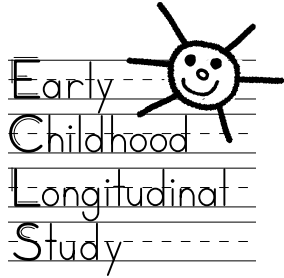




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## STATISTICS IN BRIEF

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### Regional Differences in Kindergartners' Early Education Experiences

#### Introduction

There is a growing trend toward public funding (i.e., state) for prekindergarten classes (Hinkle 2000). In 1991–92, some 24 states reported funding prekindergarten initiatives. This number increased to 42 states in 1998–99 (Hinkle 2000). During the 2000–01 school year, approximately one-third of all public elementary schools in the United States offered prekindergarten classes (Smith et al. 2003). In addition, over time, more states have begun to offer full-day kindergarten programs (Galley 2002). For example, in 1995, ten states required that full-day kindergarten be offered. As of 2002, 14 states required full-day programs to be offered (Potts, Blank, and Williams 2002). In a review of state policies regarding full-day kindergarten, Galley (2002) found that 25 states and the District of Columbia provide funds for full-day kindergarten programs in the districts that mandate or voluntarily offer it. Enrollment in full-day kindergarten programs has also increased. Between 1977 and 2001, the percent of children ages 4–6 enrolled in full-day kindergarten programs increased from 27 to 60 percent (Wirt et al. 2004). A recent report found that public school children's likelihood of attending full-day kindergarten varied by the region in which their school was located (Walston and West 2004). Furthermore, the report indicated that full-day kindergartners, on average, made greater gains in both their reading and mathematics achievement scores from fall to spring, compared to those in half-day classes. Based on these findings, this report looks more closely at regional differences in kindergartners' early education experiences.

Recent findings from the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS–K), the Fast Response Survey System's (FRSS) "Survey of Classes That Serve Children Prior to Kindergarten in Public Schools: 2000–2001," and the Current Population Survey (CPS), October Supplement: 2001, provide new regional information on the early learning experiences of young children in the United States. For instance, the FRSS found that public schools in the Southeast were more likely to offer prekindergarten programs than public schools in the Northeast, Central, or West regions (Smith et al. 2003). In addition, public schools in the South during the 1998–99 school year were more likely to offer full-day kindergarten than schools in other regions of the country (Walston and West 2004). In the CPS, in 2001, children ages 4–6 enrolled in kindergarten in the South were more likely to attend full-day kindergarten (78 percent) than children in the Northeast, Midwest, and West (60, 53, and 43 percent, respectively) (Wirt et al. 2004).

This statistics-in-brief report takes a closer look at two of kindergartners' early education experiences, preschool and kindergarten, in each of four regions of the United States (i.e., Northeast, South, Midwest, and West). This report defines ear-

ly education experiences as participation in preschool, the number of hours spent in preschool, and the type of kindergarten program (i.e., full-day versus half-day). Preschool experience was based on parental report and defined as kindergartners' participation in either a child care center, preschool, nursery school, prekindergarten or Head Start program the year prior to kindergarten. The purpose of this report is to describe, rather than explain, kindergartners' patterns of participation in preschool and kindergarten programs, and characteristics of the programs and the kindergartners who attend them, in an attempt to provide a regional picture of kindergartners' early learning experiences. This report expands on the findings from the earlier reports (Smith et al. 2003; Walston and West 2004; Wirt et al. 2004) by including kindergartners' participation in all types of center-based care arrangements the year before kindergarten, rather than focusing only on public school prekindergarten programs, and also looks more closely at regional participation in preschool and kindergarten for kindergartners with different individual, family, and school characteristics.

This report attempts to answer two questions about kindergartners' early education experiences within and across four regions<sup>1</sup> of the United States:

- What are the regional differences in kindergartners' preschool experiences (e.g., center-based care or Head Start the year before kindergarten entry) in the United States?
- Are there regional differences in kindergartners' participation in full-day versus half-day kindergarten programs in the United States?

The ECLS–K selected a nationally representative sample of kindergartners in the fall of 1998 and has

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<sup>1</sup>Regions used for the ECLS–K are the same as those used by the U.S. Bureau of the Census. The following is a list of states that are included in each region.

Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont  
Midwest: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin

South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia

West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming

followed these children through the spring of fifth grade. The study collects information directly from children and their families, teachers, and schools. The findings in this report come from the ECLS–K fall and spring kindergarten data collections and are organized into three sections. First, this report compares percentage distributions of kindergartners within each region across the four regions of the United States. Second, it compares the percent of kindergartners within each region who attended preschool and the number of hours they spent in preschool each week. Finally, it presents comparisons of the percentage of kindergartners who attended full-day kindergarten across regions. Regional comparisons are made overall and in relation to selected characteristics of children (i.e., sex, age at kindergarten entry, race/ethnicity), their families (i.e., mother's education, mother's employment status, household poverty status), and their schools (i.e., urbanicity, type).

Comparisons in the text are tested for statistical significance to ensure that the differences are larger than might be expected due to sampling variation. All differences described are significant at the .05 level. Due to the large sample size, many differences (no matter how substantively minor) are statistically significant. In this report, "substantive differences" are defined as percentage differences of 5 points or greater for preschool and full-day kindergarten participation, and as mean score differences of one-fifth of a standard deviation (i.e., 3 hours) or more in terms of weekly hours of preschool.

## Findings

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### Patterns in Kindergartners' Child, Family, and School Characteristics Across Regions

As shown in table 1, certain child and family characteristics of kindergartners vary by region. For example, the ages of children at the start of kindergarten differ. Among kindergartners in each region, the percentage of young kindergartners turning 5 during the first 4 months of the academic year (i.e., September through December 1993) was higher in the Northeast and West than in the Midwest and the South. This pattern is consistent with the kindergarten entry age policies of states that make up these regions. Many states in the Northeast and West have policies on kindergarten entry age that allow children to start kindergarten if they turn 5 by December or January. In contrast, the majority of states in the Midwest and South have policies

that require children to be at least 5 years of age by mid-September to start kindergarten (Education Commission of the States 2003).

The percent of kindergartners within each region who were Hispanic was largest among kindergartners in the West. About 40 percent of kindergartners in the West were Hispanic, compared with 14 percent in the Northeast, 9 percent in the Midwest, and 15 percent in the South. On the other hand, relatively more kindergartners were Black in the South than in any other region. About 27 percent of kindergartners in the South were Black, compared with 12 percent in the Northeast, 11 percent in the Midwest, and 6 percent in the West.

Among the kindergartners in each region, higher percentages of kindergartners in the South and West than those in the Northeast and Midwest were from families with incomes below the federal poverty threshold. In 1998, the federal poverty threshold for a family of four was \$16,655.

Kindergartners in the South and West were less likely than those in the Northeast or Midwest to have mothers with a bachelor's degree or higher. Also, kindergartners in the South and West were more likely than those in the other regions to have mothers who completed less than high school.

Kindergartners in the Midwest and South were more likely to have mothers who worked full-time (i.e., 35 hours or more per week) than those in the Northeast or West. In contrast, kindergartners in the West were more likely than kindergartners in the Midwest or the South to have a mother who was not in the labor force.

Kindergartners in the West were more likely to have attended schools in central cities than kindergartners in the Northeast or the Midwest. About 47 percent of kindergartners in the West attended schools in central cities, compared with 33 percent in the Northeast and 32 percent in the Midwest. In contrast, kindergartners in the Midwest are more likely to have attended schools in rural areas than kindergartners in the West or the Northeast.

The majority of kindergartners attended public school kindergarten programs rather than private school regardless of region. However, kindergartners in the South were more likely to attend a public school for kindergarten than kindergartners in any of the other regions.

## Patterns in Kindergartners' Preschool Experience Across Regions

Overall, 68 percent of kindergartners attended preschool the year before entering kindergarten. As shown in table 2, kindergartners' preschool experiences<sup>2</sup> the year before kindergarten differed by region. Kindergartners in the West were less likely to have attended preschool than kindergartners in any of the other regions. Sixty-two percent of kindergartners in the West attended preschool the year before kindergarten, compared with 71 percent in the Northeast, 72 percent in the Midwest, and 69 percent in the South. Of the kindergartners who attended preschool, those in the South spent more hours per week in their preschool programs, on average, than kindergartners in any of the other regions (figure 1).

### *Patterns in Kindergartners' Preschool Experiences Across Regions, by Child, Family, and School Characteristics*

#### PRESCHOOL ATTENDANCE

Regional differences are also evident when examining the data within groups of kindergartners differing on various child, family, and school characteristics; these regional differences generally follow the pattern of regional differences found for the full sample of kindergartners (table 2). For example, Black kindergartners in the West were more likely to attend preschool than Black kindergartners in the South or the Northeast. About 83 percent of Black kindergartners in the West attended preschool, compared with 70 percent in the Northeast and 76 percent in the South. In addition, Asian kindergartners in the Midwest were more likely to have attended preschool than their peers in the West.

Kindergartners in the Midwest whose mothers were not in the labor force were more likely to have attended preschool than kindergartners in the South or West. In addition, kindergartners in the West whose mothers were not in the labor force were the least likely of all of the regions to have attended preschool. Kindergartners in the West whose mothers worked full time were also less likely to have attended preschool than kindergartners in any of the other regions.

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<sup>2</sup>Preschool experience was based on parental report and defined as children's participation in either a child care center, preschool, nursery school, prekindergarten, or Head Start program the year prior to kindergarten.

In terms of kindergarten school urbanicity, kindergartners from central cities in the Midwest were more likely to have attended preschool than those from central cities in the West. Kindergartners from rural areas in the Midwest were also more likely to have attended preschool than those from rural areas in the West. Also, central city kindergartners from the South were more likely to have attended preschool than central city kindergartners in the West.

Kindergartners who attended public school kindergartens in the West were less likely to have attended preschool than kindergartners who attended public school kindergartens in the other regions.

**MEAN HOURS PER WEEK KINDERGARTNERS SPENT IN PRESCHOOL**

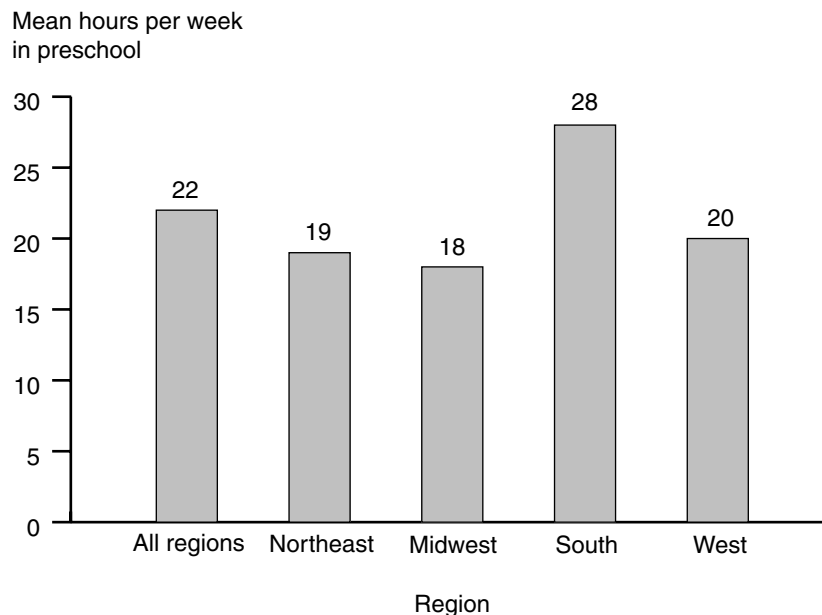
On average, kindergartners in the South spent more hours per week in preschool the year before kindergarten than kindergartners in any of the other regions (figure 1). This pattern of regional differences found for the full sample of kindergartners is also evident when examining data within groups of kindergartners differing on various child, family, and school characteristics (table 2).

For example, the youngest kindergartners (Age 4: Born September through December 1993) in the South spent more hours in preschool than the youngest kindergartners in any of the other regions. Also, Black kindergartners in the South attended preschool for more hours on average than Black kindergartners in any of the other regions. Furthermore, Hispanic kindergartners in the South and Northeast spent more hours in preschool than those in the West or the Midwest (28 and 24 hours vs. 20 and 17 hours, respectively).

Kindergartners whose families were below the poverty threshold followed the same pattern as most of the other groups (i.e., kindergartners in the South spent relatively more hours per week in preschool than kindergartners in any of the other regions).

Kindergartners whose mothers did not complete high school spent more hours, on average, in preschool in the Northeast and the South than in the West or the Midwest. Comparatively, kindergartners whose mothers completed a bachelor's degree or higher followed the same pattern as most other groups mentioned previously (i.e., Southern kindergartners spent relatively more hours per week in preschool than kindergartners

**Figure 1. Kindergartners' mean hours per week in preschool in the year prior to kindergarten, by region: School year 1998–99**



NOTE: Preschool experience is based on parental report and defined as participation in a center-based early care or education program or participation in Head Start the year before kindergarten.  
 SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), Base Year Public-Use Data File, fall 1998.

in any of the other regions). Also, on average, kindergartners whose mothers were not in the labor force spent more hours weekly in preschool in the South than in any of the other regions.

In addition, the number of hours per week kindergartners spent in preschool varied across regions with respect to their kindergarten school urbanicity. In both central city and rural areas, kindergartners in the South spent relatively more hours per week in preschool the year before kindergarten than kindergartners from any of the other regions.

On average, public school kindergartners who attended preschool the year before kindergarten spent more weekly hours in preschool in the South than public school kindergartners in any of the other regions. For those children who attended private school kindergartens and had attended preschool the year before kindergarten, children in the South and West spent more weekly hours in preschool, on average, than those in the Midwest.

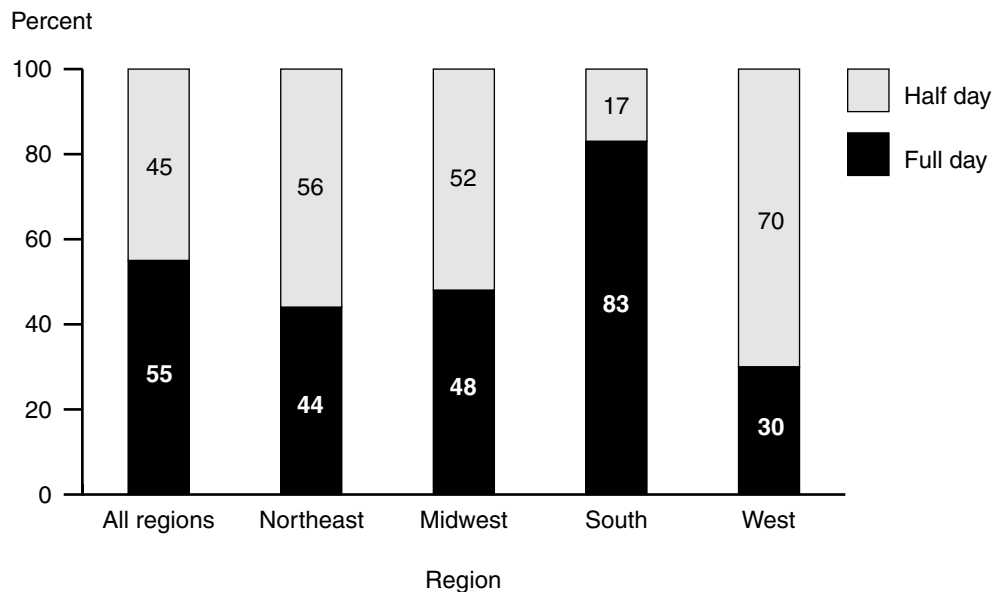
## Patterns in Kindergartners' Kindergarten Program Type Across Regions

In the United States, in the fall of 1998, approximately 4 million children attended kindergarten; some attended full-day programs, and some attended half-day programs. In the fall of 1998, some 55 percent of all kindergarten children attended a full-day program (West, Denton, and Germino Hausken 2000). Kindergartners in the South were more likely to attend full-day kindergarten programs than kindergartners in any of the other regions (figure 2). In contrast, kindergartners in the West were more likely to attend half-day kindergarten programs than kindergartners in any of the other regions.

### *Participation in Full-day Kindergarten Across Regions by Child, Family, and School Characteristics*

As noted above, kindergartners in the South were more likely to attend full-day kindergarten programs than kindergartners in any other region of the country and kindergartners in the West were least likely to do so (table 3). These overall patterns of regional differences found for the full sample of kindergartners are also evident when examining the data within groups of

**Figure 2. Percentage distribution of kindergartners enrolled in full-day and half-day programs, by region: School year 1998–99**



SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), Base Year Public-Use Data File, fall 1998.

kindergartners differing on various child, family, and school characteristics (table 3).

When considering children's race/ethnicity, the percentage of Hispanic kindergartners attending full-day programs differed across the regions. For example, Hispanic kindergartners in the West were less likely to attend full-day kindergarten programs than Hispanic kindergartners in any of the other regions. No consistent pattern of differences in full-day program attendance across regions could be determined for Black and Other kindergartners (e.g., while the percentage of Black kindergartners in the South that attended full-day programs [89 percent] was different from the percentage of Black kindergartners in the Midwest that attended full-day programs [60 percent], it was not measurably different from the percentage of Black kindergartners in the Northeast [79 percent]).

Young kindergartners in the South (those age 4: Born September through December, 1993) were more likely than young kindergartners in other regions to attend full-day kindergarten programs. About 78 percent of young kindergartners in the South attended full-day kindergarten, compared with 55 percent in the Northeast, 33 percent in the Midwest, and 24 percent in the West.

Kindergartners whose families were below the poverty threshold were more likely to attend full-day kindergarten programs if they lived in the South than if they lived in any of the other regions. In contrast, poor kindergartners in the West were the least likely of any region to attend a full-day program.

Kindergartners' whose mothers had not completed high school were more likely to be enrolled in full-day programs if they attended school in the South than if they attended school in any of the other regions. In contrast, these kindergartners in the West were the least likely to have attended full-day programs. Consistent with this pattern, kindergartners whose mothers were employed full time and kindergartners whose mothers were not in the labor force were most likely to be enrolled in full-day programs if they lived in the South and least likely to be enrolled in full-day programs if they lived in the West.

Kindergartners in central city schools were more likely to attend full-day programs if they lived in the South than if they lived in any of the other regions. Also, central city school kindergartners who lived in the North-

east were more likely to attend full-day programs than those in the Midwest or West. In contrast, kindergartners in rural schools in the Northeast were the least likely of rural school kindergartners of any region to attend a full-day program.

Kindergartners in public schools were most likely to attend full-day programs if they lived in the South, compared with any other region. Also, public school kindergartners who lived in the Midwest were more likely than those in the West to be enrolled in full-day programs. In contrast, kindergartners in private schools were more likely to attend full-day kindergarten if they lived in the West or Northeast than if they lived in the Midwest.

## Summary

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Findings from this report indicate that kindergartners' preschool experiences and kindergarten program type vary by the regions in which their schools are located and by the regional characteristics of these kindergartners, their families, and their schools. This report identifies common regional patterns in early childhood experiences and notes exceptions to the general findings.

Overall, 68 percent of kindergartners attended preschool the year before entering kindergarten. However, kindergartners in the West were less likely to have attended preschool than kindergartners in the South, Northeast, or Midwest. These estimates differ from those reported in the Fast Response Survey System (FRSS), "Survey of Classes That Serve Children Prior to Kindergarten in Public Schools: 2000–2001" because the FRSS only collected information on public school prekindergarten programs (Smith et al. 2003). In contrast to the overall pattern described in this report, Black kindergartners in the West were more likely to have attended preschool than Black kindergartners in the South or Northeast.

In general, kindergartners who attended preschool the year before kindergarten spent an average of 22 hours per week in such programs (table 2). Of kindergartners who attended preschool, those in the South spent more hours per week in their preschool programs, on average, than kindergartners in any of the other regions. This pattern was found for Black and Asian kindergartners, kindergartners whose families were below the poverty threshold, and kindergartners whose mothers completed a bachelor's degree or higher.

Consistent with findings from *Full-day and Half-day Kindergarten in the United States* (Walston and West 2004), this report found that kindergartners in the South were more likely to attend full-day kindergarten programs than kindergartners in any of the other regions, and kindergartners in the West were the least likely to attend full-day kindergarten programs. In the West, this pattern was consistent for Hispanic kindergartners, young kindergartners (those not yet 5 years old at kindergarten entry), kindergartners whose families were below the poverty threshold, kindergartners whose mothers had completed less than high school, kindergartners whose mothers were employed full time, and kindergartners whose mothers were not in the labor force.

Results from this report indicate that kindergartners' participation in preschool experiences and full-day kindergarten programs differ by the region in which they live. Given this finding, future research on early childhood program participation should consider incorporating region into analyses of the relationships of preschool or kindergarten program attendance with educational outcomes.

## Methodology and Technical Notes

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The Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS–K), is conducted by the U.S. Department of Education, Institute of Education Sciences (IES), National Center for Education Statistics (NCES). It is designed to provide detailed information on children's early school experiences and achievement. The study began in the fall of the 1998–99 school year. The children participating in the ECLS–K were followed longitudinally through the fifth grade.

### Sample Design

A nationally representative sample of 22,782 children enrolled in 1,277 kindergarten programs during the 1998–99 school year were sampled to participate in the ECLS–K. The children attended both public and private kindergartens that offered full-day and half-day programs. The sample includes children from different racial/ethnic and socioeconomic backgrounds, and includes oversamples of Asian children, private kindergartens, and private kindergartners. Estimates in this report are based on a sample of 18,097 chil-

dren who were enrolled in kindergarten in the fall of 1998 and whose parents completed an interview in the fall of 1998. This sample represents the population of 3,865,946 children enrolled in public and private kindergarten programs in the 1998–99 school year.

The ECLS–K used a dual-frame, multi-stage sampling design. The first stage of sampling involved the selection of 100 primary sampling units (PSUs) from a national sample of PSUs. The PSUs were counties and county groups. Public and private schools were then selected within the PSUs, and children were sampled from the selected schools. Fall kindergarten data were obtained from late September to early December 1998. Spring kindergarten data were obtained from late March to early June 1999.<sup>3</sup>

### Response Rates

A total of 944 of the 1,277 original sampled schools participated during the base year (i.e., kindergarten 1998–99) of the study. This translates into a weighted school response rate of 74 percent. The parent base-year completion rate was 89 percent (i.e., a parent interview was completed at least once during kindergarten). Thus, the base year overall response rate for the parent interview was 65.9 percent (74 percent x 89 percent). About 95 percent of the children and 94 percent of the parents who participated in the fall of kindergarten also participated in the spring.

### Data Reliability

Estimates produced using data from the ECLS–K are subject to two types of error: sampling and nonsampling errors. Nonsampling errors are errors made in the collection and processing of data. Sampling errors occur because the data are collected from a sample rather than a census of the population. A detailed discussion of these types of error can be found in *America's Kindergartners* (West, Denton, and Germino Hausken 2000).

### Standard Errors and Weighting

In order to produce national estimates from the ECLS–K data collected during the fall and spring of the 1998–

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<sup>3</sup> The Early Childhood Longitudinal Study, Kindergarten Class of 1998–99, Base Year Public-Use User's Manual (NCES 2001-029) provides more detail on the ECLS–K sample and data collection protocol.

99 school year, the sample data were weighted. Weighting the data adjusts for unequal selection probabilities at the school and child levels and adjusts for school, child, teacher, and parent nonresponse.<sup>4</sup> The fall kindergarten parent weight (C1PW0) was used to produce all estimates in this report.

In addition to properly weighting responses, special procedures for estimating the statistical significance of the estimates were employed because the data were collected using a complex sample design. Complex sample designs, like that used in the ECLS–K, result in data that violate the assumptions that are normally required to assess the statistical significance of the results. Frequently, the standard errors of the estimates are larger than would be expected if the sample was a simple random sample and the observations were independent and identically distributed random variables.

Replication methods of variance estimation were used to reflect the actual sample design used in the ECLS–K. A form of the jackknife replication method (JK2) using 90 replicates was used to compute approximately unbiased estimates of the standard errors of the estimates in the report. WesVarPC version 4.1 was used in this analysis to calculate standard errors.

## Statistical Procedures

Comparisons made in the text are tested for statistical significance to ensure that the differences are larger than might be expected due to sampling variation. When comparisons are made, *t* statistics are calculated. The formula used to compute the *t* statistic was:

$$t = \frac{\text{Est}_1 - \text{Est}_2}{\text{SQRT}[(\text{se}_1)^2 + (\text{se}_2)^2]}$$

where  $\text{Est}_1$  and  $\text{Est}_2$  are the estimates being compared and  $\text{se}_1$  and  $\text{se}_2$  are their corresponding standard errors. For example, information from tables 3 and 3a are used to compare children’s participation in full-day kindergarten in each of the regions. The formula used to compute the *t* statistic for the comparison of children in the South and children in the West would be:

$$t = \frac{\text{South estimate} - \text{West estimate}}{\text{SQRT}[(\text{South se})^2 + (\text{West se})^2]}$$

<sup>4</sup> See ECLS–K Base Year Public-Use User’s Manual (NCES 2001-029) for more information.

$$t = \frac{83-30}{\text{SQRT}[(4.41)^2 + (5.34)^2]}$$

$$t = 7.65$$

## Constructs and Variables Used in Analysis

***Child and Family Characteristics*** Parents/guardians were asked to provide key information about their children (e.g., the children’s age and race/ethnicity), their family (e.g., household members and composition), and themselves (e.g., their income, education level, and employment status). Most of the data were collected through computer-assisted telephone interviewing (CATI), though some interviews were collected through computer-assisted personal interviewing (CAPI) when respondents did not have a telephone or were reluctant to be interviewed by telephone.

The data for this brief come from the ECLS–K Base Year Public-Use data file. A number of variables in this brief were derived by combining information from one or more questions in the ECLS–K parent questionnaire or from other study sources (i.e., data collection field management system, teacher questionnaire, and the school administrator questionnaire). The derivation of key variables is described in this section. Variable names are included in the descriptions and are indicated by all capital letters.

***Fall kindergarten program type*** This variable is derived from A1CLASS (fall kindergarten classroom type based on teacher questionnaire information) and F1CLASS (child kindergarten program type data from the data collection field management system). If children had valid data on A1CLASS and were designated as being in an AM or PM kindergarten, their kindergarten program type was set to “half-day kindergarten.” If they had valid data on A1CLASS and were designated as being in a full-day kindergarten, their kindergarten program type was set to “full day.” If a child was missing data on A1CLASS, their values on F1CLASS were used to designate fall kindergarten program type.

***Preschool experience*** Preschool experience was based on parental report and was defined as children’s participation in either a center-based *or* Head Start program in the year prior to kindergarten. Parents were asked if their child attended a day care center, nursery school, preschool or prekindergarten program on a regular basis the year before kindergarten (P1CPREK). Parents



were also asked if their child attended a Head Start program the year before kindergarten (P1HSPREK). The preschool experience variable was coded yes if either one or both of these child care variables (PICPREK, P1HSPREK) were answered yes.

**Mean hours in preschool** If a child participated in child care or an early education program, parents were asked how many hours per week their child normally spent in each type of arrangement. Hours in preschool was defined as the number of hours each week children spent in a center-based arrangement, P1CHRSPK, or the number of hours spent in a Head Start program, P1HSHRS, the year prior to kindergarten. If a child attended both a center-based arrangement and a Head Start program then the weekly hours spent in each setting was summed to measure total hours in a preschool setting.

**Age at entry to kindergarten** This variable was constructed from two variables: month and year of birth (DOBMM and DOBY, respectively). These variables were combined to form five categories: children born prior to September 1992 (age 6 when they entered kindergarten), children born between September and December 1992 (turning age 6 when they entered kindergarten), children born January through April 1993 (age 5 when they entered kindergarten), children born May through August 1993 (age 5 when they entered kindergarten), and children born September through December 1993 (age 4 when they entered kindergarten).

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**Table 1. Percentage distribution of fall 1998 kindergartners, by region and selected child, family, and school characteristics: School year 1998–99**

Characteristic	Total	Northeast	Midwest	South	West
Total	100	100	100	100	100
Child's sex					
Male	51	52	50	52	51
Female	49	48	50	48	49
Child's age at kindergarten entry (fall 1998)					
Age 4: Born Sept.–Dec. 1993	9	14	4	5	15
Age 5: Born May–Aug. 1993	31	33	29	31	32
Age 5: Born Jan.–Apr. 1993	31	29	32	31	31
Age 5: Born Sept.–Dec. 1992	24	19	26	28	19
Age 6: Born Jan.–Aug. 1992	6	4	10	5	4
Child's race/ethnicity					
White, non-Hispanic	57	68	69	54	41
Black, non-Hispanic	16	12	11	27	6
Hispanic	19	14	9	15	40
Asian	3	3	2	1	6
Other	5	3	8	3	7
Federal poverty level <sup>1</sup>					
At or above poverty threshold	78	84	83	74	76
Below poverty threshold	22	16	17	26	24
Mother's education <sup>2</sup>					
Less than high school	15	9	10	17	21
High school diploma or equivalent	31	30	29	35	28
Some college, including vocational/technical	32	32	37	29	32
Bachelor's degree or higher	22	29	24	19	18
Mother's employment <sup>2</sup>					
35 hours or more per week	45	40	47	49	42
Less than 35 hours per week	21	26	23	18	21
Looking for work	4	4	4	5	4
Not in the labor force	29	29	26	28	33
School urbanicity					
Central city	38	33	32	39	47
Urban fringe and large town	42	53	40	39	38
Small town and rural	21	14	27	22	16
Kindergarten school type					
Public	85	80	82	90	85
Private	15	20	18	10	15

<sup>1</sup>Poverty is a function of household size and household income. Based on 1998 Census information, a household of four with a total income below \$16,655 was considered to be below the federal poverty level.

<sup>2</sup>Households in which there was no mother were not included in these estimates.

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), Base Year Public-Use Data File, fall 1998 and spring 1999.

**Table 2. Percent of fall 1998 kindergartners who attended preschool the year before kindergarten and mean hours per week in preschool by region and selected child, family, and school characteristics: School year 1998–99**

Characteristic	Percent attending preschool the year before kindergarten					Mean hours per week in preschool				
	Total	Northeast	Midwest	South	West	Total	Northeast	Midwest	South	West
Total	68	71	72	69	62	22	19	18	28	20
Child's sex										
Male	68	70	72	69	61	23	19	18	28	21
Female	69	71	73	69	63	22	20	18	28	20
Child's age at kindergarten entry (fall 1998)										
Age 4: Born Sept.–Dec. 1993	64	68	70	71	56	23	21	20	27	22
Age 5: Born May–Aug. 1993	69	71	74	69	62	23	20	18	28	21
Age 5: Born Jan.–Apr. 1993	70	73	71	71	63	22	19	18	28	20
Age 5: Born Sept.–Dec. 1992	69	70	73	69	64	23	17	19	29	19
Age 6: Born Jan.–Aug. 1992	65	65	72	60	59	20	18	17	26	16
Child's race/ethnicity										
White, non-Hispanic	71	74	74	69	68	20	17	17	25	19
Black, non-Hispanic	76	70	77	76	83	31	28	26	33	28
Hispanic	55	59	59	56	53	22	24	17	28	20
Asian	66	65	74	68	61	23	22	19	27	23
Other	65	66	72	70	54	23	20	22	29	23
Federal poverty level <sup>1</sup>										
At or above poverty threshold	70	73	74	70	64	22	19	18	27	20
Below poverty threshold	62	59	67	66	53	26	23	22	30	20
Mother's education <sup>2</sup>										
Less than high school	51	49	53	55	46	23	22	17	28	18
High school diploma or equivalent	64	65	68	65	57	23	19	18	29	20
Some college, including vocational/technical	72	73	74	74	66	22	20	18	29	21
Bachelor's degree or higher	82	82	84	82	79	21	18	18	25	20
Mother's employment <sup>2</sup>										
35 hours or more per week	72	72	73	74	65	27	24	23	32	25
Less than 35 hours per week	72	76	78	70	66	18	15	14	24	17
Looking for work	62	68	59	63	56	24	22	19	31	18
Not in the labor force	61	65	68	60	55	17	15	13	23	15
School urbanicity										
Central city	67	65	69	70	63	24	23	21	29	21
Urban fringe and large town	71	75	76	71	63	21	18	17	27	20
Small town and rural	65	66	71	65	55	21	16	17	27	18
Kindergarten school type										
Public	66	68	70	68	58	22	19	18	29	19
Private	81	80	82	81	82	22	22	19	25	24
Kindergarten program type										
Full day	70	71	74	70	64	26	22	20	29	23
Half day	67	70	71	66	61	18	17	17	21	19

<sup>1</sup>Poverty is a function of household size and household income. Based on 1998 Census information, a household of four with a total income below \$16,655 was considered to be below the federal poverty level.

<sup>2</sup>Households in which there was no mother were not included in these estimates.

NOTE: Preschool experience is based on parental report and defined as participation in a center-based early care or education program or participation in Head Start the year before kindergarten.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), Base Year Public-Use Data File, fall 1998 and spring 1999.

**Table 3. Percent of fall 1998 kindergartners attending a full-day program by region and selected child, family, and school characteristics: School year 1998–99**

Characteristic	Percent attending full-day kindergarten				
	Total	Northeast	Midwest	South	West
Total	55	44	48	83	30
Child's sex					
Male	55	42	47	82	29
Female	56	45	48	83	30
Child's age at kindergarten entry (fall 1998)					
Age 4: Born Sept.–Dec. 1993	46	55	33	78	24
Age 5: Born May–Aug. 1993	53	43	45	81	27
Age 5: Born Jan.–Apr. 1993	55	46	47	82	29
Age 5: Born Sept.–Dec. 1992	60	34	51	84	37
Age 6: Born Jan.–Aug. 1992	62	42	57	89	40
Child's race/ethnicity					
White, non-Hispanic	52	34	44	80	32
Black, non-Hispanic	78	79	60	89	41
Hispanic	46	62	42	84	21
Asian	48	56	49	84	30
Other	61	33	72	71	52
Federal poverty level <sup>1</sup>					
At or above poverty threshold	54	42	45	81	32
Below poverty threshold	61	51	60	86	24
Mother's education <sup>2</sup>					
Less than high school	57	52	55	86	21
High school diploma or equivalent	58	42	52	84	27
Some college, including vocational/technical	54	41	48	82	32
Bachelor's degree or higher	53	45	40	77	38
Mother's employment <sup>2</sup>					
35 hours or more per week	60	48	52	84	33
Less than 35 hours per week	50	39	44	79	29
Looking for work	61	49	58	85	25
Not in the labor force	51	42	43	82	25
School urbanicity					
Central city	60	67	46	88	31
Urban fringe and large town	47	39	30	83	15
Small town and rural	64	9	76	73	60
School type					
Public	53	36	46	84	22
Private	68	74	56	71	73
Preschool experience <sup>3</sup>					
No	53	43	46	81	28
Yes	57	44	49	83	31

<sup>1</sup>Poverty is a function of household size and household income. Based on 1998 Census information, a household of four with a total income below \$16,655 was considered to be below the federal poverty level.

<sup>2</sup>Households in which there was no mother were not included in these estimates.

<sup>3</sup>Preschool experience is based on parental report and defined as participation in a center-based early care or education program or participation in Head Start the year before kindergarten.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), Base Year Public-Use Data File, fall 1998 and spring 1999.

**Table 1a. Standard errors for table 1: Percentage distribution of fall 1998 kindergartners, by region and selected child, family, and school characteristics: School year 1998–99**

Characteristic	Total	Northeast	Midwest	South	West
<b>Child's sex</b>					
Male	0.4	0.7	0.8	0.7	0.8
Female	0.4	0.7	0.8	0.7	0.8
<b>Child's age at kindergarten entry (fall 1998)</b>					
Age 4: Born Sept.–Dec. 1993	0.6	1.8	0.9	0.8	1.4
Age 5: Born May–Aug. 1993	0.4	0.7	1.3	0.5	0.8
Age 5: Born Jan.–Apr. 1993	0.4	0.9	0.9	0.7	0.8
Age 5: Born Sept.–Dec. 1992	0.6	1.7	1.2	0.8	1.5
Age 6: Born Jan.–Aug. 1992	0.3	0.4	0.6	0.5	0.4
<b>Child's race/ethnicity</b>					
White, non-Hispanic	1.6	2.3	3.9	2.6	3.2
Black, non-Hispanic	1.0	1.8	1.3	2.2	1.0
Hispanic	1.1	1.3	1.1	2.1	3.1
Asian	0.2	0.5	0.5	0.2	0.6
Other	1.0	0.4	4.0	0.3	0.8
<b>Federal poverty level<sup>1</sup></b>					
At or above poverty threshold	0.9	1.0	2.2	1.8	1.1
Below poverty threshold	0.9	1.0	2.2	1.8	1.1
<b>Mother's education<sup>2</sup></b>					
Less than high school	0.6	0.8	1.2	1.0	1.3
High school diploma or equivalent	0.6	1.2	1.0	1.1	1.1
Some college, including vocational/technical	0.5	0.9	1.1	0.7	1.5
Bachelor's degree or higher	0.8	1.7	1.6	1.5	1.3
<b>Mother's employment<sup>2</sup></b>					
35 hours or more per week	0.7	1.6	1.4	1.3	1.2
Less than 35 hours per week	0.5	1.2	1.1	0.7	1.0
Looking for work	0.2	0.4	0.6	0.4	0.3
Not in the labor force	0.6	1.6	1.2	1.0	1.2
<b>School urbanicity</b>					
Central city	1.9	4.4	2.8	3.3	4.6
Urban fringe and large town	2.7	3.9	3.9	5.5	4.3
Small town and rural	1.9	2.6	2.7	4.7	1.5
<b>Kindergarten school type</b>					
Public	0.6	2.0	1.8	1.0	1.6
Private	0.6	2.0	1.8	1.0	1.6

<sup>1</sup>Poverty is a function of household size and household income. Based on 1998 Census information, a household of four with a total income below \$16,655 was considered to be below the federal poverty level.

<sup>2</sup>Households in which there was no mother were not included in these estimates.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), Base Year Public-Use Data File, fall 1998 and spring 1999.

**Table 2a. Standard errors for table 2: Percent of fall 1998 kindergartners who attended preschool the year before kindergarten and mean hours per week in preschool by region and selected child, family, and school characteristics: School year 1998–99**

Characteristic	Percent attending preschool the year before kindergarten					Mean hours per week in preschool				
	Total	Northeast	Midwest	South	West	Total	Northeast	Midwest	South	West
Total	0.7	1.4	1.6	1.4	1.4	0.4	0.6	0.6	0.6	0.6
Child's sex										
Male	0.8	1.6	1.7	1.3	1.7	0.4	0.6	0.6	0.7	0.7
Female	0.8	1.7	1.9	1.6	1.4	0.4	0.7	0.7	0.7	0.7
Child's age at kindergarten entry (fall 1998)										
Age 4: Born Sept.–Dec. 1993	1.8	3.2	3.7	3.2	3.1	0.6	1.0	1.4	1.5	1.0
Age 5: Born May–Aug. 1993	0.9	1.9	2.6	1.4	1.6	0.4	0.7	0.6	0.7	0.7
Age 5: Born Jan.–Apr. 1993	1.0	1.9	2.0	1.8	1.9	0.4	0.6	0.7	0.7	0.8
Age 5: Born Sept.–Dec. 1992	1.1	2.4	1.6	2.1	1.9	0.5	0.8	0.9	0.8	0.8
Age 6: Born Jan.–Aug. 1992	1.8	3.6	2.6	3.6	4.7	0.7	1.7	1.0	1.7	1.7
Child's race/ethnicity										
White, non-Hispanic	0.9	1.8	1.8	1.6	1.7	0.4	0.7	0.7	0.7	0.7
Black, non-Hispanic	1.6	3.4	2.0	2.4	2.4	0.6	1.3	1.1	0.6	2.2
Hispanic	1.2	2.8	4.3	3.0	1.6	0.4	1.1	1.0	1.1	0.5
Asian	2.2	6.1	4.7	5.3	3.1	0.8	1.5	1.5	1.4	1.5
Other	3.1	5.4	1.7	4.5	6.5	1.0	1.5	0.8	1.9	3.2
Federal poverty level <sup>1</sup>										
At or above poverty threshold	0.8	1.7	1.8	1.2	1.4	0.3	0.5	0.6	0.6	0.7
Below poverty threshold	1.5	2.7	2.2	2.8	1.8	0.7	1.0	0.8	1.0	0.7
Mother's education <sup>2</sup>										
Less than high school	1.1	3.6	2.4	2.0	1.7	0.7	1.4	0.8	1.1	0.6
High school diploma or equivalent	1.1	2.0	2.8	1.9	2.2	0.5	0.7	0.8	0.7	1.1
Some college, including vocational/technical	1.0	1.9	2.0	2.0	1.6	0.4	0.7	0.8	0.8	0.7
Bachelor's degree or higher	0.8	2.0	1.1	1.7	1.5	0.4	0.7	0.8	0.8	1.0
Mother's employment <sup>2</sup>										
35 hours or more per week	0.9	1.4	1.5	1.5	2.2	0.4	0.7	0.9	0.5	0.8
Less than 35 hours per week	0.9	1.6	2.0	1.6	1.8	0.4	0.6	0.7	0.8	0.8
Looking for work	2.2	5.3	3.6	3.8	4.5	0.9	1.9	1.7	1.2	1.2
Not in the labor force	1.1	2.7	2.7	1.7	1.7	0.4	0.6	0.6	0.8	0.6
School urbanicity										
Central city	1.2	2.7	1.8	2.6	1.7	0.4	0.8	0.6	0.7	0.8
Urban fringe and large town	1.0	1.9	2.6	1.3	2.1	0.5	0.8	0.7	0.8	0.8
Small town and rural	2.2	5.5	2.1	4.2	5.6	1.2	1.2	1.2	1.6	3.4
Kindergarten school type										
Public	0.8	1.6	1.9	1.4	1.4	0.4	0.7	0.5	0.6	0.6
Private	1.3	2.7	1.8	3.4	2.1	0.7	0.9	1.4	1.4	1.7
Kindergarten program type										
Full day	0.9	2.4	1.4	1.2	2.9	0.5	0.7	1.0	0.5	1.8
Half day	1.0	1.8	2.4	3.9	1.3	0.4	0.8	0.5	1.1	0.5

<sup>1</sup>Poverty is a function of household size and household income. Based on 1998 Census information, a household of four with a total income below \$16,655 was considered to be below the federal poverty level.

<sup>2</sup>Households in which there was no mother were not included in these estimates.

NOTE: Preschool experience is based on parental report and defined as participation in a center-based early care or education program or participation in Head Start the year before kindergarten.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), Base Year Public-Use Data File, fall 1998 and spring 1999.

**Table 3a. Standard errors for table 3: Percent of fall 1998 kindergartners attending a full-day program by region and selected child, family, and school characteristics: School year 1998–99**

Characteristic	Percent attending full-day kindergarten				
	Total	Northeast	Midwest	South	West
Total	2.3	3.9	3.7	4.4	5.3
Child's sex					
Male	2.4	4.1	3.6	4.6	5.4
Female	2.3	3.9	3.9	4.3	5.4
Child's age at kindergarten entry (fall 1998)					
Age 4: Born Sept.–Dec. 1993	2.9	4.6	5.5	7.5	5.2
Age 5: Born May–Aug. 1993	2.6	4.0	4.8	4.6	5.3
Age 5: Born Jan.–Apr. 1993	2.3	4.7	3.5	4.4	5.0
Age 5: Born Sept.–Dec. 1992	2.9	4.5	4.0	4.7	9.0
Age 6: Born Jan.–Aug. 1992	2.8	5.3	5.1	3.8	7.1
Child's race/ethnicity					
White, non-Hispanic	2.6	4.0	4.3	5.0	8.5
Black, non-Hispanic	3.5	4.5	8.0	4.6	9.2
Hispanic	3.5	5.7	6.8	5.6	4.8
Asian	3.7	7.4	9.0	5.4	5.1
Other	7.7	6.1	10.5	9.7	10.5
Federal poverty level <sup>1</sup>					
At or above poverty threshold	2.2	4.2	3.7	4.2	5.2
Below poverty threshold	3.5	6.1	6.6	5.4	6.4
Mother's education <sup>2</sup>					
Less than high school	3.4	6.1	6.3	5.3	5.8
High school diploma or equivalent	2.9	4.3	3.9	5.4	5.7
Some college, including vocational/technical	2.5	3.6	4.0	4.7	6.9
Bachelor's degree or higher	2.4	5.9	4.4	4.3	5.3
Mother's employment <sup>2</sup>					
35 hours or more per week	2.4	3.9	4.1	4.1	5.4
Less than 35 hours per week	2.6	5.2	3.4	5.4	6.3
Looking for work	3.7	6.3	7.6	6.0	7.3
Not in the labor force	2.5	4.4	4.0	4.5	5.1
School urbanicity					
Central city	3.2	6.8	6.1	4.9	6.5
Urban fringe and large town	3.2	4.8	4.9	4.2	3.9
Small town and rural	6.8	4.2	6.6	13.2	24.4
School type					
Public	2.6	4.3	4.0	4.8	5.8
Private	3.1	6.0	5.7	6.8	6.4
Preschool experience <sup>3</sup>					
No	2.7	4.5	4.7	5.6	5.7
Yes	2.2	4.1	3.5	4.0	5.2

<sup>1</sup>Poverty is a function of household size and household income. Based on 1998 Census information, a household of four with a total income below \$16,655 was considered to be below the federal poverty level.

<sup>2</sup>Households in which there was no mother were not included in these estimates.

<sup>3</sup>Preschool experience is based on parental report and defined as participation in a center-based early care or education program or participation in Head Start the year before kindergarten.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), Base Year Public-Use Data File, fall 1998 and spring 1999.