

Executive Summary

A major trend in kindergarten programs that has occurred in the past few decades is an increase in the prevalence of kindergarten classes that meet for the entire school day rather than just a part of the day. The increase has been attributed to various social, economic and educational factors. Increases in the number of single parent households and households with both parents working are commonly cited as important factors contributing to the need for full-day programs (e.g., Gullo 1990; Morrow, Strickland, and Woo 1998). Arranging childcare during the workday is less costly and less complicated for these families when the child is in school for the whole day rather than half of the day. Another rationale in support of full-day kindergarten is that children who have spent some of their pre-kindergarten years in nursery school classes or child care arrangements (often full-day) are ready for the cognitive, social and physical demands of a full-day kindergarten (Gullo 1990). Proponents of full-day kindergarten also emphasize the potential educational benefit—teachers have more time to get to know their children and individualize their instruction, and children have more time to acquire the early academic skills taught in kindergarten (Morrow, Strickland and Woo 1998). In some cases, the move to full-day classes has been made to provide sufficient time for children to complete kindergarten curriculum that has become increasingly rigorous (Shepard and Smith 1988).

The differences between these two types of kindergarten programs have been the subject of a good deal of research as the move to full-day programs has been implemented at the state and local levels (e.g., Cryan et al. 1992; Elicker and Mathur 1997; Fusaro 1997; Gullo 2000; Morrow, Strickland and Woo 1998). Not until the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K) has the opportunity been available to describe full-day and half-day kindergarten differences at the national level. This report examines differences between full-day and half-day kindergarten across the United States using ECLS-K data from schools, teachers, parents and kindergarten children. This report describes the schools, both public and private, that offer these programs and

Walston, J., & West, J. (2004). Full-day and half-day kindergarten in the United States: Findings from the Early Childhood longitudinal study, kindergarten class of 1998-1999 [Executive summary] (NCES 2004-078). Washington, DC: National Center for Education Statistics.

the children who attend them. It also describes many characteristics of public school full-day and half-day kindergarten classes, including specific curriculum differences between the program types. The report ends with an examination of the cognitive gains public school children make in full-day and half-day classes during the kindergarten year.

Schools that offer full-day and half-day kindergarten

In the 1998–99 school year, 61 percent of all U.S. schools that have a kindergarten program offer at least one full-day kindergarten class and 47 percent offer at least one half-day class (table A1).¹ These percents, however, are not uniform across different school types. Full-day programs are most prevalent in Catholic schools (figure A).

Among public schools, there is a strong regional difference—84 percent of public schools in the southern region² of the country provide a full-day program. Full-day kindergarten is also more prevalent in public schools located in cities (64 percent) and in small towns or rural areas (63 percent) compared with suburban or large town areas (46 percent). The percent of schools that offer full-day programs is also related to schools' enrollment of children that are at-risk for school failure.³ Both private and public schools that serve high concentrations of minority children are more likely to provide full-day programs compared to those that serve low concentrations of minority children. Additionally, full-day programs are more likely to be offered

¹Estimates here and elsewhere in the executive summary are not adjusted by other child, class or school variables unless noted.

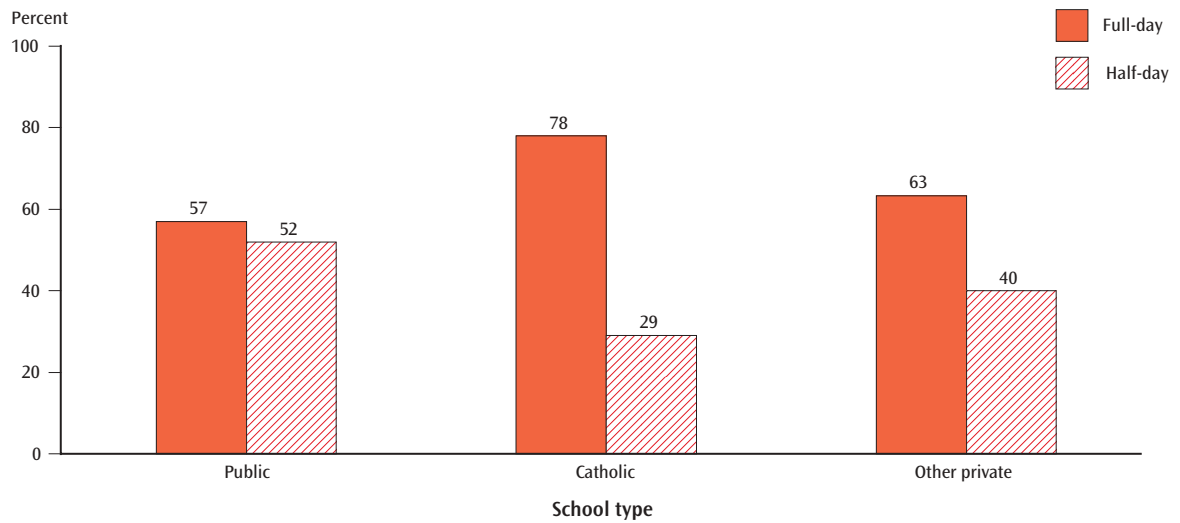
²The southern region of the country includes: DE, DC, FL, GA, MD, NC, SC, VA, WV, AL, KY, MS, TN, AR, LA, OK, and TX.

³The term "at-risk" refers to children who belong to a socio-demographic group that, on average, performs lower on measures of academic achievement compared to other groups. Black and Hispanic children, low-income children, and children from non-English speaking families are "at-risk" for school failure (e.g., U.S. Department of Education 2001; West, Denton and Reaney 2001).





Figure A. Percent of U.S. schools that offer full-day and half-day kindergarten programs, by school type: 1998–99



NOTE: The percent of schools offering full-day and half-day programs sums to more than 100 because some schools have both full-day and half-day classes. Estimates only pertain to schools with a kindergarten program.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99; School Administrator Questionnaire and Kindergarten Teacher Questionnaires, Base-Year Public-Use Data Files.

in public schools where at least half of the enrollment is comprised of low-income children (69 percent) than in schools with fewer low-income children (48 percent).

Children enrolled in full-day and half-day kindergarten

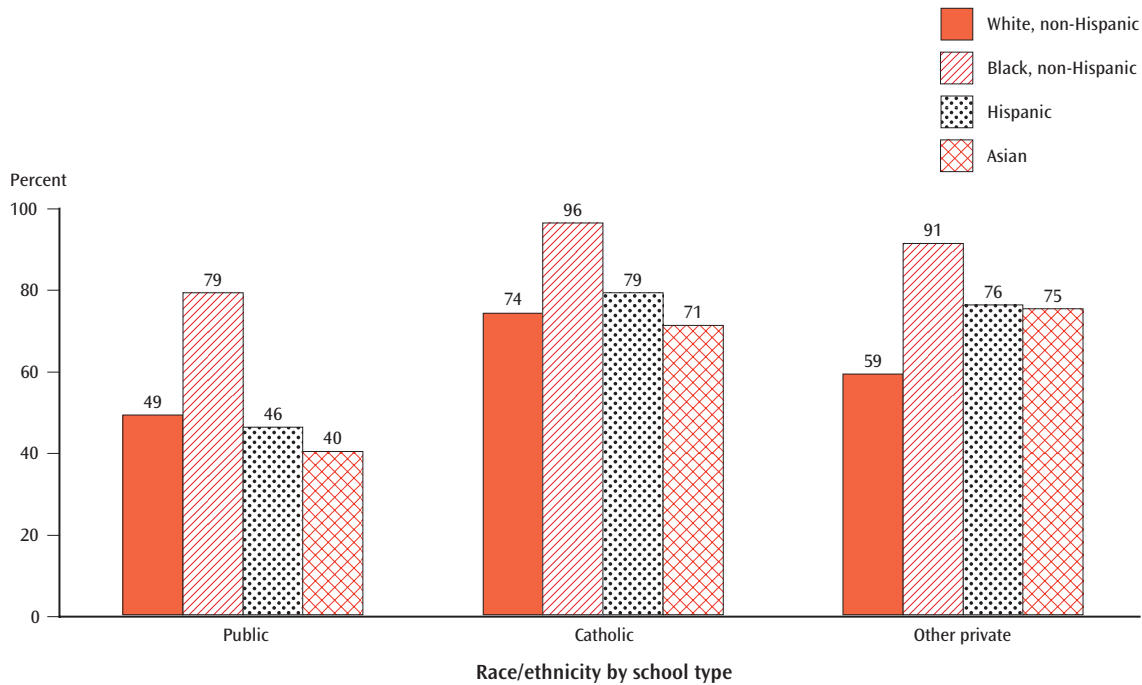
Overall, 56 percent of kindergarten children attend a full-day program; 54 percent of public school kindergarten children attend a full-day program and 67 percent of private school children do. In public schools, 79 percent of Black kindergarten children are attending full-day programs; this is a higher rate than is found for White, Asian or Hispanic public school kindergartners (figure B). Additionally, public school kindergartners whose family income is below the federal poverty threshold attend full-day programs at a higher rate (62 percent) than those from more affluent families (51 percent). The findings for Black children and economically disadvantaged children are consistent with the common rationale for offering full-day programs: to ease the child care needs of families

who are least able to afford quality after-school programs, and to provide “at-risk” children with more time during the kindergarten year to acquire the beginning reading and mathematics skills necessary to succeed in school (e.g., Gullo 1990; Morrow, Strickland and Woo 1998). However, not all “at-risk” groups of children are attending full-day programs at relatively high rates. Compared to 79 percent of Black public school kindergarten children and 62 percent of public school kindergartners living in poverty attending full-day kindergarten, 46 percent of public school Hispanic kindergartners and 45 percent of public school kindergartners from homes where English is not the primary language attend full-day programs.

Among private schools, 77 percent of kindergartners in Catholic schools and 65 percent in other private schools attend a full-day program. Black children in Catholic and other private schools are more likely to attend a full-day program compared to White children (figure B) but poverty status and home language are not related to full-day enrollment rates in these schools.



Figure B. Percent of U.S. kindergarten children enrolled in a full-day program, by race/ethnicity and school type: 1998–99



SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99; School Administrator Questionnaire, Kindergarten Teacher Questionnaires, and Parent Interviews, Base-Year Public-Use Data Files.

Class composition and structure in full-day and half-day public kindergartens

Differences in the composition of public full-day kindergarten classes compared to half-day classes mirror the patterns seen in some of the child-level enrollment findings. The average percentage of minority children in full-day classes (46 percent) is higher than that for half-day classes (35 percent). Thirty percent of full-day classes have more than 75 percent minority enrollment compared to 19 percent of half-day classes. The same pattern is not evident for limited-English proficient students.

A smaller percent of full-day classes are taught by White teachers, but the majority of both full-day and half-day classes are taught by White teachers (80 and 87 percent, respectively). A larger percent of full-day classes are taught by Black teachers (10 percent) compared to half-day classes (2 percent). Teachers in full-day classes are more likely than teachers in half-day classes to have their teaching certificate in the area of early childhood education.

The average number of children in full-day classes (20.3) is higher than is found in half-day classes (19.1). Thirty-nine percent of full-day classes have between 21 and 25 children compared to 26 percent of half-day classes, but very large classes (more than 25 children) are uncommon in both full-day (10 percent) and half-day programs (7 percent). Classroom instructional aides are more prevalent in full-day classes. Sixty-one percent of full-day classes and 44 percent of half-day classes have an aide who works for at least an hour per day directly with the children on instructional tasks.

Instructional activities in full-day and half-day public kindergarten classes

Teachers in full-day kindergarten classes organize for instruction in much the same way as teachers in half-day classes. Full-day kindergarten classes spend, on average, more time each day than half-day classes on teacher-directed whole class, small group, and individual activities and they spend





more time on child-selected activities. When the total amount of time available in these classes is taken into account, however, the percent of total class time spent in each type of activity is similar for full-day and half-day classes. The strategies that teachers use for grouping children for instruction are also examined. Mixed-level groups are the most common grouping strategy in both types of classes. Full-day classes, however, are more likely than half-day classes to use achievement groups at least once a week for reading instruction (62 percent vs. 50 percent) and for mathematics instruction (42 percent vs. 32 percent).

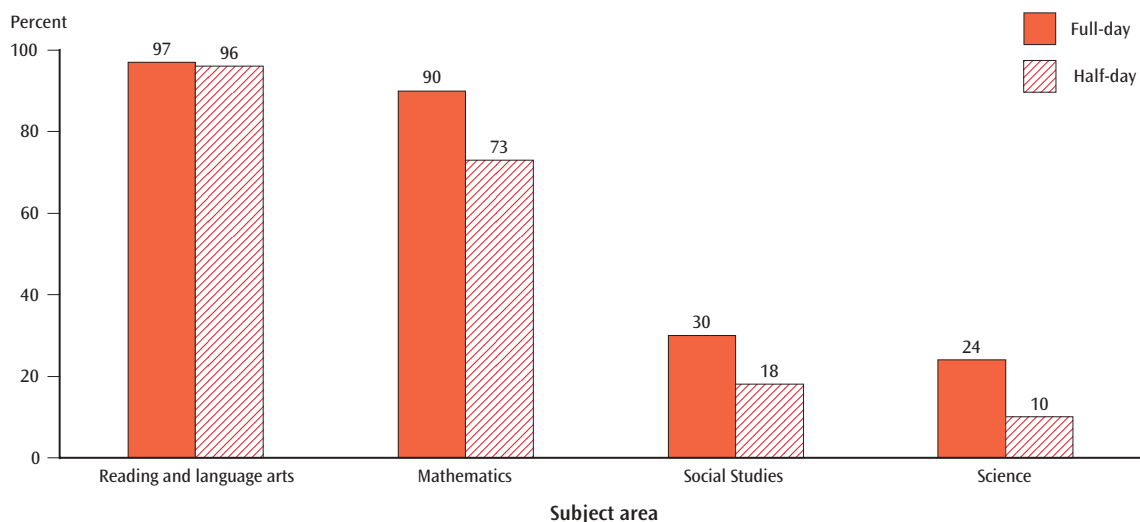
A large majority of both full-day and half-day classes have reading and language arts activities every day (97 and 96 percent, respectively) (figure C). However, full-day classes are more likely to spend time each day on other subjects—math, social studies, and science, compared with half-day classes. Among the four art and music subjects that teachers were questioned about—art, music, dance/creative movement, and theater/creative dramatics—only art is done every day in a larger percent of full-day classes (30 percent) compared to half-day classes (21 percent). Music is taught daily in a smaller percentage of full-day classes (30 percent) compared to half-day classes (36 percent).

The relative order of the skills and activities that children spend time on within the domains of reading/language arts and mathematics is very similar for full-day and half-day classes; the most commonly reported skills and activities in full-day classes are generally the most common in half-day classes. Almost all specific skills and activities are more frequently covered daily in full-day classes compared with half-day classes with some of the exceptions being those done daily by a majority of both types of classes (e.g., calendar activities and counting out loud).

To illustrate some differences in the daily curriculum covered in public kindergarten full-day and half-day classes, figures D and E show the percentage of these classes that work on common kindergarten activities and skills every day. Figure D presents a selection of the most commonly reported reading/language arts activities and skills and compares the percent of full-day and half-day classes that do these every day. Figure E compares the percent of full-day and half-day classes that spend time each day on common mathematics skills and activities.

While there are many skills and activities that a larger percent of full-day classes spend time on each

Figure C. Percent of U.S. public kindergarten classes that spend time each day on various academic subject areas, by program type: Spring 1999



SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99; Spring 1999 Kindergarten Teacher Questionnaire, Base-year Public-Use Data File.

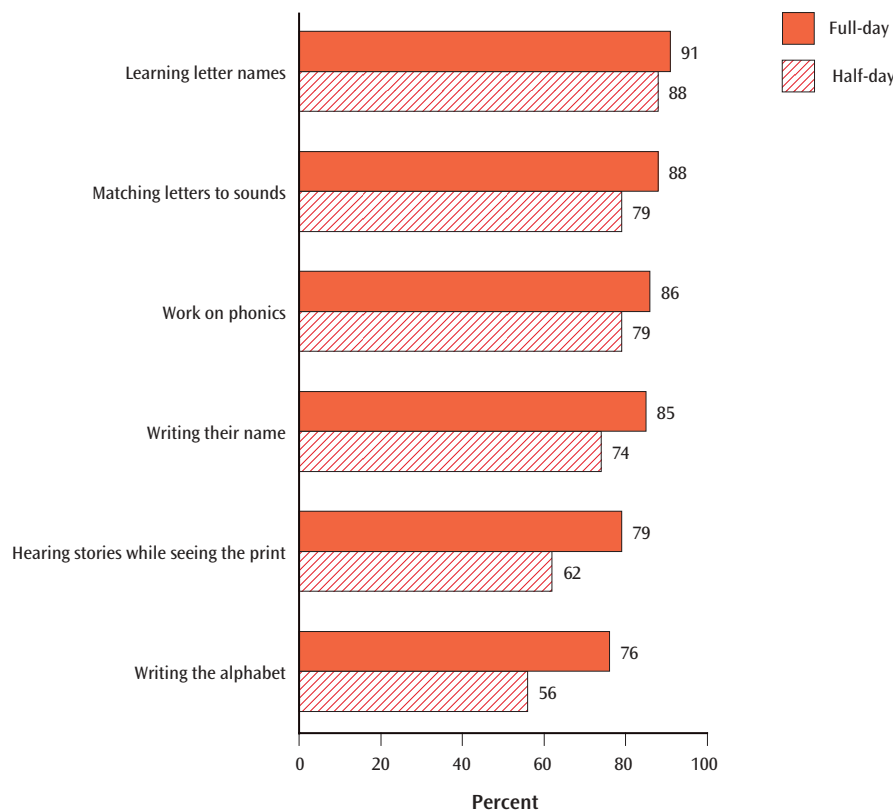


day compared with half-day classes, these differences may simply be attributed to the fact that full-day classes have the time to devote to a greater number of separate skills and activities. The differences in the percent of classes that spend time on specific skills and activities *at least weekly* (either daily or weekly) may be a more useful comparison for describing differences in the curricular focus between full-day and half-day kindergarten classes. Within the reading/language arts domain (reading, writing, and expressive and receptive language), the percent of full-day classes that engage in a skill or activity at least weekly exceeds the percent of half-day classes for 19 out of the 36 skills and activities examined. Some of the reading activities and skills that are more likely to be part of at least a weekly routine in full-day classes are typically considered more advanced than the traditional kindergarten reading curriculum (e.g., reading aloud fluently,

reading multi-syllable words, and alphabetizing).⁴ Nine out of the 11 writing skills and activities are done weekly in more full-day classes compared to half-day classes (e.g., writing in journal, writing stories and reports, and conventional spelling). Among the 37 skills and activities examined in the mathematics domain, there are 29 in which the percentage of full-day classes engaging in the skill or activity at least weekly exceeds the percent of half-day classes. Many of these are activities or skills that involve solving mathematics problems

⁴Comparisons of public school kindergarten and first-grade activities and skills show that a higher percent of first-graders compared to kindergartners engage in these at least once a week (reading aloud fluently, 98 vs. 44 percent; reading multi-syllable words, 84 vs. 36 percent; and alphabetizing, 66 vs. 18 percent) (unpublished tables, ECLS-K longitudinal kindergarten-first-grade Public-Use Data File, NCES 2002–148).

Figure D. Percent of U.S. public kindergarten classes that work daily on various reading/language arts activities and skills, by program type: Spring 1999

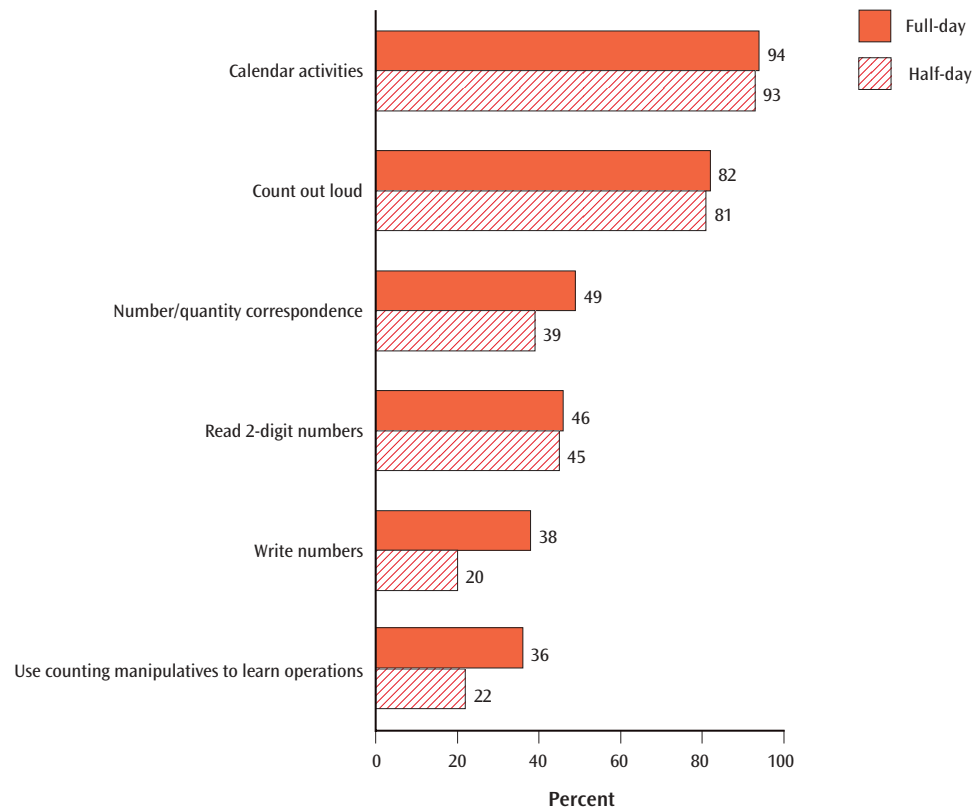


SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99; Spring 1999 Kindergarten Teacher Questionnaire, Base-year Public-Use Data File.





Figure E. Percent of U.S. public kindergarten classes that work daily on various mathematics activities and skills, by program type: Spring 1999



SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99; Spring 1999 Kindergarten Teacher Questionnaire, Base-year Public-Use Data File.

(e.g., explain how a math problem is solved, solve real-life math problem, and solve math problems on the chalkboard). Additionally, some of these mathematics skills and activities are ones more typically part of a first-grade curriculum (e.g., recognizing fractions, telling time, and writing numbers from 1–100).⁵

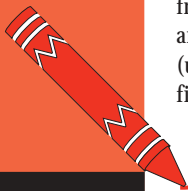
Children in full-day kindergarten classes are spending some of the time focused on learning many of the same things and doing many of the same types of learning activities as those in half-day classes,

but some full-day kindergarten classes are spending the “extra time” during the day exposed to more advanced reading, writing, and mathematics skills.

Full-day and half-day children’s gains in cognitive skills and knowledge

The ECLS-K children were assessed in reading/language arts and mathematics in the fall and in the spring of the kindergarten year. The achievement gains made during the year are compared for English-speaking, first-time kindergartners in full-day and half-day public kindergarten classes. Given the non-experimental, pretest-posttest design of the study, there is no way to determine if the samples were equivalent in all important ways at the beginning of the kindergarten year. This is a research design limitation which makes it impossible to draw causal conclusions from the data.

⁵Comparisons of public school kindergarten and first-grade activities and skills show that a higher percent of first-graders compared to kindergartners engage in these activities and skills at least once a week (recognizing fractions, 32 vs. 6 percent; telling time, 72 vs. 40 percent; and writing numbers from 1–100, 41 vs. 18 percent) (unpublished tables, ECLS-K longitudinal kindergarten-first-grade Public-Use Data File, NCES 2002–148).



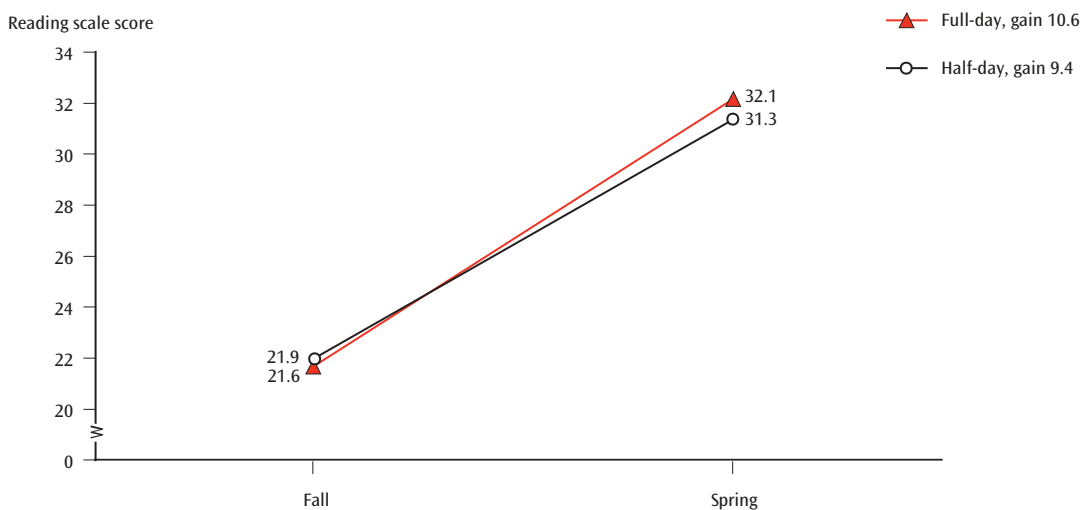
The children enrolled in a full-day program make greater gains in reading language arts over the course of the kindergarten year compared to those in half-day classes (figure F). Additionally, full-day kindergartners make greater gains in mathematics achievement during the year compared to half-day kindergartners (figure G).

The differences in achievement gains associated with program type are not only apparent when simple comparisons of gains are made (figures F and G), they persist when the comparisons take into account other important child and class characteristics. Findings from a multi-level regression analysis indicate that children in full-day classes make greater gains in both reading and mathematics compared to those in half-day classes *after* adjusting for gain score differences associated with race/ethnicity, poverty status, fall achievement level, sex, class size, amount of time for subject area instruction, and the presence of an instructional aide. The positive effect associated with full-day programs after accounting for these other variables represents a difference in the reading gain scores of about 32 percent of a standard deviation. Findings from this

analyses indicate that children in very large classes (25+) make gains in reading that are slightly smaller than those made by children in medium size classes (18–24). Furthermore, there is not a differential effect associated with class size by program type—a smaller class size does not mitigate the difference in gains found between children in half-day and full-day programs. Additionally, the presence of a classroom aide is not associated with differences in reading gain scores among White children in either half-day or full-day programs; however, Black children in full-day classes with an aide make greater reading gains compared to Black children in full-day classes without an aide.

After accounting for the same class and child characteristics as for reading, children in full-day programs make gains in mathematics that represent about 22 percent of a standard deviation more than the gains made by children in half-day programs. For mathematics achievement, no other child or class variables interact with program type, which indicates that the greater gains associated with full-day programs are consistent for children with various socio-demographic backgrounds and across other classroom characteristics.

Figure F. Public school first-time kindergartners' mean reading gain scores, by program type: Fall 1998 to spring 1999



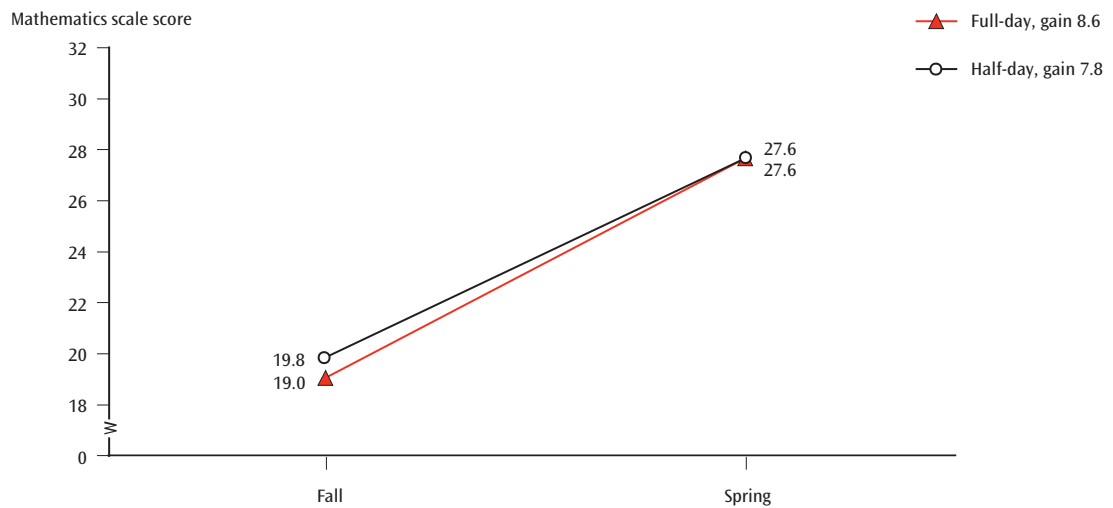
NOTE: Estimates are based on public school, first-time kindergarten children attending a regular kindergarten program (not a transitional or multi-grade class) who are assessed in English in both the fall and the spring. Only children with the same teacher in both the fall and spring are included in the analysis. Detail may not sum to totals because of rounding. The scores are simple means and are unadjusted for a number of other factors that are related to performance.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99; Teacher Questionnaire and Child Assessments, Base-Year Public-Use Data File.





Figure G. Public school first-time kindergartners' mean mathematics gain scores, by program type: Fall 1998 to spring 1999



NOTE: Estimates are based on public school, first-time kindergarten children attending a regular kindergarten program (not a transitional or multi-grade class) who are assessed in mathematics in both the fall and the spring. Only children with the same teacher in both the fall and spring are included in the analysis. Detail may not sum to totals because of rounding. The scores are simple means and are unadjusted for a number of other factors that are related to performance.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998–99; Teacher Questionnaire and Child Assessments, Base-Year Public-Use Data File.

The focus of this report is broad; it describes many differences associated with full-day and half-day kindergarten in the United States. This report provides descriptive information about the public and private schools that offer full-day and half-day kindergarten programs and the children that attend them. This report also provides information about the teachers in public full-day and half-day kindergarten classes, how they organize their classes for instruction and the time they spend on many instructional activities and skills. The final chapter of findings presents results that support previous

research on full-day kindergarten and the greater achievement gains in reading and mathematics made by children in full-day compared to half-day programs. It is the intention of this report to provide a broad picture of full-day and half-day kindergarten in the United States and to spur other researchers to use the rich array of child, parent, classroom and school information available in the ECLS-K data to further examine aspects of full-day and half-day kindergarten and associated relationships.

