America's Children: Key National Indicators of Well-Being, 2013

Special Feature The Kindergarten Year

Special features provide an opportunity to present important information in addition to the key national indicators highlighted in this report. Using data from a longitudinal study of a 2010–2011 kindergarten cohort (ECLS-K:2011), this year's special feature reports on children's early academic knowledge and skills and approaches to learning.

The Kindergarten Year

The kindergarten year is a pivotal marker for children's development. At kindergarten entry, there are differences among children in terms of their cognitive knowledge and skills, level of socioemotional development, and approaches to learning. This special feature highlights kindergartners' aptitude in several key areas related to success in school. The depth and breadth of children's knowledge and skills are related to both developmental and experiential factors. Students' early academic knowledge and skills and approaches to learning are described in this feature with respect to demographic characteristics as well as with respect to family and household characteristics.

This special feature is based on data from the Early Childhood Longitudinal Study, Kindergarten Class of 2010–2011 (ECLS-K:2011),¹⁴⁶ which is the third in a series of longitudinal studies of young children conducted by the National Center for Education Statistics (NCES). The ECLS surveys provide comprehensive and reliable data about children's early learning and development, as well as their transition into kindergarten and progress through school. The data used for this special feature are for ECLS-K:2011 students who were first-time kindergartners in the fall of 2010. The feature describes differences in children's performance at kindergarten entry in three academic, cognitive, and socioemotional areas, namely, reading, mathematics, and approaches to learning. In addition, the feature describes children's early science performance, which was captured in the spring of kindergarten. Although various differences in children's performance on these measures were observed across demographic and other characteristics, the discussion focuses on only a selection of these differences.

Characteristics of First-Time Kindergartners in 2010–2011

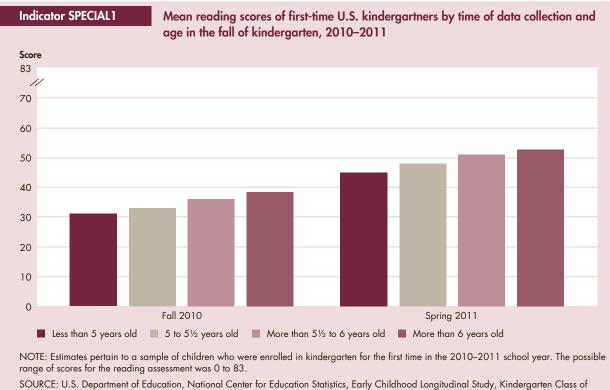
Of the 3.5 million first-time kindergarten students who began school in the fall of 2010, about 89 percent attended public schools and 11 percent attended private schools. In the fall of kindergarten, almost all students (96 percent) were at least 5 years old, with 9 percent older than age 6. Fifty-three percent of first-time kindergartners were White, non-Hispanic, 24 percent were Hispanic, 13 percent were Black, non-Hispanic, 4 percent were Asian, 4 percent were two or more races, 1 percent were American Indian or Alaska Native, and less than 1 percent were Native Hawaiian or other Pacific Islander. Fifty-five percent had attended center-based care as a primary care arrangement in the year prior to kindergarten. One-quarter of first-time kindergartners lived in households with incomes below the federal poverty level, and 15 percent lived in a home where English was not the primary language. Thirty-eight percent had parents whose highest level of education was a bachelor's degree or higher, and 76 percent started kindergarten living in a two-parent household.

Academic Knowledge and Skills

As children enter kindergarten, their reading and mathematics knowledge and skills differ by characteristics such as their age, race and Hispanic origin, family type, household socioeconomic status, and child care history.¹⁴⁷ In addition, research has shown that these early achievement gaps widen over the first 4 years of elementary school and persist into later grades.¹⁴⁸

The ECLS-K:2011 kindergarten direct assessments were designed to measure children's knowledge and skills in reading, mathematics, and science. Data were collected on kindergartners' overall achievement in reading¹⁴⁹ and mathematics¹⁵⁰ in the fall and spring of kindergarten and in science¹⁵¹ in the spring of kindergarten using individually administered direct assessments. While the assessments were designed to contain mostly items that measured knowledge and skills at a kindergarten level, easier and more difficult items were included to capture the full range of the children's abilities. For each assessment, scores represent varying levels of knowledge and skills pertaining to the subject. On the reading assessment, for example, those with lower scores typically correctly answered items about basic skills like letter recognition, but failed to correctly answer items about more advanced skills such as reading comprehension. Those with higher scores, on the other hand, typically responded correctly to items involving both more basic skills as well as more difficult skills.

Reading Assessment



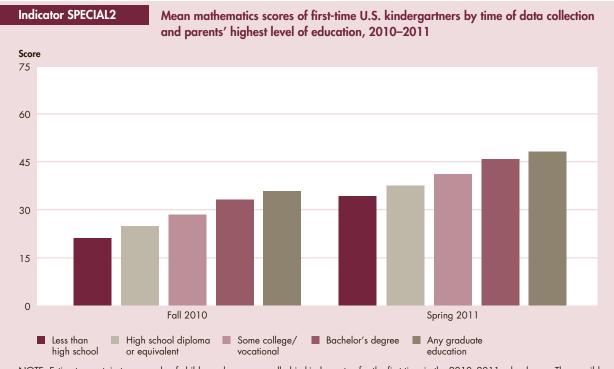
2010–2011 (ECLS-K:2011) Restricted-Use Kindergarten Data File.

- Older first-time kindergartners tended to score higher on the reading assessment than younger first-time kindergartners in the fall of kindergarten. For instance, kindergartners who were more than 6 years old in the fall of kindergarten had higher fall reading scores than children in younger age groups, and children who were less than 5 years old in the fall of kindergarten had the lowest reading scores, on average.
- Females typically scored higher than males on the reading assessment.
- Asian kindergartners had higher fall reading scores than their peers in all of the other racial/ethnic groups. In addition, White, non-Hispanic kindergartners had higher fall reading scores than their Black, non-Hispanic, Hispanic, Native Hawaiian/Pacific Islander, and American Indian/Alaska Native classmates, and Black, non-Hispanic kindergartners outscored Hispanic kindergartners.
- Fall reading scores increased with each level of parental education. For example, kindergartners whose parent(s) had not completed high school had the lowest fall reading scores, on average, and kindergartners whose

parent(s) had completed some graduate education had the highest fall reading scores.

- First-time kindergartners' fall reading skills also differed with respect to their primary care arrangements in the year prior to kindergarten. Children who had not received any nonparental care on a regular basis and those whose primary care arrangement was homebased care with a relative had lower fall reading scores than children who attended home-based nonrelative care, attended center-based care, or had multiple care arrangements.¹⁵²
- In addition, first-time kindergartners whose primary home language was English scored higher on the reading assessment than their peers who had a non-English primary home language.
- Reading scores were also lower for children in households with incomes below the federal poverty level and for those in households at 100–199 percent of the federal poverty level than for those in households with incomes at or above 200 percent of the federal poverty level.

Mathematics Assessment



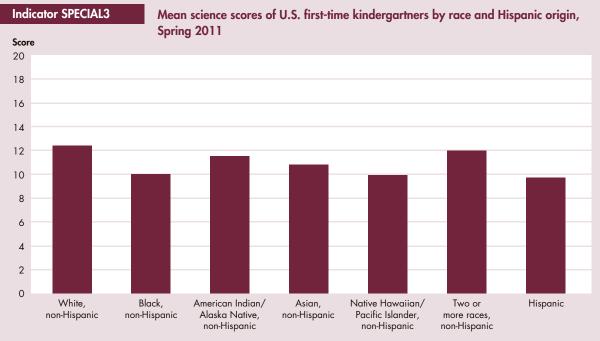
NOTE: Estimates pertain to a sample of children who were enrolled in kindergarten for the first time in the 2010–2011 school year. The possible range of scores for the mathematics assessment was 0 to 75. Parents' highest level of education is the highest level of education achieved by either of the parents or guardians in a two-parent household or by the only parent or guardian in a single-parent household. SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–2011 (ECLS-K:2011) Restricted-Use Kindergarten Data File.

- In contrast to the reading assessment scores, there was no measurable difference between males' and females' mathematics assessment scores in the fall of kindergarten. Other demographic differences showed patterns similar to those observed for reading.
- Older first-time kindergartners scored higher, on average, on the mathematics assessment than their younger peers.
- Asian kindergartners had higher fall mathematics scores than their classmates from all other racial/ethnic groups.

White, non-Hispanic kindergartners had higher fall mathematics scores than their peers in the remaining racial/ethnic groups, and Black, non-Hispanic kindergartners outscored Hispanic kindergartners.

- Fall mathematics scores increased with each level of parental education.
- Differences in children's mathematics scores with respect to their primary care arrangements in the year prior to kindergarten, primary home language, and poverty status followed patterns similar to those for reading.

Science Assessment



NOTE: Science was only assessed in the spring of kindergarten. The possible range of scores is 0 to 20. According to the revised 1997 OMB standards, persons could select one or more of five racial groups: White, Black or African American, American Indian or Alaska Native, Asian, or Native Hawaiian or Other Pacific Islander. Those reporting more than one race were classified as "Two or more races." Those in a given racial category represent those reporting only that race. Data on race and Hispanic origin are collected separately.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Class of 2010–2011 (ECLS-K:2011) Restricted-Use Kindergarten Data File.

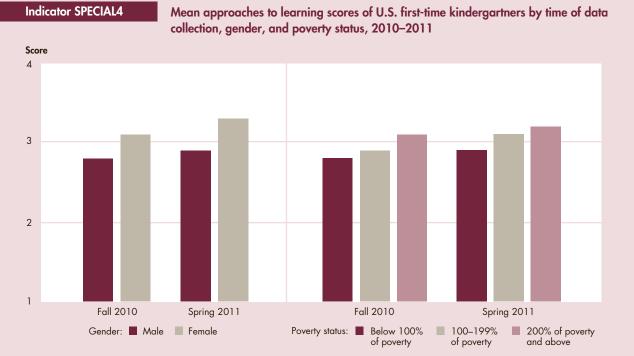
- Consistent with the pattern found for the mathematics assessment, there was no measurable difference between males' and females' scores in science, assessed initially in the spring of kindergarten.
- As with the reading and mathematics findings, older first-time kindergartners tended to score higher on the science assessment than younger first-time kindergartners.
- White, non-Hispanic kindergartners had higher spring science scores than their classmates from other racial/ ethnic groups, with the exception of American Indian/ Alaska Native kindergartners for whom the apparent

difference was not significant. In addition, American Indian/Alaska Native kindergartners had higher spring science scores than Black, non-Hispanic, Hispanic, and Native Hawaiian/Pacific Islander kindergartners; Asian kindergartners also had higher scores than Black, non-Hispanic and Hispanic kindergartners.

- Kindergartners' science scores increased with each level of parental education as well.
- Patterns in children's science scores by primary home language and poverty status were also aligned with those for reading and mathematics.

Approaches to Learning

Approaches to learning behaviors include children's ability to keep belongings organized, pay attention well, persist in completing tasks, show eagerness to learn new things, work independently, adapt easily to changes in routine, and follow classroom rules. Differences in children's approaches to learning have been observed by teachers as early as the beginning of the kindergarten year.¹⁵³ Research indicates that children who demonstrate positive approaches to learning have stronger academic skills, on average, in the primary and later grades.¹⁵⁴ Children who do not demonstrate positive approaches to learning in classroom activities may benefit less from instruction and have lower levels of achievement because they tend not to participate in experiences that foster skill development.¹⁵⁵ On the ECLS-K:2011, higher scores demonstrate more positive approaches to learning. Approaches to learning scores in this feature are derived from teacher ratings.



NOTE: Approaches to learning behaviors include children's ability to keep belongings organized, pay attention well, persist in completing tasks, show eagemess to learn new things, work independently, adapt easily to changes in routine, and follow classroom rules. Higher scores demonstrate more positive approaches to learning. Approaches to learning scores are derived from teacher ratings. Estimates pertain to a sample of children who were enrolled in kindergarten for the first time in the 2010–2011 school year. Potential approaches to learning scores range from 1 to 4.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–2011 (ECLSK:2011) Restricted/Use Kindergarten Data File.

- In the fall of kindergarten, teachers gave higher ratings, on average, to females than to males on the approaches to learning scale.
- Older first-time kindergartners tended to receive higher approaches to learning scores than younger first-time kindergartners, with the exception that scores for kindergartners who were less than 5 years old and scores for those who were 5 to 5½ years old were not measurably different.
- Asian and White, non-Hispanic kindergartners had higher fall approaches to learning scores than Black, non-Hispanic, Hispanic, and Native Hawaiian/Pacific Islander kindergartners, as well as kindergartners of two or more races. Hispanic and American Indian/

Alaska Native kindergartners also had higher approaches to learning scores than Black, non-Hispanic kindergartners.

- Kindergartners whose parent(s) had attained a bachelor's degree or obtained any graduate education received higher scores than kindergartners whose parent(s) had obtained lower levels of education.
- Scores on the fall approaches to learning measure were lower for first-time kindergartners in households with incomes below the federal poverty level and for those in households at 100–199 percent of the federal poverty level than for those in households with incomes at or above 200 percent of the federal poverty level.

Executive Function

Young children's executive function abilities also vary at the start of formal schooling. Executive function is the capacity to plan, organize, and monitor the completion of behaviors that are strategically directed towards achieving a goal.¹⁵⁶ It involves the ability to allocate attention, to hold information in working memory, and to withhold an inappropriate response.¹⁵⁷ Not only do these cognitive and behavioral processes predict reading and mathematics achievement,¹⁵⁸ but research also indicates that some executive function processes are trainable and can be improved upon in school classrooms without costly interventions.¹⁵⁹ While performance on executive function measures were not available for inclusion in this special feature, future studies will examine them in greater detail.

Conclusion

Results from the ECLS-K:2011 show differences in children's performance in the fall of kindergarten in reading, mathematics, and approaches to learning across demographic and other characteristics. In science, which was assessed for the first time in the spring, variation in scores was also observed for children in their kindergarten year.

While females received higher assessment scores than males in reading and approaches to learning, there was no measurable difference in performance between males and females in mathematics and science. For the most part, older first-time kindergartners scored higher on the assessments than younger first-time kindergartners. Multiple differences in children's performance were observed among students in the various racial/ethnic groups. For instance, with few exceptions, Asian and White, non-Hispanic kindergartners had higher scores than their peers. Kindergartners' scores on the reading, mathematics, and science assessments increased with each level of parental education. In general, this finding also held for the approaches to learning assessment. Children's scores on the reading, mathematics, and science scores also differed with respect to their primary care arrangement in the year before kindergarten, their primary home language, and their poverty status. Differences by poverty status were found for approaches to learning.

Many of the above patterns in demographic findings on the fall reading, mathematics, and approaches to learning measures were also observed in the spring of the kindergarten year. In addition, average assessment scores for kindergarten students in reading, mathematics, and approaches to learning increased between the fall and the spring.

This special feature presents a simple picture of the variation in children's skills and knowledge starting at kindergarten entry. The ECLS-K:2011 will follow these children through the fifth grade. Researchers will be able to track children's performance and the differences in their performance, not only by child and family characteristics but also by teacher and school characteristics. Future analyses, based on the information from the ECLS-K:2011, will help us better understand the role of such elements as child care, home educational environment, teachers' instructional practices, class size, and the general climate of schools.

This section contains references to data that can be found in Table SPECIAL1 on pages 183–186. Endnotes begin on page 77.

Notes to Indicators

¹³³ Freedman, L.S., Guenther, P.M., Krebs-Smith, S.M., and Kott, P.S. (2008). A population's mean Healthy Eating Index-2005 scores are best estimated by the score of the population ratio when one 24-hour recall is available. *Journal of Nutrition, 138*, 1725–1729.

¹³⁴ Singh, A.S., Mulder, C., Twisk, J.W., Van, M.W., and Chinapaw, M.J. (2008). Tracking of childhood overweight into adulthood: A systematic review of the literature. *Obesity Review*, *9*, 474–488.

¹³⁵ Must, A., Anderson, S.E. (2003). Effects of obesity on morbidity in children and adolescents. *Nutrition in Clinical Care, 6*(1), 4–11.

¹³⁶ Dietz, W.H. (1998). Health consequences of obesity in youth: Childhood predictors of adult disease. *Pediatrics, 105,* 518–525.

¹³⁷ Ogden, C.L., Flegal, K.M., Carroll, M.D., and Johnson, C.L. (2002). Prevalence and trends in overweight among U.S. children and adolescents, 1999–2000. *Journal of the American Medical Association, 288*(14), 1728–1732.

¹³⁸ Ogden, C.L., Carroll, M.D., Kit, B.K., and Flegal, K.M. (2012). Prevalence of obesity and trends in body mass index among US children and adolescents, 1999–2010. *Journal of the American Medical Association*, *307*(5):483–90.

¹³⁹ Ogden, C.L., and Flegal, K.M. (2010). Changes in terminology for childhood overweight and obesity. *National Health Statistics Reports, 25.* Hyattsville, MD: National Center for Health Statistics. Retrieved from http://www.cdc.gov/nchs/data/nhsr/nhsr025.pdf.

¹⁴⁰ U.S. Environmental Protection Agency. (2006). *Air quality criteria for ozone and related photochemical oxidants* (EPA/600/ R-05/004aF). Research Triangle Park, NC: Author.

¹⁴¹ U.S. Environmental Protection Agency. (2009). *Integrated science assessment for particulate matter (Final Report)* (EPA/600/R-08/139F). Washington, DC: U.S. EPA, National Center for Environmental Assessment. Retrieved from http://cfpub.epa.gov/ncea/CFM/recordisplay.cfm?deid=216546.

¹⁴² U.S. Department of Health and Human Services. (2006). *The health consequences of involuntary exposure to tobacco smoke: A report of the Surgeon General.* Atlanta, GA: Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.

¹⁴³ National Academy of Sciences. (2000). *Clearing the air: Asthma and indoor air exposures.* Washington, DC: National Academy Press. Retrieved from http://books.nap.edu/catalog/9610.html.

¹⁴⁴ Gern, J.E. (2004). Viral respiratory infection and the link to asthma. *Pediatric Infectious Disease Journal, 23*(1 Suppl.), S78–86.

¹⁴⁵ Lemanske, R.F., Jr., and Busse, W.W. (2003). Asthma. *Journal of Allergy and Clinical Immunology, 111* (2 Suppl.), S502–519.

¹⁴⁶ The ECLS-K:2011 is nationally representative of the nearly 4 million students who were enrolled in kindergarten or who were of kindergarten age and being educated in ungraded classrooms or schools in the United States in the 2010– 2011 school year, including those in public and private schools and those who attended full-day and part-day programs. Kindergarten students who attended early learning centers or institutions that offered education only through kindergarten are included in the study sample and represented in the cohort. Additional information about the study is available at http:// nces.ed.gov/ecls/.

¹⁴⁷ Denton Flanagan, K., and McPhee, C. (2009). *The Children Born in 2001 at Kindergarten Entry: First Findings From the Kindergarten Data Collections of the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B)* (NCES 2010-005). National Center for Education Statistics, U.S. Department of Education. Washington, DC.; Mulligan, G.M., Hastedt, S., and McCarroll, J.C. (2012). *First-Time Kindergartners in 2010–11: First Findings From the Kindergarten Rounds of the Early Childhood Longitudinal Study, Kindergarten Class of 2010–11* (ECLS-K:2011) (NCES 2012-049). National Center for Education Statistics, U.S. Department of Education. Washington, DC.; Denton, K., Germino-Hausken, E. (2000). *America's Kindergartners*. (NCES 2000-070). National Center for Education Statistics, U.S. Department of Education. Washington, DC.

¹⁴⁸ Rathbun, A., and West, J. (2004) *From Kindergarten Through Third Grade: Children's Beginning School Experiences* (NCES 2004-007). National Center for Education Statistics, U.S. Department of Education. Washington, DC; Snyder,

T.D., and Dillow, S.A. (2012). *Digest of Education Statistics 2011* (NCES 2012-001). National Center for Education Statistics, U.S. Department of Education. Washington, DC.

¹⁴⁹ The kindergarten reading assessment included questions measuring basic skills (print familiarity, letter recognition, beginning and ending sounds, rhyming words, word recognition), vocabulary knowledge, and reading comprehension. Reading comprehension questions were asked only of children who could read.

¹⁵⁰ The mathematics assessment was designed to measure skills in conceptual knowledge, procedural knowledge, and problem solving. The assessment consisted of questions on number sense, properties, and operations; measurement; geometry and spatial sense; data analysis, statistics, and probability; and pre-algebra skills such as identification of patterns. Spanishspeaking children who did not pass the language screener completed the full mathematics assessment administered in Spanish.

¹⁵¹ The science assessment included questions about physical sciences, life sciences, environmental sciences, and scientific inquiry.

¹⁵² Children in multiple care arrangements spent equal amounts of time in each type of care arrangement.

¹⁵³ Zill, N., and West, J. (2000). *Entering kindergarten: A portrait of American children when they begin school: Findings from the Condition of Education 2000*. U.S. Department of Education, National Center for Education Statistics, (NCES 2001-035), Washington, DC: U.S. Government Printing Office, 2001.

¹⁵⁴ Entwisle, D.R., and Alexander, K.L. (1998). Facilitating the transition to first grade: The nature of transition and research on factors affecting it. *The Elementary School Journal*, *98*(4): 351–364.; Finn, J.D., and Pannozzo, G.M. (2004). Classroom organization and student behavior in kindergarten. *Journal of Educational Research*, *98*(2): 79–92.

¹⁵⁵ Finn, J.D., and Pannozzo, G.M. (2004). Ladd, G.W., Birch, S.H., and Buhs, E.S. (1999). Children's social and scholastic lives in kindergarten: Related spheres of influence? *Child Development*, *70*(6): 1373–1400.

¹⁵⁶ Http://www.nihtoolbox.org/WhatAndWhy/Cognition/ExecutiveFunction/Pages/default.aspx.

¹⁵⁷ Casey, B.J., Thomas, K.M., Welsh, T.F., Badgaiyan, R.D., Eccard, C.H., Jenings, J.R., and Crone, E.A. (2000). Dissociation of response conflict, attention selection, and expectancy with functional magnetic resonance imaging. *Proceedings of the National Academy of Sciences, 97*(15):8728–8733.

¹⁵⁸ Blair, C., and Razza, R.P. (2007). Relating effortful control, executive function, and false belief understanding to emerging math and literacy ability in kindergarten. *Child Development*, 78(2), 647–663.

¹⁵⁹ Rueda, M.R., Rothbart, M.K., McCandliss, B.D., Saccomanno L., and Posner, M.I. (2005). Training, maturation, and genetic influences on the development of executive attention. *PNAS*, 41, 14931–14936.; Klingberg et al., (2005). Computerized training of working memory in children with ADHD—A randomized, controlled, trial. *Journal of the American Academy of Child and Adolescent Psychiatry*, *44*(2005), pp. 177–186; Diamond, A., Barnett W.S., Thomas, J., Munro, S. (2007). Preschool program improves cognitive control. *Science*, *30*:1387–1388.

Appendices

Appendix A: Detailed Tables

Tables include data from 1950–2012, when available. Due to space limitations in this printed publication, selected years of data are shown where applicable. Full tables, including data from intervening years, are available on the Forum's Web site at http://childstats.gov.

Table SPECIAL1

Early skills and knowledge: Children's reading, mathematics, and science scale scores and approaches to learning scores in the first year of kinderga ten by selected characteristics: 2010–2011

Characteristic	Number of children (in thousands)		Average kindergarten reading score ^a		Average mathematics score ^b		Average spring	Average approaches to learning score ^d	
			Fall	Spring	Fall	Spring	science score ^c	Fall	Spring
Total	3,473	100.0	34.7	49.5	29.3	42.0	11.4	2.9	3.1
Standard deviation of score	t (†	11.7	11.7	10.7	11.2	2.8	0.7	0.7
Gender									
Male	1,780	51.2	34.0	48.5	29.4	42.0	11.4	2.8	2.9
Female	1,693	48.8	35.4	50.5	29.2	42.0	11.3	3.1	3.3
Age of child at kindergarten e									
Less than 5 years old	147	4.2	31.0	44.9	24.7	36.9	10.2	2.8	3.0
5 years old to 5½ years old	1,479	42.6	32.9	47.9	26.9	39.9	10.9	2.9	3.0
More than 5½ years old to	.,								
6 years old	1,536	44.2	36.0	50.8	31.1	43.7	11.8	3.0	3.2
More than 6 years old	312	9.0	38.3	52.6	34.1	46.3	12.2	3.1	3.2
Race and Hispanic origin of c	hild ^e								
White, non-Hispanic	1,844	53.1	36.6	51.6	31.7	44.6	12.4	3.0	3.1
Black, non-Hispanic	458	13.2	32.9	47.1	25.8	37.5	10.0	2.8	2.9
American Indian/Alaska									
Native, non-Hispanic	43	1.2!	31.1	46.0	26.3	40.2	11.5	2.9	3.1
Asian, non-Hispanic	143	4.1	40.5	54.0	34.6	46.0	10.8	3.1	3.2
Native Hawaiian/Pacific Islander, non-Hispanic	13	0.4	31.5	48.0	27.4	40.8	9.9	2.8	3.0
Two or more races,	148	4.3	36.2	50.9	30.5	43.2	12.0	3.0	3.1
non-Hispanic Hispania	822	23.7	30.2	45.4	24.7	43.2 37.9	9.7	2.9	3.1
Hispanic Primary type of nonparental of					24./	57.7	7./	2.7	5.1
No regular nonparental	ure unungen		kindergarien	enn y					
arrangement	699	20.9	31.7	47.3	26.3	39.8	10.7	2.9	3.1
Home-based care									
Relative care	499	14.9	32.4	48.2	27.3	40.3	11.0	2.9	3.1
Nonrelative care	212	6.3	35.3	50.8	31.3	44.5	12.0	3.0	3.2
Center-based care	1,850	55.3	36.4	50.6	30.8	43.1	11.6	3.0	3.1
Multiple arrangements	84	2.5	36.6	50.9	31.2	43.3	12.0	3.0	3.1
Parents' employment status in	fall 2010 ⁹								
Two parents									
Both full-time (35 hours									
or more)	787	25.7	37.4	52.2	32.1	44.8	12.0	3.0	3.2
One full-time, one part-time	505	16.5	37.3	52.1	32.3	44.9	12.2	3.1	3.2
One full-time, one looking for work	130	4.3	32.7	48.2	27.3	40.3	10.9	2.9	3.1
One full-time, one not in	707	0.4.3	05 /	<i>c</i> o 1	00.0	10.0		0.0	0.0
the labor force	737	24.1	35.6	50.1	30.2	42.9	11.6	3.0	3.2
Other combination	203	6.5	31.4	46.4	25.7	38.7	10.5	2.9	3.0
Single parent									
Full-time (35 hours or more)	328	10.7	32.9	47.5	26.9	39.3	10.8	2.8	3.0
Part-time (less than	020	10.7	02.7	-+/ .J	20.7	57.0	10.0	2.0	0.0
35 hours)	127	4.2	31.7	46.7	26.5	38.7	10.7	2.9	3.0
Looking for work	106	3.5	29.4	44.4	24.0	36.5	10.2	2.7	2.9
Not in the labor force	123	4.0	30.0	44.3	24.1	36.8	10.2	2.7	2.8
Other parents	69	2.3	30.5	45.5	24.6	37.3	10.7	2.7	2.8

See notes at end of table.

Table SPECIAL1 (cont.)

Early skills and knowledge: Children's reading, mathematics, and science scale scores and approaches to learning scores in the first year of kinderga ten by selected characteristics: 2010–2011

	Number of	Percentage distri-	Average kindergarten reading score ^a		Average mathematics score ^b		Average spring	Average approaches to learning score ^d	
children (i Characteristic thousands	children (in thousands)		Fall	Spring	Fall	Spring	science score ^c	Fall	Spring
Parents' highest level of educe	ation ^h								
Less than high school	309	8.9	26.3	41.5	21.0	34.3	8.7	2.8	3.0
High school diploma or	707	20.4	29.9	45.2	24.7	37.4	10.2	2.8	3.0
equivalent									
Some college/vocational	1,122	32.4	33.7	48.7	28.4	41.1	11.3	2.9	3.0
Bachelor's degree	694	20.0	38.4	52.9	33.1	45.8	12.3	3.1	3.2
Any graduate education	630	18.2	41.6	55.5	35.7	48.1	12.8	3.1	3.3
Family type in fall 2010									
Two-parent household	2,433	75.6	36.0	50.7	30.7	43.4	11.7	3.0	3.2
Mother-only household	667	20.7	31.6	46.2	25.9	38.3	10.5	2.8	2.9
Father-only household	49	1.5	31.8	46.7	26.3	39.2	11.5	2.8	2.9
Other family type	69	2.2	30.5	45.5	24.6	37.3	10.7	2.7	2.8
Primary home language ⁱ									
English	2,910	84.0	35.6	50.5	30.2	42.9	11.8	2.9	3.1
Non-English	514	14.8	29.4	44.2	24.1	37.3	8.8	2.9	3.1
Primary language not									
identified	39	1.1	31.3	46.8	25.8	38.3	9.6	2.8	3.0
Poverty status in spring 2011 ^j									
Below 100% of poverty	707	24.7	29.6	44.4	24.1	36.8	9.8	2.8	2.9
100–199% of poverty	636	22.2	33.4	48.4	27.9	40.6	11.1	2.9	3.1
200% of poverty and above	1,519	53.1	38.6	53.1	33.3	45.9	12.5	3.1	3.2
Socioeconomic status ^k									
Lowest 20 percent	645	18.6	27.8	42.8	22.3	35.3	9.3	2.8	3.0
Middle 60 percent	2,102	60.7	34.4	49.4	29.1	41.9	11.4	2.9	3.1
Highest 20 percent	715	20.6	41.7	55.6	35.9	48.3	12.9	3.1	3.3

See notes at end of table.

Table SPECIAL1 (cont.)

Early skills and knowledge: Children's reading, mathematics, and science scale scores and approaches to learning scores in the first year of kinderga ten by selected characteristics: 2010–2011

Number of children (in Characteristic thousands)		Percentage distri-	Average kindergarten reading scoreª		Average mathematics score ^b		Average spring	Average approaches to learning score ^d	
	bution of children	Fall	Spring	Fall	Spring	science score ^c	Fall	Spring	
School type in fall 2010									
Public	3,074	88.5	34.3	49.1	28.8	41.5	11.2	2.9	3.1
Private	399	11.5	37.9	52.1	32.9	45.8	12.3	3.1	3.2

† Not applicable.

! Interpret data with caution. The coefficient of variation (CV) for this estimate is between 30 and 50 percent.

^a Reflects performance on questions measuring basic skills (print familiarity, letter recognition, beginning and ending sounds, rhyming words, word recognition), vocabulary knowledge, and reading comprehension (including locate/recall questions, integrate/interpret questions, and critique/evaluate questions about text the children were asked to read). Potential scores range from 0 to 83.

^b Reflects performance on questions on number sense, properties, and operations; measurement; geometry and spatial sense; data analysis, statistics, and probability; and pre-algebra skills such as identification of patterns. Potential scores range from 0 to 75.

^c Science was only assessed in the spring of kindergarten. Reflects performance on questions on physical sciences, life sciences, environmental sciences, and scientific inquiry. Potential scores range from 0 to 20.

^d The approaches to learning scale is based on teachers' reports on how students rate in seven areas: attentiveness, task persistence, eagerness to learn, learning independence, flexibility, organization, and ability to follow classroom rules. Potential scores range from 1 to 4, with higher scores indicating that a child exhibits positive learning behaviors more often.

^e According to the revised 1997 OMB standards, persons could select one or more of five racial groups: White, Black or African American, American Indian or Alaska Native, Asian, or Native Hawaiian or Other Pacific Islander. Those reporting more than one race were classified as "Two or more races." Those in a given racial category represent those reporting only that race. Data on race and Hispanic origin are collected separately. Persons of Hispanic origin may be of any race.

^f The type of nonparental care in which the child spent the most hours. "Multiple arrangements" refers to children who spent an equal amount of time in each of two or more arrangements.

^g Two parents includes two biological parents, two adoptive parents, and one biological/adoptive parent and one other parent/partner. One parent refers to one biological or adoptive parent only. Other refers to related and/or unrelated guardians.

^h Parents' highest level of education is the highest level of education achieved by either of the parents or guardians in a two-parent household or by the only parent or guardian in a single-parent household.

ⁱ Primary home language was asked of the parent interview respondent. In some instances, children lived in a home where more than one language, including English, was spoken and the parent respondent could not choose a primary language. These children are coded in a third category indicating that a primary language was not identified. Children whose parents indicated they spoke more than one language equally are in the third category.

^j Poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given size. For example, in 2010, a family of two was below the poverty threshold if its income was lower than \$14,220.

^k Socioeconomic status (SES) was measured by a composite score based on parental education and occupations, and household income. SES was computed at the household level using data from parents who completed the parent interview and reflects the socioeconomic status of the household at the time of data collection.

NOTE: Estimates weighted by W1_2P0. Estimates pertain to a sample of children who were enrolled in kindergarten for the first time in the 2010–11 school year. Unless otherwise noted, row variables were collected in the fall of 2010 and supplemented in the spring of 2011 for fall 2010 nonrespondents. Detail may not sum to totals because of rounding and survey item nonresponse.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–2011 (ECLS-K:2011), Preliminary Restricted-Use Data File.