotional (Section C) development, and health status (Section D). The next set of tables details Head Start teacher and classroom characteristics (Section E). Each section includes a set of tables focusing on characteristics in spring 2010. Section A and the following three sections (B, C, and D) on child outcomes also include tables focusing on change over the first year of the program (fall 2009 to spring 2010). Finally, the last section (Section F) presents tables examining relationships among teacher and classroom characteristics and child outcomes. This section begins with an overview of analysis methods.

## CONCEPTUAL MODEL AND FRAMEWORK

The conceptual framework for FACES 2009 illustrates the complex interrelationships that help shape the developmental trajectories of children in Head Start (Figure 1). The child's place is primary and constitutes the central core of the relationships depicted in the figure; fostering his or her progress toward school readiness, broadly construed, is Head Start's ultimate goal. The family context—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 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 fully address program and policy issues in today's Head Start program.

**Figure 1. Conceptual Model for FACES 2009**



The Head Start experience is designed to promote immediate, 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 involves opportunities to participate in policy and program decisions. The program provides parents with chances to participate in the classroom and strives to encourage their active involvement in the education and development of their children. Head Start seeks to promote adult literacy and further parent education, where needed and appropriate, and to provide opportunities for careers and training in early childhood education. The program also seeks to promote family self-sufficiency through provision of case management, assessment, referral, and crisis intervention services. Head Start acts as an advocate for necessary family-focused social services through interagency coordination and agreements. Measurement of these child and family outcomes, both during the program years and through followup at the end of kindergarten, allows fuller understanding of

Head Start's efforts to prepare children and their parents for the school experience.

## METHODS

The FACES 2009 sample provides information at the national level about Head Start programs, centers, classrooms, and the children and families they serve. A sample of Head Start programs was selected from the 2007–2008 Head Start Program Information Report (PIR),<sup>2</sup> with approximately two centers per program and three classrooms per center selected for participation. Within each classroom, an average of eight newly enrolled 3- and 4-year-old children was randomly selected for the study. Sixty programs, 129 centers, 486 classrooms, 439 teachers, and 3,349 children participated in the study in fall 2009.<sup>3</sup> Children in the study were administered a battery of direct child assessments, their parents and teachers were interviewed, and interviews were conducted with the directors of the programs and centers in the sample and with education coordinators.

In spring 2010, data were collected again for the group of children who were completing their first year

of the Head Start program.<sup>4</sup> Data were collected over a four-month period (March–June).<sup>5</sup> Mathematica data collection teams assessed the children at their Head Start centers, interviewed the children’s lead teachers, and observed their classrooms. Children’s parents were interviewed by phone<sup>6</sup> and teachers were asked to complete a set of ratings for each sampled child in their classroom using either a web-based or a paper instrument.

A total of 3,022 children were eligible for the spring 2010 followup<sup>7</sup> and 89 percent participated.<sup>8</sup> Child assessments were completed for 95 percent of these children and 86 percent of their parents were interviewed. A set of teacher ratings was completed for 96 percent of the children and interviews with 99 percent of children’s lead teachers were conducted.<sup>9</sup> In spring 2010, Mathematica staff also completed observations in 370 Head Start classrooms.<sup>10</sup> Data from the direct child assessments are used here to report on children’s cognitive and physical outcomes at the beginning and end of their first year in Head Start. Parent and teacher ratings provide information about children’s social skills, approaches to learning, problem behaviors, and academic and nonacademic accomplishments during the Head Start year. Assessor ratings are another source of information about children’s social-emotional outcomes. We use parent interview data to describe children’s backgrounds and home environments; teacher interview data to describe children’s first Head Start classroom experiences; and classroom observation data to describe Head Start classroom quality.

**Direct Child Assessments.** The spring battery of direct child assessments, like the fall battery, included a set of standardized preschool assessments designed to measure children’s cognitive outcomes (language, literacy, and mathematics) and physical outcomes (height and weight) through an untimed, one-on-one assessment of each child. The actual measures used are described in the next section.

Except for a few differences, the procedures used to administer the direct child assessments were the same as those used in the fall. It began with a language screening to determine whether children from households where English was not the primary spoken language should be assessed in English, Spanish, or administered an abbreviated battery that included the Peabody Picture Vocabulary Test, Fourth

Edition (PPVT-4) (Dunn and Dunn 2006), the Expressive One-Word Picture Vocabulary Test (EOWPVT; EOWPVT-SBE; Brownell 2000), and the measurement of height and weight.<sup>11</sup> However, if a child had been assessed in English in the fall, he or she was assessed in English in the spring regardless of his or her spring score on the language screener.<sup>12</sup> The assessments themselves used the same standard materials that were used in the fall such as stimulus and response pages from the PPVT-4 and Woodcock-Johnson Tests of Achievement, Third Edition (WJ III) (Woodcock et al. 2001) measures. Computer-assisted personal interviewing (CAPI) was used when administering the assessments to facilitate the movement from one measure to the next without the assessor having to calculate stopping or starting points (that is, basals and ceilings). Assessors read the questions and instructions from a computer screen. The child responded by pointing to the correct answers on the assessment easel or giving a verbal response. Assessors entered the responses into a laptop computer using software that ensured all basal and ceiling rules were followed.

**Parent Interviews.** FACES 2009, using CAPI, collected information from Head Start parents in a variety of areas including characteristics of households (such as income, number of adult household members, languages spoken in the home) and household members (including age, race/ethnicity, and relationship to study child).<sup>13</sup> Information was also collected on aspects of the child’s home life, children’s child care arrangements, and parents’ ratings of their children’s social skills, problem behaviors, and language, literacy, and math accomplishments. New to the spring interview were questions that asked parents about (1) their involvement and satisfaction with Head Start, (2) access to and use of community services and sources of social support, (3) outdoor spaces near their home where their child could play, and (4) household members’ use of alcohol, tobacco, and drugs.

**Teacher Interviews and Teacher Child Reports.** In spring 2010, FACES 2009 again conducted interviews with lead teachers about their educational backgrounds, professional experience, and credentials, using CAPI. Teachers reported on scheduled learning activities in their classrooms and estimated the amount of time spent on both teacher-directed and child-selected activities in a typical day,



as well as frequency of various language, literacy development, and math activities. Teachers were asked whether they have a primary curriculum guiding their classroom activities and, if so, they were asked about the number of hours of training they received on the curriculum and who provided this training. They were also asked about program management, including their views on program policies and procedures. In the spring interview, teachers were asked about their interactions with parents and how they go about communicating with those who speak a language other than English. They were also asked whether they have a regular mentor, experiences with that mentor, and involvement in training or technical assistance during this program year.

As in the fall, using a web-based Teacher Child Report (TCR) form, lead teachers were asked to rate each FACES child in their classroom on a set of items assessing the child's accomplishments, cooperative classroom behavior, behavior problems, and their approaches to learning.<sup>14</sup> Teachers also provided reports of children's health, developmental conditions, and absences during the program year.

**Interviewer Ratings.** At the end of the fall and spring one-on-one assessments, the assessor completed a set of rating scales evaluating the child's behavior in the assessment situation using the Leiter-R Examiner Rating Scales (Roid and Miller 1997).

**Classroom Observations.** In FACES 2009, measures of the classroom environment were obtained from a four-hour observation conducted in the spring. The protocols included 21 items from the Early Childhood Environment Rating Scale-Revised (ECERS-R; Harms et al. 1998) and the Classroom Assessment Scoring System (CLASS; Pianta et al. 2008).<sup>15</sup> Classroom observations provided information on child-adult ratios and group sizes. Observer ratings are used to produce a set of scores that capture the quality of Head Start classrooms as well as indicators of classroom resources and teacher-child interactions.

**Population Estimates.** The statistics found in these tables are estimates of key characteristics of the population of newly entering Head Start children who were still enrolled in the program in spring 2010, their parents and families, and Head Start teachers and

classrooms. The data used to report on child and family characteristics and child outcomes were weighted to represent all children entering Head Start for the first time in fall 2009 who were still enrolled in spring 2010.<sup>16</sup> Teacher data were weighted to represent all teachers serving children who entered Head Start for the first time in fall 2009 and who were still enrolled in their classrooms in spring 2010. Classroom observation data were weighted to represent all classrooms in spring 2010 that were serving children entering Head Start for the first time in fall 2009.

## OVERVIEW OF MEASURES

In this section we provide an overview of the measures used to address aspects of parenting and the home environment, child outcomes, and Head Start teachers and classrooms in FACES 2009. We provide detail for any scales that are based on multiple items summarized for the purpose of addressing a particular construct; note that this includes all of the child outcome measures in the FACES battery. We include information on the samples that are used to establish norms for certain measures and any limitations on who is administered the measures in the FACES sample. Unless otherwise noted, the measures are included in all waves of FACES 2009 (fall 2009, spring 2010, spring 2011, spring 2012).

### CHILD AND FAMILY DEMOGRAPHICS, PARENTING, AND THE HOME ENVIRONMENT

To address parenting approaches, parents are asked to indicate to what extent each of 13 items from the *Child-Rearing Practices Report* (Block 1965) describes them. From these, 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 "not at all" to "exactly." Possible scores on each subscale range from 1 to 5; higher scores indicate that the construct is more reflective of their parenting approach.



Parent mental health is measured with the short form of the *Center for Epidemiological Studies Depression (CES-D) Scale* (Ross et al. 1983). Parents report how often they felt or behaved a particular way in the past week on 12 items. Responses include “rarely or never,” “some or a little,” “occasionally or moderately,” and “most or all” and range from 0 to 3. Scores for individual items are summed, and total scores ranging from 0 to 4 are coded as not depressed; from 5 to 9 as mildly depressed; from 10 to 14 as moderately depressed; and 15 and above as severely depressed. Total scores have a possible range of 0 to 36.

FACES measures *parent satisfaction with Head Start* during the program year (spring 2010 and 2011 only) with a series of items addressing different aspects of the program. There are two Child Related Subscales and one Family Related Subscale. All are mean scales. Ratings are made on a 4-point scale ranging from “very dissatisfied” to “very satisfied.” For all three subscales, possible response ranges are from 1 to 4; higher scores indicate parents are more satisfied. The four-item child scale is consistent with that calculated in prior FACES cohorts (2000, 2003, and 2006). The five-item child scale includes a new item developed for FACES 2009 (satisfaction with supporting relationship with child). The four-item family scale is the same as that included in prior FACES cohorts.

FACES also assesses the *degree to which certain positive experiences are characteristic of children’s and families’ time in Head Start* during the program year (spring 2010 and 2011 only). Two composites are derived from 15 items. Both are mean scales. Ratings are made on a 4-point scale ranging from “never” to “always.” For both composites, possible response ranges are from 1 to 4; higher scores indicate the positive experiences are more characteristic of their time in the program. A 12-item scale is consistent with that calculated for prior FACES cohorts (2000, 2003, and 2006). The 15-item scale also includes one item from earlier cohorts (teacher handles discipline matters without being harsh) and two new items developed for FACES 2009 (administrators supportive of parent, parent relationship with family service worker is supportive).

### **CHILD COGNITIVE DEVELOPMENT**

To assess children’s skills and knowledge, norm- and criterion-referenced measures of language, writing, and math development are directly administered to

the children. Receptive and expressive vocabulary are measured using the Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4) and the Expressive One-Word Picture Vocabulary Test, both the English and the conceptually scored Spanish-Bilingual Edition (EOWPVT; EOWPVT-SBE; Brownell 2000). In addition, the Test de Vocabulario Imagenes Peabody (TVIP) (Dunn et al. 1986) is used to measure children’s receptive vocabulary in Spanish. The assessment battery also measures children’s letter-word knowledge, skills in applied problems and writing, and phonic and structural analysis skills in English or Spanish, using the Letter-Word Identification, Applied Problems, Spelling, and Word Attack subtests from the Woodcock-Johnson Tests of Achievement, Third Edition (WJ III) and the Bateria III Woodcock-Muñoz Tests of Achievement (WM III; Woodcock et al. 2004), respectively. Word Attack is only administered to children in kindergarten (spring 2011 or 2012 only). A supplemental set of math items from the Early Childhood Longitudinal Study-Birth and Kindergarten cohort (ECLS-B and ECLS-K) math assessment are used to assess a broader set of skills than is captured by Applied Problems. Similarly, to tap the skills of children who progress beyond letter knowledge on the WJ III Letter-Word Identification subtest but have not yet acquired sight words, a supplemental set of letter-sounds items from the ECLS-B are included. Parents and teachers also report on children’s emergent literacy skills. We describe each of these measures in a subsequent section.

In fall 2009, the direct child assessment begin with a screening to determine whether children who primarily speak a language other than English at home should be assessed in English, Spanish, or administered a short assessment battery including vocabulary and height and weight measurements. Two subtests from the Preschool Language Assessment Survey 2000 (*preLAS* 2000) (Duncan and DeAvila 1998), Simon Says and Art Show, are used as screening tools. All children are also administered the PPVT-4 to measure English receptive vocabulary and EOWPVT or EOWPVT-SBE to measure expressive vocabulary. In addition, the TVIP is used with children whose primary home language is Spanish, regardless of performance on the *preLAS*. Thus, children whose parents speak Spanish to them at home receive the receptive vocabulary component of the battery in English (PPVT-4) as well as in Spanish (TVIP). They also

receive the Spanish-bilingual version of EOWPVT (EOWPVT-SBE).

Following administration of these vocabulary measures, children whose home language is Spanish and who make five consecutive errors on Simon Says and Art Show are routed to the Spanish-language cognitive assessment. Similarly, a child who makes five consecutive errors on both Simon Says and Art Show and primarily speak a language other than English or Spanish are routed out of the cognitive assessment following administration of the vocabulary measures and are weighed and measured for height. Children who pass the screener and whose primary home language is a language other than English receive the cognitive assessment battery in English. Children from homes in which English is primarily spoken are administered the cognitive assessment battery in English, regardless of their scores on the language screener.

In the spring, an adapted version of the screening procedure was used. All children are administered the Simon Says task of the *preLAS* 2000. Following this task (and the receptive and expressive vocabulary measures), those who primarily speak English at home and those who have passed the language screener in the fall are routed to the English version of the assessment. All other children are administered both Simon Says and Art Show, and, as in the fall, performance on both tasks is used to determine whether these children should be assessed in English, assessed in Spanish, or administered a short assessment of vocabulary and height and weight measurements. Table 1 presents the routing procedures for the assessment based on a child's home language and performance on the screener. Table 2 presents the number of children routed along each of the language paths in fall 2009 and spring 2010.

**Table 1. FACES 2009 Language Routing Assessment Paths**

English	Home Language			
	Spanish		Other	
	English Path	Spanish Path	English Path	Non-English Path
Language Screener (Simon Says and Art Show)	Language Screener (Simon Says and Art Show)	Language Screener (Simon Says and Art Show)	Language Screener (Simon Says and Art Show)	Language Screener (Simon Says and Art Show)
PPVT-4	PPVT-4	PPVT-4	PPVT-4	PPVT-4
EOWPVT	EOWPVT-SBE (conceptually scored)	EOWPVT-SBE (conceptually scored)	EOWPVT	EOWPVT
--	TVIP	TVIP	--	--
WJ III (Spelling, Letter-Word Identification, Applied Problems, Word Attack <sup>a</sup> )	WJ III (Spelling, Letter-Word Identification, Applied Problems, Word Attack <sup>a</sup> )	WM III (Spelling, Letter-Word Identification, Applied Problems, Word Attack <sup>a</sup> )	WJ III (Spelling, Letter-Word Identification, Applied Problems, Word Attack <sup>a</sup> )	--
ECLS-B Letter-Sounds Task <sup>b</sup>	ECLS-B Letter-Sounds Task <sup>b</sup>	--	ECLS-B Letter-Sounds Task <sup>b</sup>	--
ECLS Math	ECLS Math	ECLS-B Math (Spanish translation available)	ECLS Math	--
Executive Functioning Pencil Tapping Task <sup>c</sup>	Executive Functioning Pencil Tapping Task <sup>c</sup>	Executive Functioning Pencil Tapping Task <sup>c</sup> (Spanish translation available)	Executive Functioning Pencil Tapping Task <sup>c</sup>	--
Height and Weight	Height and Weight	Height and Weight	Height and Weight	Height and Weight

<sup>a</sup> Word attack is only administered to children in kindergarten.

<sup>b</sup> This task is administered only to children who meet a certain threshold on the WJ III Letter-Word Identification subtest. Therefore, it is only available for children assessed in English.

<sup>c</sup> This task is administered only to children age 4 and older.

**Table 2. FACES 2009 Language Routing Results: Fall 2009 and Spring 2010**

	Home Language				
	English	Spanish		Other	
		English Path	Spanish Path	English Path	Non-English Path
Fall 2009	2166	382	512	57	33
Spring 2010	1933	613	251	70	12

Child assessment scores in FACES include raw, standard, and Item Response Theory (IRT)-based scores, or *W*-scores. Raw scores refer to counts, averages, or the like of the individual items that a child completed. They are indicators of absolute rather than relative performance. In contrast, standard scores allow for comparisons of an individual's performance relative to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15. Scores above or below the mean indicate that compared to same-age peers, the child's skills are more or less advanced, respectively. It is important to take note of the norming sample used for each test when considering how children compare.

IRT scale scores from the mathematics assessment provide an estimate of the child's performance as if he/she had taken all items in an assessment (as the child may not receive all items based on basal or ceiling rules, for example), and is a measure of absolute performance. Additionally, direct assessment measures such as the PPVT-4, WJ III Tests of Achievement, and Bateria III include GSV or *W* scores, which allow for measurement of change or growth in performance on the same scale over time. Like raw scores, these indicate absolute rather than relative performance.

Each of these scores can be used to address different types of questions about children's skills and development. Raw and *W*, GSV or IRT-based scores provide information on children's absolute performance at a specific point in time. Changes in these scores across waves indicate that the child is progressing developmentally and his/her skills are increasing in absolute terms. In contrast, an increase in a child's standard score toward the mean of 100 indicates that progress is being made relative to same-age peers or that the gap among peers is closing.

The *PPVT-4* measures children's receptive vocabulary knowledge relative to English speaking peers in the U.S. Raw, standard, and GSV (the PPVT publishers refer to *W* scores as GSV scores) scores are derived and reported in FACES.

The *EOWPVT/EOWPVT-SBE* measure the expressive vocabulary of children from English- and Spanish-speaking households, respectively. The *EOWPVT* provides a measure of children's expressive vocabulary relative to English-speaking peers nationally, while the *EOWPVT-SBE* reflects these skills relative to Spanish-bilingual and Spanish-dominant peers in the U.S. The *EOWPVT-SBE* allows for conceptual scoring (that is, it provides prompts for both English and Spanish and accepts responses in either language as well as various Spanish dialects). All children receive the same items, which are scored as correct when they accurately identify an object, whether they label it in English or Spanish. This provides a picture of children's bilingual expressive vocabulary. In FACES, the *EOWPVT-SBE* is used with children whose primary home language is Spanish, while the *EOWPVT* is used with all other children. Raw and standard scores are reported.

Standard scores for the *EOWPVT-SBE* are only available for children who are 4 and older. We only report scores on this latter measure for children who entered the program at age 4.

The *TVIP* measures children's receptive vocabulary in Spanish. Mean raw, standard, and GSV scores are derived and reported in FACES. The *TVIP* was normed on a sample of individuals in Mexico and Puerto Rico in the early 1980s, so standard scores provide information on children's vocabulary relative to monolingual Spanish-speaking age-group peers born outside of the U.S.

Selected scales from the *WJ III Psycho-Educational Battery* for children assessed in English provide a picture of letter knowledge, early math, and early writing skills relative to English-speaking peers in the U.S. Spanish versions of these measures are from the *Bateria-III WM*. The calibration sample for the WM was drawn from both inside and outside the U.S. (including Mexico, Costa Rica, Panama, Argentina, Colombia, Puerto Rico, and Spain). Calibration data were then equated to the WJ norms. Raw, standard, and W scores are derived and reported in FACES.

*A supplemental set of math items from ECLS–B and ECLS-K* is used to assess a broader set of early math skills than is captured by Applied Problems. Raw counts of how high children can count, as well as IRT-based scores are derived and reported in FACES.

*A supplemental set of letter-sounds items from ECLS-B* is used to tap the skills of children who have progressed beyond letter knowledge on the WJ Letter-Word Identification subtest but have not yet acquired sight words. IRT scale scores only are derived and reported in FACES from these data. Scores are only available for children assessed in English.

*Emergent literacy skills* are rated by parents and teachers, who are asked to indicate whether and the extent to which children demonstrate certain abilities that are associated with literacy, including their prereading and early writing skills. Parent- and teacher-reported composites reflecting the child's sum score on these items are created. Items are only asked of parents and teachers when children are in Head Start (fall 2009, spring 2010, and spring 2011 only); similar composites are not available for children in kindergarten.

### **Child Social-Emotional Development**

FACES 2009 uses measures from a variety of sources—teacher, parent, and assessor—to provide multiple perspectives on children's positive and challenging behaviors that may affect their ability to learn and interact with peers and adults. Using items taken from the Behavior Problems Index (Peterson and Zill 1986), the Personal Maturity Scale (Entwisle et al. 1997), and the Social Skills Rating Scale (Gresham and Elliott 1990), teachers report on children's cooperative classroom behavior or social skills, as well as their problem behaviors in the

classroom. Teachers also rate children's approaches to learning, using the ECLS–K Approaches to Learning Scale (U.S. Department of Education 2002).

Parents also report on children's social skills and problem behaviors in the home environment (see below for details). Using the Leiter International Performance Scale-Revised Examiner Ratings (Leiter-R), assessors rate children's behaviors during the assessment situation in such areas as attention, organization and impulse control, activity level, and sociability. Finally, for FACES 2009, a pencil tapping task (Blair 2002; Diamond and Taylor 1996; Smith-Donald et al. 2007) was added to capture 4-year-old children's executive functioning.

Criterion or raw scores capturing children's social skills, problem behaviors, and approaches to learning are derived from the parent interview and Teacher Child Report. Composite scores are calculated as the sum or mean of items and reflect the extent to which given statements are reflective of a child's behavior. Similarly, teachers and parents report on children's emergent literacy skills with sum scores serving as a count of their skills in this area. Assessor-reported scores of children's behavior during the direct assessment include raw and standard scores derived from Leiter–R Examiner Rating Scale. Like other standard scores, these have a mean of 100 and a standard deviation of 15, and indicate performance relative to same-age peers.

*Social Skills/Cooperative Behavior Scale* is a summary index based on 12 items with 24 possible points related to children's cooperative behavior and social skills, as reported by teachers. Parents report on 8 items, with 16 points possible on the summary score. Higher scores indicate more frequent cooperative behavior.

*Approaches to Learning*, as reported by teachers, is based on the mean of six items that comprise the Approaches to Learning Scale from ECLS–K. Higher scores indicate more frequent positive approaches to learning behaviors.

*Behavior Problems Index* is a rating scale of 36 items reported by teachers that contains three subscales—Aggressive Behavior, Withdrawn Behavior, and Hyperactive Behavior. Parents also report on 12 items, which contribute to a summary behavior



problems score. Higher scores represent more frequent negative behavior.

Using the *Leiter-R*, assessors evaluate the child's behavior in the test situation, including approaches to learning and any problem behaviors. Raw and standard scores are derived and reported in FACES, with higher scores reflecting greater attention, organization/impulse control, activity level, and sociability. Four subscales from the *Leiter-R* are used for FACES 2009: (1) attention, (2) organization/impulse control, (3) activity level, and (4) sociability. The 27 items and four subscales comprise the cognitive/social scale.

*Pencil tapping*, a direct assessment of executive functioning, provides a measure of children's inhibitory control, working memory, and attention. Reported scores reflect the percentage of times the child taps correctly and can take on any value from zero to 100. Higher scores indicate better skills on the task. The task is only administered to children age 4 and older at the time of the direct assessment. Normative data are not yet available for this measure. In this document, we only report scores on this measure for children who entered the program at age 4 or older.

### **Child Health and Physical Development**

Parents and teachers report on several aspects of children's health and physical development, including disability status and health and developmental conditions or concerns. Each child's height and weight are also measured to support analyses of obesity or underweight status.

*Height and weight measurement* is completed on each child using procedures from the ECLS. Body Mass Index (BMI) is calculated as the ratio of an individual's weight to height (weight in kilograms divided by squared height in meters) and can be used as an indicator of overweight and obese status. Calculation of BMI is specific to gender and age. According to the Centers for Disease Control and Prevention (CDC), a child is considered to be overweight when his/her BMI score is at or above the 85th percentile for age and gender, and obese if his/her BMI is at or above the 95th percentile for age and gender. Children with a BMI score less than the 5th percentile for age and gender are considered

underweight, and those between the 5th and 85th percentile are considered normal weight.

### **Head Start Teachers and Classrooms**

FACES measures teacher beliefs and attitudes using a 24-item *Teacher Beliefs Scale* (Burts et al. 1990) that consists of statements worded to reflect positive attitudes and knowledge of generally accepted practices in preschool settings, or to reflect a lack of such attitudes and knowledge (fall 2009 only). Teachers rate the degree to which they agree with each statement on a 5-point scale ranging from "strongly disagree" to "strongly agree." We present scores for three subscales based on a principal components factor analysis. The Developmentally Appropriate Practice Subscale is a summary scale based on nine items and has a possible range of 1 to 10. The Child-Initiated Practice Subscale is a mean scale based on five items and has a possible range of 1 to 5. The Didactic Subscale is a mean scale based on six items and has a possible range of 1 to 5. For all three subscales, higher scores indicate stronger agreement with the construct being measured. Education coordinators also respond to a version of the *Teacher Beliefs Scale* in fall 2009.

Teachers report on their perceptions of support and job satisfaction in two summary scales. Teachers report on their perceptions of support through a subset of items from the *Program Management Inventory* (PMI) (Lambert et al. 1999, Lambert 2002) (spring 2010 and 2011 only), which was designed to assess the management climate in Head Start programs. Teachers rate the degree to which they agree with a series of statements about the ways in which programs can support teachers (for example, "helps teachers feel good about their jobs" and "ensures that teachers do not feel isolated"). Ratings are made on a 5-point scale ranging from "strongly disagree" to "strongly agree." The Support Subscale is a means scale based on 12 items and has a possible range of 1 to 5; higher scores indicate stronger perceptions of support. Center Directors and education coordinators also rate perceptions of support through PMI items in fall 2009.

Teachers report their degree of *job satisfaction* based on three items: how much teachers enjoy their present teaching job, how much teachers feel they are making

a difference in the lives of the children they teach, and whether they would choose teaching again as a career. Ratings are made on a 5-point scale ranging from “strongly disagree” to “strongly agree.” The Satisfaction subscale is a mean scale based on 12 items and has a possible range of 1 to 5; higher scores indicate stronger satisfaction.

Teacher mental health is measured with the short form of the *CES-D Scale*. Teachers report how often they felt or behaved in a particular way in the past week on 12 items. Responses include “rarely or never,” “some or a little,” “occasionally or moderately,” and “most or all” and range from 0 to 3. Scores for individual items are summed, and total scores ranging from 0 to 4 are coded as not depressed; from 5 to 9 as mildly depressed; from 10 to 14 as moderately depressed; and 15 and above as severely depressed. Scores have a possible range of 0 to 36.

To measure quality of Head Start classrooms, FACES 2009 used the full *Classroom Assessment Scoring System (CLASS)* in conjunction with the short form of the *Early Childhood Environment Rating Scale-Revised (ECERS-R)* in classroom observations (spring 2010 and 2011 only). 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. The ECERS-R is a global rating of classroom quality based on structural features of the classroom (Harms et al. 1998) and the short form yields two factors: Teaching and Interactions and Provisions for Learning. Both CLASS and ECERS-R scales are scored from 1 to 7, with higher scores reflecting better quality care. Scores are based on the mean of ratings for relevant items completed over the course of the observation. Note that for the Emotional Support domain of the CLASS, items addressing negative climate are reverse coded so that higher scores indicate a less negative climate. Observers trained and certified after meeting reliability standards showing proficiency to administer each instrument conduct the classroom observations, which last for four hours, on average, and are typically completed in the mornings.

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## NOTES

<sup>1</sup> For detailed information on the FACES 2009 study design and measures, see West et al. 2011.

<sup>2</sup> 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 not directly providing services to 3-, 4-, and 5-year-olds (such as Early Head Start) were excluded from the frame. The Office of Head Start provided information about any defunded (or soon-to-be defunded) programs before sampling and these programs were then deleted from the sample frame.

<sup>3</sup> Three of the 65 programs originally sampled were determined to be ineligible because we learned they were under provisional management or otherwise in financial jeopardy. In addition, two eligible programs declined to participate.

<sup>4</sup> Children who were no longer enrolled in the program where they were sampled in fall 2009 and who were not enrolled in one of the other FACES 2009 programs were not included in the spring 2010 data collection.

<sup>5</sup> The first visits to Head Start programs were in March 2010; however, parent interviews by telephone began in late February of that year.

<sup>6</sup> Parents who did not have telephones, preferred not be called at home, or did not want to use their own cell phone minutes were offered the option of completing the interview by phone at their child's Head Start center or in a face-to-face interview with a member of the data collection staff. Only 2 percent of parent interviews were completed in person.

<sup>7</sup> This total represents 81 percent of the children who were sampled and eligible for the fall 2009 baseline data collection.

<sup>8</sup> These are all weighted marginal response rates, not accounting for prior stages of sampling and participation. The cumulative weighted response rates, which take into account the response rate for prior 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 through spring 2010 is 82 percent. The corresponding response rates associated with completing the child assessments, parent interviews, and teacher ratings in spring 2010 are 78 percent, 71 percent, and 79 percent, respectively. At the teacher level, among participating classes, the marginal weighted response rate for the teacher interview was 99 percent. At the child level, among children whose parents gave consent, the rate for child assessments was 95 percent, the rate for parent interviews was 86 percent, and the rate for teacher-child reports was 94 percent.

<sup>9</sup> The cumulative teacher interview response rate is 92 percent.

<sup>10</sup> A total of 391 of 482 eligible classrooms were sampled for the classroom observations. The cumulative weighted response rate for the observations, which takes into account nonresponse at the program level, was 87 percent. To be eligible for observation, the classroom had to meet three criteria: (1) be in a center-based program (home-based services were not observed); (2) be one of the originally sampled classrooms (classrooms that children moved to in the spring were not eligible); and (3) have at least one sampled, eligible child whose parents gave consent.

<sup>11</sup> The screening process and cognitive assessment measures are described in the next section, the overview of measures used in FACES 2009.

<sup>12</sup> Simon Says, a subtest from the Preschool Language Assessment Survey 2000 (*preLAS 2000*; Duncan and DeAvila 1998), was used as a warm-up activity at that start of the assessment for this group of children.

<sup>13</sup> The preferred respondent for the spring interview was the child's biological mother or the fall 2009 respondent. Ninety-five percent of the spring interviews were completed by the same respondent who had been interviewed in the fall (and 87 percent were the child's biological mother). For 4 percent of the children, the first parent interview was completed in spring; 96 percent completed the first parent interview in fall.

<sup>14</sup> In spring 2010, 80 percent of TCRs (and 76 percent of all eligible cases) were completed using the web-based instrument with the balance completed using paper forms.

<sup>15</sup> FACES 2006 used the full ECERS-R, the instructional support scale from CLASS, and the Arnett Caregiver Interaction Scale.

<sup>16</sup> Weights are used to compensate for the differential probabilities of selection at the sampling stage (for example, we selected programs, center, 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 to adjust for changes in children's eligibility status and the effects of nonresponse.



## **A. CHILDREN AND FAMILIES OF HEAD START**



## **Child and Family Baseline Characteristics: Head Start Entry**



**Table A.1. Characteristics of Children Entering Head Start: Fall 2009**

Characteristic	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
<b>Age as of September 1, 2009</b>			
3 years old or younger	61.0		
4 years old or older	39.0		
<b>Race/Ethnicity</b>			
White, Non-Hispanic	22.1	21.5	23.2
African American, Non-Hispanic	33.5	35.5	30.6
Hispanic/Latino	36.1	34.3	39.0
American Indian or Alaska Native, Non-Hispanic	0.9	1.2	0.3
Asian or Pacific Islander, Non-Hispanic	1.6	1.5	1.2
Multi-Racial/Bi-Racial, Non-Hispanic	5.6	5.8	5.4
Other, Non-Hispanic	0.2	0.1	0.2
<b>Gender</b>			
Female	49.9	49.8	50.0
Male	50.1	50.2	50.0
<b>Participated in Early Head Start</b>			
Yes	13.2	14.5	11.2
No	86.8	85.5	88.8

Source: Fall 2009 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

The data in this table are from the Fall 2009 FACES Parent Interview but are being used to describe the population of children who are completing their first year of Head Start in spring 2010.

<sup>a</sup> Age as of September 1, 2009.

- Sixty-one percent of children completing their first year of Head Start entered as 3-year-olds (as of September 1, 2009), and the rest entered as 4-year-olds.
- Thirty-six percent of children are Hispanic/Latino and another 34 percent are African American.
- Three-year-olds are more likely to be African American (36 percent) than are 4-year-olds (31 percent), while 4-year-olds are more likely to be Hispanic/Latino (39 percent) than are 3-year-olds (34 percent).
- Thirteen percent of children had participated in Early Head Start. Children who entered Head Start as 3-year-olds were more likely to have participated in Early Head Start than those entering Head Start at age 4, (15 and 11 percent, respectively).

**Table A.2. Home Language Environment at Head Start Entry: Fall 2009**

Language Use in the Home	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
<b>Primary Language Spoken to the Child at Home</b>			
English	73.7	74.9	71.9
Spanish	24.1	22.5	26.6
Other language	2.1	2.5	1.4
<b>Any Languages Other than English Spoken in the Home</b>			
Spanish	32.0	30.5	34.3
Other language	5.2	6.1	3.9
<b>Language Usually Used when Reading to Child (in Households where English is Not the Primary Language Spoken to the Child at Home)</b>			
English	26.5	28.3	24.1
Other language	59.5	56.9	63.0
Both English and other language	13.8	14.6	12.7
<b>Percent of Children's Books in English (in Households where English is Not the Primary Language Spoken to the Child at Home)</b>			
0	18.1	15.3	22.0
1-33	8.7	8.7	8.8
34-66	25.9	28.5	22.1
67-100	47.3	47.5	47.0
<b>Languages Spoken in Television Programs Child Watches (in Households where English is Not the Primary Language Spoken to the Child at Home)</b>			
English	51.9	51.3	52.6
Other language	19.9	16.3	24.5
Both English and other language	35.2	38.6	30.3

Source: Fall 2009 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

The data in this table are from the Fall 2009 FACES Parent Interview but are being used to describe the population of children who are completing their first year of Head Start in spring 2010.

<sup>a</sup>Age as of September 1, 2009.

- Twenty-six percent of Head Start children completing their first year of the program 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 24 percent of children at home.
- Among children in households where a non-English language is the primary language spoken to the child, 60 percent are read to only in a language other than English, and 20 percent watch television programs only in a non-English language.
- Among children completing their first year of Head Start, those who entered as 4-year-olds are somewhat more likely to be spoken to primarily in Spanish (27 percent) than are 3-year-olds (23 percent). Among those in households where a language other than English is the primary language spoken to the child, 4-year-olds more often have no children's books written in English (22 percent and 15 percent, respectively), and are more likely to watch only non-English television programs (25 percent and 16 percent, respectively).

**Table A.3. Family Structure at Head Start Entry: Fall 2009**

	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
<b>Percent of Children Living with</b>			
Biological <sup>b</sup> mother and biological <sup>b</sup> father	42.5	44.5	39.4
Married	27.0	28.2	25.1
Unmarried	15.4	16.1	14.2
Marital status not reported	0.2	0.1	0.2
Biological <sup>a</sup> mother only	50.0	48.9	51.8
Biological <sup>a</sup> father only	2.5	2.2	3.1
Neither biological <sup>a</sup> mother nor biological <sup>a</sup> father	4.9	4.4	5.7

Source: Fall 2009 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

The data in this table are from the Fall 2009 FACES Parent Interview but are being used to describe the population of children who are completing their first year of Head Start in spring 2010.

This table focuses on biological/adoptive parents and does not include other adults, such as parents' romantic partners, step-parents, foster parents, or grandparents. Thus, for example, the "Biological mother only" category does not mean that the biological mother is the only adult in the household, but that she is the only biological parent in the household.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>Includes both biological and adoptive parents.

- Forty-three percent of Head Start children completing their first year of the program live with both biological/adoptive parents, and 50 percent live with only their biological/adoptive mother.
- Three-year-olds are more likely than 4-year-olds to be living with both biological/adoptive parents (45 and 39 percent, respectively).

**Table A.4. Parent Education at Head Start Entry: Fall 2009**

Highest Level of Education of Biological or Adoptive Parents Living with Child	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
<b>Percentage of Children Living with Either or Both Parents<sup>b</sup></b>	95.1	95.6	94.3
<b>Highest Level of Education Completed by those Parents<sup>b</sup></b>			
Less than high school diploma	31.8	29.4	35.5
High school diploma or GED	35.2	36.0	34.0
Some college/vocational/technical	25.3	26.0	24.2
Bachelor's degree or higher	7.8	8.7	6.3
<b>Percentage of Children Living with their Mother<sup>b</sup></b>	92.6	93.4	91.2
<b>Highest Level of Education Completed by those Mothers<sup>b</sup></b>			
Less than high school diploma	36.2	34.1	39.6
High school diploma or GED	33.9	34.6	32.8
Some college/vocational/technical	23.9	24.5	22.9
Bachelor's degree or higher	6.1	6.9	4.8
<b>Percentage of Children Living with their Father<sup>b</sup></b>	45.0	46.6	42.5
<b>Highest Level of Education Completed by those Fathers<sup>b</sup></b>			
Less than high school diploma	47.3	44.8	51.6
High school diploma or GED	33.0	33.7	31.9
Some college/vocational/technical	12.8	14.3	10.2
Bachelor's degree or higher	6.8	7.2	6.2

Source: Fall 2009 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

The data in this table are from the Fall 2009 FACES Parent Interview but are being used to describe the population of children who are completing their first year of Head Start in spring 2010.

Households that do not include a mother and/or father are not included in the relevant percentage calculations.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>Includes both biological and adoptive parents.

- Sixty-eight percent of children have at least one parent with at least a high school diploma or GED living with them.
- Three-year-olds completing their first year of Head Start are somewhat more likely to have a parent with at least a high school diploma or GED than are 4-year-olds (71 percent and 65 percent, respectively).
- For children completing their first year of Head Start who live with their mother, 64 percent of mothers have at least a high school diploma or GED. Among children living with their father, 53 percent of fathers have at least a high school diploma or GED. For both of these groups, 4-year-olds are less likely to have a parent with at least a high school diploma or GED than are 3-year-olds.



**Table A.5. Parent Employment Status at Head Start Entry: Fall 2009**

Employment Status of Biological or Adoptive Parents Living with Child	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
<b>Percentage of Children Living with Either or Both Parents<sup>b</sup></b>	95.1	95.6	94.3
<b>Employment Status of the Most Employed of those Parents<sup>b</sup></b>			
Working full time	47.7	47.4	48.0
Working part time	20.1	20.6	19.3
Looking for work	18.3	18.1	18.7
Not in labor force	13.9	13.8	14.0
<b>Percentage of Children Living with their Mother<sup>b</sup></b>	92.6	93.4	91.2
<b>Employment Status of those Mothers<sup>b</sup></b>			
Working full time	26.8	26.2	27.9
Working part time	20.8	20.9	20.6
Looking for work	21.3	21.2	21.4
Not in labor force	31.1	31.7	30.1
<b>Percentage of Children Living with their Father<sup>b</sup></b>	45.0	46.6	42.5
<b>Employment Status of those Fathers<sup>b</sup></b>			
Working full time	57.4	56.4	59.0
Working part time	14.7	16.5	11.6
Looking for work	16.5	16.0	17.3
Not in labor force	11.4	11.0	12.2

Source: Fall 2009 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

The data in this table are from the Fall 2009 FACES Parent Interview but are being used to describe the population of children who are completing their first year of Head Start in spring 2010.

Households that do not include a mother and/or father are not included in the relevant percentage calculations.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>Includes both biological and adoptive parents.

- Forty-eight percent of children have at least one parent who is working full time living with them. Thirty-two percent of children are not living with a parent who is employed, including 18 percent who live with at least one parent who is looking for work.
- For children who live with their mother, 27 percent of mothers are working full time at program entry, and another 21 percent are working part time.
- Among children living with their fathers, 72 percent of fathers are employed at program entry, and most (57 percent) are working full time.

**Table A.6. Household Income as a Percentage of the Federal Poverty Threshold at Head Start Entry: Fall 2009**

Income as a Percentage of Poverty	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
50 percent or less	21.5	20.5	23.0
50 to 100 percent	41.4	42.0	40.5
101 to 130 percent	15.8	15.9	15.5
131 to 185 percent	12.8	12.8	12.6
186 to 200 percent	1.5	1.2	2.0
201 percent or above	7.0	7.5	6.4

Source: Fall 2009 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

The data in this table are from the Fall 2009 FACES Parent Interview but are being used to describe the population of children who are completing their first year of Head Start in spring 2010.

This table summarizes household income, and therefore should not be 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.

In 2009, the federal poverty threshold for a family of four was \$22,050.

<sup>a</sup>Age as of September 1, 2009.

- Sixty-three percent of children completing their first year of Head Start children live in households where the total household income is at or below the federal poverty threshold when they begin their Head Start program. More than 90 percent of children live in households where total income is less than or equal to 185 percent of the poverty threshold.

**Table A.7. Family Risk Index at Head Start Entry: Fall 2009**

Risk Factors	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
Single Parent Household <sup>b</sup>	52.4	50.9	54.8
Mother Does Not Have High School Diploma <sup>c</sup>	36.2	34.1	39.6
Income Below Federal Poverty Threshold	62.9	62.6	63.5
<b>Family Risk Index<sup>d</sup></b>			
0 risks	14.1	15.6	11.6
1 risk	34.5	34.4	34.8
2 risks	39.0	38.0	40.6
3 risks	12.4	12.0	13.0

Source: Fall 2009 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

The data in this table are from the Fall 2009 FACES Parent Interview but are being used to describe the population of children who are completing their first year of Head Start in spring 2010.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>A single parent household includes any household where one biological/adoptive parent lives alone or with a partner to whom they are not married. It does *not* include households where one biological/adoptive parent lives with a partner to whom they are married.

<sup>c</sup>Households that do not include a mother are excluded from this factor.

<sup>d</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

- The majority of Head Start children have 1 or 2 family risks (74 percent).
- Fifty-one percent of Head Start children have more than one family risk.
- Three-year-olds are more likely to have no risks than are 4-year-olds (16 percent and 12 percent, respectively).



**Child and Family Characteristics: Spring 2010**



**Table A.8. Frequency of Reading to Child: Spring 2010**

Child and Family Characteristics	Number of times family member read to child in past week			
	Not at all	Once or twice	Three or more times, but not every day	Every day
<b>All Children</b>	1.6	21.2	43.1	34.2
<b>Age as of September 1, 2009</b>				
3 years old or younger	1.7	19.9	43.4	35.1
4 years old or older	1.3	23.0	43.1	32.6
<b>Race/Ethnicity</b>				
White, Non-Hispanic	1.3	11.9	40.4	46.4
African American, Non-Hispanic	1.7	19.1	48.3	30.9
Hispanic/Latino	1.7	28.6	41.0	28.7
Other, Non-Hispanic	1.7	19.8	38.2	40.3
<b>Gender</b>				
Female	1.2	19.6	43.1	36.1
Male	2.0	22.8	43.0	32.2
<b>Family Risk Index</b>				
0 risks	2.8	15.3	36.3	45.6
1 risk	1.4	21.7	41.9	35.0
2 or more risks	1.5	23.9	45.0	29.5
<b>Primary Language Other than English Spoken to Child at Home</b>				
Yes	2.2	31.8	40.1	25.9
No	1.4	17.0	44.2	37.4

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

- Seventy-seven percent of Head Start children completing their first year were read to at least three times in the past week.
- White children are read to by family members more frequently than are African American and Hispanic/Latino children. Eighty-seven percent of White children are read to at least 3 times during the week, compared to 79 percent of African American children and 70 percent of Hispanic/Latino children. Seventy-nine percent of children of another race or ethnicity are read to at least 3 times during the week.
- Girls are more likely to be read to 3 times a week or more than are boys (79 percent and 75 percent, respectively).
- Children with no family risks are more likely to be read to every day than children with 1 risk or multiple risks (46 percent, 35 percent, and 30 percent, respectively), and children with 1 risk are more likely to be read to every day than children with multiple risks.
- Children who are primarily spoken to in a language other than English at home are read to by family members less often than are other children (26 percent and 37 percent, respectively, are read to every day).

**Table A.9. Family Members' Activities with Child in Past Week: Spring 2010**

Type of Activity	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
Told child a story	88.6	89.8	88.0
Taught child letters, words, or numbers	97.8	97.8	97.6
Taught child songs or music	84.7	86.4	82.1
Worked with child on arts and crafts	70.4	70.5	70.1
Played with toys or games indoors	98.3	98.5	97.9
Played a game, sport, or exercised together	91.7	91.9	91.5
Took child along on errands	96.0	96.1	95.9
Involved child in household chores	90.6	90.9	90.3
Talked about what happened in Head Start	95.0	95.8	94.3
Talked about TV programs or videos	79.5	79.1	80.6
Played counting games	89.3	89.4	88.7
Played a board game or a card game	52.3	51.6	53.0
Played with blocks	51.9	53.4	48.6
Counted different things	91.5	92.7	89.7
<b>Mean number of activities</b>	<b>11.8</b>	<b>11.8</b>	<b>11.7</b>

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

- The majority Head Start children completing their first year of the program participated in a number of different types of learning activities with a parent or other family member in the past week. The most common activities included playing with toys or games indoors; learning letters, words, or numbers; going along on errands; and talking about Head Start. The least common activities include playing a board game or card game and playing with blocks.
- The types of activities and mean number of activities in which children participated with their families in the past week are similar for 3- and 4-year-old children, although families of 3-year-olds are slightly more likely than are 4-year-olds to teach songs or music (86 percent and 82 percent, respectively), play with blocks (53 percent and 49 percent, respectively), or count different things (93 percent and 90 percent, respectively).



**Table A.10. Family Members' Activities with Child in Past Month: Spring 2010**

Type of Activity	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
Visited a library	40.7	40.3	41.7
Went to a movie	43.3	42.6	44.1
Went to a play, concert, or other live show	20.3	20.6	20.0
Went to a mall	79.1	80.2	77.7
Visited an art gallery, museum, or historical site	23.3	22.6	24.8
Visited a playground or park or had a picnic	87.0	85.9	88.9
Visited a zoo or aquarium	29.8	28.4	32.3
Talked about family history or ethnic heritage	54.6	52.3	57.4
Attended event sponsored by community group	46.5	48.5	43.4
Attended athletic or sporting event	31.6	33.0	29.5
Attended church activity	54.3	55.1	53.5
<b>Mean number of activities</b>	<b>5.1</b>	<b>5.1</b>	<b>5.1</b>

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

- The majority Head Start children completing their first year visited a playground or park (87 percent) or a shopping mall (79 percent), attended a church activity (54 percent) or talked about their family history or ethnic heritage (55 percent) with a parent or other family member in the past month.
- Between 30 and 47 percent of children went to a community event, library, sporting event, zoo or aquarium, or movie in the past month.
- Children are least likely to have visited an art gallery or museum (23 percent) or attended a play or concert (20 percent) in the past month.
- The types of activities and mean number of activities in which children participated with their families in the past month do differ by child age in only two cases. Families of 4-year-olds are more likely than families of 3-year-olds to have talked about family history or ethnic heritage with the child (57 percent and 52 percent, respectively) and less likely to have attended a community event with the child (43 percent and 49 percent, respectively).

**Table A.11. Child Nutrition: Spring 2010**

Child's Nutrition in Past Week	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
Drank milk at least twice a day	63.3	64.2	61.2
Drank no soda, sports drinks, or non-100%-juice drinks	22.5	25.0	18.6
Ate no fast food	29.1	30.1	26.8
Ate sweets less than once a day	67.8	67.2	68.9
Ate salty snacks less than once a day	75.1	76.0	74.5
Ate fruit at least twice a day	41.6	42.9	39.3
Ate vegetables at least twice a day	36.5	38.3	33.5

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

The nutritional guidelines in this table were determined a priori, based on conversations with a member of an Office of Head Start expert panel.

<sup>a</sup>Age as of September 1, 2009.

- Sixty-three percent of children drank milk at least twice a day in the past week.
- Twenty-three percent of children drank no soda or other sweetened beverages, and 29 percent ate no fast food.
- Sixty-eight percent of children ate sweets less than once a day, and 75 percent ate salty snacks less than once a day.
- Forty-two percent of children ate fruit at least twice a day, and 37 percent of children ate vegetables that often.
- Three-year-old children are more likely than are 4-year-old children to have not drunk soda, sports, drinks or non-100%-juice drinks (25 percent and 19 percent, respectively) and to have eaten vegetables at least twice a day (38 percent and 34 percent, respectively) in the past week.

**Table A.12. Child's Health Care: Spring 2010**

	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
Regular Health Care Provider	92.8	93.5	92.0
Regular Medical Checkup in Past Year	98.2	98.5	97.7
Regular Dental Checkup in Past Year	95.4	95.2	96.0
<b>Has Health Insurance</b>	96.9	97.0	96.4
Private	13.1	11.6	15.3
Government <sup>b</sup>	29.6	30.7	28.1
Both private and government	57.4	57.7	56.6

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>Government options include Medicaid, the State Children's Health Insurance Program, and any other government programs.

- Ninety-three percent of Head Start children completing their first year in the program have a regular health care provider.
- Almost all Head Start children (98 percent) had a regular medical checkup in the past year, and 95 percent saw a dentist.
- Three- and 4-year-old children are equally likely to have a regular health care provider or to have had regular medical or dental checkups in the past year.
- A large majority of children (97 percent) have health insurance.
- Parents report that 57 percent of children have both private and government-sponsored health insurance. Thirteen percent of children have only private health insurance and 30 percent have only government sponsored insurance.

**Table A.13. Depressive Symptoms Among Parents: Spring 2010**

	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
<b>Degree of Depressive Symptoms<sup>b</sup></b>			
Not depressed	63.3	63.7	62.6
Mildly depressed	21.1	20.7	21.7
Moderately depressed	9.4	9.8	9.0
Severely depressed	6.2	5.8	6.7
<b>Mean Number of Depressive Symptoms<sup>c</sup></b>	4.7	4.7	4.7

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>Scores ranging from 0 to 4 are coded as not depressed; from 5 to 9 as mildly depressed; from 10 to 14 as moderately depressed; and 15 and above as severely depressed.

<sup>c</sup>Scores range from 0 to 36.

- Nearly two-thirds of parents (63 percent) report no symptoms of depression.
- Six percent of parents report symptoms of severe depression and another 9 percent report symptoms of moderate depression.

**Table A.14. Child Care Arrangements in Addition to Head Start: Spring 2010**

	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
<b>Type of Primary Child Care Arrangement (Percentage of All Children)</b>			
Center-based care	7.9	7.2	8.4
Relative	28.2	28.1	28.9
Non-relative	2.8	2.9	2.6
Equal time in multiple types of care <sup>b</sup>	1.1	0.7	1.8
<b>Any Child Care<sup>c</sup></b>	<b>39.9</b>	<b>39.0</b>	<b>41.6</b>
<b>Type of Primary Child Care Arrangement (Percentage of Those in Any Child Care)</b>			
Center-based care	19.8	18.5	20.1
Relative	70.5	72.2	69.4
Non-relative	7.0	7.5	6.2
Equal time in multiple types of care	2.7	1.8	4.2

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>Children who spend unequal time in multiple types of child care are categorized according to the type of care in which they spend the most time.

<sup>c</sup>Includes center-based, relative, non-relative, and multiple types of care.

- Forty percent of children completing their first year of Head Start are cared for by someone other than their parents before or after Head Start.
- Among those completing their first year of Head Start, use of before- and after-care is equally common for 4-year-olds and for 3-year-olds.
- Relative care is the most common type of care children received before or after Head Start (received by 28 percent of all children, and 71 percent of those in any type of care). Only 8 percent of all Head Start children (20 percent of those in any child care) are cared for in a center-based program in addition to Head Start, and 3 percent (7 percent of those in any child care) are cared for in a non-relative home-based setting.

**Table A.15. Amount of Time in Child Care and Head Start: Spring 2010**

	Mean Number of Hours Per Week			
	n	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
<b>Head Start</b>				
Among all children	2,554	25.9	25.5	26.5
<b>Child Care</b>				
Among those in child care	1,022	15.0	15.6	14.0
Among all children	2,562	5.9	6.0	5.8
<b>Total Head Start and Child Care</b>				
Among those in child care	1,011	41.1	41.3	41.0
Among all children	2,584	31.4	31.3	31.9

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

- Children completing their first year of Head Start spend an average of 26 hours per week in Head Start.
- Among those in child care, children receive an average of 15 hours per week in before- and after-care. Three-year-old children spend slightly more time in care than 4-year-old children (15.6 hours and 14.0 hours, respectively).
- Among all Head Start children, the amount of time they spend in any type of care—including both Head Start and child care—averages 31 hours per week. For those children who are in both Head Start and child care, the total average hours per week in care is 41 hours.

**Table A.16. Parent Involvement in Head Start: Spring 2010**

Type of Activity	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
Volunteered in classroom	56.1	57.0	55.9
Prepared food/materials for special events	50.3	48.0	53.7
Helped with field trips or special events	42.3	41.6	44.5
Participated in Head Start policy council	16.1	16.2	16.7
Participated in parent committee or other planning group	29.5	29.4	31.0
Prepared or distributed Head Start newsletters or materials	14.1	14.1	14.3
Participated in fundraising activities	28.8	27.9	30.5
Observed classroom	69.5	69.4	70.0
Attended parent/teacher conferences	85.6	83.6	89.0
Attended Head Start social events	48.9	47.9	51.8
Attended parent education meetings or workshops	51.8	51.5	52.7

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

- Parents report getting involved in their child's program in a variety of ways. Parents are most likely to be involved by attending a parent/teacher conference (86 percent) and observing in the classroom (70 percent). Fifty percent or more of parents also reported volunteering in the classroom (56 percent), attending parent education meetings or workshops (52 percent), and preparing food or materials for special events (50 percent).
- Activities that occurred with the lowest frequency include preparing or distributing newsletters (14 percent) and participating in Head Start policy council (16 percent).
- Parents of 3-year-olds and parents of 4-year-olds report getting involved in similar ways, although parents of 4-year-olds are more likely than parents of 3-year-olds to attend parent-teacher conferences (89 percent and 84 percent, respectively) and prepare food or materials for special events (54 percent and 48 percent, respectively).

**Table A.17. Barriers to Parent Involvement in Head Start: Spring 2010**

Barriers	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
Need for child care	30.3	29.4	31.4
Work schedule	54.0	54.1	54.2
School or training schedule	22.4	22.9	21.1
Need for transportation	18.3	17.4	19.3
Don't know others at Head Start	14.7	14.5	15.3
Feel uncomfortable at Head Start	4.1	3.9	4.2
Health problems	12.8	12.5	13.7
Teacher uncomfortable with parents in classroom	2.1	2.7	1.3
Not enough opportunities to participate	15.0	14.9	14.8
Bad experiences with Head Start in past	2.8	3.5	1.9
Uncomfortable due to language or cultural differences	6.0	5.7	5.9
Concern for safety while getting to Head Start	1.8	2.0	1.3
Need more support from spouse or partner	9.0	8.5	9.2
Opportunities provided are not of interest	18.8	18.6	19.3
<b>Mean Number of Issues that Kept Parent from Participating</b>	<b>2.2</b>	<b>2.2</b>	<b>2.2</b>

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

- The most common barriers to parent involvement in Head Start are work schedules (reported by parents of 54 percent of children), a need for child care (30 percent), and school or training schedules (22 percent).
- Parents of 10 to 20 percent of children report barriers including a need for transportation, not knowing others at Head Start, health problems, not having enough opportunities to participate, and the opportunities provided being of no interest.
- Although there are some differences in the percentage of children who are 3 years old and 4 years old whose parents report specific barriers (teachers uncomfortable with parents in the classroom and bad experiences with Head Start in the past), the most common and least common barriers are the same for both groups.



**Table A.18. Social Support for Parents: Spring 2010**

Types of Support	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
<b>If I need to do an errand, I can easily find someone to watch my child</b>			
Never true	15.3	15.2	15.1
Sometimes true	40.1	40.9	39.1
Always true	44.6	43.9	45.8
<b>If I need a ride to get my child to the doctor, friends or family will help me</b>			
Never true	9.5	8.9	10.4
Sometimes true	25.3	26.0	24.2
Always true	65.2	65.1	65.4
<b>If my child is sick, friends or family will call or come by</b>			
Never true	7.9	8.3	7.1
Sometimes true	26.9	27.2	26.4
Always true	65.2	64.5	66.5
<b>If my child is having problems at Head Start, there is a friend, relative, or neighbor I can talk it over with</b>			
Never true	8.5	8.3	8.5
Sometimes true	24.3	23.1	26.2
Always true	67.2	68.6	65.4
<b>If I have an emergency and need cash, family or friends will loan it to me</b>			
Never true	11.7	11.9	10.7
Sometimes true	33.1	32.7	34.1
Always true	55.1	55.4	55.2
<b>If I have troubles or need advice, I have someone I can talk to</b>			
Never true	4.6	4.0	5.0
Sometimes true	24.1	24.1	24.3
Always true	71.3	71.9	70.7
Number of Types Of Help Parent Can Always Get (Mean)	3.7	3.7	3.7
<b>Types of People Parent Finds Very Helpful</b>			
Family member(s) <sup>b</sup>	87.4	89.0	85.1
Friend(s) <sup>c</sup>	47.3	48.3	45.8
Head Start staff	54.8	54.4	55.2
Professional(s) other than Head Start staff <sup>d</sup>	57.6	57.2	58.2

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>This measure combines responses to questions about the helpfulness of the respondent's current spouse or partner; the child's mother, father, and grandparents; and other relatives

<sup>c</sup>This measure combines responses to questions about the helpfulness of friends, co-workers, other Head Start parents, and religious or social group members

<sup>d</sup>This measure combines responses to questions about the helpfulness of professional help-givers like counselors or social workers and other child care providers

- Parents of the majority of children report that they can always find support to meet various needs with one exception (only 45 percent of parents report it is always true that they can find someone to watch their child so they can run an errand).
- Parents are most likely to report they find family members very helpful (87 percent). Fifty-five percent report finding Head Start staff very helpful.

**Table A.19. Satisfaction with Head Start: Spring 2010**

Areas of Head Start Work	Percent of Children Whose Parents are "Very Satisfied" with Head Start in Areas of Work		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
(1) Helping child to grow and develop	86.6	85.4	88.2
(2) Identifying and providing services for child	86.8	85.2	88.8
(3) Maintaining a safe program	87.9	87.0	89.1
(4) Preparing child to enter kindergarten	86.8	84.8	89.8
(5) Supporting relationship with child	88.5	88.2	88.8
(6) Being open to parent's ideas and participation	80.2	78.7	82.3
(7) Respecting family's culture and background	87.7	87.1	88.5
(8) Identifying and providing services for family	70.8	68.5	74.5
(9) Helping parent become more involved in community groups	65.0	63.2	67.5
(10) Helping child to develop English language skills <sup>b</sup>	89.3	78.2	83.8
(11) Helping child to develop skills in home language <sup>b</sup>	77.3	67.1	81.8
<b>Mean Subscale Scores</b>			
Parent Satisfaction With Head Start - Child Related Subscale, items 1-4 <sup>c</sup>	3.8	3.8	3.9
Parent Satisfaction With Head Start - Child Related Subscale, items 1-5 <sup>c</sup>	3.9	3.8	3.9
Parent Satisfaction With Head Start - Family Related Subscale, items 6-9 <sup>c</sup>	3.7	3.7	3.7

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>Questions on satisfaction with how well Head Start is supporting English and home language development were only asked of parents who report they usually speak a language other than English to the child at home.

<sup>c</sup>There are two Child Related Subscales and one Family Related Subscale. The 4-item child scale is consistent with the scale calculated in prior FACES cohorts (2000, 2003, 2006). The 5-item child scale includes a new item developed for FACES 2009 (satisfaction with supporting relationship with child). The family scale is the same as that included in prior FACES cohorts. For all three subscales, possible response ranges are from 1 to 4. For each item, a response of "Very Dissatisfied" contributed 1 point to the scale, "Somewhat Dissatisfied" contributed 2 points, "Somewhat Satisfied" contributed 3 points, and "Very Satisfied" contributed 4 points to the scale.

- The majority of parents of both 3-year-old and 4-year-old children report being satisfied with Head Start in terms of support for children and for families.
- The two areas where parents are least likely to be very satisfied include identifying and providing services for the family (71 percent) and helping parents become more involved in community groups (65 percent).
- There are a few differences in satisfaction for parents of 3-year-old and 4-year-old children. Parents of 4-year-old children are more likely than parents of 3-year-old children to be very satisfied with Head Start in identifying and providing services for their child (89 percent and 85 percent, respectively), in preparing children to enter kindergarten (90 percent and 85 percent, respectively) and helping the parent become more involved in community groups (68 percent and 63 percent, respectively). Although the differences are quite small, average satisfaction as measured by both Child Related Subscales is higher for parents' of 4-year-olds than parents of 3-year-olds.

**Table A.20. Experiences in Head Start: Spring 2010**

	Percent of Children Whose Parents Report "Always" Having Certain Experiences		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
<b>Child and Parent Experiences in Head Start</b>			
(1) Child feels safe in Head Start	89.8	89.7	90.2
(2) Child gets lots of individual attention	61.9	60.4	64.3
(3) Teacher open to new information	84.2	84.0	84.7
(4) Child happy in Head Start	88.0	87.3	88.8
(5) Teacher warm towards child	87.6	87.3	88.0
(6) Child treated with respect by teachers	92.5	92.0	93.3
(7) Teacher takes interest in child	89.3	88.4	90.7
(8) Child feels accepted by teacher	89.8	89.3	90.8
(9) Teacher supportive of parent	90.1	89.6	91.2
(10) Parent feels welcomed by teacher	91.7	90.7	93.3
(11) Teachers seem happy and content	87.4	87.2	87.6
(12) Aide warm towards child	87.7	87.3	88.5
(13) Teacher handles discipline matters easily without being harsh	88.7	88.1	89.7
(14) Administrators supportive of parent	85.1	84.3	86.2
(15) Parent's relationship with family service worker is supportive, helpful	80.9	79.3	83.4
<b>Mean Subscale Scores</b>			
Parent and Child Experiences in Head Start, items 1-12 <sup>b</sup>	3.8	3.8	3.8
Parent and Child Experiences in Head Start, items 1-15 <sup>b</sup>	3.8	3.8	3.8
	Percent of Children Whose Parents Report Head Start Does "Very Well"		
<b>Activities of Head Start Program</b>			
(1) Letting parent know how child is doing in the program between conferences	85.5	85.1	85.9
(2) Helping parent understand what children of child's age are like	82.3	82.1	83.4
(3) Making parent aware of chances to volunteer at program	80.3	81.3	79.5
(4) Providing workshops or advice about how to help child learn at home	82.0	81.9	82.8
(5) Providing information on community services	73.2	73.2	73.7
(6) Understanding needs of families who don't speak English <sup>c</sup>	73.7	63.4	78.5

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>The two composites are based on the 15 items immediately above the mean scores. For each item, a response of "Never" contributed 1 point to the scale, "Sometimes" contributed 2 points, "Often" contributed 3 points, and "Always" contributed 4 points. The 12-item scale is consistent with the scale calculated for prior FACES cohorts (2000 and 2003). The 15-item scale also includes one item from earlier cohorts (teacher handles discipline matters without being harsh) and two new items developed for FACES 2009 (administrators supportive of parent, parent relationship with family service worker is supportive). For both composites, possible response ranges are from 1 to 4.

<sup>c</sup>This question was asked only of parents who reported a language other than English is spoken in the home.

- The majority of parents of both 3-year-old and 4-year-old children report that they or their children have a positive experience in Head Start. For example, parents of 90 percent or more of children report that their child "always" feels safe in Head Start, is treated with respect by teachers, and that the parent "always" feels welcomed by the teacher and supported by the teacher. The frequency of parents responding these things "always" occur only falls below 80 percent for one item—whether the child gets a lot of individual attention, where the frequency is 62 percent.
- The majority of parents of both 3-year-old and 4-year-old children report that the program does "very well" at providing various kinds of information that can support family engagement in children's learning. The majority of parents who report a language other than English is spoken at home also report that the program does "very well" at understanding the needs of families who don't speak English.

**Table A.21. Types of Services Head Start Families Receive: Spring 2010**

	Percent of Children					
	Anyone in Household Received Service			Among Recipients, Head Start Made Aware or Helped Obtain		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
<b>Services Received by any Household Member</b>						
Help with housing	6.8	6.1	7.5	22.1	27.1	11.9
Training for a job	3.9	3.7	3.8	30.7	34.3	21.6
Help finding a job	3.7	3.6	3.5	58.3	63.3	51.4
Help to go to school or college	6.0	5.8	6.6	69.0	63.0	79.4
Classes in English as a Second Language	5.2	4.5	5.6	66.8	60.4	78.4
Transportation to or from work	1.6	1.4	1.6	60.3	48.5	71.6
Child care	6.3	6.5	6.1	55.4	51.1	62.6
Alcohol or drug treatment or counseling	0.6	0.4	0.6	56.3	33.0	60.2
Advice from a lawyer	1.9	1.9	2.0	19.6	21.4	17.5
Mental health services or counseling	3.9	3.9	3.7	48.8	42.7	53.7
Help dealing with family violence	1.1	1.0	1.1	79.0	77.2	79.1
Help or counseling for other family problems	3.4	3.2	3.6	64.3	57.6	69.7
Dental or orthodontic care	17.5	16.8	18.0	59.0	56.2	63.9
Medical care	13.8	13.5	14.2	20.3	17.7	24.7

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

- With the exception of dental or orthodontic care or medical care, parents of 7 percent or less of Head Start children report obtaining various community services during the 2009-2010 program year. Eighteen percent report receiving dental or orthodontic care and 14 percent report receiving medical care.
- Among those who receive community services, the majority (more than 50 percent) report that Head Start helped make them aware of or obtain a service for help finding a job, help going to school or college, classes in English as a Second Language, transportation to or from work, child care, alcohol or drug treatment or counseling, help dealing with family violence, help or counseling for other family problems, and dental or orthodontic care.
- Parents are least likely to report that Head Start helped make them aware of or obtain help with housing (22 percent), advice from a lawyer (20 percent), or medical care (20 percent).
- There are no differences in the percent of children who are 3 years old or 4 years old whose parents report they receive various community services, but for two services—help with going to school or college, classes in English as a second language—parents of 4-year-olds are more likely to report that Head Start helped make them aware of or obtain the service, and for one service—help with housing—parents of 3-year-olds are more likely to report that Head Start helped.

**Table A.22. Head Start Support for Finding Various Services: Spring 2010**

Characteristic	Percent of Children		
	All Children	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
<b>Head Start helped parent find a regular health care provider for child</b>	12.2	10.9	14.0
Among those receiving help, Head Start:			
Provided information on health care providers	66.8	66.0	67.3
Made referrals to health care providers	22.1	24.0	21.3
Provided health care directly	4.1	4.0	3.5
<b>Parents take courses</b>			
Mother takes programs, courses, classes, or workshops	31.8	33.2	30.5
Head Start helped mother take or locate programs, courses, classes, or workshops (among enrolled mothers)	14.7	12.8	17.7
Father takes programs, courses, classes, or workshops	17.6	20.2	13.9
Head Start helped father take or locate programs, courses, classes, or workshops (among enrolled fathers)	8.8	6.6	14.4

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

- Parents of 12 percent of children completing their first year of Head Start receive help finding a regular health care provider for their child from Head Start. Head Start most often provides information on health care providers (for 67 percent of children among those receiving assistance) and makes referrals to health care providers (22 percent) or provides health care directly (4 percent) less often.
- Thirty-two percent of mothers and 18 percent of fathers take programs, courses, classes, or workshops during their child's first Head Start year. Among those enrolled, 15 percent of mothers and 9 percent fathers received help from Head Start.
- Fathers of 3-year-olds are more likely to take any programs, courses, classes, or workshops than fathers of 4-year-olds (20 percent and 14 percent, respectively).



**Child and Family Characteristics: Fall 2009 – Spring 2010 Change**



**Table A.8a. Frequency of Reading to Child: Fall 2009–Spring 2010**

Child and Family Characteristics	Number of times family member read to child in past week											
	Not at all			Once or twice			Three or more times, but not every day			Every day		
	Fall 2009	Spring 2010	Fall–Spring Change	Fall 2009	Spring 2010	Fall–Spring Change	Fall 2009	Spring 2010	Fall–Spring Change	Fall 2009	Spring 2010	Fall–Spring Change
<b>All Children</b>	2.0	1.5	-0.4	22.6	21.1	-1.5	36.8	43.3	6.5***	38.7	34.1	-4.6**
<b>Age as of September 1, 2009</b>												
3 years old or younger	2.0	1.7	-0.3	21.7	19.9	-1.9	36.1	43.4	7.3***	40.2	35.1	-5.1**
4 years old or older	2.0	1.3	-0.7	23.9	23.0	-0.9	37.8	43.1	5.4*	36.3	32.6	-3.7
<b>Race/Ethnicity</b>												
White, Non-Hispanic African American,	1.1	1.2	0.1	10.2	12.3	2.1	34.6	40.5	5.8	54.0	46.0	-8.1*
Non-Hispanic Hispanic/Latino	1.3	1.6	0.3	20.1	19.0	-1.1	38.9	48.7	9.7***	39.7	30.8	-8.9**
Other, Non-Hispanic	3.2	1.6	-1.5	32.1	28.1	-4.0	37.0	41.5	4.5	27.8	28.8	1.0
	1.1	1.4	0.3	20.8	20.4	-0.4	32.4	37.1	4.7	45.8	41.2	-4.6
<b>Gender</b>												
Female	1.6	1.0	-0.5	22.5	19.6	-2.9	35.1	43.4	8.3***	40.8	36.0	-4.9*
Male	2.3	2.0	-0.3	22.7	22.6	-0.1	38.4	43.1	4.8*	36.7	32.3	-4.4*
<b>Family Risk Index</b>												
0 risks	1.5	2.8	1.3	18.2	15.3	-2.9	35.2	36.3	1.1	45.1	45.6	0.5
1 risk	2.1	1.4	-0.7	18.8	21.7	2.8	37.3	41.9	4.7	41.8	35.0	-6.8*
2 or more risks	2.1	1.5	-0.6	27.2	23.9	-3.3	36.8	45.0	8.3***	33.9	29.5	-4.3*
<b>Primary Language Other than English Spoken to Child at Home</b>												
Yes	3.5	2.0	-1.5	36.3	31.7	-4.7	35.7	40.4	4.7	24.5	25.9	1.5
No	1.4	1.3	0.0	17.3	17.0	-0.3	37.2	44.4	7.2***	44.2	37.3	-6.9***

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Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

- The percentage of children who were read to every day in the past week declined between the fall and spring for all children and for subgroups including: 3-year-olds, White children, African American children, females, males, children with one family risk, children with two or more family risks, and children whose primary home language is English. For most of these groups, with the exception of White children and children with one family risk, the decline was partially or fully offset by a statistically significant increase in the percentage of children who were read to three or more times but not every day in the past week. For one group—4-year-olds—the percentage who were read to three or more times each week but not every day increased between the fall and the spring.

**Table A.9a. Family Members' Activities with Child in Past Week: Fall 2009–Spring 2010**

Type of Activity	Percent of Children		
	Fall 2009	Spring 2010	Fall–Spring Change
Told child a story	81.1	89.1	8.1***
Taught child letters, words, or numbers	96.6	97.8	1.2*
Taught child songs or music	82.1	84.8	2.7*
Worked with child on arts and crafts	65.5	70.3	4.8**
Played with toys or games indoors	97.3	98.3	0.9*
Played a game, sport, or exercised together	85.9	91.7	5.8***
Took child along on errands	94.6	96.1	1.5*
Involved child in household chores	89.0	90.6	1.6
Talked about what happened in Head Start	94.3	95.2	0.9
Talked about TV programs or videos	72.8	79.7	6.9***
Played counting games	88.3	89.2	0.9
Played a board game or a card game	41.9	52.1	10.2***
Played with blocks	50.3	51.7	1.3
Counted different things	89.8	91.5	1.7
<b>Mean number of activities</b>	<b>11.3</b>	<b>11.8</b>	<b>0.5***</b>

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

- The percentage of children who had engaged in various activities with their family members in the past week increased by 5 to 10 percentage points between the fall and spring for: being told a story; working on arts and crafts; playing games, sports, or exercising; talking about TV programs; and playing a board game or card game with family members. Smaller increases (3 percentage points or less) occurred for teaching a child letters, words, or numbers; playing with toys or games indoors; teaching a child songs or music, and taking a child on errands. None of the activities show a decline between the fall and spring.

**Table A.10a. Family Members' Activities with Child in Past Month: Fall 2009–Spring 2010**

Type of Activity	Percent of Children		
	Fall 2009	Spring 2010	Fall-Spring Change
Visited a library	37.0	40.8	3.8*
Went to a movie	34.6	43.2	8.5***
Went to a play, concert, or other live show	14.7	20.4	5.6***
Went to a mall	76.6	79.2	2.6
Visited an art gallery, museum, or historical site	15.6	23.5	7.9***
Visited a playground or park or had a picnic	89.6	87.1	-2.5**
Visited a zoo or aquarium	26.6	30.0	3.4*
Talked about family history or ethnic heritage	44.9	54.3	9.4***
Attended event sponsored by community group	42.7	46.5	3.8*
Attended athletic or sporting event	35.7	31.7	-4.1**
Attended church activity	53.1	54.4	1.4
<b>Mean number of activities</b>	4.7	5.1	0.4***

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

- The percentages of children who engaged in activities with their family members outside the home in the past month increased between the fall and spring for most types of activities. The largest increases (4 percentage points or more) are in the percentages who went to a library, movie, live performance, or museum/historical site; talked about their family history or ethnic heritage; or attended an event sponsored by a community group.
- The percentage of children attending an athletic or sporting event declined between the fall and spring by 4 percentage points. There were small declines or no change between the fall and spring in the percentages of children who went to a mall, visited a playground or park, or attended a church activity with their family members.

**Table A.11a. Child Nutrition: Fall 2009–Spring 2010**

Child's Nutrition in Past Week	Percent of Children								
	All Children			3-Year-Olds <sup>a</sup>			4-Year-Olds <sup>a</sup>		
	Fall 2009	Spring 2010	Fall–Spring Change	Fall 2009	Spring 2010	Fall–Spring Change	Fall 2009	Spring 2010	Fall–Spring Change
Drank milk at least twice a day	66.1	63.0	-3.1*	67.6	64.2	-3.4	63.7	61.1	-2.6
Drank no soda, sports drinks, or non-100%-juice drinks	23.6	22.6	-1.1	25.2	25.0	-0.2	21.1	18.6	-2.5
Ate no fast food	33.0	28.8	-4.2**	33.2	30.1	-3.1	32.7	26.8	-5.9*
Ate sweets less than once a day	66.5	67.8	1.3	67.3	67.2	-0.1	65.2	68.9	3.7
Ate salty snacks less than once a day	73.9	75.4	1.5	75.1	76.0	0.9	71.9	74.5	2.6
Ate fruit at least twice a day	38.0	41.6	3.6*	40.3	42.9	2.6	34.3	39.4	5.0
Ate vegetables at least twice a day	33.9	36.5	2.5	35.6	38.3	2.7	31.3	33.5	2.2

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

The nutritional guidelines in this table were determined a priori, based on conversations with a member of an Office of Head Start expert panel.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

<sup>a</sup>Age as of September 1, 2009.

- The percentage of children who ate no fast food in the prior week decreased from the fall to the spring (-4 percentage points), particularly among 4-year-olds (-6 percentage points). The percentage of children who drank milk at least twice a day also declined (-3 percentage points).
- The percentage of children eating fruit at least twice a day in the prior week increased from fall to spring, from 38 percent in the fall to 42 percent in the spring.

**Table A.23a. Screen Time and Physical Activity: Fall 2009–Spring 2010**

	Percent of Children								
	All Children			3-Year-Olds <sup>a</sup>			4-Year-Olds <sup>a</sup>		
	Fall 2009	Spring 2010	Fall–Spring Change	Fall 2009	Spring 2010	Fall–Spring Change	Fall 2009	Spring 2010	Fall–Spring Change
<b>Amount of Time Child Spends Watching Television on a Typical Weekday</b>									
None	8.4	8.2	-0.2	8.6	9.5	1.0	8.2	6.2	-2.0
Less than one hour	25.0	22.9	-2.1	25.4	22.3	-3.2	24.3	24.0	-0.3
One to two hours	48.4	50.1	1.7	47.8	49.6	1.8	49.2	50.8	1.6
More than two hours	18.3	18.8	0.5	18.2	18.6	0.4	18.3	19.1	0.8
<b>Amount of Time Child Spends Watching a Video or DVD on a Typical Weekday</b>									
None	34.7	29.0	-5.7***	33.3	30.7	-2.6	36.9	26.3	-10.7***
Less than one hour	23.1	24.2	1.1	23.9	23.3	-0.7	21.8	25.7	3.8
One to two hours	34.4	38.5	4.1**	34.4	37.8	3.4	34.3	39.6	5.2*
More than two hours	7.8	8.4	0.5	8.4	8.3	-0.1	6.9	8.5	1.6
<b>Child Has Access to a Computer in the Home</b>									
Yes	61.4	67.0	5.7***	62.1	68.8	6.7***	60.1	64.2	4.1
No	38.6	33.0	-5.7***	37.9	31.2	-6.7***	39.9	35.8	-4.1
<b>Amount of Time Child Spends Playing Computer Games on a Typical Weekday</b>									
None	46.0	38.3	-7.7***	47.0	42.4	-4.7	44.2	31.3	-13.0***
Less than one hour	36.6	40.7	4.1	35.9	36.8	0.9	37.8	47.4	9.6**
One to two hours	15.1	17.6	2.5	14.8	17.3	2.5	15.5	18.1	2.6
More than two hours	2.3	3.4	1.1	2.3	3.6	1.3	2.4	3.2	0.8
<b>Amount of Time Child Spends Playing Outside on a Typical Weekday</b>									
None	17.7	9.1	-8.6***	16.8	9.2	-7.6***	19.0	8.9	-10.1***
Less than one hour	15.8	12.8	-3.0**	16.0	13.9	-2.1	15.7	11.2	-4.5*
One to two hours	39.0	42.2	3.2*	40.3	42.1	1.8	37.0	42.5	5.5*
More than two hours	27.5	35.8	8.4***	26.9	34.8	7.9***	28.4	37.5	9.1***

Source: Fall 2009 and Spring 2010 FACES Parent Interview.



Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

<sup>a</sup>Age as of September 1, 2009.

- The percentage of children who watch more than two hours of television on a typical weekday is similar in the fall (18 percent) and spring (19 percent).
- The percentage of children who do not watch videos or DVDs on a typical weekday declined between the fall and spring (-6 percentage points) particularly for 4-year-olds (-11 percentage points). The percentage who watch DVDs or videos one to two hours each day increased between the fall and spring (4 percentage points overall and 5 points among 4-year-olds).
- A larger percentage of children have access to computers in the spring (67 percent) than in the fall (61 percent), particularly for 3-year-olds. In addition, the percentage of children who do not spend time playing computer games on a typical weekday declined from 46 percent in the fall to 38 percent in the spring. The decline is especially large among 4-year-olds (-13 percentage points).
- A larger percentage of children spend more than one hour outside on a typical day in the spring (78 percent) than in the fall (67 percent).

**Table A.24a. Household Routines: Fall 2009–Spring 2010**

	Percent of Children								
	All Children			3-Year-Olds <sup>a</sup>			4-Year-Olds <sup>a</sup>		
	Fall 2009	Spring 2010	Fall-Spring Change	Fall 2009	Spring 2010	Fall-Spring Change	Fall 2009	Spring 2010	Fall-Spring Change
<b>Number of Days Per Week Family Eats Dinner Together</b>									
0-2	6.2	5.8	-0.4	6.1	5.5	-0.6	6.4	6.2	-0.1
3-4	24.3	22.7	-1.6	24.7	22.4	-2.3	23.7	23.1	-0.6
5-6	24.8	26.2	1.4	25.7	27.3	1.6	23.4	24.4	1.0
7	44.6	45.3	0.7	43.5	44.7	1.3	46.5	46.2	-0.3
<b>Mean number of days</b>	5.4	5.4	0.1	5.3	5.4	0.1	5.4	5.5	0.0
<b>Number of Nights in Past Week Child Brushed Teeth before Bed</b>									
0-2	9.4	6.6	-2.8**	9.1	6.0	-3.1**	9.8	7.4	-2.4
3-4	14.4	13.8	-0.6	14.9	13.9	-1.0	13.5	13.5	0.0
5-6	15.9	17.3	1.4	16.4	18.6	2.2	15.1	15.3	0.2
7	60.3	62.3	2.0	59.5	61.4	1.9	61.6	63.8	2.2
<b>Mean number of nights</b>	5.7	5.8	0.2**	5.7	5.8	0.2*	5.7	5.8	0.1
<b>Child Has Regular Bedtime (percent)</b>	89.2	88.1	-1.1	89.4	88.1	-1.3	88.9	88.0	-0.9

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

<sup>a</sup>Age as of September 1, 2009.

- The average number of days per week that the family eats dinner together (5.4 days) is the same in the fall and spring.
- The average number of nights in the past week that the child brushed teeth before going to bed increased slightly between the fall (5.7 nights) and spring (5.8 nights).
- A large majority of children have a regular bedtime in both the fall (89 percent) and spring (88 percent).

**Table A25a. Discipline: Fall 2009–Spring 2010**

	Percent of Children								
	All Children			3-Year-Olds <sup>a</sup>			4-Year-Olds <sup>a</sup>		
	Fall 2009	Spring 2010	Fall–Spring Change	Fall 2009	Spring 2010	Fall–Spring Change	Fall 2009	Spring 2010	Fall–Spring Change
Parent spanked child in past week	33.0	30.5	-2.5	35.4	31.6	-3.8	29.1	28.6	-0.5
Parent used “time out” in past week	70.6	71.7	1.1	71.4	73.2	1.7	69.3	69.2	-0.1

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

<sup>a</sup>Age as of September 1, 2009.

- The percentages of children who were spanked in the prior week were similar in the fall and spring (33 percent and 31 percent, respectively).
- The percentages of children who received a “time out” were similar in the fall and spring (71 percent and 72 percent, respectively).



## **B. CHILD COGNITIVE DEVELOPMENT**



**Child Cognitive Development: Spring 2010**





**Table B.1. Reliability of FACES Direct Child Assessment Measures, English and Spanish Language Assessments: Spring 2010**

Scales	Total Sample		
	Number of Items	n	Cronbach Alphas
PPVT-4	180	2,651	0.95
TVIP	125	821	0.94
EOWPVT	120	2,772	0.80
WJ III: Letter-Word Identification	44	2,514	0.88
WJ III: Spelling	23	2,517	0.83
WJ III: Applied Problems	29	2,518	0.89
ECLS-B Letter-Sounds IRT Score	10	2,520	0.90
Combined ECLS-B Letter-Sounds/WJ III Letter-Word Identification IRT Score	52	2,520	0.90
ECLS-B Math IRT Score	22	2,749	0.91
ECLS-B Number/Shape Proficiency Probability Score	22	2,749	0.39 <sup>a</sup>
Combined ECLS-B Math/WJ III Applied Problems IRT Score	44	2,749	0.91
WM III: Letter-Word Identification	31	238	0.85
WM III: Spelling	26	241	0.73
WM III: Applied Problems	20	235	0.87

Source: Spring 2010 FACES Direct Child Assessment.

Note: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

<sup>a</sup>This reliability coefficient is split-half.

**Table B.2. Summary Statistics for FACES Direct Child Assessment Measures—PPVT-4 and EOWPVT Raw Scores: Spring 2010**

	PPVT-4			EOWPVT		
	n	Mean	SD	n	Mean	SD
All Children	2,651	56.6	24.3	2,772	33.6	12.2
<b>Age<sup>a</sup></b>						
3 years old or younger	1,592	49.9	21.1	1,675	30.6	11.2
4 years old or older	976	66.8	25.3	1,004	38.4	11.9
<b>Race/Ethnicity</b>						
White, Non-Hispanic	511	66.3	22.6	521	38.2	12.8
African American, Non-Hispanic	863	56.0	21.3	871	33.6	10.7
Hispanic/Latino	994	48.6	23.9	1,086	30.5	11.8
Other, Non-Hispanic	197	62.6	22.5	198	35.6	12.2
<b>Gender</b>						
Female	1,336	57.2	23.8	1,384	33.6	12.1
Male	1,315	55.9	24.7	1,388	33.6	12.3
<b>Family Risks<sup>b</sup></b>						
0	349	62.6	23.4	359	36.7	11.9
1	845	58.2	24.6	878	34.5	12.1
2 or More	1,189	53.2	23.7	1,251	32.0	11.8

Source: Fall 2009 FACES Parent Interview and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

The PPVT-4 and EOWPVT are administered to all children, regardless of performance on the language screener. Following administration of these measures, children are administered assessments in English or Spanish, depending on performance on the language screener. Data in this table reflect the performance of all children on the PPVT-4 and EOWPVT assessment, regardless of performance on the screener or language of assessment in the fall. Mean scores are only reported for those with valid scores in spring 2010 (for example, those who established a basal on the PPVT-4).

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

**Table B.3. Summary Statistics for FACES Direct Child Assessment Measures—PPVT-4 and EOWPVT Standard Scores: Spring 2010**

	PPVT-4			EOWPVT		
	n	Mean	SD	n	Mean	SD
All Children	2,651	88.9	16.3	2,751	82.4	15.2
<b>Age<sup>a</sup></b>						
3 years old or younger	1,592	89.1	15.7	1,656	83.1	15.3
4 years old or older	976	89.1	17.2	1,004	81.7	14.7
<b>Race/Ethnicity</b>						
White, Non-Hispanic	511	96.3	13.6	516	88.9	14.9
African American, Non-Hispanic	863	89.2	13.3	868	82.8	13.5
Hispanic/Latino	994	82.4	16.9	1,076	77.7	14.8
Other, Non-Hispanic	197	93.1	13.9	197	85.3	15.0
<b>Gender</b>						
Female	1,336	89.4	15.9	1,375	82.4	15.0
Male	1,315	88.5	16.8	1,376	82.5	15.3
<b>Family Risks<sup>b</sup></b>						
0	349	94.4	15.6	358	87.9	15.1
1	845	90.2	16.3	872	83.8	14.9
2 or More	1,189	86.3	16.2	1,241	80.0	14.8

Source: Fall 2009 FACES Parent Interview and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15.

The PPVT-4 and EOWPVT are administered to all children, regardless of performance on the language screener. Following administration of these measures, children are administered assessments in English or Spanish, depending on performance on the language screener. Data in this table reflect the performance of all children on the PPVT-4 and EOWPVT assessment, regardless of performance on the screener or language of assessment in the fall. Mean scores are only reported for those with valid scores in spring 2010 (for example, those who established a basal on the PPVT-4).

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

**Table B.4. Summary Statistics for FACES Direct Child Assessment—Raw Scores for Children Taking the Assessment in English: Spring 2010**

Scales	n	Mean	SD	Reported Response Range	Possible Response Range
PPVT-4	2,471	55.7	23.2	7.0 - 136.0	0 - 228
EOWPVT	2,520	34.4	11.8	0.0 - 76.0	1 - 150
WJ III: Letter-Word Identification	2,514	6.6	4.7	0.0 - 39.0	0 - 76
WJ III: Spelling	2,517	6.5	3.2	0.0 - 18.0	0 - 59
WJ III: Applied Problems	2,518	8.1	4.7	0.0 - 25.0	0 - 63
ECLS-B Counting <sup>a</sup>	2,478	11.5	5.2	0.0 - 20.0	0 - 20

Source: Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of all children assessed in English in spring 2010, regardless of performance or language of assessment in the fall.

<sup>a</sup>This score is a count of how high the child can count.

**Table B.5. Summary Statistics for FACES Direct Child Assessment—Raw Scores by Age for Children Taking the Assessment in English: Spring 2010**

Scales	3-Year-Olds <sup>a</sup>					4-Year-Olds <sup>a</sup>				
	n	Mean	SD	Reported Response Range	Possible Response Range	n	Mean	SD	Reported Response Range	Possible Response Range
PPVT-4	1,469	49.1	20.1	7.0 - 119.0	0 - 228	923	66.0	23.7	10.0 - 136.0	0 - 228
EOWPVT	1,502	31.4	10.8	0.0 - 74.0	1 - 150	931	39.0	11.5	1.0 - 76.0	1 - 150
WJ III: Letter-Word Identification	1,498	5.4	4.0	0.0 - 24.0	0 - 76	929	8.3	5.0	0.0 - 39.0	0 - 76
WJ III: Spelling	1,499	5.3	2.6	0.0 - 16.0	0 - 59	1,499	8.3	3.0	0.0 - 18.0	0 - 59
WJ III: Applied Problems	1,500	6.5	4.1	0.0 - 22.0	0 - 63	931	10.5	4.7	0.0 - 25.0	0 - 63
ECLS-B Counting <sup>b</sup>	1,467	10.2	4.8	0.0 - 20.0	0 - 20	927	13.4	5.2	0.0 - 20.0	0 - 20

Source: Fall 2009 FACES Parent Interview and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of all children assessed in English in spring 2010, regardless of performance or language of assessment in the fall.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>This score is a count of how high the child can count.

**Table B.6. Summary Statistics for FACES Direct Child Assessment—Standardized Scores for Children Taking the Assessment in English: Spring 2010**

Scales	n	Reported Response Range	Possible Response Range	Mean (SD)			
				Overall	SD	Bottom Quartile	Top Quartile
PPVT-4 Standard Score	2,471	42.0 - 134.0	20 - 160	90.7	15.1	69.4	107.0
EOWPVT Standard Score	2,508	45.0 - 145.0	45 - 145	84.6	14.7	64.3	100.6
WJ III: Letter-Word Identification Standard Score	2,459	57.0 - 194.0	0 - 200	102.2	17.4	79.7	123.4
WJ III: Spelling Standard Score	2,468	41.0 - 145.0	0 - 200	97.4	14.3	79.0	114.0
WJ III: Applied Problems Standard Score	2,351	38.0 - 140.0	0 - 200	92.4	15.0	70.6	108.0
ECLS-B Letter-Sounds IRT Score	1,347	0.1 - 9.7	0 - 10	1.5	1.8	0.1	4.0
Combined ECLS-B Letter-Sounds/WJ III Letter-Word Identification IRT Score	1,347	5.8 - 46.2	0 - 54	11.7	5.1	6.7	18.4
ECLS-B Math IRT Score	2,512	3.2 - 21.7	0 - 30	10.0	3.3	5.7	14.2
ECLS-B Number/Shape Proficiency Probability Score	2,512	0.00 - 1.00	0 - 1.00	0.51	0.30	0.10	0.90
Combined ECLS-B Math/WJ III Applied Problems IRT Score	2,512	3.9 - 45.0	0 - 56	19.7	7.4	9.8	28.8
PPVT-4 Growth Score Value (GSV) Score	2,494	37.0 - 164.0	12 - 271	111.1	18.3	84.9	130.9
WJ III: Letter-Word Identification W Ability Score	2,459	276.0 - 464.0	N/A	327.3	27.0	295.2	358.0
WJ III: Spelling W Ability Score	2,468	287.0 - 447.0	N/A	366.4	30.4	328.2	402.1
WJ III: Applied Problems W Ability Score	2,351	332.0 - 462.0	N/A	392.5	23.9	360.4	416.1

Source: Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15. W ability scores allow for measurement of change or growth in performance on the same scale over time. Like raw scores, W ability scores are an indicator of absolute, rather than relative, performance. The WJ/WM W scale is centered on 500, which approximates the average score of a 10-year-old child. PPVT-4 Growth Score Value (GSV) scores are similar to W ability scores and can range from 12 to 271.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of all children assessed in English in spring 2010, regardless of performance or language of assessment in the fall.

N/A = Not applicable.

**Table B.7. Summary Statistics for FACES Direct Child Assessment—Standardized Scores by Age for Children Taking the Assessment in English: Spring 2010**

Scales	3-Year-Olds <sup>a</sup>			4-Year-Olds <sup>a</sup>		
	n	Mean	SD	n	Mean	SD
PPVT-4 Standard Score	1,469	90.8	14.6	923	91.0	15.8
EOWPVT Standard Score	1,491	85.2	14.8	931	83.9	14.3
WJ III: Letter-Word Identification Standard Score	1,451	104.4	19.1	926	99.3	14.4
WJ III: Spelling Standard Score	1,460	97.5	14.0	925	97.4	14.6
WJ III: Applied Problems Standard Score	1,364	93.6	14.7	912	91.2	15.2
ECLS-B Letter-Sounds IRT Score	655	1.0	1.3	643	1.9	2.1
Combined ECLS-B Letter-Sounds/WJ III Letter-Word Identification IRT Score	655	10.5	3.9	643	12.7	5.8
ECLS-B Math IRT Score	1,495	8.7	2.7	931	11.9	3.3
ECLS-B Number/Shape Proficiency Probability Score	1,495	0.39	0.30	931	0.70	0.30
Combined ECLS-B Math/WJ III Applied Problems IRT Score	1,495	16.9	6.3	931	23.9	7.1
PPVT-4 Growth Score Value (GSV) Score	1,484	105.9	16.6	927	119.2	17.8
WJ III: Letter-Word Identification W Ability Score	1,451	320.8	24.9	926	335.8	26.9
WJ III: Spelling W Ability Score	1,460	355.1	27.0	925	382.2	27.0
WJ III: Applied Problems W Ability Score	1,364	384.6	22.1	912	402.3	22.3

Source: Fall 2009 FACES Parent Interview and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15. W ability scores allow for measurement of change or growth in performance on the same scale over time. Like raw scores, W ability scores are an indicator of absolute, rather than relative, performance. The WJ/WM W scale is centered on 500, which approximates the average score of a 10-year-old child. PPVT-4 Growth Score Value (GSV) scores are similar to W ability scores and can range from 12 to 271.

<sup>a</sup>Age as of September 1, 2009.

**Table B.8. Summary Statistics for FACES Direct Child Assessment—Raw Scores for Children Taking the Assessment in Spanish: Spring 2010**

Scales	n	Mean	SD	Reported Response Range	Possible Response Range
PPVT-4 <sup>a</sup>	173	18.1	7.6	5.0 - 51.0	0 - 228
TVIP	236	15.2	10.8	0.0 - 49.0	0 - 82
EOWPVT <sup>a</sup>	242	22.5	10.4	0.0 - 51.0	1 - 150
WM III: Letter-Word Identification	238	2.9	3.1	0.0 - 26.0	0 - 76
WM III: Spelling	241	4.5	2.1	0.0 - 13.0	0 - 59
WM III: Applied Problems	235	5.5	3.8	0.0 - 14.0	0 - 63

Source: Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of all children assessed in Spanish in spring 2010.

<sup>a</sup>These scores are for children from Spanish-speaking households who did not pass the language screener and took the remainder of the assessment in Spanish.



**Table B.9. Summary Statistics for FACES Direct Child Assessment—Raw Scores by Age for Children Taking the Assessment in Spanish: Spring 2010**

Scales	3-Year-Olds <sup>a</sup>					4-Year-Olds <sup>a</sup>				
	n	Mean	SD	Reported Response Range	Possible Response Range	n	Mean	SD	Reported Response Range	Possible Response Range
PPVT-4	120	17.8	7.0	5.0 - 36.0	0 - 228	51	19.2	8.5	5.0 - 51.0	0 - 228
EOWPVT	163	13.0	10.2	1.0 - 44.0	0 - 82	70	19.4	11.0	0.0 - 49.0	0 - 82
WJ III: Letter-Word Identification	168	20.8	10.3	0.0 - 48.0	1 - 150	71	26.1	9.8	3.0 - 51.0	1 - 150
WJ III: Spelling	164	2.4	2.6	0.0 - 11.0	0 - 76	71	3.7	3.6	0.0 - 26.0	0 - 76
WJ III: Applied Problems	168	4.0	1.8	0.0 - 8.0	0 - 59	70	5.4	2.3	0.0 - 13.0	0 - 59
ECLS-B Counting <sup>b</sup>	163	4.6	3.6	0.0 - 13.0	0 - 63	69	7.0	3.9	0.0 - 14.0	0 - 63

Source: Fall 2009 FACES Parent Interview and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of all children assessed in English in spring 2010, regardless of performance or language of assessment in the fall.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>This score is a count of how high the child can count.

**Table B.10. Summary Statistics for FACES Direct Child Assessment—Standardized Scores for Children Taking the Assessment in Spanish: Spring 2010**

Scales	n	Reported Response Range	Possible Response Range	Mean (SD)			
				Overall	SD	Bottom Quartile	Top Quartile
PPVT-4 Standard Score <sup>a</sup>	173	34.0 - 85.0	20 - 160	62.2	10.5	46.8	72.7
TVIP Standard Score	234	55.0 - 124.0	55 - 145	85.6	14.6	67.4	103.2
EOWPVT Standard Score <sup>a, b</sup>	235	45.0 - 103.0	45 - 145	70.0	14.0	51.2	85.7
EOWPVT-SBE Standard Score <sup>b</sup>	71	45.0 - 136.0	45 - 155	86.1	17.7	67.1	107.0
WM III: Letter-Word Identification Standard Score	205	52.0 - 153.0	0 - 200	87.3	15.6	69.3	107.8
WM III: Spelling Standard Score	236	50.0 - 126.0	0 - 200	89.5	12.5	71.8	102.6
WM III: Applied Problems Standard Score	206	42.0 - 121.0	0 - 200	84.2	14.2	64.9	100.3
PPVT-4 Growth Score Value (GSV) Score	182	37.0 - 107.0	12 - 271	74.9	11.7	58.9	86.6
WM III: Letter-Word Identification W Ability Score	238	264.0 - 416.0	N/A	296.9	24.3	271.7	323.0
WM III: Spelling W Ability Score	241	277.0 - 420.0	N/A	345.0	26.0	312.4	371.9
WM III: Applied Problems W Ability Score	235	318.0 - 415.0	N/A	368.5	27.7	332.8	399.2

Source: Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15. W ability scores allow for measurement of change or growth in performance on the same scale over time. Like raw scores, W ability scores are an indicator of absolute, rather than relative, performance. The WJ/WM W scale is centered on 500, which approximates the average score of a 10-year-old child. PPVT-4 Growth Score Value (GSV) scores are similar to W ability scores and can range from 12 to 271.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of all children assessed in Spanish in spring 2010.

<sup>a</sup>These scores are for children from Spanish-speaking households who did not pass the language screener and took the remainder of the assessment in Spanish.

<sup>b</sup>The EOWPVT standard scores provide a measure of children's expressive vocabulary relative to young children in the U.S., while the EOWPVT-SBE standard scores reflect children's vocabulary skills relative to young Hispanic children nationally. EOWPVT-SBE standard scores are only available for children age 4 and older at the time of assessment. In this table, we only report EOWPVT-SBE standard scores for children who entered the program at age 4.

N/A = Not applicable.

**Table B.11. Summary Statistics for FACES Direct Child Assessment—Standardized Scores by Age for Children Taking the Assessment in Spanish: Spring 2010**

Scales	3-Year-Olds <sup>a</sup>			4-Year-Olds <sup>a</sup>		
	n	Mean	SD	n	Mean	SD
PPVT-4 Standard Score <sup>b</sup>	120	64.2	9.4	51	58.0	9.8
TVIP Standard Score	163	87.1	14.4	68	82.3	14.6
EOWPVT Standard Score <sup>c</sup>	161	71.4	14.8	71	67.9	12.6
EOWPVT-SBE Standard Score <sup>b, c</sup>	N/A	N/A	N/A	68	87.6	18.0
WM III: Letter-Word Identification Standard Score	137	86.6	16.6	65	85.8	12.5
WM III: Spelling Standard Score	164	91.3	11.8	69	84.4	12.4
WM III: Applied Problems Standard Score	142	86.2	14.2	61	80.4	13.7
PPVT-4 Growth Score Value (GSV) Score	128	73.8	11.8	52	77.8	11.3
WM III: Letter-Word Identification W Ability Score	164	291.6	22.3	71	305.2	24.8
WM III: Spelling W Ability Score	168	339.4	24.5	70	354.7	25.1
WM III: Applied Problems W Ability Score	163	364.2	26.7	69	376.7	27.4

Source: Fall 2009 FACES Parent Interview and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15. W ability scores allow for measurement of change or growth in performance on the same scale over time. Like raw scores, W ability scores are an indicator of absolute, rather than relative, performance. The WJ/WM W scale is centered on 500, which approximates the average score of a 10-year-old child. PPVT-4 Growth Score Value (GSV) scores are similar to W ability scores and can range from 12 to 271.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of all children assessed in Spanish in spring 2010.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>These scores are for children from Spanish-speaking households who did not pass the language screener and took the remainder of the assessment in Spanish.

<sup>c</sup>The EOWPVT standard scores provide a measure of children's expressive vocabulary relative to young children in the U.S., while the EOWPVT-SBE standard scores reflect children's vocabulary skills relative to young Hispanic children nationally. EOWPVT-SBE standard scores are only available for children age 4 and older at the time of assessment. In this table, we only report EOWPVT-SBE standard scores for children who entered the program at age 4.

N/A = not available. We only report EOWPVT-SBE standard scores for children who entered the program at age 4.



**Table B.12. Summary Statistics for FACES Direct Child Assessment Measures—PPVT-4, EOWPVT, EOWPVT- SBE, and TVIP Standard Scores by Child Assessment Language: Spring 2010**

Scale	PPVT- 4 Standard Score <sup>a</sup>				
	n	Mean	SD	Reported Response Range	Possible Response Range
All children	2,651	88.9	16.3	34.0 - 134.0	20 - 160
All children: English home language	1,836	92.1	13.8	44.0 - 134.0	20 - 160
All dual language learner (DLL) children	815	77.1	14.9	34.0 - 127.0	20 - 160
DLL children passing language screener	635	82.1	13.9	42.0 - 127.0	20 - 160
Spanish home language	575	82.1	13.8	42.0 - 122.0	20 - 160
Other home language	60	82.1	14.0	50.0 - 127.0	20 - 160
DLL children not passing language screener	180	62.2	10.5	34.0 - 85.0	20 - 160
Spanish home language	173	62.2	10.5	34.0 - 85.0	20 - 160
Other home language	7	!	!	! - !	20 - 160
				<b>EOWPVT Standard Score<sup>a, b</sup></b>	
All children	2,751	82.4	15.2	45.0 - 145.0	45 - 145
All children: English home language	1,848	85.6	14.2	45.0 - 145.0	45 - 145
All DLL children	903	73.9	13.8	45.0 - 118.0	45 - 145
DLL children passing language screener	660	78.2	13.1	45.0 - 118.0	45 - 145
Spanish home language	596	78.6	12.9	45.0 - 118.0	45 - 145
Other home language	64	75.4	15.2	45.0 - 110.0	45 - 145
DLL children not passing language screener	243	69.6	14.2	45.0 - 103.0	45 - 145
Spanish home language	235	70.0	14.0	45.0 - 103.0	45 - 145
Other home language	8	!	!	! - !	45 - 145
				<b>EOWPVT- SBE Standard Score<sup>b, c</sup></b>	
All DLL children: Spanish home language	357	95.1	19.5	45.0 - 155.0	45 - 155
DLL children passing language screener: Spanish home language	286	97.6	19.3	45.0 - 155.0	45 - 155
DLL children not passing language screener: Spanish home language	71	86.1	17.7	45.0 - 136.0	45 - 155
				<b>TVIP Standard Score<sup>c</sup></b>	
All DLL children: Spanish home language	805	83.8	15.1	55.0 - 145.0	55 - 145
DLL children passing language screener: Spanish home language	571	82.9	15.3	55.0 - 145.0	55 - 145
DLL children not passing language screener: Spanish home language	234	85.6	14.6	55.0 - 124.0	55 - 145

Source: Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

In this table, DLL status is based on parent report on the consent form, which was used for the purpose of driving the language of the direct assessment. From these data, children were identified as having an English, Spanish, or Other home language. We define DLLs as those having a Spanish or Other home language.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of all children assessed in spring 2010, regardless of performance of language of assessment in the fall.

<sup>a</sup>Standard scores on this measure provide information on children's skills relative to English speaking peers nationally.

<sup>b</sup>The EOWPVT standard scores provide a measure of children's expressive vocabulary relative to young children in the U.S., while the EOWPVT-SBE standard scores reflect children's vocabulary skills relative to young Hispanic children nationally. EOWPVT-SBE standard scores are only available for children age 4 and older at the time of assessment. In this table, we only report EOWPVT-SBE standard scores for children who entered the program at age 4.

<sup>c</sup>Standard scores on this measure provide information on children's skills relative to Spanish-dominant or Spanish-bilingual peers.

! Too few cases for a reliable estimate.

**Table B.13. Summary Statistics for FACES Direct Child Assessment—Raw Scores by Gender: Spring 2010**

Scales	Girls			Boys		
	n	Mean	SD	n	Mean	SD
PPVT-4	1,333	57.3	23.8	1,311	56.0	24.7
TVIP <sup>a</sup>	415	17.6	12.4	406	16.4	12.9
EOWPVT	1,380	33.7	12.0	1,382	33.7	12.2
WJ III: Letter-Word Identification	1,258	7.2	4.6	1,256	6.4	4.7
WJ III: Spelling	1,259	7.0	3.1	1,258	6.2	3.2
WJ III: Applied Problems	1,260	8.6	4.6	1,258	8.2	4.8
ECLS-B Counting <sup>b</sup>	1,356	11.7	5.2	1,349	11.1	5.3
WM III: Letter-Word Identification	117	3.0	3.3	121	2.9	2.9
WM III: Spelling	120	4.7	2.1	121	4.5	2.1
WM III: Applied Problems	115	5.3	3.9	120	5.9	3.7

Source: Fall 2009 FACES Parent Interview and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of all children in spring 2010, regardless of performance or language of assessment in the fall.

<sup>a</sup>These scores are for all children from Spanish-speaking households, regardless of whether the child passed or did not pass the language screener.

<sup>b</sup>This score is a count of how high the child can count.





**Table B.14. Summary Statistics for FACES Direct Child Assessment—Standardized Scores by Gender: Spring 2010**

Scales	Girls			Boys		
	n	Mean	SD	n	Mean	SD
PPVT-4 Standard Score	1,333	89.4	15.9	1,311	88.6	16.8
TVIP Standard Score <sup>a</sup>	409	86.2	15.3	396	82.8	14.7
EOWPVT Standard Score <sup>b</sup>	1,372	82.4	15.0	1,371	82.6	15.3
EOWPVT-SBE Standard Score <sup>a, b</sup>	166	96.6	18.7	191	93.9	20.1
WJ III: Letter-Word Identification Standard Score	1,242	103.6	17.2	1,217	100.7	17.5
WJ III: Spelling Standard Score	1,249	99.3	14.0	1,219	95.3	14.3
WJ III: Applied Problems Standard Score	1,186	93.2	14.5	1,165	91.6	15.4
ECLS-B Letter-Sounds IRT Score	741	1.5	1.8	606	1.4	1.8
Combined ECLS-B Letter-Sounds/WJ III Letter-Word Identification IRT Score	741	11.8	4.9	606	11.5	5.3
ECLS-B Math IRT Score	1,377	9.6	3.4	1,372	9.3	3.5
ECLS-B Number/Shape Proficiency Probability Score	1,377	0.48	0.30	1,372	0.44	0.30
Combined ECLS-B Math/WJ III Applied Problems IRT Score	1,377	18.9	7.8	1,372	18.0	8.0
WM III: Letter-Word Identification Standard Score	104	86.5	17.2	101	88.0	14.0
WM III: Spelling Standard Score	117	89.8	12.8	119	89.2	12.2
WM III: Applied Problems Standard Score	97	83.8	13.7	109	84.4	14.6
PPVT-4 Growth Score Value (GSV) Score	1,347	108.1	19.4	1,329	106.9	20.1
WJ III: Letter-Word Identification W Ability Score	1,242	329.3	26.8	1,217	325.1	27.0
WJ III: Spelling W Ability Score	1,249	369.6	29.3	1,219	363.0	31.0
WJ III: Applied Problems W Ability Score	1,186	393.5	23.0	1,165	391.5	24.7
WM III: Letter-Word Identification W Ability Score	117	297.4	24.6	121	296.3	24.1
WM III: Spelling W Ability Score	120	345.8	25.1	121	344.2	26.8
WM III: Applied Problems W Ability Score	115	365.5	29.2	120	370.6	25.8

Source: Fall 2009 FACES Parent Interview and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15. W ability scores allow for measurement of change or growth in performance on the same scale over time. Like raw scores, W ability scores are an indicator of absolute, rather than relative, performance. The WJ/WM W scale is centered on 500, which approximates the average score of a 10-year-old child. PPVT-4 Growth Score Value (GSV) scores are similar to W ability scores and can range from 12 to 271.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of all children in spring 2010, regardless of performance or language of assessment in the fall.

<sup>a</sup>These scores are for all children from Spanish-speaking households, regardless of whether the child passed or did not pass the language screener.

<sup>b</sup>The EOWPVT standard scores provide a measure of children's expressive vocabulary relative to young children in the U.S., while the EOWPVT-SBE standard scores reflect children's vocabulary skills relative to young Hispanic children nationally. EOWPVT-SBE standard scores are only available for children age 4 and older at the time of assessment. In this table, we only report EOWPVT-SBE standard scores for children who entered the program at age 4.

**Table B.15. Summary Statistics for FACES Direct Child Assessment—Raw Scores by Race/Ethnicity: Spring 2010**

Scales	White, Non-Hispanic			African American, Non-Hispanic			Hispanic/Latino			Other, Non-Hispanic		
	n	Mean	SD	n	Mean	SD	n	Mean	SD	n	Mean	SD
PPVT-4	511	65.7	22.6	863	56.0	21.3	994	42.9	23.9	197	60.9	22.5
EOWPVT	521	38.2	12.8	871	33.6	10.7	1,086	30.2	11.8	198	35.3	12.2
WJ III: Letter-Word Identification	516	6.3	4.5	870	7.2	5.0	844	6.0	4.2	194	6.9	4.8
WJ III: Spelling	518	6.3	3.3	870	6.3	3.2	844	6.7	2.9	195	6.8	3.3
WJ III: Applied Problems	517	9.4	5.0	871	7.5	4.4	845	7.7	4.7	195	8.8	4.7
ECLS-B Counting <sup>a</sup>	503	10.9	5.4	862	12.1	5.3	1,060	10.5	4.9	190	11.7	5.6
WM III: Letter-Word Identification	1	!	!	0	N/A	N/A	234	2.8	3.0	0	N/A	N/A
WM III: Spelling	1	!	!	0	N/A	N/A	237	4.5	2.1	0	N/A	N/A
WM III: Applied Problems	1	!	!	0	N/A	N/A	231	5.5	3.9	0	N/A	N/A

Source: Fall 2009 FACES Parent Interview and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of all children assessed in English in spring 2010, regardless of performance or language of assessment in the fall.

<sup>a</sup>This score is a count of how high the child can count.

! Too few cases for a reliable estimate.

N/A = Not available.



**Table B.16. Summary Statistics for FACES Direct Child Assessment—Standardized Scores by Race/Ethnicity: Spring 2010**

Scales	White, Non-Hispanic			African American, Non-Hispanic			Hispanic/Latino			Other, Non-Hispanic		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
PPVT-4 Standard Score	511	95.9	13.6	863	88.5	13.3	994	78.2	16.9	197	92.1	13.9
EOWPVT Standard Score	516	88.7	14.9	868	82.4	13.5	1,076	77.1	14.9	197	84.6	15.0
WJ III: Letter-Word Identification Standard Score	504	100.4	16.1	857	103.6	18.9	823	97.7	16.1	190	101.9	17.3
WJ III: Spelling Standard Score	505	96.5	14.8	857	96.6	14.8	831	96.8	13.1	189	99.6	13.9
WJ III: Applied Problems Standard Score	490	95.4	14.7	818	88.7	14.3	780	88.1	15.2	186	93.4	14.4
ECLS-B Letter-Sounds IRT Score	259	1.5	1.8	521	1.6	1.9	413	1.3	1.7	104	1.6	1.5
Combined ECLS-B/WJ III Letter-Word Identification IRT Score	259	11.7	4.9	521	12.0	5.6	413	11.0	4.6	104	12.0	4.4
ECLS-B Math IRT Score	516	10.4	3.5	871	9.4	3.2	1,076	8.5	3.6	194	10.3	3.5
ECLS-B Number/Shape Proficiency Probability Score	516	0.55	0.35	871	0.45	0.33	1,076	0.37	0.35	194	0.54	0.34
Combined ECLS-B/WJ III Applied Problems IRT Score	516	20.5	7.8	871	18.4	7.1	1,076	16.3	8.1	194	20.3	7.7
WM III: Letter-Word Identification Standard Score	1	!	!	0	N/A	N/A	201	85.3	15.2	0	N/A	N/A
WM III: Spelling Standard Score	1	!	!	0	N/A	N/A	232	88.3	12.2	0	N/A	N/A
WM III: Applied Problems Standard Score	0	N/A	N/A	0	N/A	N/A	203	83.5	14.3	0	N/A	N/A
PPVT-4 Growth Score Value (GSV) Score	516	116.1	17.1	870	108.1	17.0	1,010	97.6	20.5	197	112.9	17.0
WJ III: Letter-Word Identification W Ability Score	504	323.4	25.9	857	327.7	28.5	823	321.2	25.1	190	326.4	27.7
WJ III: Spelling W Ability Score	505	363.2	31.7	857	362.9	30.9	831	366.5	28.1	189	369.5	29.4
WJ III: Applied Problems W Ability Score	490	394.8	24.0	818	385.0	23.3	780	386.6	23.8	186	392.2	22.8

Source: Fall 2009 FACES Parent Interview and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15. W ability scores allow for measurement of change or growth in performance on the same scale over time. Like raw scores, W ability scores are an indicator of absolute, rather than relative, performance. The WJ/WM W scale is centered on 500, which approximates the average score of a 10-year-old child. PPVT-4 Growth Score Value (GSV) scores are similar to W ability scores and can range from 12 to 271.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of all children assessed in English in spring 2010, regardless of performance or language of assessment in the fall.

! Too few cases for a reliable estimate.

N/A = not available

**Table B.17. Summary Statistics for FACES Direct Child Assessment—Raw Scores by Number of Family Risks: Spring 2010**

Scales	0 Risks <sup>a</sup>			1 Risk <sup>a</sup>			2 or More Risks <sup>a</sup>		
	n	Mean	SD	n	Mean	SD	n	Mean	SD
PPVT-4	349	62.6	23.4	843	58.4	24.6	1,186	53.2	23.6
TVIP <sup>b</sup>	80	14.8	12.1	230	18.7	14.9	465	16.5	11.6
EOWPVT	358	36.8	11.8	876	34.6	12.1	1,247	32.0	11.7
WJ III: Letter-Word Identification	333	7.4	4.9	818	7.2	4.8	1,089	6.2	4.3
WJ III: Spelling	333	6.8	3.3	818	6.7	3.0	1,090	6.4	3.1
WJ III: Applied Problems	333	9.1	4.4	818	8.7	4.8	1,091	8.0	4.6
ECLS-B Counting <sup>c</sup>	353	11.7	5.3	861	11.7	5.3	1,221	11.0	5.2
WM III: Letter-Word Identification	24	!	!	57	2.9	2.8	152	3.0	3.2
WM III: Spelling	25	!	!	57	4.1	1.8	155	4.8	2.2
WM III: Applied Problems	24	!	!	55	5.6	3.9	153	5.9	3.8

Source: Fall 2009 FACES Parent Interview and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

The TVIP and Woodcock Muñoz scores within this table are based on different groups of children. TVIP scores include all children from Spanish-speaking households, regardless of whether the child passed or did not pass the English language screener. Woodcock Muñoz scores include only children from Spanish-speaking households who did not pass the language screener.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of all children in spring 2010, regardless of performance or language of assessment in the fall.

<sup>a</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

<sup>b</sup>These scores are for all children from Spanish-speaking households, regardless of whether the child passed or did not pass the language screener.

<sup>c</sup>This score is a count of how high the child can count.

! Too few cases for a reliable estimate.





**Table B.18. Summary Statistics for FACES Direct Child Assessment—Standardized Scores by Number of Family Risks: Spring 2010**

Scales	0 Risks <sup>a</sup>			1 Risk <sup>a</sup>			2 or More Risks <sup>a</sup>		
	n	Mean	SD	n	Mean	SD	n	Mean	SD
PPVT-4 Standard Score	349	94.4	15.6	843	90.3	16.3	1,186	86.4	16.2
TVIP Standard Score <sup>b</sup>	76	82.5	14.4	230	86.6	16.6	455	83.9	14.4
EOWPVT Standard Score <sup>c</sup>	357	87.9	15.0	870	83.9	14.8	1,238	80.1	14.8
EOWPVT-SBE Standard Score <sup>b,c</sup>	28	!	!	91	98.1	20.6	205	92.7	18.0
WJ III: Letter-Word Identification Standard Score	327	106.4	18.9	798	104.1	17.9	1,070	99.5	16.4
WJ III: Spelling Standard Score	325	100.4	14.8	804	98.2	13.9	1,071	96.2	13.9
WJ III: Applied Problems Standard Score	315	96.0	13.8	762	93.7	14.9	1,021	90.9	14.7
WM III: Letter-Word Identification Standard Score	19	!	!	50	85.2	15.4	132	86.5	15.2
WM III: Spelling Standard Score	25	!	!	56	90.0	10.6	151	89.2	12.6
WM III: Applied Problems Standard Score	18	!	!	50	86.2	14.1	136	84.0	13.8
PPVT-4 Growth Score Value (GSV) Score	351	113.0	18.1	851	109.1	19.7	1,202	104.5	19.7
WJ III: Letter-Word Identification W Ability Score	327	330.7	27.1	798	329.7	27.2	1,070	323.6	25.9
WJ III: Spelling W Ability Score	325	369.4	31.2	804	367.6	29.1	1,071	364.7	30.0
WJ III: Applied Problems W Ability Score	315	395.3	20.8	762	393.9	23.4	1,021	391.1	24.2
WM III: Letter-Word Identification W Ability Score	24	!	!	57	293.4	24.4	152	298.1	24.0
WM III: Spelling W Ability Score	25	!	!	57	339.5	23.0	155	346.5	26.8
WM III: Applied Problems W Ability Score	24	!	!	55	367.1	27.8	153	370.7	27.1
ECLS-B Letter-Sounds IRT Score	208	1.6	1.9	459	1.5	1.8	521	1.4	1.7
Combined ECLS-B Letter-Sounds/WJ III Letter-Word Identification IRT Score	208	11.9	5.4	459	11.9	5.1	521	11.3	4.6
ECLS-B Math IRT Score	355	10.2	3.4	873	9.8	3.4	1,242	9.0	3.4
Combined ECLS-B Math/WJ III Applied Problems IRT Score	355	0.54	0.30	873	0.50	0.30	1,242	0.41	0.30
ECLS-B Number/Shape Proficiency Probability Score	355	20.2	7.5	873	19.3	7.7	1,242	17.3	7.9

Source: Fall 2009 FACES Parent Interview and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15. W ability scores allow for measurement of change or growth in performance on the same scale over time. Like raw scores, W ability scores are an indicator of absolute, rather than relative, performance. The WJ/WM W scale is centered on 500, which approximates the average score of a 10-year-old child. PPVT-4 Growth Score Value (GSV) scores are similar to W ability scores and can range from 12 to 271.

The TVIP and Woodcock Muñoz scores within this table are based on different groups of children. TVIP scores include all children from Spanish-speaking households, regardless of whether the child passed or did not pass the English language screener. Woodcock Muñoz scores include only children from Spanish-speaking households who did not pass the language screener.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of all children in spring 2010, regardless of performance or language of assessment in the fall.

<sup>a</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

<sup>b</sup>These scores are for all children from Spanish-speaking households, regardless of whether the child passed or did not pass the language screener.

<sup>c</sup>The EOWPVT standard scores provide a measure of children's expressive vocabulary relative to young children in the U.S., while the EOWPVT-SBE standard scores reflect children's vocabulary skills relative to young Hispanic children nationally. EOWPVT-SBE standard scores are only available for children age 4 and older at the time of assessment. In this table, we only report EOWPVT-SBE standard scores for children who entered the program at age 4.

! Too few cases for a reliable estimate.

**Table B.19. Reliability of FACES Parent Interview and Teacher Child Report Measures: Spring 2010**

Scales	Total Sample		
	Number of Items	n	Cronbach Alphas
Child Literacy Behaviors (Teacher Child Report)	6	2,809	0.57
Emergent Literacy Scale (Parent Interview)	5	2,579	0.62

Source: Spring 2010 FACES Parent Interview and Teacher Child Report.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Head Start teachers and parents are asked to indicate whether and the extent to which children demonstrate certain abilities that are associated with literacy, including their prereading and early writing skills. Composites reflecting the child's sum score on these items are created.



**Child Cognitive Development: Fall 2009 – Spring 2010 Change**



**Table B.2a. Summary Statistics for FACES Direct Child Assessment Measures—PPVT- 4 and EOWPVT Raw Scores: Fall 2009- Spring 2010**

	PPVT-4				EOWPVT			
	n	Fall 2009	Spring 2010	Fall-Spring Change	n	Fall 2009	Spring 2010	Fall-Spring Change
		Mean	Mean	Mean		Mean	Mean	Mean
All Children	2,326	42.7	56.6	13.8***	2,640	27.2	33.6	6.3***
<b>Age<sup>a</sup></b>								
3 years old or younger	1,378	36.6	49.9	13.3***	1,599	24.0	30.6	6.6***
4 years old or older	876	52.0	66.8	14.7***	955	32.5	38.4	5.9***
<b>Race/Ethnicity</b>								
White, Non-Hispanic	473	51.4	66.3	14.9***	488	32.4	38.2	5.8***
African American, Non-Hispanic	823	42.1	56.0	13.9***	850	27.0	33.6	6.6***
Hispanic/Latino	772	35.1	48.6	13.6***	1,021	24.2	30.5	6.4***
Other, Non-Hispanic	183	50.4	62.6	12.2***	191	29.2	35.6	6.4***
<b>Gender</b>								
Female	1,171	43.3	57.2	13.9***	1,323	27.4	33.6	6.2***
Male	1,155	42.2	55.9	13.7***	1,317	27.1	33.6	6.5***
<b>Family Risks<sup>b</sup></b>								
0	318	48.8	62.6	13.8***	341	29.7	36.7	7.0***
1	748	44.3	58.2	14.0***	843	28.6	34.5	5.9***
2 or More	1,018	39.0	53.2	14.1***	1,190	25.5	32.0	6.5***

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Fall 2009 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

The PPVT-4 and EOWPVT are administered to all children, regardless of performance on the language screener. Following administration of these measures, children are administered assessments in English, Spanish, or not at all, depending on performance on the language screener. Data in this table reflect the performance of all children on the PPVT-4 and EOWPVT assessment, regardless of performance on the screener or language of assessment in the fall. Mean scores are only reported for those with valid scores at both occasions (for example, those who established a basal on the PPVT-4 at both waves).

\*p<.05; \*\*p<.01; \*\*\*p<.001.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

- In terms of absolute performance, children, regardless of demographic characteristics, make progress in their expressive vocabulary and English receptive vocabulary skills.





**Table B.3a. Summary Statistics for FACES Direct Child Assessment Measures—PPVT- 4 and EOWPVT Standard Scores: Fall 2009- Spring 2010**

	PPVT-4				EOWPVT			
	n	Fall 2009	Spring 2010	Fall-Spring Change	n	Fall 2009	Spring 2010	Fall-Spring Change
		Mean	Mean	Mean		Mean	Mean	Mean
All Children	2,325	85.4	88.9	3.6**	2,584	79.3	82.4	3.2 ***
<b>Age<sup>a</sup></b>								
3 years old or younger	1,377	86.5	89.1	2.7	1,549	79.5	83.1	3.6***
4 years old or older	876	84.1	89.1	5.0***	955	79.3	81.7	2.4**
<b>Race/Ethnicity</b>								
White, Non-Hispanic	473	92.6	96.3	3.6***	482	87.1	88.9	1.8
African American, Non-Hispanic	823	85.7	89.2	3.4***	836	79.4	82.8	3.4***
Hispanic/Latino	771	78.0	82.4	4.4	996	74.0	77.7	3.8***
Other, Non-Hispanic	183	91.4	93.1	1.8	186	82.5	85.3	2.7
<b>Gender</b>								
Female	1,171	85.8	89.4	3.6*	1,298	79.4	82.4	3.0***
Male	1,154	84.9	88.5	3.6*	1,286	79.1	82.5	3.4***
<b>Family Risks<sup>b</sup></b>								
0	318	91.5	94.4	2.9	332	84.4	87.9	3.4*
1	747	86.7	90.2	3.5*	828	81.2	83.8	2.6**
2 or More	1,018	82.3	86.3	4.1*	1,167	76.5	80.0	3.5***

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Fall 2009 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15.

The PPVT-4 and EOWPVT are administered to all children, regardless of performance on the language screener. Following administration of these measures, children are administered assessments in English, Spanish, or not at all, depending on performance on the language screener. Data in this table reflect the performance of all children on the PPVT-4 and EOWPVT assessment, regardless of performance on the screener or language of assessment in the fall. Mean scores are only reported for those with valid scores at both occasions (for example, those who established a basal on the PPVT-4 at both waves).

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

- Children, regardless of demographic characteristics, score below norms in their receptive and expressive vocabulary skills in the fall and spring of the program year. However, across most groups, children make progress towards norms during the year. For example, across children, they gain about 4 standard score points in English receptive vocabulary and 3 standard score points in expressive vocabulary during the year.

**Table B.7a. Summary Statistics for FACES Direct Child Assessment—Standardized Scores for Children Taking the Assessment in English at Both Waves: Fall 2009- Spring 2010**

Scales	n	Mean		
		Fall 2009	Spring 2010	Fall-Spring Change
PPVT-4 Standard Score	2,109	87.3	90.7	3.4***
EOWPVT Standard Score	2,139	81.6	84.6	3.0***
WJ III: Letter-Word Identification Standard Score	2,007	96.4	102.2	5.8***
WJ III: Spelling Standard Score	2,041	94.6	97.4	2.8***
WJ III: Applied Problems Standard Score	1,800	90.0	92.4	2.4***
ECLS-B Letter-Sounds IRT Score	553	0.9	2.3	1.4***
Combined ECLS-B Letter-Sounds/WJ III Letter-Word Identification IRT Score	553	10.0	14.2	4.2***
ECLS-B Math IRT Score	2,139	7.7	10.0	2.3***
ECLS-B Number/Shape Proficiency Probability Score	2,139	0.29	0.51	0.23***
Combined ECLS-B Math/WJ III Applied Problems IRT Score	2,139	14.5	19.7	5.2***
PPVT-4 Growth Score Value (GSV) Score	2,139	100.0	111.1	11.1***
WJ III: Letter-Word Identification W Ability Score	2,007	308.8	327.3	18.5***
WJ III: Spelling W Ability Score	2,041	346.3	366.4	20.1***
WJ III: Applied Problems W Ability Score	1,800	377.5	392.5	15.1***

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15. W ability scores allow for measurement of change or growth in performance on the same scale over time. Like raw scores, W ability scores are an indicator of absolute, rather than relative, performance. The WJ/WM W scale is centered on 500, which approximates the average score of a 10-year-old child. PPVT-4 Growth Score Value (GSV) scores are similar to W ability scores and can range from 12 to 271.

Some children were administered the assessments in Spanish (or not at all) in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of children assessed in English in both fall 2009 and spring 2010. In addition, mean scores are only reported for those with valid scores at both occasions (for example, those who established a basal on the PPVT-4 at both waves).

\*p<.05; \*\*p<.01; \*\*\*p<.001.

- With the exception of letter-word knowledge, children score below national norms across measures of language, literacy, and math development in both the fall and spring of their first year of Head Start. However, across areas, children make progress toward norms during the year. For example, they gain approximately 3 standard score points in expressive and English receptive vocabulary. They also gain nearly 3 points in early writing, scoring near norms at the end of the program year. They gain almost 6 standard score points in the area of letter-word knowledge during this period and score above the national average in this area by the spring (102.2). In all other areas, despite making progress towards norms during the program year, children remain below norms at the end of the program year. In fact, in expressive vocabulary, they score one standard deviation below norms in the spring.
- In terms of absolute performance, children make progress across developmental areas. For example, on the ECLS-B math items, while only 29 percent of children in Head start are able to identify numbers and shapes at the start of the program year, by the spring just more than half are able to (51 percent).



**Table B.9a. Summary Statistics for FACES Direct Child Assessment—Standardized Scores by Age for Children Taking the Assessment in English at Both Waves: Fall 2009- Spring 2010**

Scales	3-Year-Olds <sup>a</sup>				4-Year-Olds <sup>a</sup>			
	n	Fall 2009	Spring 2010	Fall-Spring Change	n	Fall 2009	Spring 2010	Fall-Spring Change
		Mean	Mean	Mean		Mean	Mean	Mean
PPVT-4 Standard Score	1,245	88.1	90.8	2.7***	798	86.4	91.0	4.6***
EOWPVT Standard Score	1,269	81.9	85.2	3.2***	804	81.5	83.9	2.4**
WJ III: Letter-Word Identification Standard Score	1,151	97.9	104.4	6.5***	793	94.2	99.3	5.1***
WJ III: Spelling Standard Score	1,179	94.7	97.5	2.9***	796	94.5	97.4	2.9***
WJ III: Applied Problems Standard Score	986	91.0	93.6	2.6*	759	88.9	91.2	2.3
ECLS-B Letter-Sounds IRT Score	232	0.7	1.8	1.1 ***	299	1.1	2.7	1.7***
Combined ECLS-B Letter-Sounds/WJ III Letter-Word Identification IRT Score	232	9.3	12.8	3.5***	299	10.5	15.3	4.8**
ECLS-B Math IRT Score	1,263	6.6	8.7	2.1***	807	9.3	11.9	2.6***
ECLS-B Number/Shape Proficiency Probability Score	1,263	0.17	0.39	0.22***	807	0.45	0.70	0.25***
Combined ECLS-B Math/WJ III Applied Problems IRT Score	1,263	12.0	16.9	5.0***	807	18.2	23.9	5.6***
PPVT-4 Growth Score Value (GSV) Score	1,268	94.5	105.9	11.3***	803	108.3	119.2	10.9***
WJ III: Letter-Word Identification W Ability Score	1,151	303.8	320.8	17.1***	793	315.3	335.8	20.5***
WJ III: Spelling W Ability Score	1,179	334.1	355.1	21.0***	796	362.9	382.2	19.3***
WJ III: Applied Problems W Ability Score	986	368.7	384.6	15.9***	759	387.8	402.3	14.5***

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Fall 2009 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15. W ability scores allow for measurement of change or growth in performance on the same scale over time. Like raw scores, W ability scores are an indicator of absolute, rather than relative, performance. The WJ/WM W scale is centered on 500, which approximates the average score of a 10-year-old child. PPVT-4 Growth Score Value (GSV) scores are similar to W ability scores and can range from 12 to 271.

Some children were administered the assessments in Spanish (or not at all) in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of children assessed in English in both fall 2009 and spring 2010. In addition, mean scores are only reported for those with valid scores at both occasions (for example, those who established a basal on the PPVT-4 at both waves).

\*p<.05; \*\*p<.01; \*\*\*p<.001.

<sup>a</sup>Age as of September 1, 2009.

- With the exception of letter-word knowledge, 3-year-old children score below national norms across measures of language, literacy, and math development in both the fall and spring of their first year of Head Start. However, across areas, children make progress toward norms during the year. In fact, 3-year-olds gain almost 7 standard score points in the area of letter-word knowledge during this period and score above the

national average in this area by the spring (104.4). They gain about 3 standard score points in all other areas, but still remain below norms in the spring.

- Like 3-year-olds, children who enter the program at age 4 score below norms on most measures at both the beginning and end of the year. The one exception is the area of letter-word knowledge, where they gain about 5 standard score points and score at norms by the end of the year (99.3). They make progress towards norms in other areas as well, including gaining nearly 5 points in the area of receptive vocabulary. They do not make statistically significant progress towards norms in their applied problems, however. Compared to same-age peers, 3-year-olds who took the assessment in English generally perform closer to their same-age peers (nationally) than 4-year-olds across measures.
- In terms of absolute performance, both 3- and 4-year old children make progress across developmental areas. For example, while less than 20 percent of 3-year-olds are able to identify numbers and shapes at the start of the program year, by the spring 39 percent are able to. The percentage increases from 45 percent to 70 percent among 4-year-olds.

**Table B.10a. Summary Statistics for FACES Direct Child Assessment—Standardized Scores for Children Taking the Assessment in Spanish at Both Waves: Fall 2009- Spring 2010**

Scales	n	Mean		
		Fall 2009	Spring 2010	Fall-Spring Change
PPVT-4 Standard Score <sup>a</sup>	67	61.4	62.2	0.8
TVIP Standard Score	197	83.8	85.6	1.8
EOWPVT Standard Score <sup>a, b</sup>	208	66.3	70.0	3.6
EOWPVT-SBE Standard Score <sup>b</sup>	63	84.5	87.6	3.2
WM III: Letter-Word Identification Standard Score	104	81.1	87.3	6.2**
WM III: Spelling Standard Score	190	90.0	89.5	-0.5
WM III: Applied Problems Standard Score	146	82.3	84.2	1.9
PPVT-4 Growth Score Value (GSV) Score	139	53.5	74.9	21.4***
WM III: Letter-Word Identification W Ability Score	204	281.3	296.9	15.6***
WM III: Spelling W Ability Score	207	329.3	345.0	15.8***
WM III: Applied Problems W Ability Score	201	352.3	368.5	16.2***

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15. W ability scores allow for measurement of change or growth in performance on the same scale over time. Like raw scores, W ability scores are an indicator of absolute, rather than relative, performance. The WJ/WM W scale is centered on 500, which approximates the average score of a 10-year-old child. PPVT-4 Growth Score Value (GSV) scores are similar to W ability scores and can range from 12 to 271.

Some children were administered the assessments in Spanish (or not at all) in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of children assessed in Spanish in both fall 2009 and spring 2010. In addition, mean scores are only reported for those with valid scores at both occasions (for example, those who established a basal on the PPVT-4 at both waves).

\*p<.05; \*\*p<.01; \*\*\*p<.001.

<sup>a</sup>These scores are for children from Spanish-speaking households who did not pass the language screener and took the remainder of the assessment in Spanish.

<sup>b</sup>The EOWPVT standard scores provide a measure of children's expressive vocabulary relative to all young English-speaking children in the U.S., while the EOWPVT-SBE standard scores reflect children's bilingual (English and Spanish) vocabulary skills relative to all young Hispanic children nationally. EOWPVT-SBE standard scores are only available for children age 4 and older at the time of assessment. In this table, we only report EOWPVT-SBE standard scores for children who entered the program at age 4.

- Children who take the assessment in Spanish in the fall and spring of their first Head Start year score below norms across measures of language, literacy, and math development in both the fall and spring. These children make progress toward norms in the area of letter-word knowledge only during the year. Children gain about 6 standard score points in this area during the year.
- In terms of absolute performance, children make progress across developmental areas.





**Table B.11a. Summary Statistics for FACES Direct Child Assessment—Standardized Scores by Age for Children Taking the Assessment in Spanish: Fall 2009- Spring 2010**

Scales	3-Year-Olds <sup>a</sup>				4-Year-Olds <sup>a</sup>			
	n	Fall 2009	Spring 2010	Fall-Spring Change	n	Fall 2009	Spring 2010	Fall-Spring Change
		Mean	Mean	Mean		Mean	Mean	Mean
PPVT-4 Standard Score <sup>b</sup>	46	65.8	64.2	-1.6	21	!	!	!
TVIP Standard Score	133	86.6	87.1	0.6	62	79.3	82.3	3.1
EOWPVT Standard Score <sup>c</sup>	140	67.4	71.4	4.0	66	64.8	67.9	3.1
EOWPVT-SBE Standard Score <sup>b,c</sup>	N/A	N/A	N/A	N/A	62	84.1	87.6	3.5
WM III: Letter-Word Identification Standard Score	57	83.2	86.6	3.4	45	78.3	85.8	7.5 **
WM III: Spelling Standard Score	129	92.7	91.3	-1.4	59	84.1	84.4	0.3
WM III: Applied Problems Standard Score	97	84.4	86.2	1.8	47	78.7	80.4	1.7
PPVT-4 Growth Score Value (GSV) Score	95	54.0	73.8	19.7***	43	53.1	77.8	24.7 ***
WM III: Letter-Word Identification W Ability Score	139	279.4	291.6	12.1***	63	284.3	305.2	21.0 ***
WM III: Spelling W Ability Score	144	324.1	339.4	15.3***	61	339.6	354.7	15.2 ***
WM III: Applied Problems W Ability Score	138	347.3	364.2	16.9***	61	362.4	376.7	14.3 ***

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Fall 2009 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15. W ability scores allow for measurement of change or growth in performance on the same scale over time. Like raw scores, W ability scores are an indicator of absolute, rather than relative, performance. The WJ/WM W scale is centered on 500, which approximates the average score of a 10-year-old child. PPVT-4 Growth Score Value (GSV) scores are similar to W ability scores and can range from 12 to 271.

Some children were administered the assessments in Spanish (or not at all) in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of children assessed in Spanish in both fall 2009 and spring 2010. In addition, mean scores are only reported for those with valid scores at both occasions (for example, those who established a basal on the PPVT-4 at both waves).

\*p<.05; \*\*p<.01; \*\*\*p<.001.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>These scores are for children from Spanish-speaking households who did not pass the language screener and took the remainder of the assessment in Spanish.

<sup>c</sup>The EOWPVT standard scores provide a measure of children's expressive vocabulary relative to all young English-speaking children in the U.S., while the EOWPVT-SBE standard scores reflect children's bilingual (English and Spanish) vocabulary skills relative to all young Hispanic children nationally. EOWPVT-SBE standard scores are only available for children age 4 and older at the time of assessment. In this table, we only report EOWPVT-SBE standard scores for children who entered the program at age 4.

! Too few cases for a reliable estimate.

N/A = not available. We only report EOWPVT-SBE standard scores for children who entered the program at age 4.

- Both 3- and 4-year-old children assessed in Spanish score below norms across measures of language, literacy, and math development in both the fall and spring of their first year of Head Start. Only in the area of letter-word knowledge do 4-year-old children make progress toward norms during the year, with 4-year-olds gaining nearly 8 points in this area during this period. Three-year-olds do not make statistically significant progress towards norms on any measures during the program year.
- In both the fall and spring, compared to same-age peers, 3-year-olds who took the assessment in Spanish generally perform closer to their same-age peers (nationally) than 4-year-olds across measures.
- In terms of absolute performance, both 3- and 4-year old children make progress across developmental areas.

**Table B.12a. Summary Statistics for FACES Direct Child Assessment Measures—PPVT- 4, EOWPVT, EOWPVT- SBE, and TVIP Standard Scores by Child Assessment Language: Fall 2009- Spring 2010**

Scale	n	PPVT-4 Standard Score <sup>a</sup>		
		Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean
All children	2,325	85.4	88.9	3.6***
All children: English home language	1,749	88.9	92.1	3.1***
All dual language learner (DLL) children	573	71.8	77.1	5.3*
DLL children passing language screener	357	76.9	82.1	5.2***
Spanish home language	317	76.4	82.1	5.7***
Other home language	40	80.7	82.1	1.4
DLL children not passing language screener	70	61.5	62.2	0.7
Spanish home language	67	61.4	62.2	0.8
Other home language	3	!	!	!
		EOWPVT Standard Score <sup>a, b</sup>		
All children	2,584	79.3	82.4	3.2***
All children: English home language	1,770	82.8	85.6	2.8***
All DLL children	809	69.7	73.9	4.2***
DLL children passing language screener	365	74.3	78.2	3.9***
Spanish home language	325	75.3	78.6	3.3*
Other home language	40	67.1	75.4	8.3*
DLL children not passing language screener	213	66.0	69.6	3.7
Spanish home language	208	66.3	70.0	3.6
Other home language	5	!	!	!
		EOWPVT-SBE Standard Score <sup>b, c</sup>		
All DLL children: Spanish home language	316	92.4	96.0	3.6
DLL children passing language screener: Spanish home language	163	98.5	103.6	5.1
DLL children not passing language screener: Spanish home language	63	84.5	87.6	3.2
		TVIP Standard Score <sup>c</sup>		
All DLL children: Spanish home language	712	84.3	84.5	0.2
DLL children passing language screener: Spanish home language	306	83.7	82.9	-0.8
DLL children not passing language screener: Spanish home language	197	83.8	85.6	1.8

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

In this table, DLL status is based on parent report on the consent form, which was used for the purpose of driving the language of the direct assessment. From these data, children were identified as having an English, Spanish, or Other home language. We define DLLs as those having a Spanish or Other home language.

Some children were administered the assessments in Spanish (or not at all) in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of all children assessed in spring 2010, regardless of performance of language of assessment in the fall.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

<sup>a</sup>Standard scores on this measure provide information on children's skills relative to English speaking peers nationally.

<sup>b</sup>The EOWPVT standard scores provide a measure of children's expressive vocabulary relative to all young English-speaking children in the U.S., while the EOWPVT-SBE standard scores reflect children's bilingual (English and Spanish) vocabulary skills relative to all young Hispanic children nationally. EOWPVT-SBE standard scores are only available for children age 4 and older at the time of assessment. In this table, we only report EOWPVT-SBE standard scores for children who entered the program at age 4.

<sup>c</sup>Standard scores on this measure provide information on children's skills relative to Spanish-dominant or Spanish-bilingual peers.

! Too few cases for a reliable estimate.

- In both the fall and spring of the program year and across language groups, children score below norms in the areas of expressive vocabulary and English receptive vocabulary skills, with children from homes where English is primarily spoken having the highest scores in these areas and children who are dual language learners (DLLs) and are unable to pass the language screener having the lowest scores. In English receptive vocabulary, all children make progress towards norms during the program year, with the exception of DLLs who do not pass the language screener. These children do not show progress relative to same-age peers in their English receptive vocabulary skills. Also, while all other groups of children show progress during the program year towards norms in their expressive vocabulary relative to English speaking peers, DLLs who do not pass the screener do not show progress in this area.
- Among those from Spanish-speaking homes, when looking at expressive vocabulary relative to Spanish-dominant or Spanish-bilingual peers, those who are able to pass the language screener have stronger skills than those who do not pass the language screener in both the fall and spring of the program year. No groups make statistically significant progress towards norms during this time period. In fact, those passing the screener gain nearly 5 standard score points and score above norms at the end of the year (103.6). Regardless of performance on the screener, both groups score closer to Spanish-bilingual norms than to English norms on expressive vocabulary in both the fall and spring.
- When examining children's Spanish receptive vocabulary skills, there are no differences based on children's ability to pass the language screener. That is, both those who do and do not demonstrate enough English proficiency to be assessed in English have similar Spanish receptive vocabulary skills in the fall and the spring, with no children making progress towards norms in this area during the program year, on average.

**Table B.14a. Summary Statistics for FACES Direct Child Assessment—Standardized Scores by Gender: Fall 2009- Spring 2010**

Scales	Girls				Boys			
		Fall 2009	Spring 2010	Fall-Spring Change		Fall 2009	Spring 2010	Fall-Spring Change
	n	Mean	Mean	Mean	n	Mean	Mean	Mean
PPVT-4 Standard Score	1,165	85.9	89.4	3.5*	1,148	85.0	88.6	3.6***
TVIP Standard Score <sup>a</sup>	363	85.5	86.2	0.7	349	83.1	82.8	-0.3
EOWPVT Standard Score <sup>b</sup>	1,290	79.5	82.4	2.9***	1,277	79.3	82.6	3.3***
EOWPVT-SBE Standard Score <sup>a, b</sup>	147	93.1	96.8	3.7	169	91.9	95.4	3.5
WJ III: Letter-Word Identification Standard Score	1,022	98.0	103.6	5.6***	985	94.7	100.7	6.0***
WJ III: Spelling Standard Score	1,048	96.1	99.3	3.2***	993	93.0	95.3	2.3
WJ III: Applied Problems Standard Score	914	91.2	93.2	2.0***	886	88.8	91.6	2.8
ECLS-B Letter-Sounds IRT Score	320	0.9	2.3	1.4 ***	233	0.9	2.3	1.4 ***
Combined ECLS-B Letter-Sounds/WJ III Letter-Word Identification IRT Score	320	10.1	14.2	4.1***	233	9.8	14.2	4.4 ***
ECLS-B Math IRT Score	1,297	7.6	9.6	2.0***	1,276	7.3	9.3	1.9***
ECLS-B Number/Shape Proficiency Probability Score	1,297	0.28	0.48	0.21***	1,276	0.25	0.44	0.19***
Combined ECLS-B Math/WJ III Applied Problems IRT Score	1,297	14.3	18.9	4.5***	1,276	13.6	18.0	4.4***
WM III: Letter-Word Identification Standard Score	54	81.8	86.5	4.8	50	80.6	88.0	7.4
WM III: Spelling Standard Score	99	92.1	89.8	-2.3	91	87.9	89.2	1.3
WM III: Applied Problems Standard Score	69	84.1	83.8	-0.3	77	80.9	84.4	3.5
PPVT-4 Growth Score Value (GSV) Score	1,249	95.5	108.1	12.6***	1,233	94.7	106.9	12.2***
WJ III: Letter-Word Identification W Ability Score	1,022	310.9	329.3	18.4***	985	306.6	325.1	18.5***
WJ III: Spelling W Ability Score	1,048	348.8	369.6	20.8***	993	343.6	363.0	19.4***
WJ III: Applied Problems W Ability Score	914	378.9	393.5	14.5***	886	375.9	391.5	15.6***
WM III: Letter-Word Identification W Ability Score	100	282.7	297.4	14.7***	105	280.0	296.3	16.3***
WM III: Spelling W Ability Score	105	333.4	345.8	12.4***	103	325.3	344.2	18.9***
WM III: Applied Problems W Ability Score	96	354.0	365.5	11.5**	106	350.8	370.6	19.8***

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Fall 2009 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15. W ability scores allow for measurement of change or growth in performance on the same scale over time. Like raw scores, W ability scores are an indicator of absolute, rather than relative, performance. The WJ/WM W scale is centered on 500, which approximates the average score of a 10-year-old child. PPVT-4 Growth Score Value (GSV) scores are similar to W ability scores and can range from 12 to 271.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of children assessed in English in both fall 2009 and spring 2010, along with those assessed in Spanish in both fall 2009 and spring 2010.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

<sup>a</sup>These scores are for all children from Spanish-speaking households, regardless of whether the child passed or did not pass the language screener.

<sup>b</sup>The EOWPVT standard scores provide a measure of children's expressive vocabulary relative to all young English-speaking children in the U.S., while the EOWPVT-SBE standard scores reflect children's bilingual (English and Spanish) vocabulary skills relative to all young Hispanic children nationally. EOWPVT-SBE standard scores are only available for children age 4 and older at the time of assessment. In this table, we only report EOWPVT-SBE standard scores for children who entered the program at age 4.

- Looking first at children's language development, both boys and girls score below norms in the areas of receptive and expressive vocabulary skills in the fall and spring of the first program year. However, both boys and girls make progress relative to peers during the year in their receptive vocabulary (+3.6 and 3.5 standard score points, respectively) and expressive vocabulary (+3.3 and 2.0 standard score points, respectively) relative to English speaking peers. Among those from Spanish-speaking homes, neither group makes statistically significant progress relative to Spanish-dominant and Spanish-bilingual peers in their expressive vocabulary skills. Among these same children, neither girls nor boys make progress relative to peers during the year in their Spanish receptive vocabulary skills.
- Girls assessed in English score below norms in applied problems in both the fall and spring of their first year of Head Start, but they make progress toward these norms during the year (+2.0 standard score points). They gain nearly 6 standard score points in the area of letter-word knowledge during this period and score above the national average in this area by the spring (103.6). They also make progress in early writing, scoring at the national mean by the spring (99.3).
- Neither girls nor boys assessed in Spanish in both the fall and spring show statistically significant progress towards norms across areas. They remain below norms across areas at the end of the program year.
- Boys assessed in English score below norms at both the beginning and end of the year in early writing and math development, but score at norms in letter-word knowledge by the spring (100.7). They make progress towards norms during the year in letter-word knowledge (+6.0 standard score points). Boys also make progress towards norms in receptive and expressive vocabulary (as noted above).
- In terms of absolute performance, both boys and girls make progress across developmental areas. For example, among those assessed in English, on the ECLS-B math items, while 28 percent of girls are able to identify numbers and shapes at the start of the program year, by the spring 48 percent are able to do so. The percentage increases from 25 percent to 44 percent among boys.

**Table B.16a. Summary Statistics for FACES Direct Child Assessment—Standardized Scores by Race/Ethnicity: Fall 2009- Spring 2010**

Scales	White, Non-Hispanic				African American, Non-Hispanic				Hispanic/Latino				Other, Non-Hispanic			
	n	Fall 2009	Spring 2010	Fall-Spring Change	n	Fall 2009	Spring 2010	Fall-Spring Change	n	Fall 2009	Spring 2010	Fall-Spring Change	n	Fall 2009	Spring 2010	Fall-Spring Change
		Mean	Mean	Mean		Mean	Mean	Mean		Mean	Mean	Mean		Mean		
PPVT-4 Standard Score	473	92.6	96.3	3.6***	823	85.7	89.2	3.4***	771	78.0	82.4	4.4	183	91.4	93.1	1.8
EOWPVT Standard Score <sup>a</sup>	482	87.1	88.9	1.8	836	79.4	82.8	3.4***	996	74.0	77.7	3.8***	186	82.5	85.3	2.7
WJ III: Letter-Word Identification Standard Score	438	95.9	101.3	5.4***	782	98.2	104.3	6.1***	549	93.4	99.8	6.4***	172	97.3	102.4	5.1**
WJ III: Spelling Standard Score	452	94.7	96.8	2.1	789	93.4	97.0	3.6***	557	95.6	98.1	2.5	174	96.8	99.8	3.0*
WJ III: Applied Problems Standard Score	420	94.1	96.3	2.3	686	88.0	89.7	1.7	484	88.5	92.1	3.6	153	91.0	95.0	4.0
ECLS-B Letter-Sounds IRT Score	102	1.0	2.5	1.5**	248	1.0	2.3	1.3***	129	0.8	2.2	1.4***	52	0.7	2.4	1.7***
Combined ECLS-B Letter-Sounds/WJ-III Letter-Word Identification IRT Score	102	10.2	14.5	4.3**	248	10.2	14.4	4.1***	129	9.5	13.7	4.1***	52	9.5	14.4	4.9***
ECLS-B Math IRT Score	471	8.3	10.5	2.2***	836	7.3	9.4	2.1***	1,004	7.1	8.7	1.6***	178	8.1	10.5	2.4***
ECLS-B Number/Shape Proficiency Probability Score	471	0.34	0.56	0.22***	836	0.25	0.46	0.21***	1,004	0.22	0.39	0.17***	178	0.33	0.56	0.23***
Combined ECLS-B Math/WJ III Applied Problems IRT Score	471	15.8	20.8	5.1***	836	13.6	18.5	4.9***	1,004	13.1	16.6	3.5***	178	15.4	20.9	5.5***
WM III: Letter-Word Identification Standard Score	1	!	!	!	0	N/A	N/A	N/A	101	81.0	86.2	5.2**	0	N/A	N/A	N/A
WM III: Spelling Standard Score	1	!	!	!	0	N/A	N/A	N/A	186	89.8	89.1	-0.6*	0	N/A	N/A	N/A
WM III: Applied Problems Standard Score	0	N/A	N/A	N/A	0	N/A	N/A	N/A	143	82.3	84.1	1.8	0	N/A	N/A	N/A
PPVT-4 Growth Score Value (GSV) Score	478	105.4	116.5	11.1***	837	97.4	108.7	11.3***	916	83.5	99.0	15.5***	183	104.9	114.3	9.4***
WJ III: Letter-Word Identification W Ability Score	438	307.8	325.5	17.7***	782	310.3	329.3	19.0***	549	306.5	325.4	18.8***	172	310.0	327.8	17.8***
WJ III: Spelling W Ability Score	452	345.4	364.6	19.2***	789	342.7	364.4	21.7***	557	351.6	370.8	19.3***	174	349.8	370.3	20.5***
WJ III: Applied Problems W Ability Score	420	382.2	397.2	15.1***	686	373.8	387.9	14.1***	484	377.8	394.4	16.6***	153	378.3	395.8	17.5***

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Fall 2009 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15. W ability scores allow for measurement of change or growth in performance on the same scale over time. Like raw scores, W ability scores are an indicator of absolute, rather than relative, performance. The WJ/WM W scale is centered on 500, which approximates the average score of a 10-year-old child. PPVT-4 Growth Score Value (GSV) scores are similar to W ability scores and can range from 12 to 271.

Some children were administered the assessments in Spanish (or not at all) in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of children assessed in English in both fall 2009 and spring 2010. In addition, mean scores are only reported for those with valid scores at both occasions (for example, those who established a basal on the PPVT-4 at both waves).

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

<sup>a</sup>The EOWPVT standard scores provide a measure of children's expressive vocabulary relative to all young English-speaking children in the U.S., while the EOWPVT-SBE standard scores reflect children's bilingual (English and Spanish) vocabulary skills relative to all young Hispanic children nationally. EOWPVT-SBE standard scores are only available for children age 4 and older at the time of assessment.

! Too few cases for a reliable estimate.

N/A = not available.

- With the exception of letter-word knowledge, across racial/ethnic groups, children score below national norms across measures of language, literacy, and math development in both the fall and spring of their first year of Head Start. Across groups, in the area of letter-word knowledge children make progress toward norms during the year. In fact, children from all racial/ethnic groups score at or above norms in letter-word knowledge by the end of the program year, with Hispanic/Latino children (+6.4 standard score points) and African American children making the greatest gains (+7.4 standard score points). White and African American children make progress in English receptive vocabulary. African American children make the greatest progress in early writing during the program year (+3.6 standard score points), while only Hispanic/Latino make progress in applied problems (+3.6 standard score points). Both African American and Hispanic/Latino children make progress towards English speaking peers in their expressive vocabulary.
- In terms of absolute performance, children from all racial/ethnic backgrounds make progress across developmental areas. For example, while 34 percent of White children are able to identify numbers and shapes at the start of the program year, by the spring 57 percent are able to do so. The percentage increases from 25 percent to 46 percent among African American children, from 28 percent to 54 percent among Hispanic/Latino children, and from 33 percent to 56 percent among Other race children.



**Table B.18a. Summary Statistics for FACES Direct Child Assessment—Standardized Scores by Number of Family Risks: Fall 2009- Spring 2010**

Scales	0 Risks <sup>a</sup>			1 Risk <sup>a</sup>			2 or More Risks <sup>a</sup>					
	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean
PPVT-4 Standard Score	317	91.6	94.4	2.9	742	86.8	90.3	3.4*	1,014	82.3	86.4	4.1**
TVIP Standard Score <sup>b</sup>	68	82.6	82.5	-0.2	205	85.7	86.6	1.0	397	84.3	83.9	-0.4
EOWPVT Standard Score <sup>c</sup>	330	84.6	87.9	3.4*	821	81.4	83.9	2.4**	1,162	76.6	80.1	3.5***
EOWPVT-SBE Standard Score <sup>b, c</sup>	24	!	!	!	87	96.0	98.5	2.4	179	88.2	93.3	5.1*
WJ III: Letter-Word Identification Standard Score	286	100.2	106.4	6.2**	657	97.9	104.1	6.2***	844	94.0	99.5	5.4***
WJ III: Spelling Standard Score	281	97.3	100.4	3.1	663	95.2	98.2	3.0**	870	93.5	96.2	2.7**
WJ III: Applied Problems Standard Score	261	93.8	96.0	2.2	595	91.1	93.7	2.6	741	88.3	90.9	2.7
WM III: Letter-Word Identification Standard Score	8	!	!	!	25	!	!	!	68	80.7	86.5	5.8*
WM III: Spelling Standard Score	18	!	!	!	43	93.9	90.0	-4.0	125	89.3	89.2	-0.1
WM III: Applied Problems Standard Score	8	!	!	!	36	84.4	86.2	1.8	100	82.7	84.0	1.4
PPVT-4 Growth Score Value (GSV) Score	329	102.0	113.0	11.1***	795	96.9	109.1	12.1***	1,107	91.0	104.5	13.5***
WJ III: Letter-Word Identification W Ability Score	286	311.8	330.7	19.0***	657	310.4	329.7	19.3***	844	306.2	323.6	17.5***
WJ III: Spelling W Ability Score	281	348.7	369.4	20.7***	663	347.0	367.6	20.6***	870	344.8	364.7	19.9***
WJ III: Applied Problems W Ability Score	261	380.4	395.3	14.9***	595	378.5	393.9	15.4***	741	375.7	391.1	15.5***
WM III: Letter-Word Identification W Ability Score	19	!	!	!	49	282.1	293.4	11.3**	132	281.4	298.1	16.7***
WM III: Spelling W Ability Score	20	!	!	!	50	326.6	339.5	12.9	134	331.3	346.5	15.2***
WM III: Applied Problems W Ability Score	19	!	!	!	48	350.0	367.1	17.1	133	355.0	370.7	15.6***
ECLS-B Letter-Sounds IRT Score	96	1.0	2.4	1.5***	189	1.0	2.3	1.3***	200	0.7	2.2	1.6***
Combined ECLS-B Letter-Sounds/WJ III Letter-Word Identification IRT Score	96	10.1	14.4	4.3***	189	10.4	14.2	3.8***	200	9.3	13.9	4.6***
ECLS-B Math IRT Score	330	8.1	10.2	2.1***	824	7.7	9.8	2.1***	1,165	7.2	9.0	1.8***
Combined ECLS-B Math/WJ III Applied Problems IRT Score	330	0.32	0.54	0.21***	824	0.28	0.50	0.22***	1,165	0.23	0.41	0.18***
ECLS-B Number/Shape Proficiency Probability Score	330	15.5	20.2	4.7***	824	14.5	19.3	4.8***	1,165	13.2	17.3	4.1***

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Fall 2009 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Standard scores allow for comparisons of an individual's performance to others of the same age (or grade). These scores have a mean of 100 and a standard deviation of 15. W ability scores allow for measurement of change or growth in performance on the same scale over time. Like raw scores, W ability scores are an indicator of absolute, rather than relative, performance. The WJ/WM W scale is centered on 500, which approximates the average score of a 10-year-old child. PPVT-4 Growth Score Value (GSV) scores are similar to W ability scores and can range from 12 to 271.

The TVIP and Woodcock Muñoz scores within this table are based on different groups of children. TVIP scores include all children from Spanish-speaking households, regardless of whether the child passed or did not pass the English language screener. Woodcock Muñoz scores include only children from Spanish-speaking households who did not pass the language screener.

Some children were administered the assessments in Spanish in fall 2009 and then in English in spring 2010. Similarly, some children were unable to achieve a basal in the fall but were able to by the spring. Data in this table reflect the performance of children assessed in English in both fall 2009 and spring 2010, along with those assessed in Spanish in both fall 2009 and spring 2010.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

<sup>a</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

<sup>b</sup>These scores are for all children from Spanish-speaking households, regardless of whether the child passed or did not pass the language screener.

<sup>c</sup>The EOWPVT standard scores provide a measure of children's expressive vocabulary relative to all young English-speaking children in the U.S., while the EOWPVT-SBE standard scores reflect children's bilingual (English and Spanish) vocabulary skills relative to all young Hispanic children nationally. EOWPVT-SBE standard scores are only available for children age 4 and older at the time of assessment. In this table, we only report EOWPVT-SBE standard scores for children who entered the program at age 4.

! Too few cases for a reliable estimate.

- Looking first at children's language development, regardless of number of family risks, children score below norms in the areas of expressive vocabulary and English receptive vocabulary skills in the fall and spring of the first program year. However, all groups make progress relative to English-speaking peers during the year in their expressive vocabulary (gain between 2.4 and 3.5 standard score points). Children with one and two or more family risks also make progress in their English receptive vocabulary (gain 3.4 and 4.1 standard score points, respectively).
- Among those from Spanish-speaking homes, regardless of number of family risks, children score below norms in Spanish receptive vocabulary at both time points. No groups of children make progress relative to peers during the year in this area. Meanwhile, children with two or more family risks make progress relative to Spanish-dominant and Spanish-bilingual peers in their expressive vocabulary skills, gaining 5 standard score points during the program year. In contrast, while children with one family risk do not make similar gains, these children score at or near norms at the end of the program year.
- Regardless of number of family risks, children assessed in English make progress across literacy measures during the program year. In fact, all groups make progress in letter-word knowledge and score at or above national norms in this area by the end of the program year. Similarly, children with 1 or 2 or more family risk make progress in the area of early writing (+3.0 and 2.7 standard score points, respectively), scoring at or near norms by the spring (98.2 and 96.2, respectively).
- On the ECLS-B math items, all children make progress during the program year and can correctly answer more items. For example, while 32 percent of children with no family risks are able to identify numbers and shapes at the start of the program year, by the spring about 54 percent are able to do so. The percentage increases from 28 percent to 50 percent among children with 1 risk and from 23 percent to 41 percent among children with 2 or more risks.

**Table B.20a. Summary Statistics for Parent Interview and Teacher Child Report Measures: Fall 2009- Spring 2010**

Scales	n	Fall 2009	Spring 2010	Fall-Spring Change
		Mean	Mean	Mean
Child Literacy Behaviors (Teacher Child Report)	2,755	2.8	4.6	1.9***
Emergent Literacy Scale (Parent Interview)	2,473	2.4	3.6	1.2***

Source: Fall 2009 and Spring 2010 FACES Parent Interview and Teacher Child Report.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Head Start teachers and parents are asked to indicate whether and the extent to which children demonstrate certain abilities that are associated with literacy, including their pre-reading and early writing skills. Composites reflecting the child's sum score on these items are created. Teachers and parents respond to slightly different items, with possible response ranges being 0 to 7 for teacher scores and 0 to 5 for parent scores.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

- Both teachers and parents report that children have more literacy skills by the end of the program year.

**Table B.21a. Summary Statistics for Parent Interview and Teacher Child Report Measures by Age: Fall 2009- Spring 2010**

Scales	3-Year-Olds <sup>a</sup>			4-Year-Olds <sup>a</sup>				
	n	Fall 2009	Spring 2010	Fall-Spring Change	n	Fall 2009	Spring 2010	Fall-Spring Change
		Mean	Mean	Mean		Mean	Mean	Mean
Child Literacy Behaviors (Teacher Child Report)	1,662	2.3	4.1	1.8***	989	3.5	5.4	1.9***
Emergent Literacy Scale (Parent Interview)	1,573	2.0	3.2	1.2***	899	2.9	4.1	1.2***

Source: Fall 2009 and Spring 2010 FACES Parent Interview and Teacher Child Report.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Head Start teachers and parents are asked to indicate whether and the extent to which children demonstrate certain abilities that are associated with literacy, including their prereading and early writing skills. Composites reflecting the child's sum score on these items are created. Teachers and parents respond to slightly different items, with possible response ranges being 0 to 7 for teacher scores and 0 to 5 for parent scores.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

<sup>a</sup>Age as of September 1, 2009.

- Both teachers and parents report that 3- and 4-year-old children have more literacy skills by the end of the program year.

**Table B.22a. Summary Statistics for Parent Interview and Teacher Child Report Measures by Gender: Fall 2009- Spring 2010**

	Girls				Boys			
		Fall 2009	Spring 2010	Fall-Spring Change		Fall 2009	Spring 2010	Fall-Spring Change
Scales	n	Mean	Mean	Mean	n	Mean	Mean	Mean
Child Literacy Behaviors (Teacher Child Report)	1,366	3.0	4.9	1.9***	1,389	2.5	4.3	1.8***
Emergent Literacy Scale (Parent Interview)	1,219	2.6	3.7	1.2***	1,254	2.1	3.4	1.2***

Source: Fall 2009 and Spring 2010 FACES Parent Interview and Teacher Child Report.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Head Start teachers and parents are asked to indicate whether and the extent to which children demonstrate certain abilities that are associated with literacy, including their prereading and early writing skills. Composites reflecting the child's sum score on these items are created. Teachers and parents respond to slightly different items, with possible response ranges being 0 to 7 for teacher scores and 0 to 5 for parent scores.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

- Both teachers and parents report that girls and boys have more literacy skills by the end of the program year.

**Table B.23a. Summary Statistics for Parent Interview and Teacher Child Report Measures by Race/Ethnicity: Fall 2009- Spring 2010**

Scales	White, Non-Hispanic			African American, Non-Hispanic			Hispanic/Latino			Other, Non-Hispanic						
	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean
Child Literacy Behaviors (Teacher Child Report)	541	2.7	4.5	1.8***	834	2.8	4.6	1.8***	1,072	2.7	4.7	2.0***	201	2.8	4.7	1.9***
Emergent Literacy Scale (Parent Interview)	477	2.3	3.6	1.2***	785	2.6	3.8	1.2***	1,040	2.1	3.3	1.2***	168	2.5	3.6	1.1***

Source: Fall 2009 and Spring 2010 FACES Parent Interview and Teacher Child Report.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Head Start teachers and parents are asked to indicate whether and the extent to which children demonstrate certain abilities that are associated with literacy, including their prereading and early writing skills. Composites reflecting the child's sum score on these items are created. Teachers and parents respond to slightly different items, with possible response ranges being 0 to 7 for teacher scores and 0 to 5 for parent scores.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

- Both teachers and parents report that children from all racial/ethnic groups have more literacy skills by the end of the program year.

**Table B.24a. Summary Statistics for Parent Interview and Teacher Child Report Measures by Number of Family Risks: Fall 2009- Spring 2010**

Scales	0 Risks <sup>a</sup>			1 Risk <sup>a</sup>			2 or More Risks <sup>a</sup>					
	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean
Child Literacy Behaviors (Teacher Child Report)	356	3.1	4.8	1.7***	873	2.9	4.8	1.9***	1,234	2.6	4.4	1.9***
Emergent Literacy Scale (Parent Interview)	326	2.6	3.7	1.1***	817	2.5	3.7	1.2***	1,152	2.2	3.4	1.3***

Source: Fall 2009 and Spring 2010 FACES Parent Interview and Teacher Child Report.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Head Start teachers and parents are asked to indicate whether and the extent to which children demonstrate certain abilities that are associated with literacy, including their prereading and early writing skills. Composites reflecting the child's sum score on these items are created. Teachers and parents respond to slightly different items, with possible response ranges being 0 to 7 for teacher scores and 0 to 5 for parent scores.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

<sup>a</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

- Both teachers and parents report that all children, regardless of number of family risks, have more literacy skills by the end of the program year.





## **C. CHILD SOCIAL- EMOTIONAL DEVELOPMENT**



**Child Social- Emotional Development: Spring 2010**



**Table C.1. Reliability of FACES Direct Child Assessment, Teacher Child Report, Parent Interview, and Assessor Rating Measures: Spring 2010**

Scales	Total Sample		
	Number of Items	n	Cronbach Alphas
<b>Direct Child Assessment</b>			
Pencil Tapping (4-year-olds only) <sup>a</sup>	17	1,072	0.88
<b>Teacher Child Report</b>			
Social Skills	12	2,803	0.89
Total Behavior Problems	13	2,809	0.87
Aggressive Behavior	4	2,809	0.85
Hyperactive Behavior	6	2,808	0.78
Withdrawn Behavior	6	2,809	0.74
ECLS-K Approaches to Learning	6	2,808	0.92
<b>Parent Interview</b>			
Social Skills/Positive Approaches to Learning	8	2,587	0.69
Total Behavior Problems	12	2,581	0.73
<b>Assessor Rating</b>			
Leiter Cognitive/ Social Raw Score	4	2,772	0.90
Leiter Cognitive/ Social Standard Score <sup>b</sup>	4	2,772	0.90
Attention	10	2,772	0.97
Organization/Impulse Control	8	2,772	0.93
Activity Level	4	2,772	0.91
Sociability	5	2,772	0.93

Source: Spring 2010 FACES Direct Child Assessment, Parent Interview, Teacher Child Report, and Assessor Rating.

Note: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

<sup>a</sup>In the Pencil Tapping task, children are asked to inhibit the natural response to imitate the adult assessor exactly (or to tap repeatedly) and instead to keep in mind that the rule is to do the opposite of what the assessor does. Reported scores reflect the percentage of times the child tapped correctly. They can take on any value from zero to 100, with higher scores indicating better skills on the task. The task is only administered to children age 4 and older at the time of the direct assessment. In this table, we only report pencil tapping scores for children who entered the program at age 4.

<sup>b</sup>This standard score has a mean of 100 and a standard deviation of 15.

**Table C.2. Summary Statistics for FACES Teacher Child Report, Parent Interview, and Assessor Rating Measures: Spring 2010**

Scales	n	Mean	SE	Reported Response Range	Possible Response Range
<b>Teacher Child Report</b>					
Social Skills	2,803	17.1	0.2	0 - 24.0	0 - 24
Total Behavior Problems	2,809	4.4	0.2	0 - 28.0	0 - 36
Aggressive Behavior	2,809	1.4	0.1	0 - 8.0	0 - 8
Hyperactive Behavior	2,808	1.2	0.0	0 - 6.0	0 - 12
Withdrawn Behavior	2,809	1.4	0.1	0 - 12.0	0 - 12
ECLS-K Approaches to Learning	2,808	1.9	0.0	0 - 3.0	0 - 3
<b>Parent Interview</b>					
Social Skills/Positive Approaches to Learning	2,587	12.4	0.1	2 - 16.0	0 - 16
Total Behavior Problems	2,581	5.3	0.1	0 - 21.0	0 - 24
<b>Assessor Rating</b>					
Leiter Cognitive/ Social Raw Score	2,772	56.1	0.9	0 - 81.0	0 - 81
Leiter Cognitive/ Social Standard Score <sup>a</sup>	2,772	88.8	0.7	40 - 124.0	40 - 126
Attention	2,772	20.3	0.3	0 - 30.0	0 - 30
Organization/Impulse Control	2,772	16.1	0.3	0 - 24.0	0 - 24
Activity Level	2,772	7.9	0.1	0 - 12.0	0 - 12
Sociability	2,772	11.8	0.2	0 - 15.0	0 - 15

Source: Spring 2010 FACES Direct Child Assessment, Parent Interview, Teacher Child Report, and Assessor Rating.

Note: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

<sup>a</sup>This standard score has a mean of 100 and a standard deviation of 15.

**Table C.3. Summary Statistics for FACES Teacher Child Report, Parent Interview, and Assessor Rating Measures by Age: Spring 2010**

Scales	3-Year-Olds <sup>a</sup>				4-Year-Olds <sup>a</sup>				Possible Response Range	
	n	Mean	SE	Reported Response Range	n	Mean	SE	Reported Response Range		
<b>Teacher Child Report</b>										
Social Skills	1,689	16.5	0.2	0 - 24.0	1,008	17.9	0.2	2 - 24.0	0 - 24	
Total Behavior Problems	1,693	4.7	0.2	0 - 28.0	1,010	3.9	0.2	0 - 26.0	0 - 36	
Aggressive Behavior	1,693	1.5	0.1	0 - 8.0	1,010	1.2	0.1	0 - 8.0	0 - 8	
Hyperactive Behavior	1,692	1.4	0.1	0 - 6.0	1,010	1.1	0.1	0 - 6.0	0 - 12	
Withdrawn Behavior	1,693	1.4	0.1	0 - 12.0	1,010	1.4	0.1	0 - 10.0	0 - 12	
ECLS-K Approaches to Learning	1,692	1.8	0.0	0 - 3.0	1,010	2.0	0.1	0 - 3.0	0 - 3	
<b>Parent Interview</b>										
Social Skills/Positive Approaches to Learning	1,577	12.2	0.1	2 - 16.0	904	12.6	0.1	4 - 16.0	0 - 16	
Total Behavior Problems	1,574	5.2	0.1	0 - 21.0	902	5.4	0.1	0 - 20.0	0 - 24	
<b>Assessor Rating</b>										
Leiter Cognitive/ Social Raw Score	1,675	53.5	1.1	0 - 81.0	1,004	59.9	1.3	1 - 81.0	0 - 81	
Leiter Cognitive/ Social Standard Score <sup>b</sup>	1,675	87.6	0.8	40 - 124.0	1,004	90.6	1.2	41 - 117.0	40 - 126	
Attention	1,675	19.2	0.4	0 - 30.0	1,004	21.8	0.5	0 - 30.0	0 - 30	
Organization/Impulse Control	1,675	15.3	0.3	0 - 24.0	1,004	17.3	0.4	0 - 24.0	0 - 24	
Activity Level	1,675	7.5	0.2	0 - 12.0	1,004	8.6	0.2	0 - 12.0	0 - 12	
Sociability	1,675	11.5	0.2	0 - 15.0	1,004	12.2	0.2	1 - 15.0	0 - 15	

Source: Spring 2010 FACES Direct Assessment, Parent Interview, Teacher Child Report, and Assessor Rating.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>This standard score has a mean of 100 and a standard deviation of 15.

**Table C.4. Summary Statistics for FACES Teacher Child Report, Parent Interview, and Assessor Rating Measures by Gender: Spring 2010**

Scales	Girls				Boys					
	n	Mean	SE	Reported Response Range	n	Mean	SE	Reported Response Range	Possible Response Range	
<b>Teacher Child Report</b>										
Social Skills	1,392	18.1	0.2	4 - 24.0	1,411	16.0	0.2	0 - 24.0	0 - 24	
Total Behavior Problems	1,396	3.2	0.2	0 - 23.0	1,413	5.5	0.2	0 - 28.0	0 - 36	
Aggressive Behavior	1,396	0.9	0.1	0 - 8.0	1,413	1.9	0.1	0 - 8.0	0 - 8	
Hyperactive Behavior	1,395	0.9	0.0	0 - 6.0	1,413	1.6	0.1	0 - 6.0	0 - 12	
Withdrawn Behavior	1,396	1.2	0.1	0 - 12.0	1,413	1.6	0.1	0 - 12.0	0 - 12	
ECLS-K Approaches to Learning	1,395	2.0	0.0	0 - 3.0	1,413	1.7	0.0	0 - 3.0	0 - 3	
<b>Parent Interview</b>										
Social Skills/Positive Approaches to Learning	1,278	12.7	0.1	4 - 16.0	1,309	12.0	0.1	2 - 16.0	0 - 16	
Total Behavior Problems	1,276	4.9	0.1	0 - 19.0	1,305	5.7	0.2	0 - 21.0	0 - 24	
<b>Assessor Rating</b>										
Leiter Cognitive/ Social Raw Score	1,384	58.2	0.8	0 - 81.0	1,388	53.9	1.0	0 - 81.0	0 - 81	
Leiter Cognitive/ Social Standard Score <sup>a</sup>	1,384	90.2	0.8	40 - 124.0	1,388	87.4	0.8	40 - 124.0	40 - 126	
Attention	1,384	21.1	0.3	0 - 30.0	1,388	19.4	0.4	0 - 30.0	0 - 30	
Organization/Impulse Control	1,384	16.7	0.3	0 - 24.0	1,388	15.4	0.3	0 - 24.0	0 - 24	
Activity Level	1,384	8.2	0.1	0 - 12.0	1,388	7.6	0.2	0 - 12.0	0 - 12	
Sociability	1,384	12.1	0.2	0 - 15.0	1,388	11.5	0.2	0 - 15.0	0 - 15	

Source: Spring 2010 FACES Direct Child Assessment, Parent Interview, Teacher Child Report, and Assessor Rating.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>This standard score has a mean of 100 and a standard deviation of 15.



**Table C.5. Summary Statistics for FACES Teacher Child Report, Parent Interview, and Assessor Rating Measures by Race/Ethnicity: Spring 2010**

Scales	White, Non-Hispanic			African American, Non-Hispanic			Hispanic/Latino			Other, Non-Hispanic		
	n	Mean	SE	n	Mean	SE	n	Mean	SE	n	Mean	SE
<b>Teacher Child Report</b>												
Social Skills	546	17.1	0.3	852	16.7	0.2	1,092	17.3	0.3	204	17.2	0.5
Total Behavior Problems	546	4.9	0.2	854	4.5	0.3	1,096	3.9	0.3	204	4.1	0.3
Aggressive Behavior	546	1.5	0.1	854	1.6	0.1	1,096	1.2	0.1	204	1.2	0.1
Hyperactive Behavior	545	1.4	0.1	854	1.3	0.1	1,096	1.1	0.1	204	1.1	0.1
Withdrawn Behavior	546	1.7	0.1	854	1.4	0.1	1,096	1.2	0.1	204	1.5	0.1
ECLS-K Approaches to Learning	545	1.8	0.0	854	1.7	0.0	1,096	1.9	0.0	204	1.9	0.1
<b>Parent Interview</b>												
Social Skills/Positive Approaches to Learning	478	12.2	0.2	787	12.6	0.1	1,046	12.3	0.1	168	12.5	0.2
Total Behavior Problems	476	5.2	0.2	785	4.4	0.1	1,045	6.3	0.1	168	4.3	0.3
<b>Assessor Rating</b>												
Leiter Cognitive/ Social Raw Score	521	56.6	1.1	871	54.0	1.2	1,086	56.9	1.3	198	59.2	1.8
Leiter Cognitive/ Social Standard Score <sup>a</sup>	521	89.4	1.1	871	87.5	1.0	1,086	89.2	1.0	198	91.1	1.4
Attention	521	20.5	0.4	871	19.3	0.4	1,086	20.7	0.5	198	21.5	0.7
Organization/Impulse Control	521	16.4	0.4	871	15.4	0.4	1,086	16.2	0.4	198	17.0	0.5
Activity Level	521	8.0	0.2	871	7.6	0.2	1,086	8.1	0.2	198	8.4	0.4
Sociability	521	11.7	0.2	871	11.8	0.3	1,086	11.8	0.2	198	12.2	0.3

Source: Spring 2010 FACES Direct Child Assessment, Parent Interview, Teacher Child Report, and Assessor Rating.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>This standard score has a mean of 100 and a standard deviation of 15.

**Table C.6. Summary Statistics for FACES Teacher Child Report, Parent Interview, and Assessor Rating Measures by Number of Family Risks: Spring 2010**

Scales	0 Risks <sup>a</sup>			1 Risk <sup>a</sup>			2 or More Risks <sup>a</sup>		
	n	Mean	SE	n	Mean	SE	n	Mean	SE
<b>Teacher Child Report</b>									
Social Skills	359	17.3	0.3	890	17.2	0.2	1,257	17.0	0.2
Total Behavior Problems	360	4.1	0.3	891	4.4	0.2	1,261	4.3	0.2
Aggressive Behavior	360	1.4	0.1	891	1.4	0.1	1,261	1.4	0.1
Hyperactive Behavior	360	1.1	0.1	891	1.3	0.1	1,261	1.2	0.1
Withdrawn Behavior	360	1.3	0.1	891	1.4	0.1	1,261	1.4	0.1
ECLS-K Approaches to Learning	360	1.9	0.0	891	1.8	0.0	1,261	1.9	0.0
<b>Parent Interview</b>									
Social Skills/Positive Approaches to Learning	326	12.3	0.1	822	12.4	0.1	1,156	12.5	0.1
Total Behavior Problems	326	4.6	0.2	820	5.0	0.2	1,153	5.6	0.2
<b>Assessor Rating</b>									
Leiter Cognitive/Social Raw Score	359	58.7	1.4	878	56.9	0.8	1,251	55.2	1.0
Leiter Cognitive/Social Standard Score <sup>b</sup>	359	91.7	1.3	878	89.5	0.7	1,251	88.0	0.8
Attention	359	21.5	0.5	878	20.5	0.3	1,251	19.9	0.4
Organization/Impulse Control	359	16.9	0.5	878	16.3	0.3	1,251	15.8	0.3
Activity Level	359	8.3	0.3	878	8.1	0.1	1,251	7.8	0.2
Sociability	359	11.9	0.2	878	12.0	0.2	1,251	11.7	0.2

Source: Spring 2010 FACES Direct Assessment, Parent Interview, Teacher Child Report, and Assessor Rating.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

<sup>b</sup>This standard score has a mean of 100 and a standard deviation of 15.

**Table C.7. Summary Statistics for FACES Direct Child Assessment Measures—Pencil Tapping<sup>a</sup> Scores: Spring 2010**

	n	Mean	SE
All Children	1,072	60.2	1.2
<b>Age<sup>b</sup></b>			
3 years old or younger	N/A	N/A	N/A
4 years old or older	999	61.0	1.2
<b>Race/Ethnicity</b>			
White, Non-Hispanic	199	67.7	2.0
African American, Non-Hispanic	292	58.8	2.6
Hispanic/Latino	444	58.1	2.2
Other, Non-Hispanic	64	65.4	3.9
<b>Gender</b>			
Female	539	62.8	1.8
Male	533	57.6	1.4
<b>Family Risks<sup>c</sup></b>			
0	117	68.4	3.0
1	314	63.0	1.7
2 or More	488	58.9	1.9

Source: Fall 2009 FACES Parent Interview and Spring 2010 FACES Direct Child Assessment.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>In the Pencil Tapping task, children are asked to inhibit the natural response to imitate the adult assessor exactly (or to tap repeatedly) and instead to keep in mind that the rule is to do the opposite of what the assessor does. Reported scores reflect the percentage of times the child tapped correctly. They can take on any value from zero to 100, with higher scores indicating better skills on the task. The task is only administered to children age 4 and older at the time of the direct assessment. In this table, we only report pencil tapping scores for children who entered the program at age 4.

<sup>b</sup>Age as of September 1, 2009.

<sup>c</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

N/A = not available. We only report pencil tapping scores for children who entered the program at age 4.



**Child Social- Emotional Development: Fall 2009 – Spring 2010 Change**



**Table C.2a. Summary Statistics for FACES Teacher Child Report, Parent Interview, and Assessor Rating Measures: Fall 2009- Spring 2010**

Scales	n	Fall 2009	Spring 2010	Fall-Spring Change
		Mean	Mean	Mean
<b>Teacher Child Report</b>				
Social Skills	2,750	15.0	17.1	2.1***
Total Behavior Problems	2,754	4.7	4.4	-0.3*
Aggressive Behavior	2,754	1.5	1.4	0.0
Hyperactive Behavior	2,754	1.4	1.2	-0.2**
Withdrawn Behavior	2,754	1.4	1.4	0.0
ECLS-K Approaches to Learning	2,753	1.6	1.9	0.2***
<b>Parent Interview</b>				
Social Skills/Positive Approaches to Learning	2,482	12.0	12.4	0.4***
Total Behavior Problems	2,473	5.5	5.3	-0.2
<b>Assessor Rating</b>				
Leiter Cognitive/ Social Raw Score	2,650	51.4	56.2	4.8***
Leiter Cognitive/ Social Standard Score <sup>a</sup>	2,650	86.9	89.0	2.0***
Attention	2,650	18.3	20.3	2.1***
Organization/Impulse Control	2,650	14.5	16.1	1.6***
Activity Level	2,651	7.4	7.9	0.5***
Sociability	2,650	11.2	11.8	0.6***

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Parent Interview, Teacher Child Report, and Assessor Rating.

Note: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

<sup>a</sup>This standard score has a mean of 100 and a standard deviation of 15.

- Teachers report that children demonstrate more social skills, more positive approaches to learning, and fewer problem behaviors on average by the end of the program year. They also report children as demonstrating fewer hyperactive behaviors in the spring.
- Similarly, parents report that children demonstrate more social skills and positive approaches to learning on average in the spring.
- Based on the child's behavior during the direct assessment, assessors rate children as demonstrating better social/cognitive skills at the end of the year, including attention and organization/impulse control.





**Table C.3a. Summary Statistics for FACES Teacher Child Report, Parent Interview, and Assessor Rating Measures by Age: Fall 2009- Spring 2010**

Scales	3-Year-Olds <sup>a</sup>				4-Year-Olds <sup>a</sup>			
	n	Fall 2009	Spring 2010	Fall-Spring Change	n	Fall 2009	Spring 2010	Fall-Spring Change
		Mean	Mean	Mean		Mean	Mean	Mean
<b>Direct Child Assessment</b>								
Pencil Tapping <sup>b</sup>	N/A	N/A	N/A	N/A	943	42.6	61.4	18.7***
<b>Teacher Child Report</b>								
Social Skills	1,661	14.3	16.5	2.2***	985	16.1	18.0	1.8***
Total Behavior Problems	1,661	5.0	4.7	-0.3	989	4.1	3.9	-0.2
Aggressive Behavior	1,661	1.6	1.5	0.0	989	1.3	1.2	0.0
Hyperactive Behavior	1,661	1.5	1.4	-0.1*	989	1.3	1.1	-0.2
Withdrawn Behavior	1,661	1.5	1.4	-0.1	989	1.3	1.3	0.0
ECLS-K Approaches to Learning	1,661	1.5	1.8	0.2***	988	1.7	2.0	0.2***
<b>Parent Interview</b>								
Social Skills/Positive Approaches to Learning	1,577	11.9	12.2	0.3**	904	12.1	12.6	0.5***
Total Behavior Problems	1,572	5.3	5.2	-0.1	900	5.8	5.4	-0.4
<b>Assessor Rating</b>								
Leiter Cognitive/ Social Raw Score	1,601	47.8	53.7	5.9***	963	56.7	59.9	3.2***
Leiter Cognitive/ Social Standard Score <sup>c</sup>	1,601	86.1	87.8	1.7**	963	88.2	90.6	2.4**
Attention	1,601	16.8	19.3	2.5***	963	20.5	21.9	1.4***
Organization/Impulse Control	1,601	13.4	15.3	1.9***	963	16.1	17.3	1.1***
Activity Level	1,601	6.9	7.5	0.6***	963	8.1	8.6	0.5**
Sociability	1,601	10.7	11.6	0.9***	963	12.0	12.2	0.2

Source: Fall 2009 and Spring 2010 FACES Direct Assessment, Parent Interview, Teacher Child Report, and Assessor Rating.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

N/A = Not available.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>In the Pencil Tapping task, children are asked to inhibit the natural response to imitate the adult assessor exactly (or to tap repeatedly) and instead to keep in mind that the rule is to do the opposite of what the assessor does. This score reflects the percentage of times the child tapped correctly. Reported scores reflect the percentage of times the child tapped correctly. They can take on any value from zero to 100, with higher scores indicating better skills on the task. The task is only administered to children age 4 and older at the time of the direct assessment.

°This standard score has a mean of 100 and a standard deviation of 15.

- Teachers report that both children who entered the program at ages 3 and 4 demonstrate more social skills and positive approaches to learning on average by the end of the program year. Teachers do not report 3- or 4-year-old children as demonstrating fewer problem behaviors by the spring, and they only report those who entered at age 3 as demonstrating fewer hyperactive behaviors on average in the spring.
- Like teachers, parents report that both 3- and 4-year-olds demonstrate more social skills and positive approaches to learning on average in the spring. They do not report children as having fewer problem behaviors by the spring.
- Based on the child's behavior during the direct assessment, assessors rate both 3- and 4-year-olds as demonstrating better social/cognitive skills by the end of the program year, including attention and organization/impulse control.

**Table C.4a. Summary Statistics for FACES Teacher Child Report, Parent Interview, and Assessor Rating Measures by Gender: Fall 2009- Spring 2010**

Scales	Girls				Boys			
	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean
<b>Teacher Child Report</b>								
Social Skills	1,363	16.0	18.1	2.2***	1,387	14.0	16.1	2.0***
Total Behavior Problems	1,366	3.6	3.3	-0.4**	1,388	5.7	5.4	-0.2
Aggressive Behavior	1,366	1.0	0.9	-0.1	1,388	1.9	1.9	0.0
Hyperactive Behavior	1,366	1.1	0.9	-0.2**	1,388	1.7	1.6	-0.1
Withdrawn Behavior	1,366	1.3	1.2	-0.1	1,388	1.5	1.6	0.0
ECLS-K Approaches to Learning	1,365	1.7	2.0	0.3***	1,388	1.5	1.7	0.2***
<b>Parent Interview</b>								
Social Skills/Positive Approaches to Learning	1,224	12.3	12.7	0.4***	1,258	11.7	12.0	0.3*
Total Behavior Problems	1,219	5.2	4.9	-0.3	1,254	5.7	5.7	0.0
<b>Assessor Rating</b>								
Leiter Cognitive/ Social Raw Score	1,327	53.6	58.3	4.6***	1,323	49.1	54.1	5.1***
Leiter Cognitive/ Social Standard Score <sup>a</sup>	1,327	88.7	90.3	1.7*	1,323	85.2	87.6	2.4***
Attention	1,327	19.2	21.1	1.9***	1,323	17.3	19.5	2.2***
Organization/Impulse Control	1,327	15.2	16.7	1.6***	1,323	13.8	15.5	1.7***
Activity Level	1,328	7.8	8.2	0.5**	1,323	7.1	7.7	0.6***
Sociability	1,327	11.5	12.2	0.6***	1,323	10.9	11.5	0.6***

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Parent Interview, Teacher Child Report, and Assessor Rating.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

<sup>a</sup>This standard score has a mean of 100 and a standard deviation of 15.

- Teachers report that both boys and girls demonstrate more social skills and more positive approaches to learning. They only report girls as having fewer problem behaviors and hyperactive behaviors on average by the end of the program year.
- Similarly, parents report that boys and girls demonstrate more social skills and positive approaches to learning on average in the spring. Parents of both boys and girls do not report that they have fewer problem behaviors by the spring.
- Based on the child's behavior during the direct assessment, assessors rate both boys and girls as demonstrating better social/cognitive skills by the end of the program year, including attention and organization/impulse control.

**Table C.5a. Summary Statistics for FACES Teacher Child Report, Parent Interview, and Assessor Rating Measures by Race/Ethnicity: Fall 2009-Spring 2010**

Scales	White, Non-Hispanic				African American, Non-Hispanic				Hispanic/Latino				Other, Non-Hispanic			
	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean
<b>Teacher Child Report</b>																
Social Skills	541	14.9	17.1	2.2***	834	14.9	16.7	1.9***	1,067	15.2	17.3	2.1***	201	14.9	17.1	2.2***
Total Behavior Problems	541	5.1	5.0	-0.1	833	4.7	4.5	-0.2	1,072	4.5	3.9	-0.6**	201	4.3	4.1	-0.2
Aggressive Behavior	541	1.5	1.5	0.0	833	1.6	1.6	0.0	1,072	1.4	1.2	-0.1	201	1.2	1.2	0.0
Hyperactive Behavior	541	1.5	1.4	-0.1	833	1.5	1.3	-0.2	1,072	1.3	1.1	-0.2*	201	1.3	1.1	-0.1
Withdrawn Behavior	541	1.6	1.7	0.1	833	1.3	1.3	0.0	1,072	1.4	1.2	-0.2	201	1.4	1.5	0.1
ECLS-K Approaches to Learning	541	1.6	1.8	0.2***	833	1.5	1.7	0.2***	1,071	1.7	1.9	0.3***	201	1.6	1.9	0.3***
<b>Parent Interview</b>																
Social Skills/Positive Approaches to Learning	478	11.9	12.2	0.3	787	12.3	12.6	0.3	1,046	11.7	12.3	0.6***	168	12.3	12.5	0.2
Total Behavior Problems	476	5.3	5.2	-0.1	785	4.5	4.4	0.0	1,042	6.6	6.3	-0.3	167	4.5	4.3	-0.2
<b>Assessor Rating</b>																
Leiter Cognitive/Social Raw Score	491	52.3	56.9	4.7**	850	48.7	54.2	5.5***	1,028	52.4	56.9	4.5***	191	54.9	59.1	4.2*
Leiter Cognitive/Social Standard Score <sup>a</sup>	491	87.7	89.7	2.0	850	84.9	87.7	2.8***	1,028	87.8	89.2	1.4	191	89.5	91.1	1.5
Attention Organization/Impulse Control	491	18.8	20.7	1.8**	850	17.2	19.3	2.2***	1,028	18.6	20.8	2.1***	191	19.5	21.5	2.1**
Activity Level	491	14.8	16.5	1.7***	850	13.6	15.4	1.9***	1,028	14.8	16.2	1.4***	191	15.6	17.0	1.4*
Sociability	491	7.3	8.0	0.7**	850	6.9	7.6	0.7***	1,028	7.8	8.1	0.3**	191	8.0	8.4	0.5
	491	11.3	11.7	0.4	850	11.1	11.8	0.8***	1,028	11.2	11.8	0.6***	191	11.9	12.2	0.3

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Parent Interview, Teacher Child Report, and Assessor Rating.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

<sup>a</sup>This standard score has a mean of 100 and a standard deviation of 15.

- Teachers report that all children demonstrate more social skills and positive approaches to learning on average by the end of the program year. However, they only report Hispanic/Latino children as having fewer problem behaviors and hyperactive behaviors in the spring.
- Only parents of Hispanic/Latino children report that their children demonstrate more social skills and positive approaches to learning on average in the spring.
- Based on the child's behavior during the direct assessment, assessors rate all children, regardless of race/ethnicity, as demonstrating better social/cognitive skills by the end of the program year, including attention and organization/impulse control.

**Table C.6a. Summary Statistics for FACES Teacher Child Report, Parent Interview, and Assessor Rating Measures by Number of Family Risks: Fall 2009–Spring 2010**

Scales	0 Risks <sup>a</sup>				1 Risk <sup>a</sup>				2 or More Risks <sup>a</sup>			
		Fall 2009	Spring 2010	Fall- Spring Change		Fall 2009	Spring 2010	Fall- Spring Change		Fall 2009	Spring 2010	Fall- Spring Change
	n	Mean	Mean	Mean	n	Mean	Mean	Mean	n	Mean	Mean	Mean
<b>Teacher Child Report</b>												
Social Skills	356	15.3	17.2	2.0***	872	15.2	17.1	2.0***	1,230	14.9	17.0	2.1***
Total Behavior Problems	356	4.7	4.1	-0.6	873	4.5	4.4	-0.1	1,233	4.6	4.3	-0.3
Aggressive Behavior	356	1.5	1.4	-0.1	873	1.4	1.4	-0.1	1,233	1.4	1.4	0.0
Hyperactive Behavior	356	1.4	1.1	-0.3*	873	1.4	1.3	-0.1	1,233	1.4	1.2	-0.1*
Withdrawn Behavior	356	1.4	1.3	-0.1	873	1.3	1.4	0.1	1,233	1.4	1.4	-0.1
ECLS–K Approaches to Learning	356	1.6	1.9	0.3***	873	1.6	1.8	0.2***	1,232	1.6	1.9	0.3***
<b>Parent Interview</b>												
Social Skills/Positive Approaches to Learning	326	12.1	12.3	0.1	822	12.0	12.4	0.4**	1,156	12.0	12.5	0.4***
Total Behavior Problems	326	4.9	4.6	-0.4	819	5.4	5.0	-0.4	1,150	5.7	5.6	0.0
<b>Assessor Rating</b>												
Leiter Cognitive/ Social Raw Score	342	52.9	59.2	6.3***	844	52.2	56.9	4.7***	1,196	50.8	55.3	4.5***
Leiter Cognitive/ Social Standard Score <sup>b</sup>	342	88.5	92.1	3.6*	844	87.5	89.5	2.0*	1,196	86.5	88.0	1.5*
Attention	342	19.1	21.8	2.7***	844	18.5	20.5	2.0***	1,196	18.0	19.9	2.0***
Organization/Impulse Control	342	15.0	17.1	2.1***	844	14.8	16.3	1.6***	1,196	14.3	15.8	1.5***
Activity Level	342	7.6	8.4	0.8**	844	7.6	8.1	0.5**	1,196	7.3	7.8	0.5***
Sociability	342	11.2	12.0	0.8**	844	11.3	12.0	0.7***	1,196	11.2	11.7	0.5***

Source: Fall 2009 and Spring 2010 FACES Direct Assessment, Parent Interview, Teacher Child Report, and Assessor Rating.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

<sup>a</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

<sup>b</sup>This standard score has a mean of 100 and a standard deviation of 15.

- Regardless of number of family risks, teachers report that all children demonstrate more social skills, more positive approaches to learning, and fewer problem behaviors on average by the end of the program year. They also report children with no family risks and those with two or more risks as demonstrating fewer hyperactive behaviors in the spring.
- Parents report that children with 1 and 2 or more risks demonstrate more social skills and positive approaches to learning on average in the spring.
- Assessors rate all children, regardless of number of family risks, as demonstrating better social/cognitive skills by the end of the program year, including attention and organization/impulse control.

**Table C.7a. Summary Statistics for FACES Direct Child Assessment Measures—Pencil Tapping<sup>a</sup> Scores: Fall 2009- Spring 2010**

	n	Fall 2009	Spring 2010	Fall-Spring Change
All Children	943	42.6	61.4	18.7***
<b>Age<sup>b</sup></b>				
3 years old or younger	N/A	N/A	N/A	N/A
4 years old or older	943	42.6	61.4	18.7***
<b>Race/Ethnicity</b>				
White, Non-Hispanic	186	47.8	67.5	19.7***
African American, Non-Hispanic	282	42.7	59.0	16.3***
Hispanic/Latino	411	38.3	59.0	20.7***
Other, Non-Hispanic	63	49.3	65.2	15.9**
<b>Gender</b>				
Female	479	43.6	63.7	20.2***
Male	464	41.6	58.9	17.3***
<b>Family Risks<sup>c</sup></b>				
0	113	48.8	69.1	20.4***
1	302	44.3	63.6	19.3***
2 or More	455	40.2	58.6	18.4***

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Fall 2009 FACES Parent Interview

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>In the Pencil Tapping task, children are asked to inhibit the natural response to imitate the adult assessor exactly (or to tap repeatedly) and instead to keep in mind that the rule is to do the opposite of what the assessor does. Reported scores reflect the percentage of times the child tapped correctly. They can take on any value from zero to 100, with higher scores indicating better skills on the task. The task is only administered to children age 4 and older at the time of the direct assessment. In this table, we only report pencil tapping scores for children who entered the program at age 4.

<sup>b</sup>Age as of September 1, 2009.

<sup>c</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

N/A = not available.

- Children are able to inhibit their initial impulse and respond correctly across more trials on the pencil tapping task by the end of the program year. In fact, children are able to do so 61 percent of the time in the spring, which is more than chance. A similar percentage of Head Start children in a small study (59 percent; mean age = 60.5 months) responded correctly across trials (Smith-Donald et al. 2007). In comparison, fewer than half (43 percent) were able to do so at the beginning of the year.
- Both boys and girls are able to inhibit their initial impulse and respond correctly across more trials on the pencil tapping task by the end of the program year. In fact, by the spring, boys respond correctly 59 percent of the time and girls are able to do so 54 percent of the time. In comparison, children responded correctly 40 percent of the time in the fall.
- Regardless of race/ethnicity, children are able to inhibit their initial impulse and respond correctly across more trials on the pencil tapping task by the end of the program year. In fact, by the spring, children are able to respond correctly about two-thirds of the time.
- Regardless of number of family risks, children are able to inhibit their initial impulse and respond correctly across more trials on the pencil tapping task by the end of the program year. In fact, by the spring, children are able to respond correctly about two-thirds of the time.

## **D. CHILD HEALTH AND PHYSICAL DEVELOPMENT**





**Child Health and Physical Development: Spring 2010**



**Table D.1. Teacher- Reported Disability Categories for Children: Spring 2010**

Disability Categorizations	Percent
<b>Percent of Children</b>	
Children with Disabilities	14.1
<b>Percent of Children with Disabilities</b>	
Speech or Language Impairment	76.7
Cognitive Impairment <sup>a</sup>	24.0
Behavioral/Emotional Impairment <sup>b</sup>	16.6
Sensory Impairment <sup>c</sup>	7.9
Physical Impairment <sup>d</sup>	7.9
Have Multiple Impairments	26.9
Have IEP or IFSP	66.8

Source: Spring 2010 FACES Teacher Child Report.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Teachers were asked whether a professional had indicated that the child had a developmental problem, delay or other special need, and to indicate the specific need or disability.

Percentages do not add to 100 because children can be reported to have more than one impairment across the impairment categories.

<sup>a</sup>Cognitive Impairment includes: developmental delay, mental retardation, and autism or pervasive developmental delay.

<sup>b</sup>Behavioral/Emotional Impairment includes: behavior problems, hyperactivity, and attention deficit.

<sup>c</sup>Sensory Impairment includes: deafness, hearing impairment/hard of hearing, blindness, and vision impairment.

<sup>d</sup>Physical Impairment includes: motor impairment.

IEP = Individualized Education Program; IFSP = Individual Family Service Plan

- About 14 percent of children in Head Start are reported by their teachers to have a diagnosed disability at the end of the Head Start year. The majority of children with disabilities are reported to have either speech/language impairments (77 percent) or cognitive impairments (24 percent).
- Twenty-seven percent of children with teacher-reported disabilities have more than one disability or impairment.
- Sixty-seven percent of children with teacher-reported disabilities have an IEP or IFSP.

**Table D.2. Teacher- Reported Disability Categories for Children by Age: Spring 2010**

Disability Categorizations	3-Year-Olds <sup>a</sup>	4-Year-Olds <sup>a</sup>
<b>Percent of Children</b>		
Children with Disabilities	14.5	13.3
<b>Percent of Children with Disabilities</b>		
Speech or Language Impairment	81.6	68.4
Cognitive Impairment <sup>b</sup>	24.6	22.6
Behavioral/Emotional Impairment <sup>c</sup>	14.8	19.5
Sensory Impairment <sup>d</sup>	9.0	6.8
Physical Impairment <sup>e</sup>	7.8	9.0
Have Multiple Impairments	29.9	21.8
Have IEP or IFSP	67.6	66.4

Source: Spring 2010 FACES Teacher Child Report and Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Teachers were asked whether a professional had indicated that the child had a developmental problem, delay or other special need, and to indicate the specific need or disability.

Percentages do not add to 100 because children can be reported to have more than one impairment across the impairment categories.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>Cognitive Impairment includes: developmental delay, mental retardation, and autism or pervasive developmental delay.

<sup>c</sup>Behavioral/Emotional Impairment includes: behavior problems, hyperactivity, and attention deficit.

<sup>d</sup>Sensory Impairment includes: deafness, hearing impairment/hard of hearing, blindness, and vision impairment.

<sup>e</sup>Physical Impairment includes: motor impairment.

IEP = Individualized Education Program; IFSP = Individual Family Service Plan

- Similar percentages of 3- and 4-year-old children are reported by their teacher to have a disability at the end of the Head Start year.
- A larger percentage of 3-year-old children in Head Start with a teacher-reported disability are reported to have a speech or language impairment (82 versus 68 percent). For both groups, speech or language impairments are the most common disability. Similar percentages have an IEP or IFSP, but a larger percentage of 3-year-olds have more than one impairment than 4-year-olds (30 versus 22 percent).

**Table D.3. Teacher- Reported Disability Categories for Children by Gender: Spring 2010**

Disability Categorizations	Girls	Boys
<b>Percent of Children</b>		
Children with Disabilities	9.1	18.9
<b>Percent of Children with Disabilities</b>		
Speech or Language Impairment	74.6	77.7
Cognitive Impairment <sup>b</sup>	19.8	26.0
Behavioral/Emotional Impairment <sup>c</sup>	13.5	18.1
Sensory Impairment <sup>d</sup>	11.1	6.4
Physical Impairment <sup>e</sup>	12.7	5.7
Have Multiple Impairments	23.0	28.7
Have IEP or IFSP	64.0	68.1

Source: Spring 2010 FACES Teacher Child Report and Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Teachers were asked whether a professional had indicated that the child had a developmental problem, delay or other special need, and to indicate the specific need or disability.

Percentages do not add to 100 because children can be reported to have more than one impairment across the impairment categories.

<sup>a</sup>Cognitive Impairment includes: developmental delay, mental retardation, and autism or pervasive developmental delay.

<sup>b</sup>Behavioral/Emotional Impairment includes: behavior problems, hyperactivity, and attention deficit.

<sup>c</sup>Sensory Impairment includes: deafness, hearing impairment/hard of hearing, blindness, and vision impairment.

<sup>d</sup>Physical Impairment includes: motor impairment.

IEP = Individualized Education Program; IFSP = Individual Family Service Plan

- According to teacher reports, a larger percentage of boys than girls have an identified disability (19 versus 9 percent). A larger percentage of boys than girls also have a cognitive impairment (26 versus 20 percent), while a larger percentage of girls have a sensory impairment (11 versus 6 percent). Finally, a larger percentage of boys than girls have more than one impairment (29 versus 23 percent), but similar percentages have an IEP or IFSP.

**Table D.4. Teacher- Reported Disability Categories for Children by Race/Ethnicity: Spring 2010**

Disability Categorizations	White, Non-Hispanic	African American, Non-Hispanic	Hispanic/Latino	Other, Non-Hispanic
<b>Percent of Children</b>				
Children with Disabilities	22.8	12.2	11.9	10.4
<b>Percent of Children with Disabilities</b>				
Speech or Language Impairment	76.6	72.8	82.2	66.7
Cognitive Impairment <sup>a</sup>	24.2	26.2	20.9	28.6
Behavioral/Emotional Impairment <sup>b</sup>	12.9	18.4	17.1	23.8
Sensory Impairment <sup>c</sup>	10.5	4.9	7.0	19.0
Physical Impairment <sup>d</sup>	12.9	2.9	7.8	9.5
Have Multiple Impairments	28.2	24.3	27.9	28.6
Have IEP or IFSP	75.0	65.3	63.8	50.0

Source: Spring 2010 FACES Teacher Child Report and Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Teachers were asked whether a professional had indicated that the child had a developmental problem, delay or other special need, and to indicate the specific need or disability.

Percentages do not add to 100 because children can be reported to have more than one impairment across the impairment categories.

<sup>a</sup>Cognitive Impairment includes: developmental delay, mental retardation, and autism or pervasive developmental delay.

<sup>b</sup>Behavioral/Emotional Impairment includes: behavior problems, hyperactivity, and attention deficit.

<sup>c</sup>Sensory Impairment includes: deafness, hearing impairment/hard of hearing, blindness, and vision impairment.

<sup>d</sup>Physical Impairment includes: motor impairment.

IEP = Individualized Education Program; IFSP = Individual Family Service Plan

- According to teacher reports, a larger percentage of White children (23 percent) have an identified disability than children of all other racial/ethnic groups in Head Start (versus 12, 12, and 10 percent for African American, Hispanic/Latino, and Other children, respectively). Across racial/ethnic groups, similar percentages of children have more than one impairment.
- White children (75 percent) are more likely than children of other racial/ethnic backgrounds to have IEP or IFSP (versus 65, 64, and 50 percent for African American, Hispanic/Latino, and Other children, respectively).

**Table D.5. Teacher- Reported Disability Categories for Children by Number of Family Risks: Spring 2010**

Disability Categorizations	0 Risk <sup>a</sup>	1 Risk <sup>a</sup>	2 or More Risks <sup>a</sup>
<b>Percent of Children</b>			
Children with Disabilities	17.9	14.1	12.6
<b>Percent of Children with Disabilities</b>			
Speech or Language Impairment	79.7	80.6	75.2
Cognitive Impairment <sup>b</sup>	29.7	27.4	18.5
Behavioral/Emotional Impairment <sup>c</sup>	7.8	16.1	17.8
Sensory Impairment <sup>d</sup>	3.1	8.1	8.3
Physical Impairment <sup>e</sup>	9.4	9.7	5.1
Have Multiple Impairments	25.0	32.3	21.0
Have IEP or IFSP	84.4	73.6	54.2

Source: Spring 2010 FACES Teacher Child Report and Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

Teachers were asked whether a professional had indicated that the child had a developmental problem, delay or other special need, and to indicate the specific need or disability.

Percentages do not add to 100 because children can be reported to have more than one impairment across the impairment categories.

<sup>a</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

<sup>b</sup>Cognitive Impairment includes: developmental delay, mental retardation, and autism or pervasive developmental delay.

<sup>c</sup>Behavioral/Emotional Impairment includes: behavior problems, hyperactivity, and attention deficit.

<sup>d</sup>Sensory Impairment includes: deafness, hearing impairment/hard of hearing, blindness, and vision impairment.

<sup>e</sup>Physical Impairment includes: motor impairment.

IEP = Individualized Education Program; IFSP = Individual Family Service Plan

- According to teacher reports, children are more likely to have a disability if they have no or 1 risk than if they have 2 or more family risks (18, 14, and 13 percent, respectively). Head Start allows enrollment by children who are above the Federal Poverty Level if they have a diagnosed disability. Higher percentages of children with 1 (32 percent) or no (25 percent) family risks have multiple impairments (32 percent), as compared to those with 2 or more family risks (21 percent).
- A larger percentage of those with no family risks have an IEP or IFSP than those with 1 risk and 2 or more risks (84, 74, and 54 percent, respectively).

**Table D.6. Summary Statistics for FACES Child Height and Weight Measures: Spring 2010**

Scales	n	Mean	SE
Height (in inches)	2,708	41.7	0.09
Weight (in pounds)	2,705	41.0	0.21
Body Mass Index (BMI)	2,705	16.5	0.05
<b>Percent of Children</b>			
Child is Underweight	80	3.0	0.47
Child is Normal Weight	1,629	60.2	1.35
Child is Overweight <sup>a</sup>	518	19.1	0.83
Child is Obese <sup>a</sup>	478	17.7	1.10

Source: Spring 2010 FACES Direct Child Assessment.

Note: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

<sup>a</sup>According to the Centers for Disease Control and Prevention (CDC), a child is considered to be overweight when his/her BMI score is at or above the 85th percentile for his/her age and gender, and obese if his/her BMI is at or above the 95th percentile for his/her age and gender.

- At the end of the Head Start year, children have an average Body Mass Index (BMI) that is above average for their age range (that is, higher than the 50th percentile).
- Using criteria set by the CDC, about 18 percent of children are obese in the spring of their first year in the program, and 37 percent are overweight or obese.



**Table D.7. Summary Statistics for FACES Child Height and Weight Measures by Age: Spring 2010**

Scales	3-Year-Olds <sup>a</sup>			4-Year-Olds <sup>a</sup>		
	n	Mean	SE	n	Mean	SE
Height (in inches)	1,641	40.7	0.08	976	43.2	0.13
Weight (in pounds)	1,638	39.0	0.19	976	44.2	0.45
Body Mass Index (BMI)	1,638	16.5	0.06	976	16.6	0.10
<b>Percent of Children</b>						
Child is Underweight	42	2.6	0.51	34	3.5	0.85
Child is Normal Weight	1,009	61.6	1.42	569	58.3	2.24
Child is Overweight <sup>b</sup>	320	19.5	0.98	181	18.5	1.41
Child is Obese <sup>b</sup>	267	16.3	1.27	192	19.7	1.53

Source: Spring 2010 FACES Direct Child Assessment and Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>According to the Centers for Disease Control and Prevention (CDC), a child is considered to be overweight when his/her BMI score is at or above the 85th percentile for his/her age and gender, and obese if his/her BMI is at or above the 95th percentile for his/her age and gender.

- 4-year-olds are taller and weigh more than 3-year-olds. They are comparable in terms of BMI.
- As compared to 3-year-olds, a larger percentage of 4-year-olds are obese (20 versus 16 percent, respectively), while a smaller percentage are of normal weight (58 versus 62 percent, respectively).

**Table D.8. Summary Statistics for FACES Child Height and Weight Measures by Gender: Spring 2010**

Scales	Girls			Boys		
	n	Mean	SE	n	Mean	SE
Height (in inches)	1,361	41.5	0.11	1,347	41.8	0.09
Weight (in pounds)	1,359	40.5	0.30	1,346	41.6	0.24
Body Mass Index (BMI)	1,359	16.5	0.06	1,346	16.6	0.08
<b>Percent of Children</b>						
Child is Underweight	41	3.0	0.42	39	2.9	0.79
Child is Normal Weight	836	61.5	1.65	793	58.9	2.12
Child is Overweight <sup>a</sup>	268	19.7	1.25	250	18.6	1.14
Child is Obese <sup>a</sup>	214	15.7	1.31	264	19.6	1.67

Source: Spring 2010 FACES Direct Child Assessment and Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>According to the Centers for Disease Control and Prevention (CDC), a child is considered to be overweight when his/her BMI score is at or above the 85th percentile for his/her age and gender, and obese if his/her BMI is at or above the 95th percentile for his/her age and gender.

- Boys and girls are comparable in terms of height, weight, and BMI on average.
- Higher percentages of boys than girls are obese (20 versus 16 percent, respectively).

**Table D.9. Summary Statistics for FACES Child Height and Weight Measures by Race/Ethnicity: Spring 2010**

Scales	White, Non-Hispanic			African American, Non-Hispanic			Hispanic/Latino			Other, Non-Hispanic		
	n	Mean	SE	n	Mean	SE	n	Mean	SE	n	Mean	SE
Height (in inches)	513	41.1	0.12	847	42.1	0.18	1,060	41.7	0.14	194	41.5	0.16
Weight (in pounds)	511	39.7	0.34	846	41.3	0.40	1,060	41.6	0.39	194	41.1	0.46
Body Mass Index (BMI)	511	16.4	0.07	846	16.3	0.07	1,060	16.8	0.12	194	16.7	0.14
<b>Percent of Children</b>												
Child is Underweight	10!	2.0	0.79	31	3.7	1.00	30!	2.8	0.74	5!	2.6	1.10
Child is Normal Weight	321	62.8	2.77	542	64.1	2.22	594	56.0	2.56	120	61.9	3.16
Child is Overweight <sup>a</sup>	101	19.8	2.41	158	18.7	1.37	211	19.9	1.20	30!	15.5	2.83
Child is Obese <sup>a</sup>	79	15.5	1.40	115	13.6	1.48	225	21.2	2.44	39	20.1	2.96

Source: Spring 2010 FACES Direct Child Assessment and Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>According to the Centers for Disease Control and Prevention (CDC), a child is considered to be overweight when his/her BMI score is at or above the 85th percentile for his/her age and gender, and obese if his/her BMI is at or above the 95th percentile for his/her age and gender.

! Interpret data with caution. Standard errors are large due to small sample size.

- Hispanic/Latino children weigh slightly more and have slightly higher BMI scores than White and African American children. African American children are taller than White and Hispanic/Latino children.
- Using criteria set by the CDC, Hispanic/Latino children are more likely than White and African American children to be obese (21 versus 16 and 14 percent, respectively) and less likely to be of normal weight (56 versus 63 and 64 percent, respectively).

**Table D.10. Summary Statistics for FACES Child Height and Weight Measures by Number of Family Risks: Spring 2010**

Scales	0 Risks <sup>a</sup>			1 Risk <sup>a</sup>			2 or More Risks <sup>a</sup>		
	n	Mean	SE	n	Mean	SE	n	Mean	SE
Height (in inches)	351	41.5	0.18	861	41.7	0.12	1,219	41.7	0.11
Weight (in pounds)	351	40.8	0.47	859	41.1	0.32	1,218	41.1	0.31
Body Mass Index (BMI)	351	16.6	0.09	859	16.5	0.07	1,218	16.5	0.09
<b>Percent of Children</b>									
Child is Underweight	9!	2.6	1.09	22!	2.6	0.68	37	3.0	0.73
Child is Normal Weight	218	62.1	3.48	520	60.5	1.81	726	59.6	1.87
Child is Overweight <sup>b</sup>	60	17.1	2.17	168	19.6	1.35	238	19.5	1.24
Child is Obese <sup>b</sup>	64	18.2	2.23	149	17.3	1.61	217	17.8	1.57

Source: Spring 2010 FACES Direct Child Assessment and Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

<sup>b</sup>According to the Centers for Disease Control and Prevention (CDC), a child is considered to be overweight when his/her BMI score is at or above the 85th percentile for his/her age and gender, and obese if his/her BMI is at or above the 95th percentile for his/her age and gender.

! Interpret data with caution. Standard errors are large due to small sample size.

- There are no statistically significant differences in height, weight, or BMI by the number of family risks.

**Table D.11. Parent- Reported Child Health Status: Spring 2010**

	Percent of Children		
	Excellent/Very Good	Good	Fair/Poor
All Children	80.8	13.7	5.5
<b>Age<sup>a</sup></b>			
3 years old or younger	81.5	13.0	5.5
4 years old or older	79.0	15.4	5.5
<b>Race/Ethnicity</b>			
White, Non-Hispanic	83.1	13.0	4.0
African American, Non-Hispanic	84.1	11.9	4.0
Hispanic/Latino	76.5	15.8	7.7
Other, Non-Hispanic	82.1	14.3	3.6
<b>Gender</b>			
Female	82.5	13.2	4.3
Male	79.1	14.2	6.7
<b>Family Risks<sup>b</sup></b>			
0	85.9	12.3	1.8
1	81.7	13.1	5.3
2 or More	78.0	15.5	6.5

Source: Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

- Eighty-one percent of children at the end of the first Head Start year are rated as having "excellent" or "very good" health by their parents.
- Fewer 4-year-old than 3-year-old children at the end of the Head Start year are rated as having "excellent" or "very good" health by their parents (79 versus 82 percent, respectively). In contrast, more 4-year-olds than 3-year-olds are rated as having "good" health (15 versus 13 percent, respectively).
- Girls are more likely than boys to be rated by their parents as having "excellent" or "very good" health (83 versus 79 percent, respectively).
- Parents of Hispanic/Latino children are less likely to rate them as having "excellent" or "very good" health than are parents of children from other racial/ethnic groups. They are more likely to rate them as having "good," "fair," or "poor" health than parents of other children.
- Parents of children with two or more family risks (78 percent) are less likely to rate their children as having "excellent" or "very good" health than are parents of children from families with one or no risks (82 and 86 percent, respectively). Parents with no family risks are less likely than parents with more risks to rate the child as having "fair" or "poor" health.



**Child Health and Physical Development: Fall 2009 – Spring 2010 Change**





**Table D.6a. Summary Statistics for FACES Child Height and Weight Measures: Fall 2009- Spring 2010**

Scales	n	Fall 2009	Spring 2010	Fall-Spring Change
		Mean	Mean	Mean
Height (in inches)	2,553	40.3	41.6	1.3***
Weight (in pounds)	2,547	38.2	40.9	2.7***
Body Mass Index (BMI)	2,547	16.5	16.5	0.1
<b>Percent of Children</b>				
Child is Underweight	67	3.2	2.7	-0.5
Child is Normal Weight	1,501	62.6	60.9	-1.7
Child is Overweight <sup>a</sup>	472	17.4	19.2	1.8
Child is Obese <sup>a</sup>	423	16.7	17.2	0.4

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment.

Note: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

<sup>a</sup>According to the Centers for Disease Control and Prevention (CDC), a child is considered to be overweight when his/her BMI score is at or above the 85th percentile for their age and gender, and obese if his/her BMI is at or above the 95th percentile for their age and gender.

- On average, children grew about 1 inch and gained nearly 3 pounds during their first Head Start year. On average, there were no changes in their BMI between the beginning and end of the year.

**Table D.7a. Summary Statistics for FACES Child Height and Weight Measures by Age: Fall 2009- Spring 2010**

Scales	3-Year-Olds <sup>a</sup>				4-Year-Olds <sup>a</sup>			
	n	Fall 2009	Spring 2010	Fall-Spring Change	n	Fall 2009	Spring 2010	Fall-Spring Change
		Mean	Mean	Mean		Mean	Mean	Mean
Height (in inches)	1,544	39.3	40.6	1.4***	924	41.9	43.2	1.3***
Weight (in pounds)	1,540	36.2	38.9	2.7***	923	41.3	44.1	2.8***
Body Mass Index (BMI)	1,540	16.4	16.5	0.1	923	16.5	16.6	0.1
<b>Percent of Children</b>								
Child is Underweight	35	3.2	2.3	-0.9	32	3.4	3.5	0.1
Child is Normal Weight	961	64.6	62.4	-2.2	540	59.4	58.5	-0.9
Child is Overweight <sup>b</sup>	300	17.9	19.5	1.6	172	16.6	18.6	2.1
Child is Obese <sup>b</sup>	244	14.4	15.8	1.5	179	20.7	19.4	-1.3

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment and Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>According to the Centers for Disease Control and Prevention (CDC), a child is considered to be overweight when his/her BMI score is at or above the 85th percentile for their age and gender, and obese if his/her BMI is at or above the 95th percentile for their age and gender.

- On average, both 3- and 4-year-old children grew approximately 1 1/2 inches and gained nearly 3 pounds during their first program year. For both age groups, there were no changes, on average, in BMI between the beginning and end of the year.

**Table D.8a. Summary Statistics for FACES Child Height and Weight Measures by Gender: Fall 2009- Spring 2010**

	Girls				Boys			
		Fall 2009	Spring 2010	Fall-Spring Change		Fall 2009	Spring 2010	Fall-Spring Change
	n	Mean	Mean	Mean	n	Mean	Mean	Mean
<b>Scales</b>								
Height (in inches)	1,289	40.1	41.4	1.3***	1,264	40.5	41.8	1.4***
Weight (in pounds)	1,286	37.6	40.4	2.8***	1,261	38.8	41.5	2.7***
Body Mass Index (BMI)	1,286	16.4	16.4	0.1	1,261	16.6	16.6	0.0
<b>Percent of Children</b>								
Child is Underweight	35	3.4	2.8	-0.6	32	3.1	2.6	-0.5
Child is Normal Weight	770	64.4	62.1	-2.3	731	60.9	59.8	-1.1
Child is Overweight <sup>a</sup>	244	17.4	19.7	2.3	228	17.3	18.6	1.3
Child is Obese <sup>a</sup>	191	14.8	15.4	0.6	232	18.6	19.0	0.3

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment and Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

<sup>a</sup>According to the Centers for Disease Control and Prevention (CDC), a child is considered to be overweight when his/her BMI score is at or above the 85th percentile for their age and gender, and obese if his/her BMI is at or above the 95th percentile for their age and gender.

- On average, both boys and girls and grew approximately 1 1/2 inches and gained nearly 3 pounds during the program year. There were no changes in children's BMI between the beginning and end of the year for boys or girls, on average.

**Table D.9a. Summary Statistics for FACES Child Height and Weight Measures by Race/Ethnicity: Fall 2009- Spring 2010**

	White, Non-Hispanic				African American, Non-Hispanic				Hispanic/Latino				Other, Non-Hispanic			
	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean	n	Fall 2009 Mean	Spring 2010 Mean	Fall-Spring Change Mean
<b>Scales</b>																
Height (in inches)	473	39.8	41.0	1.2***	820	40.6	42.1	1.5***	987	40.3	41.6	1.3***	184	40.3	41.6	1.3***
Weight (in pounds)	471	37.1	39.6	2.5***	819	38.1	41.1	3.0***	985	38.9	41.5	2.6***	184	38.4	41.4	3.0**
Body Mass Index (BMI)	471	16.4	16.4	0.0	819	16.2	16.3	0.1	985	6.7	16.8	0.1	184	16.6	16.7	0.2
<b>Percent of Children</b>																
Child is Underweight	7!	1.9	1.5	-0.4	29!	4.3	3.5	-0.7	26!	2.6	2.6	0.0	5!	5.4	2.7	-2.7
Child is Normal Weight	302	66.5	64.1	-2.3	532	66.7	65.0	-1.7	555	58.2	56.3	-1.8	110	59.8	59.8	0.0
Child is Overweight <sup>a</sup>	92	17.6	19.5	1.9	149	16.6	18.2	1.6	200	18.4	20.3	1.9	30	14.7	16.3	1.6
Child is Obese <sup>a</sup>	70	14.0	14.9	0.8	109	12.5	13.3	0.9	204	20.8	20.7	-0.1	39	20.1	21.2	1.1

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment and Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

! Interpret data with caution. Standard errors are large due to small sample size.

<sup>a</sup>According to the Centers for Disease Control and Prevention (CDC), a child is considered to be overweight when his/her BMI score is at or above the 85th percentile for their age and gender, and obese if his/her BMI is at or above the 95th percentile for their age and gender.

- Regardless of race/ethnicity, on average all children grew less than 1 1/2 inches and gained nearly 3 pounds during their first program year. On average, there were no changes in children's BMI between the beginning and end of the year, across racial/ethnic groups.

**Table D.10a. Summary Statistics for FACES Child Height and Weight Measures by Number of Family Risks: Fall 2009- Spring 2010**

	0 Risks <sup>a</sup>			1 Risk <sup>a</sup>			2 or More Risks <sup>a</sup>					
	Fall 2009	Spring 2010	Fall-Spring Change	Fall 2009	Spring 2010	Fall-Spring Change	Fall 2009	Spring 2010	Fall-Spring Change			
<b>Scales</b>	n	Mean	Mean	Mean	n	Mean	Mean	Mean	n	Mean	Mean	Mean
Height (in inches)	326	40.2	41.5	1.3***	820	40.4	41.7	1.3***	1,147	40.3	41.7	1.4***
Weight (in pounds)	326	37.8	40.6	2.9***	818	38.4	41.0	2.7***	1,144	38.3	41.1	2.8***
Body Mass Index (BMI)	326	16.4	16.5	0.1	818	16.5	16.5	0.1	1,144	16.5	6.5	0.0
<b>Percent of Children</b>												
Child is Underweight	8	2.1	2.5	0.3	20!	3.5	2.4	-1.1	32	3.1	2.8	-0.3
Child is Normal Weight	205	66.3	62.9	-3.4	497	62.7	60.8	-2.0	688	61.9	60.1	-1.7
Child is Overweight <sup>b</sup>	58	16.3	17.8	1.5	160	17.8	19.6	1.7	224	16.8	19.6	2.8
Child is Obese <sup>b</sup>	55	15.3	16.9	1.5	141	15.9	17.2	1.3	200	18.2	17.5	-0.7

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment and Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

<sup>a</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

<sup>b</sup>According to the Centers for Disease Control and Prevention (CDC), a child is considered to be overweight or obese when his/her BMI score is at or above the 85th percentile for their age and gender.

! Interpret data with caution. Standard errors are large due to small sample size.

- Regardless of number of family risks, on average all children grew approximately 1 1/2 inches and gained nearly 3 pounds during the program year. On average, there were no changes in children's BMI between the beginning and end of the year across number of family risks.

**Table D.11a. Parent- Reported Child Health Status: Fall 2009- Spring 2010**

	Percent of Children								
	Excellent/Very Good			Good			Fair/Poor		
	Fall 2009	Spring 2010	Fall-Spring Change	Fall 2009	Spring 2010	Fall-Spring Change	Fall 2009	Spring 2010	Fall-Spring Change
All Children	81.4	80.6	-0.8	13.2	13.9	0.7	5.4	5.5	0.0
<b>Age<sup>a</sup></b>									
3 years old or younger	81.9	81.5	-0.4	12.4	13.1	0.6	5.7	5.4	-0.3
4 years old or older	80.5	79.0	-1.4	14.5	15.4	0.9	5.0	5.5	0.6
<b>Race/Ethnicity</b>									
White, Non-Hispanic	84.9	83.0	-1.9	13.0	13.0	0.0	2.1	4.0	1.9
African American, Non-Hispanic	84.9	84.3	-0.6	10.6	11.9	1.3	4.5	3.8	-0.6
Hispanic/Latino	75.8	76.5	0.8	16.1	15.8	-0.3	8.1	7.7	-0.5
Other, Non-Hispanic	91.0	82.0	-9.0	7.8	14.4	6.6	1.2	3.6	2.4
<b>Gender</b>									
Female	82.7	82.3	-0.3	12.4	13.3	0.9	4.9	4.4	-0.6
Male	80.2	79.0	-1.2	13.9	14.5	0.6	5.9	6.5	0.6
<b>Family Risks<sup>b</sup></b>									
0	85.3	85.9	0.6	13.2	12.3	-0.9	1.5	1.8	0.3
1	84.1	81.6	-2.4	10.8	13.1	2.3	5.1	5.3	0.1
2 or More	78.2	78.0	-0.2	14.9	15.6	0.6	6.9	6.4	-0.4

Source: Fall 2009 and Spring 2010 FACES Parent Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. All reported differences are statistically significant at the .05 level.

Child and family characteristics are derived from the Fall 2009 FACES Parent Interview.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

<sup>a</sup>Age as of September 1, 2009.

<sup>b</sup>Number of family risks is based on three family characteristics: whether the child resides in a single parent household, whether the household income is below the poverty threshold, and whether the mother has less than a high school diploma.

- Across groups, there were no changes in reports of children’s health status during the program year.

## **E. HEAD START CLASSROOMS AND PROGRAMS**





**Table E.1. Lead Teacher Demographic Characteristics: Fall 2009**

Teacher Background	Percent of Teachers
<b>Gender</b>	
Female	99.3
Male	0.7
<b>Age</b>	
18 – 29	16.9
30 – 39	28.2
40 – 49	28.9
50 – 59	21.1
60 or Older	4.9
<b>Race/Ethnicity</b>	
White, Non-Hispanic	41.6
African-American, Non-Hispanic	30.6
Hispanic/Latino	22.2
American Indian or Alaska Native, Non-Hispanic	0.9
Asian or Pacific Islander, Non-Hispanic	2.3
Multi-Racial/Bi-Racial, Non-Hispanic	0.2
Other, Non-Hispanic	2.1

Source: Fall 2009 FACES Teacher Interview.

Note: Statistics are weighted to represent all teachers serving children who entered Head Start for the first time in fall 2009 and were still enrolled in their classrooms in spring 2010.

- Ninety-nine percent of Head Start teachers are female, and 57 percent are between the ages of 30 and 49. Five percent are 60 or older and approaching retirement.
- Forty-two percent of Head Start teachers are White, 31 percent are African-American, and 22 percent are Hispanic/Latino.

**Table E.2. Lead Teacher Education, Credentials, and Earnings: Fall 2009**

Teacher Education and Credentials	Percent of Teachers
<b>Years Teaching in Head Start</b>	
1 – 2 Years	17.7
3 – 4 Years	14.8
5 – 9 Years	27.0
10+ Years	40.6
<b>Highest Level of Education</b>	
High School Diploma or Equivalent or Less	5.8
Some College	9.8
Associate’s Degree (AA)	34.7
Bachelor’s Degree (BA)	40.7
Graduate or Professional Degree	9.1
Field of Study Includes Early Childhood Education	47.4
Enrolled in 6+ Courses in Early Childhood Education	95.3
Completed a Course on Dual Language Learners (DLLs)	28.1
Has a Child Development Associate (CDA)	46.7
Has a State-Awarded Certificate	28.7
Has a Teaching Certificate or License	42.9
Currently Enrolled in Teacher Related Training	36.3
<b>Mean Years Teaching in Head Start</b>	9.0
<b>Mean Annual Salary</b>	\$28,526.5

Source: Fall 2009 FACES Teacher Interview.

Note: Statistics are weighted to represent all teachers serving children who entered Head Start for the first time in fall 2009 and were still enrolled in their classrooms in spring 2010.

- The average Head Start teacher has been in the Head Start classroom for nine years, and 67 percent have five or more years of experience. The average annual salary is \$28,527.
- Eighty-five percent of Head Start teachers have at least an Associate’s Degree.
- Forty-seven percent of all teachers pursued a field of study that included early childhood education, and 95 percent of degreed teachers enrolled in at least 6 courses in early childhood education.
- Twenty-eight percent of teachers completed a course on DLLs.
- Forty-seven percent of Head Start teachers report having a Child Development Associate (CDA), and approximately 30 percent have a state-awarded certificate, 43 percent a teaching certificate or license, and 36 percent are currently enrolled in teacher related training.

**Table E.3. Lead Teacher Mental Health, Attitudes, and Knowledge: Fall 2009 and Spring 2010**

Teacher Characteristic	Percent of Teachers/ Mean Scores
<b>Degree of Depressive Symptoms<sup>a</sup></b>	
Not depressed	67.0
Mildly depressed	21.6
Moderately depressed	7.0
Severely depressed	4.4
<b>Mean Number of Depressive Symptoms<sup>b</sup></b>	3.9
<b>Teacher Attitudes<sup>c</sup> (mean Scores)</b>	
Developmentally Appropriate Attitudes Scale	8.0
Didactic Scale	2.5
Child Initiated Scale	4.5
<b>Program Management Support (mean scores)<sup>d, e</sup></b>	3.7
<b>Mean Teacher Satisfaction Scale<sup>e</sup></b>	
Enjoys present teaching job <sup>f</sup>	94.4
Is making a difference in the lives of children s/he teaches <sup>f</sup>	98.1
Would choose teaching again as career <sup>f</sup>	87.9

Source: Fall 2009 and Spring 2010 FACES Teacher Interview.

Note: Statistics are weighted to represent all teachers serving children who entered Head Start for the first time in fall 2009 and were still enrolled in their classrooms in spring 2010.

Teacher attitudes are from the fall 2009 interview. Teacher depressive symptoms, perceptions of program management support, and ratings regarding their jobs are from the spring 2010 interview.

<sup>a</sup>Depressive symptom scores ranging from 0 to 4 are coded as not depressed; from 5 to 9 as mildly depressed; from 10 to 14 as moderately depressed; and 15 and above as severely depressed.

<sup>b</sup>Scores range from 0 to 36.

<sup>c</sup>Teacher Attitudes are measured using a 24-item Teacher Beliefs Scale (Burts et al. 1990) that consists of statements worded to reflect positive attitudes and knowledge of generally accepted practices in preschool settings, or to reflect a lack of these attitudes and knowledge. Scores for the Developmentally Appropriate Attitudes Scale range from 1 to 10. The didactic and child-initiated subscale scores use a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) with negatively-worded items reverse scored. Scale scores range from 1 to 5.

<sup>d</sup>The Program Management Inventory (PMI; Lambert et al. 1997) was designed to assess the management climate in Head Start programs. The measure assesses Head Start teachers' perceptions of administrators and management staff.

<sup>e</sup>Scores range from 1 to 5.

<sup>f</sup>Percentages reflect teachers who agree or strongly agree with this item.

- Sixty-seven percent of Head Start teachers do not report symptoms of depression. Four percent report symptoms of severe depression, and another 7 percent report symptoms of moderate depression.
- Scores reflecting teachers developmentally appropriate attitudes regarding classroom practice (Burts et al. 1990) are 8.0 out of 10 overall. Scores on child-initiated practice are 4.5 out of 5 and are 2.5 out of 5 for didactic practice.
- Teachers report high levels of satisfaction. The majority report enjoying their job (94 percent), feeling as though they are making a difference in the lives of children (98 percent), and would choose teaching again as a career (88 percent).

**Table E.4. Curricula and Assessment Tools Used in Head Start Classrooms: Spring 2010**

	Percent of Teachers
<b>Curricula<sup>a</sup></b>	
Creative Curriculum	52.7
High/Scope Curriculum	15.2
Locally Designed Curriculum	1.9
Widely Available Curriculum <sup>b</sup>	8.9
Other	21.5
<b>Assessment Tool</b>	
Creative Curriculum	38.0
High/Scope Child Observation Record (COR)	8.9
Learning Accomplishment Profile Screening (LAP)	8.2
Galileo	7.2
Desired Results Developmental Profile (DRDP)	6.8
Locally Designed	6.3
Other	24.7

Source: Spring 2010 FACES Teacher Interview.

Note: Statistics are weighted to represent all teachers serving children who entered Head Start for the first time in fall 2009 and were still enrolled in their classrooms in spring 2010.

<sup>a</sup>Percentages represent the primary curriculum used by teachers in the classroom, regardless of whether the teacher uses only one curriculum or a combination of curricula.

<sup>b</sup>Consistent with FACES 2000, 2003, and 2006, “widely available” curricula are those curricula (other than Creative and High/Scope) with printed materials available for use in implementation and information on the goals related to the specific curriculum. In some cases research has also been done on the efficacy of the curriculum. Examples include High Reach, Let’s Begin with the Letter People, Montessori, Bank Street, Creating Child Centered Classrooms-Step by Step, and Scholastic.

- Fifty-three percent of all Head Start teachers reported using Creative Curriculum as their primary curriculum. High/Scope is also common, with 15 percent of teachers reporting its use.
- More than one-third (38 percent) of Head Start teachers reported using Creative Curriculum as their primary assessment tool. Smaller percentages reported using High/Scope (9 percent), LAP (8 percent), Galileo (7 percent), and DRDP (7 percent) assessment tools. Another 6 percent reported using a program designed assessment tool.

**Table E.5. Classroom Characteristics: Spring 2010**

	Mean
<b>Number of Children</b>	17.0
3 years old (or younger)	3.6
4 years old	7.9
5 years old (or older)	5.5
<b>Days per week class meets</b>	4.6
<b>Hours per week class meets</b>	26.5
<b>Classrooms by Age of Children</b>	Percent of Classrooms
3-year-olds only	1.3
4-year-olds only <sup>a</sup>	23.4
3-year-olds and 4-year-olds <sup>a</sup>	75.4

Source: Spring 2010 FACES Teacher Interview.

Note: Statistics are weighted to represent all classrooms serving children who entered Head Start for the first time in fall 2009 and were still enrolled in their classrooms in spring 2010.

<sup>a</sup>Children who are 5 years old (or older) are included in counts with 4-year-olds.

- On average, teachers report that their classrooms serve 17 children, and by the spring they report that more than three-quarters (79 percent) are 4 years old or older.
- Classes meet, on average, 4.6 days each week for 5.8 hours each day.
- In the spring, 75 percent of all Head Start classrooms are mixed-age classrooms. Twenty-three percent of classrooms serve children who are 4 years old only and 1 percent of classrooms serve children who are 3 years old only.

**Table E.6. Frequencies of Reading and Language Activities, as Reported by Classroom Teachers: Spring 2010**

Reading and Language Activity	Percent of Classrooms			
	Never	Monthly	Weekly	Daily or Almost Daily
Work on letter naming	0.0	3.6	9.0	87.4
Practice writing letters	0.4	5.3	16.2	78.2
Discuss new words	0.2	2.9	13.2	83.6
Dictate stories to an adult	1.3	13.5	25.6	59.7
Work on phonics	3.8	5.9	15.1	75.2
Listen to teacher read stories where they see the print	0.2	1.9	6.7	91.2
Listen to teacher read stories where they don't see the print	48.1	12.0	10.7	29.2
Retell stories	0.4	9.5	26.7	63.4
Learn about conventions of print	0.6	4.8	13.7	80.9
Write own name	0.6	3.2	9.7	86.6
Learn about rhyming words and word families	1.1	12.6	27.1	59.2
Learn about common prepositions	0.4	10.1	22.1	67.4

Source: Spring 2010 FACES Teacher Interview.

Note: Statistics are weighted to represent all classrooms serving children who entered Head Start for the first time in fall 2009 and were still enrolled in their classrooms in spring 2010.

- The most common reading and language activities (reported as occurring daily or almost daily in 75 percent or more of classrooms) include working on letter naming, practicing writing letters, discussing new words, working on phonics, listening to the teacher read stories where children can 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 classrooms, include dictating stories to an adult, retelling stories, learning about rhyming words and word families, and learning about common prepositions. Only listening to the teacher read stories where children do not see print occurs less often.

**Table E.7. Frequencies of Math Activities, as Reported by Classroom Teachers: Spring 2010**

Math Activity	Percent of Classrooms			
	Never	Monthly	Weekly	Daily or Almost Daily
Count out loud	0.2	1.3	4.4	94.1
Work with geometric manipulatives	0.6	3.2	11.1	85.1
Work with counting manipulatives	1.7	5.0	14.3	79.0
Play math-related games	0.4	8.6	22.9	68.1
Use music to understand math concepts	2.7	12.4	23.5	61.3
Use creative movement or creative drama to understand math concepts	4.0	14.5	26.3	55.2
Work with rulers or other measuring instruments	0.4	20.4	25.0	54.2
Engage in calendar-related activities	3.6	6.1	6.7	83.6
Engage in activities related to telling time	7.0	17.1	15.8	60.2
Engage in activities that involve shapes and patterns	0.0	4.0	12.4	83.6

Source: Spring 2010 FACES Teacher Interview.

Note: Statistics are weighted to represent all classrooms serving children who entered Head Start for the first time in fall 2009 and were still enrolled in their classrooms in spring 2010.

- The most common math activities (reported as occurring daily or almost daily in 75 percent or more of classrooms) include counting out loud, working with geometric manipulatives, working with counting manipulatives, engaging in calendar-related activities, and engaging in activities that involve shapes and patterns.
- All other math activities addressed occur less often but still daily or almost daily in at least 50 percent of classrooms: playing math-related games, using music to understand math concepts, using creative movement or creative drama to understand math concepts, working with rulers or other measuring instruments, and engaging in activities related to telling time.

**Table E.8. Reliability of FACES Classroom Observation Data: Spring 2010**

Scales	Number of Items	Number of Classrooms	Alpha
ECERS-R Short Form Total	21	370	0.87
ECERS-R Teaching and Interactions	11	370	0.84
ECERS-R Provisions for Learning	12	370	0.84
CLASS Instructional Support	3	370	0.87
Concept Development	3	370	0.60
Quality of Feedback	3	370	0.64
Language Modeling	3	370	0.78
CLASS Emotional Support	4	370	0.81
Positive Climate	3	370	0.82
Negative Climate	3	370	0.76
Teacher Sensitivity	3	370	0.75
Regard for Student Perspectives	3	370	0.69
CLASS Classroom Organization	3	370	0.77
Behavior Management	3	370	0.80
Productivity	3	370	0.75
Instructional Learning Formats	3	370	0.74

Source: Spring 2010 FACES Classroom Observation.

Note: Statistics are weighted to represent all classrooms serving children who entered Head Start for the first time in fall 2009 and were still enrolled in their classrooms in spring 2010.

Classroom observations included a minimum of three observation cycles of the CLASS. In 67 percent of classrooms, four cycles were obtained.

Researchers in other large scale studies have derived alternative dimensions of quality using a subset of items from the ECERS-R. Two factors reported in the Multi-State Study of Prekindergarten represent the key dimensions of quality tapped by the full ECERS-R: Provisions for Learning and Teaching and Interactions. These factors represent the key dimensions of quality tapped by the full ECERS-R. The reported short form score is calculated by using this subset of items.



**Table E.9. Summary Statistics for FACES Classroom Observation Data: Spring 2010**

Scales	Number of Classrooms	Mean	SE	Reported Response Range	Possible Response Range
ECERS-R Short Form Total	370	4.3	0.1	2.0 - 6.1	1 - 7
ECERS-R Teaching and Interactions	370	4.7	0.1	1.4 - 6.6	1 - 7
ECERS-R Provisions for Learning	370	4.0	0.1	1.5 - 6.2	1 - 7
CLASS Instructional Support	370	2.3	0.1	1.0 - 4.6	1 - 7
Concept Development	370	2.1	0.1	1.0 - 4.3	1 - 7
Quality of Feedback	370	2.3	0.1	1.0 - 5.0	1 - 7
Language Modeling	370	2.5	0.1	1.0 - 5.0	1 - 7
CLASS Emotional Support	370	5.3	0.0	2.5 - 6.4	1 - 7
Positive Climate	370	5.3	0.0	2.3 - 7.0	1 - 7
Negative Climate	370	1.3	0.0	1.0 - 5.7	1 - 7
Teacher Sensitivity	370	4.7	0.0	2.7 - 6.3	1 - 7
Regard for Student Perspectives	370	4.5	0.1	2.0 - 6.3	1 - 7
CLASS Classroom Organization	370	4.7	0.0	2.3 - 6.2	1 - 7
Behavior Management	370	5.0	0.0	2.5 - 6.8	1 - 7
Productivity	370	4.9	0.1	2.0 - 7.0	1 - 7
Instructional Learning Formats	370	4.0	0.1	1.8 - 6.0	1 - 7
Child/Adult Ratio (Observer count)	370	6.2	0.2	1.1 - 15.0	NA
Group Size (Observer count)	370	14.2	0.3	3.3 - 20.0	NA

Source: Spring 2010 FACES Classroom Observation.

Note: Statistics are weighted to represent all classrooms serving children who entered Head Start for the first time in fall 2009 and were still enrolled in their classrooms in spring 2010.

Researchers in other large scale studies have derived alternative dimensions of quality using a subset of items from the ECERS-R. Two factors reported in the Multi-State Study of Prekindergarten represent the key dimensions of quality tapped by the full ECERS-R: Provisions for Learning and Teaching and Interactions. These factors represent the key dimensions of quality tapped by the full ECERS-R. The short form score reported here is calculated by taking the mean of this subset of items.

NA = not applicable

- In spring 2010, the average observed Head Start classroom had 6.2 children to each adult, and the average observed group size was 14.2, falling well within professional guidelines and Head Start Program Performance Standards. Head Start Program Performance Standards provide guidelines of 8.5 children per adult in classrooms with 3-year-olds and 10 children per adult in classrooms with 4-year-olds, and a maximum group size of 17 or 20, respectively (see NCCIC 2008).
- The average ECERS-R total short form score was 4.3, and 75 percent of classrooms fell in the minimal to good range (between 3 and 5). Few classrooms (5 percent) scored below 3 (considered the threshold for minimal quality), and less than 1 percent scored above a 6 (considered excellent quality).
- Head Start classrooms were more likely to score higher on Teaching and Interactions (4.7) than on Provisions for Learning (4.0). Eighty percent scored between 3 and 5 out of a possible 7 on the Provisions for Learning subscale, and an additional 9 percent scored below 3. On the Teaching and Interactions subscale, half of observed classrooms scored between 3 and 5 (50 percent), 5 percent scored below a 3, and 45 percent scored above 5.
- On the Instructional Support domain of the CLASS, classrooms scored at the low end of the 7-point scale. Average quality was 2.3, with the majority of classrooms (87 percent) rated in the low range (1 or 2 points). Thirteen percent of classrooms scored in the middle range on the domain (3, 4, or 5 points), and none scored in the high range (6 or 7 points). A larger percentage of classrooms scored in the low range in spring 2007 (96 percent).
- On the Emotional Support and Classroom Organization domain of the CLASS, classrooms scored in the middle range of the scale. Average quality was 5.3 and 4.7, respectively. Nearly all classrooms are rated in the middle range on both domains (94 and 98 percent, respectively).



## **F. ASSOCIATIONS BETWEEN QUALITY AND OUTCOMES**



## **EXPLORING ASSOCIATIONS BETWEEN QUALITY AND CHILD OUTCOMES: ANALYTIC APPROACH**

### **CORRELATES OF CLASSROOM QUALITY AND TEACHER ATTITUDES**

We used two-level hierarchical linear models (HLM), with classrooms nested within programs, to examine the teacher characteristics associated with classroom quality and teacher attitudes, controlling for characteristics of the program. The use of HLM recognizes that teachers/classrooms in the same program are not independent of each other because of shared resource levels, policies, and program practices. Similar to the descriptive findings, the analyses were weighted at each level to represent programs and classrooms serving children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. Observations with missing data on any of the covariates were excluded from the analyses.<sup>1</sup> These analyses replicate those conducted for the FACES 2006 cohort (Aikens et al. 2010). Note that these associations should not be interpreted as causal relationships.

As measures of classroom quality, we used the Teaching and Interactions and Provisions for Learning subscales from the short form of the ECERS-R. From the CLASS, we used the Instructional Support domain, the Language Modeling dimension, the Emotional Support domain, the Positive Climate dimension, and the Classroom Organization domain. We also examined correlates of teacher attitudes, including teachers' level of satisfaction with teaching as a career and their attitudes toward developmentally appropriate practice (DAP), as these may be mediators that link education levels or professional development with the quality of classroom/teacher practice.

Independent variables at the teacher/classroom level included teacher education, teaching experience, reported depressive symptoms, frequency of mentoring, and perceived management support. Perceived management support is a composite that reflects Head Start

teachers' perceptions of support provided by program management to them and other teaching staff. The analyses of classroom quality also included DAP attitudes and teacher satisfaction with teaching as a career.

Program-level control variables in each of these analyses included program socioeconomic status (SES), as measured by the average household poverty ratio in a program; dual language learners (DLLs), as a percentage of the total enrollment; percentage of teachers using a curriculum and assessment from the same package; rate of teacher turnover in the prior program year; and adjusted mean teacher salary.

All outcomes were z-scored so that the coefficients may be interpreted as the change in the teacher or classroom outcome in standard deviation units for each one-point increase in the respective independent variable.<sup>2</sup>

We calculated intraclass correlations (ICCs) to measure the proportion of the total variation in classroom quality or teacher attitudes associated with program-level characteristics. An ICC closer to 1.0 indicates that more of the variation is associated with program-level variation, with greater homogeneity of outcomes among classrooms within a program. An ICC closer to 0 indicates the reverse—that programs do not vary as much as classrooms within those programs.

The ICCs indicate that, at .52, program-level variation is relatively high for one measure of quality, ECERS-R Provisions for Learning but is lower for the other quality measures (ranging from .15 to .26). Since ECERS-R Provisions for Learning may be more influenced by program decisions about what resources and materials to offer in classrooms, rather than by individual teacher decisions, the relatively high proportion of variation across programs is reasonable. The ICC for ECERS-R teaching and interactions was .26; for CLASS Instructional Support and Language Modeling, .23 and .24, respectively; for CLASS Emotional Support and Positive Climate, .16 and .15, respectively; and for

CLASS Classroom Organization, .24. The ICCs for teacher satisfaction and DAP attitudes were particularly low, at .08 and .11, respectively, suggesting that teacher attitudes vary substantially within programs and very little across programs.

The measured teacher/classroom variables in the model explained one to 8 percent of the variation in classroom quality and 5 percent (DAP attitudes) to 21 percent (satisfaction) of the variation in teacher attitudes. The program-level variables explained an additional 2 to 8 percent of variation in quality and 4 percent of the variation in teacher attitudes (both satisfaction and DAP attitudes).

### **ASSOCIATIONS BETWEEN OBSERVED QUALITY AND CHILDREN'S DEVELOPMENTAL STATUS**

We conducted a series of analyses to assess the relationship between quality and outcomes in FACES 2009, taking two approaches. In the first approach, we used three-level HLM to explore relationships between teacher and classroom characteristics and child outcomes. We were particularly interested in whether there are linear or nonlinear associations between classroom quality and outcomes. In the second approach, we explored the possibility of threshold effects—that the relationship between outcomes and quality may be stronger in higher-than lower-quality classrooms.<sup>3</sup> Note that associations identified in either approach should not be interpreted as indicating causal relationships.

In all analyses, we explored relationships between measures of quality and child outcomes that are more closely aligned. Thus, for child cognitive outcomes, we examined associations with CLASS Instructional Support and Language Modeling, and ECERS-R Teaching and Interactions. For social-emotional outcomes, we examined associations with CLASS Emotional Support and Positive Climate. For both cognitive and social-emotional outcomes, we examined associations with CLASS Classroom Organization.

All analyses account for the clustering of children within classrooms and classrooms within programs because children in the same classroom and program share a common set of preschool experiences, so their outcomes are not independent.

### **Classroom and Teacher Characteristics and Child Outcomes**

We used three-level HLM to examine the associations among characteristics of teachers and classrooms and children's outcomes, controlling for child, family, and program characteristics. Similar to the descriptive findings, the analyses were weighted at each level. At the child level, analyses were weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. At the classroom and program levels, analyses were weighted to represent classrooms and programs serving those children. Observations with missing data on any of the covariates were excluded from the analyses.<sup>4</sup> These analyses replicate those conducted for the FACES 2006 cohort (Aikens et al. 2010).

We estimated models of children's developmental status in the spring, controlling for their initial status as measured in the fall.<sup>5</sup> Outcomes included children's receptive and expressive language (PPVT-4,<sup>6</sup> EOWPVT); literacy (WJ Letter-Word Identification); mathematics (WJ Applied Problems); social-emotional development (teacher ratings of children's social skills, behavior problems, and approaches to learning); and executive functioning (children's performance on the pencil tapping task). The language, literacy, and mathematics outcomes in the models used equal-interval W- or GSV-scores.<sup>7</sup> Social-emotional outcomes were measured with raw scores. W- , GSV, and raw scores are a marker of absolute, rather than relative, performance. All outcomes were z-scored so that the coefficients may be interpreted as the change in child outcome in standard deviation units for each one-point increase in the respective independent variable.

The teacher/classroom-level characteristics included aspects of quality aligned with particular outcomes (depending on the outcomes, ECERS-R Teaching and Interactions and CLASS Instructional Support, Language Modeling, Emotional Support, Positive Climate, and Classroom Organization), teacher education, full-day class, mean peer abilities, variation in peer abilities, and teacher DAP attitudes. To test whether there is a nonlinear relationship between classroom quality and children's outcomes, we included both a linear and a quadratic term in the model and dropped the quadratic term if it was not significant.

The child/family-level control variables included child age at assessment, gender, race/ethnicity, household language, household poverty ratio, maternal education, maternal depressive symptoms, children's fall score on the same outcome, and time interval between the fall and spring assessments.<sup>8</sup> The program-level control variables included program SES, as measured by the average household poverty ratio in a program; DLLs, as a percentage of the total enrollment; percentage of teachers using a curriculum and assessment from the same package; teacher turnover; and adjusted program mean salary.<sup>9</sup> The findings discussed here are from models that include the full set of control variables.

We calculated ICCs at the teacher/classroom and program levels to measure the proportion of the total variation in children's outcomes associated with teacher/classroom- and program-level characteristics. An ICC closer to 1.0 indicates that more of the total variation is associated with that level. An ICC closer to 0 indicates the reverse—the outcomes do not vary as much across that level relative to the other levels.

The variance in children's outcomes in the spring is predominantly associated with variation across children within classrooms and programs. The proportion of variance in children's cognitive outcomes associated with classroom-level variation within programs is one to 7 percent, and that associated with variation

across programs is 3 to 10 percent. The proportion of variance in children's social-emotional outcomes associated with classroom-level variation within programs is 20 to 32 percent, with the exception of the pencil tapping task, in which the proportion of variance associated with classroom-level variation within programs is 4 percent. The proportion of variance in social-emotional outcomes is 0 (for the pencil tapping task) to 6 percent. The higher proportion of variation in three of the four social-emotional outcomes associated with the classroom level (as compared with cognitive outcomes) may partly reflect the fact that those three social-emotional outcomes were reported by teachers, who may have different interpretations of children's behavior.

The proportion of the available variance in child outcomes at each level explained by variables in the model was highest for the child-level and lowest for the program-level variables. Models specified with only child/family characteristics explained 34 to 64 percent of the variance in the outcomes. When teacher/ classroom characteristics were added to the models, an additional one to 3 percent of the variance was explained. Program characteristics in the models explained 0 to 2 percent more of the variance for each of the outcomes.

### **Threshold Effects for Classroom Quality and Child Outcomes**

We used three-level HLM to explore whether the association between quality and outcomes differs in higher-quality versus lower-quality classrooms. As a first step, we explored whether there are linear or nonlinear associations between classroom quality and outcomes; this step essentially repeated the HLM analyses described above. We then conducted analyses that address the question of whether there are thresholds in the quality-outcome associations—whether the relationship between outcomes and quality may be stronger in higher- than lower-quality classrooms. These analyses replicate those conducted as part of the Child Care and Early Education Quality Features, Thresholds and Dosage and Child Outcomes: (Q-DOT) Study.<sup>10</sup>

To test for threshold effects, we examined whether the relationship between quality and outcomes differed over and above certain cut-points used to define higher- and lower-quality classrooms.<sup>11</sup> Following the procedures used in Q-DOT, the cut-points were based on the developer's guidelines for defining moderately good quality and were adjusted when less than 25 percent of the classrooms were above or below that cut-off (as a reminder, scores for all of the quality measures range from 1 to 7). Thus, the cut-points were as follows:

- ECERS-R Teaching and Interactions: 4.5
- CLASS Emotional Support and Classroom Organization: 5.0
- CLASS Instructional Support and CLASS Language Modeling: 2.75

Like the first set of HLM analyses, the exploration of linear and nonlinear associations and threshold effects accounts for the clustering of children within classrooms and classrooms within programs. It also focuses on the alignment of quality measures and outcomes. However, to replicate analyses conducted as part of the Q-DOT study, these analyses departed from the procedures used in the earlier HLM analyses in four key ways. First, they included a smaller number of child and family control variables and omitted program and classroom control variables. Second, analyses were weighted at the child level only, not at the classroom or program level. Third, we used all observations in the analyses, rather than dropping observations with any missing data.<sup>12</sup> Fourth, as described below, the type of scores used for some measures differed from those described earlier.

We estimated models of children's developmental status in the spring, controlling for their initial status measured in the fall.<sup>13</sup> We used all of the child cognitive and social-emotional outcome measures and included WJ Spelling and ECLS-B Math, as the latter two also were used in the Q-DOT analyses. We used standard scores<sup>14</sup> for the PPVT-4 and WJ measures. The EOWPVT and social-emotional

outcomes were measured using raw scores,<sup>15</sup> and ECLS-B Math was measured using IRT scores.

The child/family-level control variables included gender, race/ethnicity, household language, maternal education, household poverty ratio, children's fall score on same outcome, and time interval between fall and spring assessments.<sup>16</sup>

We present effect sizes, which can be interpreted as the standard deviation change in the child outcome associated with a standard deviation change in the respective independent variable.

## NOTES

<sup>1</sup> Of the 60 programs that participated in the study in fall 2009, data for 59 (98 percent) were included in the analyses. Of the 486 classrooms that participated in the study in fall 2009, data for 327 (67 percent) were included in the analyses.

<sup>2</sup> For each outcome, we estimated two models in the analysis. In Model 1, we included all teacher/classroom characteristics at level 1. In Model 2 we added program-level characteristics. We present findings regarding the association of teacher characteristics with classroom quality and teacher attitudes from Model 2.

<sup>3</sup> The analysis of threshold effects is essentially another approach to determining whether there is a nonlinear relationship between quality and outcomes. If an association is linear, this indicates that a change in quality is associated with a change in child outcomes, and the magnitude of the change in child outcomes is the same regardless of the level of quality in the classroom. A nonlinear association would indicate that the change in child outcomes might differ depending on the level of quality in the classroom. In our first approach to assessing the association between quality and outcomes in FACES 2009, we included a quadratic term in the analyses to determine if the shape of the association between quality and outcomes differs across the range of quality. In our second approach, we specified cut-points to test



whether the association between quality and outcomes differs in higher- and lower-quality classrooms.

<sup>4</sup> Of the 60 programs that participated in the study in fall 2009, data for 59 (98 percent) were included in the analyses. Of the 486 classrooms that participated in the study in fall 2009, data for between 318 (65 percent) and 327 (67 percent) were included in the analyses, depending on the outcome. The one exception is executive functioning as measured by the pencil tapping task, which was administered only to 4-year-olds in fall 2009; for this measure, 261 classrooms (54 percent) were included in the analysis. Finally, of the 3,349 children who participated in the study in fall 2009, data for 1,354 (40 percent) to 1,936 (54 percent) were included in the analysis; for the pencil tapping task, data for 69 percent of the fall sample of 4-year-olds were included in the analyses.

<sup>5</sup> For Spanish-speaking children who changed language of assessment between fall and spring, we used their fall WM assessment scores when predicting corresponding spring WJ assessment scores.

<sup>6</sup> Unlike in the descriptive reporting, children who did not establish a basal on the PPVT-4 were included in the appropriate models. By including in the analyses children who did not establish a basal in the fall, we likely overestimated children's progress on this measure.

<sup>7</sup> The PPVT-4 refers to W-scores as GSV scores. W-scores were not used for analyses focused on the EOWPVT; instead, we used raw scores. The PPVT and WJ/WM W-scores are on different scales, as are the EOWPVT raw scores.

<sup>8</sup> Time interval between assessments was only included in models focused on the cognitive outcomes because the cognitive assessments were developed to account for child age in scoring procedures.

<sup>9</sup> We estimated a series of models in the analysis. In Model 1, we included child/family characteristics in level 1. In Model 2, we added classroom quality and teacher/classroom characteristics at level 2. In Model 3, we added program characteristics at level 3.

<sup>10</sup> Q-DOT is a two-and-a-half year design project funded by the Office of Planning, Research and Evaluation (OPRE) at the Administration for Children and Families (ACF) that is examining associations between the quality of early childhood settings and child outcomes by asking whether certain thresholds of quality or dosage need to be met, or particular aspects of quality need to be present, before linkages are apparent. Q-DOT includes secondary analyses with specific data sets, including both program- and community-based settings that examine the presence of thresholds in the relationships between quality and outcomes.

<sup>11</sup> To test for threshold effects, we conducted spline regressions that included separate estimates of the slopes between quality and outcomes in classrooms with higher quality (quality scores above the cut-points) and lower quality (quality scores below the cut-points). We also tested whether the slopes in the lower and higher range of quality were significantly different from one another.

<sup>12</sup> We used multiple imputation to handle missing data.

<sup>13</sup> For Spanish-speaking children who changed language of assessment between fall and spring, we used their fall WM assessment scores when predicting to corresponding spring WJ assessment scores.

<sup>14</sup> As a reminder, standard scores provide information on children's performance relative to same-age peers, which is different from the information on absolute performance provided by IRT-based scores, such as the W scores used in the first set of HLM analyses.

<sup>15</sup> For the Q-DOT threshold analyses, standard scores were not calculated for the EOWPVT, and raw scores were used. We followed the same procedures in this analysis.

<sup>16</sup> Time interval between assessments was included only in models focused on cognitive outcomes because the cognitive assessments were developed to account for child age in scoring procedures.

**Table F.1. Associations between ECERS- R Factors and Characteristics of Teachers and Classrooms**

	Teaching and Interactions	Provisions for Learning
Teacher Education		
High school or less (referent)		
Associate's degree	0.25	-0.07
Bachelor's degree	0.26	-0.11
Teacher Experience		
<=3 years (referent)		
4-10 years	0.15	0.07
11-20 years	0.06	0.17
>20	0.23	0.08
Teacher Depressive Symptoms	-0.03	-0.00
Classroom Mentoring	-0.00	-0.03
Program Management Support (Spring 2010)	-0.02	0.09
Teacher DAP Attitudes	0.03	0.00
Teacher Job Satisfaction (Spring 2010)	0.20**	0.06
<i>n (classrooms)</i>	327	327

Source: Fall 2009 FACES Parent Interview, Fall 2009 and Spring 2010 FACES Teacher Interview, Spring 2010 FACES Classroom Observation, Fall 2009 FACES Center Director Interview, and Fall 2009 FACES Program Director Interview.

Notes: Statistics are weighted to represent all classrooms serving children who entered Head Start for the first time in fall 2009 and were still enrolled in their classrooms in spring 2010.

Unless otherwise noted independent variables are from fall 2009.

The estimates represent effect sizes for the standardized mean difference in the dependent variable between two groups for a binary independent variable, or the standardized association between a continuous independent variable and the dependent variable (that is, one unit change in the independent variable is related to some percentage of a standard deviation change in the dependent variable).

Program-level characteristics included in the model are: program SES, DLLs as a percentage of the total enrollment, percentage of teachers using a curriculum and assessment from the same package, teacher turnover; and adjusted program mean salary.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

DAP = developmentally appropriate practice; ECERS-R = Early Childhood Environment Rating Scale-Revised.

**Table F.2. Associations between CLASS Domains and Dimensions and Characteristics of Teachers and Classrooms**

	Instructional Support	Language Modeling	Emotional Support	Positive Climate	Classroom Organization
Teacher Education					
High school or less (referent)					
Associate's degree	-0.10	-0.12	0.30	0.34*	-0.09
Bachelor's degree	0.02	-0.02	0.11	0.16	-0.16
Teacher Experience					
<=3 years (referent)					
4-10 years	0.13	0.15	0.08	0.16	0.02
11-20 years	-0.10	-0.06	-0.13	-0.07	-0.21
>20	0.10	0.02	0.38	0.16	0.16
Teacher Depressive Symptoms	-0.01	-0.00	-0.00	0.01	-0.00
Classroom Mentoring	0.04	0.06	-0.07	-0.03	-0.09
Program Management Support (Spring 2010)	-0.14	-0.08	-0.23	-0.10	-0.26*
Teacher DAP Attitudes	0.05	0.06	0.06	0.01	0.01
Teacher Job Satisfaction (Spring 2010)	0.15	0.07	-0.02	-0.07	0.13
<i>n (classrooms)</i>	<i>327</i>	<i>327</i>	<i>327</i>	<i>327</i>	<i>327</i>

Source: Fall 2009 FACES Parent Interview, Fall 2009 and Spring 2010 FACES Teacher Interview, Spring 2010 FACES Classroom Observation, Fall 2009 FACES Center Director Interview, and Fall 2009 FACES Program Director Interview.

Notes: Statistics are weighted to represent all classrooms serving children who entered Head Start for the first time in fall 2009 and were still enrolled in their classrooms in spring 2010.

Unless otherwise noted independent variables are from fall 2009.

The estimates represent effect sizes for the standardized mean difference in the dependent variable between two groups for a binary independent variable, or the standardized association between a continuous independent variable and the dependent variable (that is, one unit change in the independent variable is related to some percentage of a standard deviation change in the dependent variable).

Program-level characteristics included in the model are: program SES, DLLs as a percentage of the total enrollment, percentage of teachers using a curriculum and assessment from the same package, teacher turnover; and adjusted program mean salary.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

CLASS = Classroom Assessment Scoring System; DAP = developmentally appropriate practice.

**Table F.3. Associations between Teacher Attitudes and Characteristics of Teachers and Classrooms**

	Satisfaction with Teaching as a Career	Developmentally Appropriate Practice Attitudes
Teacher Education		
High school or less (referent)		
Associate's degree	1.27*	0.16
Bachelor's degree	1.04	0.28
Teacher Experience		
<=3 years (referent)		
4-10 years	0.16	0.01
11-20 years	0.33**	0.33
>20	0.30	0.58**
Teacher Depressive Symptoms	0.01	0.00
Classroom Mentoring	0.06	-0.00
Program Management Support (Spring 2010)	0.30**	0.15
Teacher DAP Attitudes	-0.03	--
Teacher Job Satisfaction (Spring 2010)	--	-0.08
<i>n (classrooms)</i>	327	327

Source: Fall 2009 FACES Parent Interview, Fall 2009 and Spring 2010 FACES Teacher Interview, Spring 2010 FACES Classroom Observation, Fall 2009 FACES Center Director Interview, and Fall 2009 FACES Program Director Interview.

Notes: Statistics are weighted to represent all classrooms serving children who entered Head Start for the first time in fall 2009 and were still enrolled in their classrooms in spring 2010.

Unless otherwise noted independent variables are from fall 2009. Teacher satisfaction with teaching as a career was reported in spring 2010.

The estimates represent effect sizes for the standardized mean difference in the dependent variable between two groups for a binary independent variable, or the standardized association between a continuous independent variable and the dependent variable (that is, one unit change in the independent variable is related to some percentage of a standard deviation change in the dependent variable).

Program-level characteristics included in the model are: program SES, DLLs as a percentage of the total enrollment, percentage of teachers using a curriculum and assessment from the same package, teacher turnover; and adjusted program mean salary.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

DAP = developmentally appropriate practice.

**Table F.4. Associations between Child Cognitive Outcomes and Teacher/Classroom Characteristics: ECERS- R Teaching and Interactions**

	PPVT-4	EOWPVT	WJ III: Letter-Word	WJ III: Applied Problems
Teacher Education				
High school or less (referent)				
Associate's Degree	0.02	0.13	0.05	0.02
Bachelor's Degree	-0.08	0.07	0.03	-0.00
DAP Attitudes	0.05*	0.01	0.01	0.02
Fulltime Class (Spring 2010)	0.02	-0.04	0.01	0.02
Peer Abilities <sup>a</sup>	-0.03	-0.06	0.02	-0.02
Variation of Peer Abilities	0.14	0.09*	0.00	0.06
<b>ECERS- R Teaching and Interactions</b> (Spring 2010)	0.03	-0.02	0.06	-0.00
<b>Squared<sup>b</sup> ECERS- R Teaching and Interactions</b> (Spring 2010)	--	--	--	--
<i>n</i> (children)	1842	1922	1501	1354

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Fall 2009 FACES Parent Interview, Fall 2009 and Spring 2010 FACES Teacher Interview, Spring 2010 FACES Classroom Observation, and Fall 2009 FACES Center Director Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. At the classroom and program levels, analyses are weighted to represent classrooms and programs serving those children.

Unless otherwise noted independent variables are from fall 2009.

The estimates represent effect sizes for the standardized mean difference in the dependent variable between two groups for a binary independent variable, or the standardized association between a continuous independent variable and the dependent variable (that is, one unit change in the independent variable is related to some percentage of a standard deviation change in the dependent variable).

Child/family-level characteristics included in the model are: child age at assessment, gender, race/ethnicity, household language, poverty ratio, maternal education, maternal depressive symptoms, fall score on the same outcome, and time interval between the fall and spring assessments. For the PPVT-4, scores are included for children who did not have a basal in the fall. For children who were assessed in Spanish in the fall and English in the spring, the fall score for the WJ III subtest reflects performance on the WM III version of the subtest.

Program-level characteristics included in the model are: program SES, DLLs as a percentage of the total enrollment, percentage of teachers using a curriculum and assessment from the same package, teacher turnover; and adjusted program mean salary.

<sup>a</sup>Peer abilities are represented by children's performance on the measure serving as the dependent variable in the same model.

<sup>b</sup>A "--" in this row indicates the quadratic term was removed from the model because it was not statistically significant.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

DAP = developmentally appropriate practice; ECERS-R = Early Childhood Environment Rating Scale-Revised; EOWPVT = Expressive One Word Picture Vocabulary Test; PPVT-4 = Peabody Picture Vocabulary Test, Fourth Edition; WM III = Woodcock-Muñoz III; WJ III = Woodcock-Johnson III.

**Table F.5. Associations between Child Cognitive Outcomes and Teacher/Classroom Characteristics: CLASS Instructional Support Domain**

	PPVT-4	EOWPVT	WJ III: Letter-Word	WJ III: Applied Problems
Teacher Education				
High school or less (referent)				
Associate's Degree	0.03	0.12	0.06	0.06
Bachelor's Degree	-0.08	0.06	0.03	-0.02
DAP Attitudes	0.05*	0.01	0.01	0.02
Fulltime Class (Spring 2010)	0.01	-0.03	0.01	0.02
Peer Abilities <sup>a</sup>	-0.03	-0.06	-0.01	-0.02
Variation of Peer Abilities	0.14	0.09*	0.00	0.06
<b>CLASS Instructional Support</b> (Spring 2010)	0.06	-0.02	0.16**	0.01
<b>Squared<sup>b</sup> CLASS Instructional Support</b> (Spring 2010)	--	--	--	--
<i>n</i> (children)	1842	1922	1501	1354

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Fall 2009 FACES Parent Interview, Fall 2009 and Spring 2010 FACES Teacher Interview, Spring 2010 FACES Classroom Observation, and Fall 2009 FACES Center Director Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. At the classroom and program levels, analyses are weighted to represent classrooms and programs serving those children.

Unless otherwise noted independent variables are from fall 2009.

The estimates represent effect sizes for the standardized mean difference in the dependent variable between two groups for a binary independent variable, or the standardized association between a continuous independent variable and the dependent variable (that is, one unit change in the independent variable is related to some percentage of a standard deviation change in the dependent variable).

Child/family-level characteristics included in the model are: child age at assessment, gender, race/ethnicity, household language, poverty ratio, maternal education, maternal depressive symptoms, fall score on the same outcome, and time interval between the fall and spring assessments. For the PPVT-4, scores are included for children who did not have a basal in the fall. For children who were assessed in Spanish in the fall and English in the spring, the fall score for the WJ III subtest reflects performance on the WM III version of the subtest.

Program-level characteristics included in the model are: program SES, DLLs as a percentage of the total enrollment, percentage of teachers using a curriculum and assessment from the same package, teacher turnover; and adjusted program mean salary.

<sup>a</sup>Peer abilities are represented by children's performance on the measure serving as the dependent variable in the same model.

<sup>b</sup>A "--" in this row indicates the quadratic term was removed from the model because it was not statistically significant.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

CLASS = Classroom Assessment Scoring System; DAP = developmentally appropriate practice; EOWPVT = Expressive One Word Picture Vocabulary Test; PPVT-4 = Peabody Picture Vocabulary Test, Fourth Edition; WM III = Woodcock-Muñoz III; WJ III = Woodcock-Johnson III.

**Table F.6. Associations between Child Cognitive Outcomes and Teacher/Classroom Characteristics: CLASS Language Modeling Dimension**

	PPVT-4	EOWPVT	WJ III: Letter-Word	WJ III: Applied Problems
Teacher Education				
High school or less (referent)				
Associate's Degree	0.03	0.12	0.08	0.06
Bachelor's Degree	-0.08	0.06	0.05	-0.02
DAP Attitudes	0.05*	0.01	0.01	0.02
Fulltime Class (Spring 2010)	0.01	-0.03	0.02	0.02
Peer Abilities <sup>a</sup>	-0.03	-0.06	-0.01	-0.01
Variation of Peer Abilities	0.13	0.09*	0.01	0.05
<b>CLASS Language Modeling</b> (Spring 2010)	0.04	-0.01	0.12**	-0.01
<b>Squared<sup>b</sup> CLASS Language Modeling</b> (Spring 2010)	--	--	--	--
<i>n</i> (children)	1842	1922	1501	1354

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Fall 2009 FACES Parent Interview, Fall 2009 and Spring 2010 FACES Teacher Interview, Spring 2010 FACES Classroom Observation, and Fall 2009 FACES Center Director Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. At the classroom and program levels, analyses are weighted to represent classrooms and programs serving those children.

Unless otherwise noted independent variables are from fall 2009.

The estimates represent effect sizes for the standardized mean difference in the dependent variable between two groups for a binary independent variable, or the standardized association between a continuous independent variable and the dependent variable (that is, one unit change in the independent variable is related to some percentage of a standard deviation change in the dependent variable).

Child/family-level characteristics included in the model are: child age at assessment, gender, race/ethnicity, household language, poverty ratio, maternal education, maternal depressive symptoms, fall score on the same outcome, and time interval between the fall and spring assessments. For the PPVT-4, scores are included for children who did not have a basal in the fall. For children who were assessed in Spanish in the fall and English in the spring, the fall score for the WJ III subtest reflects performance on the WM III version of the subtest.

Program-level characteristics included in the model are: program SES, DLLs as a percentage of the total enrollment, percentage of teachers using a curriculum and assessment from the same package, teacher turnover; and adjusted program mean salary.

<sup>a</sup>Peer abilities are represented by children's performance on the measure serving as the dependent variable in the same model.

<sup>b</sup>A "--" in this row indicates the quadratic term was removed from the model because it was not statistically significant.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

CLASS = Classroom Assessment Scoring System; DAP = developmentally appropriate practice; EOWPVT = Expressive One Word Picture Vocabulary Test; PPVT-4 = Peabody Picture Vocabulary Test, Fourth Edition; WM III = Woodcock-Muñoz III; WJ III = Woodcock-Johnson III.

**Table F.7. Associations between Child Cognitive Outcomes and Teacher/Classroom Characteristics: CLASS Classroom Organization Domain**

	PPVT-4	EOWPVT	WJ III: Letter-Word	WJ III: Applied Problems
Teacher Education				
High school or less (referent)				
Associate's Degree	0.02	0.12	0.06	0.06
Bachelor's Degree	-0.08	0.06	0.04	-0.02
DAP Attitudes	0.05*	0.01	0.01	0.03
Fulltime Class (Spring 2010)	0.02	-0.02	0.03	0.02
Peer Abilities <sup>a</sup>	-0.03	-0.07	0.00	-0.01
Variation of Peer Abilities	0.13	0.09*	0.00	0.06
<b>CLASS Classroom Organization</b> (Spring 2010)	0.05	0.02	0.12**	-0.01
<b>Squared<sup>b</sup> CLASS Classroom Organization</b> (Spring 2010)	--	--	--	--
<i>n</i> (children)	1842	1922	1501	1354

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Fall 2009 FACES Parent Interview, Fall 2009 and Spring 2010 FACES Teacher Interview, Spring 2010 FACES Classroom Observation, and Fall 2009 FACES Center Director Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. At the classroom and program levels, analyses are weighted to represent classrooms and programs serving those children.

Unless otherwise noted independent variables are from fall 2009.

The estimates represent effect sizes for the standardized mean difference in the dependent variable between two groups for a binary independent variable, or the standardized association between a continuous independent variable and the dependent variable (that is, one unit change in the independent variable is related to some percentage of a standard deviation change in the dependent variable).

Child/family-level characteristics included in the model are: child age at assessment, gender, race/ethnicity, household language, poverty ratio, maternal education, maternal depressive symptoms, fall score on the same outcome, and time interval between the fall and spring assessments. For the PPVT-4, scores are included for children who did not have a basal in the fall. For children who were assessed in Spanish in the fall and English in the spring, the fall score for the WJ III subtest reflects performance on the WM III version of the subtest.

Program-level characteristics included in the model are: program SES, DLLs as a percentage of the total enrollment, percentage of teachers using a curriculum and assessment from the same package, teacher turnover; and adjusted program mean salary.

<sup>a</sup>Peer abilities are represented by children's performance on the measure serving as the dependent variable in the same model.

<sup>b</sup>A "--" in this row indicates the quadratic term was removed from the model because it was not statistically significant.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

CLASS = Classroom Assessment Scoring System; DAP = developmentally appropriate practice; EOWPVT = Expressive One Word Picture Vocabulary Test; PPVT-4 = Peabody Picture Vocabulary Test, Fourth Edition; WM III = Woodcock-Muñoz III; WJ III = Woodcock-Johnson III.



**Table F.8. Associations between Child Social- Emotional Outcomes and Teacher/Classroom Characteristics: CLASS Emotional Support Domain**

	Social Skills	Problem Behaviors	ECLS-K Approaches to Learning	Pencil Tapping <sup>a</sup>
Teacher Education				
High school or less (referent)				
Associate's Degree	0.02	0.06	-0.05	0.18
Bachelor's Degree	-0.07	0.06	-0.10	0.30**
DAP Attitudes	-0.04	0.05	-0.03	-0.05
Fulltime Class (Spring 2010)	0.04	0.06	-0.06	-0.14
Peer Social Skills	0.08	-0.06	0.06	-0.03
Variation of Peer Social Skills	0.08	-0.04	0.06	0.03
<b>CLASS Emotional Support</b> (Spring 2010)	0.05	-0.03	0.03	0.04
<b>Squared<sup>b</sup> CLASS Emotional Support</b> (Spring 2010)	--	--	--	--
<i>n</i> (children)	1936	1935	1935	903

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Fall 2009 FACES Parent Interview, Fall 2009 and Spring 2010 FACES Teacher Interview, Spring 2010 FACES Classroom Observation, and Fall 2009 FACES Center Director Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. At the classroom and program levels, analyses are weighted to represent classrooms and programs serving those children.

Unless otherwise noted independent variables are from fall 2009.

The estimates represent effect sizes for the standardized mean difference in the dependent variable between two groups for a binary independent variable, or the standardized association between a continuous independent variable and the dependent variable (that is, one unit change in the independent variable is related to some percentage of a standard deviation change in the dependent variable).

Child/family-level characteristics included in the model are: child age at assessment, gender, race/ethnicity, household language, poverty ratio, maternal education, maternal depressive symptoms, and fall score on the same outcome.

Program-level characteristics included in the model are: program SES, DLLs as a percentage of the total enrollment, percentage of teachers using a curriculum and assessment from the same package, teacher turnover; and adjusted program mean salary.

<sup>a</sup>The Pencil Tapping task is only administered to children once they are 4 years old. Thus, the sample size for this assessment falls below the sample sizes for the other social-emotional outcomes, which teachers complete for all children regardless of age.

<sup>b</sup>A "--" in this row indicates the quadratic term was removed from the model because it was not statistically significant.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

CLASS = Classroom Assessment Scoring System; DAP = developmentally appropriate practice.

**Table F.9. Associations between Child Social- Emotional Outcomes and Teacher/Classroom Characteristics: CLASS Positive Climate Dimension**

	Social Skills	Problem Behaviors	ECLS-K Approaches to Learning	Pencil Tapping <sup>a</sup>
Teacher Education				
High school or less (referent)				
Associate's Degree	0.02	0.07	-0.04	0.13
Bachelor's Degree	-0.07	0.07	-0.10	0.24*
DAP Attitudes	-0.04	0.04	-0.03	-0.04
Fulltime Class (Spring 2010)	0.04	0.05	-0.06	-0.13
Peer Social Skills	0.08	-0.07	0.06	-0.02
Variation of Peer Social Skills	0.09	-0.05	0.06	0.07
<b>CLASS Positive Climate</b> (Spring 2010)	0.06	-0.06	0.05	0.12**
<b>Squared<sup>b</sup> CLASS Positive Climate</b> (Spring 2010)	--	--	--	0.07**
<i>n</i> (children)	1936	1935	1935	903

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Fall 2009 FACES Parent Interview, Fall 2009 and Spring 2010 FACES Teacher Interview, Spring 2010 FACES Classroom Observation, and Fall 2009 FACES Center Director Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. At the classroom and program levels, analyses are weighted to represent classrooms and programs serving those children.

Unless otherwise noted independent variables are from fall 2009.

The estimates represent effect sizes for the standardized mean difference in the dependent variable between two groups for a binary independent variable, or the standardized association between a continuous independent variable and the dependent variable (that is, one unit change in the independent variable is related to some percentage of a standard deviation change in the dependent variable).

Child/family-level characteristics included in the model are: child age at assessment, gender, race/ethnicity, household language, poverty ratio, maternal education, maternal depressive symptoms, and fall score on the same outcome.

Program-level characteristics included in the model are: program SES, DLLs as a percentage of the total enrollment, percentage of teachers using a curriculum and assessment from the same package, teacher turnover; and adjusted program mean salary.

<sup>a</sup>The Pencil Tapping task is only administered to children once they are 4 years old. Thus, the sample size for this assessment falls below the sample sizes for the other social-emotional outcomes, which teachers complete for all children regardless of age.

<sup>b</sup>A "--" in this row indicates the quadratic term was removed from the model because it was not statistically significant.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

CLASS = Classroom Assessment Scoring System; DAP = developmentally appropriate practice.

**Table F.10. Associations between Child Social- Emotional Outcomes and Teacher/Classroom Characteristics: CLASS Classroom Organization Domain**

	Social Skills	Problem Behaviors	ECLS-K Approaches to Learning	Pencil Tapping <sup>a</sup>
Teacher Education				
High school or less (referent)				
Associate's Degree	0.02	0.06	-0.04	0.19
Bachelor's Degree	-0.07	0.06	-0.09	0.30**
DAP Attitudes	-0.04	0.03	-0.02	-0.04
Fulltime Class (Spring 2010)	0.07	0.05	-0.03	-0.12
Peer Social Skills	0.08	-0.06	0.06	-0.03
Variation of Peer Social Skills	0.09	-0.04	0.05	0.02
<b>CLASS Classroom Organization</b> (Spring 2010)	0.15**	-0.04	0.13	0.08
<b>Squared<sup>b</sup> CLASS Classroom Organization</b> (Spring 2010)	--	--	--	--
<i>n</i> (children)	1936	1935	1935	903

Source: Fall 2009 and Spring 2010 FACES Direct Child Assessment, Fall 2009 FACES Parent Interview, Fall 2009 and Spring 2010 FACES Teacher Interview, Spring 2010 FACES Classroom Observation, and Fall 2009 FACES Center Director Interview.

Notes: Statistics are weighted to represent all children who entered Head Start for the first time in fall 2009 and were still enrolled in spring 2010. At the classroom and program levels, analyses are weighted to represent classrooms and programs serving those children.

Unless otherwise noted independent variables are from fall 2009.

The estimates represent effect sizes for the standardized mean difference in the dependent variable between two groups for a binary independent variable, or the standardized association between a continuous independent variable and the dependent variable (that is, one unit change in the independent variable is related to some percentage of a standard deviation change in the dependent variable).

Child/family-level characteristics included in the model are: child age at assessment, gender, race/ethnicity, household language, poverty ratio, maternal education, maternal depressive symptoms, and fall score on the same outcome.

Program-level characteristics included in the model are: program SES, DLLs as a percentage of the total enrollment, percentage of teachers using a curriculum and assessment from the same package, teacher turnover; and adjusted program mean salary.

<sup>a</sup>The Pencil Tapping task is only administered to children once they are 4 years old. Thus, the sample size for this assessment falls below the sample sizes for the other social-emotional outcomes, which teachers complete for all children regardless of age.

<sup>b</sup>A "--" in this row indicates the quadratic term was removed from the model because it was not statistically significant.

\*p<.05; \*\*p<.01; \*\*\*p<.001.

CLASS = Classroom Assessment Scoring System; DAP = developmentally appropriate practice.

**Table F.11. Associations between Classroom Quality and Child Outcomes and Tests for Threshold**

	Test of Associations				Test for Threshold <sup>b</sup>			
	Linear		Quadratic <sup>a</sup>		Low Quality		High Quality	
<b>ECERS- R Teaching and Interactions</b>								
PPVT-4 standard score	-0.62 0.37	(1.72) (0.32)	0.15	(0.25)	-0.19	(0.23)	0.16	(0.79)
EOWPVT raw score	-1.37 -0.03	(1.10) (0.21)	0.20	(0.16)	0.05	(0.14)	0.28	(0.51)
WJ Applied Problems standard score	-1.43	(1.95)	0.20	(0.28)	-0.23	(0.27)	-0.43	(0.91)
WJ Letter Word Identification standard score	-0.05 -0.42	(0.38) (2.35)	0.16	(0.34)	-0.52	(0.31)	-0.27	(1.07)
WJ Spelling standard score	0.67 -5.11**	(0.42) (1.95)	0.70*	(0.28)	-0.21	(0.28)	-0.33	(0.93)
ECLS-B Math IRT score	0.05 0.05	(0.37) (0.07)	0.00	(0.05)	-0.09	(0.05)	-0.13	(0.17)
<b>CLASS Instructional Support</b>								
PPVT-4 standard score	-0.11 0.71	(1.63) (0.50)	0.27	(0.52)	<b>0.19</b>	<b>(0.48)</b>	<b>2.30</b>	<b>(1.53)</b>
EOWPVT raw score	1.66 -0.16	(1.04) (0.31)	-0.60	(0.33)	0.17	(0.30)	-0.57	(0.96)
WJ Applied Problems standard score	0.84	(1.90)	-0.35	(0.61)	0.00	(0.57)	-0.47	(1.78)
WJ Letter Word Identification standard score	-0.21 4.86*	(0.57) (2.15)	-1.08	(0.69)	0.53	(0.64)	2.34	(1.97)
WJ Spelling standard score	1.62** 0.16	(0.62) (2.05)	0.04	(0.64)	0.03	(0.57)	0.87	(1.81)
ECLS-B Math IRT score	0.28 0.63 0.12	(0.61) (0.35) (0.11)	-0.17	(0.11)	0.20	(0.10)	0.40	(0.33)
<b>CLASS Language Modeling</b>								
PPVT-4 standard score	2.41* 0.45	(1.18) (0.40)	-0.57	(0.33)	0.49	(0.42)	0.85	(1.01)
EOWPVT raw score	1.21 -0.08	(0.75) (0.25)	-0.38	(0.21)	0.12	(0.27)	-0.38	(0.64)
WJ Applied Problems standard score	1.61	(1.40)	-0.48	(0.39)	-0.99	(0.51)	-1.99	(1.18)
WJ Letter Word Identification standard score	-0.03 3.57*	(0.45) (1.57)	-0.66	(0.44)	-0.69	(0.55)	0.02	(1.31)
WJ Spelling standard score	1.33** 0.88	(0.50) (1.46)	-0.21	(0.40)	-0.63	(0.49)	-0.83	(1.20)
ECLS-B Math IRT score	0.17 0.58*	(0.49) (0.26)	-0.14*	(0.07)	-0.08	(0.09)	-0.13	(0.22)
<b>CLASS Emotional Support</b>								
Teacher reported social skills score	-2.37	(2.10)	0.31	(0.26)	0.03	(0.08)	0.51	(0.50)
Teacher reported behavior problems score	0.15 -0.70	(0.25) (1.88)	0.05	(0.23)	-0.02	(0.07)	-0.41	(0.44)
Pencil Tapping	-0.27 -3.76	(0.22) (13.66)	0.76	(1.68)	0.12	(0.58)	3.90	(3.36)
Approaches to Learning	2.37 -0.37 0.04	(1.83) (0.36) (0.04)	0.05	(0.04)	0.00	(0.01)	0.08	(0.08)

**Table F11 (continued)**

	Test of Associations				Test for Threshold <sup>b</sup>			
	Linear		Quadratic <sup>a</sup>		Low Quality		High Quality	
<b>CLASS Positive Climate</b>								
Teacher reported social skills score	-0.32	(1.48)	0.04	(0.17)	-0.03	(0.08)	0.02	(0.39)
	0.04	(0.18)						
Teacher reported behavior problems score	0.19	(1.31)	-0.04	(0.15)	<b>- 0.13</b>	<b>(0.08)</b>	<b>- 0.64</b>	<b>(0.34)</b>
	-0.13	(0.16)						
Pencil Tapping	0.22	(10.32)	0.27	(1.16)	-0.37	(0.55)	1.95	(2.48)
	2.55	(1.42)						
Approaches to Learning	0.17	(0.25)	-0.02	(0.03)	0.00	(0.01)	0.03	(0.07)
	0.02	(0.03)						
<b>CLASS Classroom Organization</b>								
PPVT-4 standard score	2.73	(3.87)	-0.33	(0.54)	-0.28	(0.24)	-2.70	(2.09)
	0.42	(0.49)						
EOWPVT raw score	1.18	(2.41)	-0.16	(0.34)	0.02	(0.15)	-0.30	(1.39)
	0.04	(0.31)						
WJ Applied Problems standard score	-3.14	(4.37)	0.36	(0.61)	0.36	(0.28)	1.72	(2.54)
	-0.61	(0.55)						
WJ Letter Word Identification standard score	6.93	(5.02)	-0.82	(0.71)	0.23	(0.32)	2.13	(2.76)
	1.13	(0.63)						
WJ Spelling standard score	-3.48	(4.40)	0.48	(0.62)	-0.34	(0.28)	-2.53	(2.49)
	-0.05	(0.58)						
ECLS-B Math IRT score	-0.10	(0.83)	0.02	(0.12)	0.07	(0.05)	0.62	(0.45)
	0.06	(0.10)						
Teacher reported social skills score	0.54	(1.50)	-0.02	(0.21)	0.03	(0.10)	0.77	(0.84)
	0.40*	(0.19)						
Teacher reported behavior problems score	0.34	(1.35)	-0.08	(0.19)	-0.07	(0.09)	-0.85	(0.75)
	-0.22	(0.17)						
Pencil Tapping	3.00	(10.74)	-0.09	(1.48)	0.32	(0.62)	6.94	(5.56)
	2.38	(1.51)						
Approaches to Learning	0.05	(0.25)	0.00	(0.04)	0.01	(0.02)	0.20	(0.14)
	0.09**	(0.03)						

Source: FACES 2009 Fall 2009 and Spring 2010 Direct Child Assessment and Parent Interview and Spring 2010 Classroom Observation.

Note: Estimates from mixed models in SAS. We used multiple imputation (N=10) to handle missing data. Covariates include child gender, race, whether child speaks English at home, maternal education, poverty ratio, child's fall scores, and time between fall and spring assessments.

The child/family-level control variables included are: gender, race/ethnicity, household language, maternal education, household poverty ratio, children's fall score on same outcome, and time interval between fall and spring assessments (for cognitive outcomes only).

<sup>a</sup> Quadratic term was dropped from the model if not significant, and results without the quadratic term are presented in the second row for each outcome measure.

<sup>b</sup> Two separate variables representing quality in the low and high range are included in the model. The coefficients are bolded if they are different from each other ( $p < .10$ ). The cutoff points are 4.5 for ECERS Teaching and Interactions, 2.75 for CLASS Instructional Support and Language Modeling, and 5.0 for CLASS Emotional Support and Classroom Organization.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

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