

# STATS IN BRIEF

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## The Summer After Kindergarten: Children's Experiences by Socioeconomic Characteristics

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**Statistics in Brief** publications describe key findings from statistical tables to provide useful information to a broad audience, including members of the general public. They address simple and topical issues and questions. They do not investigate more complex hypotheses, account for inter-relationships among variables, or support causal inferences. We encourage readers who are interested in more complex questions and in-depth analysis to explore other NCES resources, including publications, online data tools, and public- and restricted-use datasets. See [nces.ed.gov](https://nces.ed.gov) and references noted in the body of this document for more information.

Over the summer months, elementary school children may experience a range of activities, including summer camps, family vacations, and home learning activities. Access to summer activities may vary for children from different socioeconomic status (SES) backgrounds. In the prior administration of the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K), an analysis found that 20 percent of low-SES students visited an art, science, or discovery museum in summer 1999, compared to 62 percent of high-SES students (Meyer, Princiotta, and Lanahan 2004). Disparities by SES were also found across other activities examined in the report, including going to a library and visiting historic sites. Another analysis, of children's time-use during the summer months, found that children from lower-income households watched more television and spent less time talking with parents than children from higher-income households (Gershenson 2013).

In addition to disparities in activities over the summer, children of different SES backgrounds may also have different primary care arrangements. However, information on elementary school children's care arrangements during the summer months is sparse. Children's primary care arrangements prior to entering kindergarten highlight differences in arrangements by child and family characteristics (Rathbun and Zhang 2016).

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Further, another study found that some 55 percent of children under 5 had no regular child care arrangement during the summer of 2006, and about 58 percent of children between the ages of 5 and 14 had no regular child care arrangement (Laughlin 2010).

Examinations of variations in care arrangements and activities during the summer after kindergarten are important because previous research has found that achievement gaps widen by SES during this time (Downey, Broh, and von Hippel 2004; Entwisle and Alexander 1995). Other studies provide evidence that summer achievement gaps in the early elementary grades are associated with students' high school achievement and college enrollment (Alexander, Entwisle, and Olson 2007).

Other researchers have examined achievement gaps between kindergarten and first grade. These studies have reported mixed findings on the relationship between reading achievement and SES during the summer months, but the relationship between math achievement and SES has been more consistent. For example, Burkham et al. (2004) examined the relationship between SES and reading

and math achievement between kindergarten and first grade. They found that both reading and math gaps increased between students in the highest SES quintile and students in the lowest SES quintile over the summer months. A more recent study, by Quinn et al. (2016), found that math gaps between children in the highest and lowest SES quintiles increased over the summer after kindergarten after narrowing during kindergarten. For reading, the gaps also narrowed over kindergarten, but there was no change in the reading gap during the summer after kindergarten.

This Statistics in Brief investigates some factors that may contribute to achievement gaps in the summer after kindergarten, including differences in children's experiences, such as participation in summer care arrangements, programs, and activities. Specifically, the brief describes students' summer nonparental care arrangements, program attendance (e.g., at summer camps or summer school), participation in activities with family members in a typical week, and places visited with family members. Participation in summer activities is compared by two socioeconomic characteristics—household poverty

status and parents' highest level of education—utilizing data from the Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011).

## DATA, METHODS, AND STRUCTURE OF THE REPORT

This Statistics in Brief presents data from the ECLS-K:2011, which is a nationally representative sample of students in the kindergarten class of 2010–11. Data on children's summer experiences were collected from interviews with parents or guardians in fall 2011, when most children were entering the first grade.<sup>1</sup>

Within each section of this brief, findings are presented first for the overall population of students, then by household poverty status and parents' highest level of education.

The differences reported in this brief are statistically significant at the  $p < .05$  level to ensure that they are larger than might be expected due to sampling variation. No adjustments were made for multiple comparisons. For more information about the data, measures, and methods used in this brief, please see the **Technical Notes** toward the end of the report.

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<sup>1</sup>For more information about the data collection, please see page 21 of the **Technical Notes**.

## STUDY QUESTIONS

1

During the summer after kindergarten in 2011, how did children's nonparental care arrangements and participation in summer programs vary by household poverty status and parents' highest level of education?

2

Did the frequency of children's participation in activities during the summer after kindergarten in 2011 vary by household poverty status and parents' highest level of education?

3

Did the percentage of children who visited various places with family members during the summer after kindergarten in 2011 vary by household poverty status and parents' highest level of education?

## KEY FINDINGS

- During the summer after kindergarten in 2011, a higher percentage of children from poor households (83 percent) than from nonpoor households (70 percent) did not have a regular care arrangement with someone other than their parents (figure 3).
- The use of computers for educational purposes over the summer differed by parents' educational attainment and household poverty status. For instance, a higher percentage of children whose parents had a high school diploma or below (32 percent) than who had some postsecondary education (18 percent) or a bachelor's degree or above (15 percent) never used a computer for educational purposes (figure 9).
- Overall, about 76 percent of children played outside every day during the summer after kindergarten. No measurable differences were found by household poverty status or parent education in how often children played outside every day (table A-3).
- More than half of all children visited a beach, lake, river, or state or national park (figure 10); zoo or aquarium (figure 11); or amusement park (figure 12) during the summer after kindergarten. However, differences existed by household poverty status and parent education. For example, a lower percentage of children from poor households (54 percent) than from near-poor (66 percent) and nonpoor (69 percent) households visited a zoo or aquarium.

## Socioeconomic characteristics

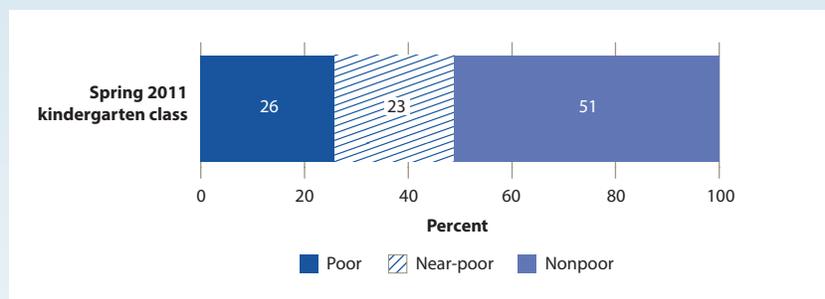
Socioeconomic status (SES) refers to one's access to financial, social, cultural, and human capital resources (National Forum on Education Statistics 2015). The methods for determining SES vary depending on data availability and the purposes for which the SES measures are to be used. For example, in the ECLS-K:2011 data file, researchers have access to a composite measure of SES that is composed of parent education, parent occupational prestige, and household income, which are components commonly used to describe SES (Tourangeau et al. 2015).

For the purposes of this Statistics in Brief, two common components of SES are analyzed: household poverty status (which is based on household income) and parents' highest level of education. Please see the **Technical Notes** for more detail about the SES variables used in this report. By presenting separate results for each component, the brief provides a more detailed view of differences in children's summer experiences by socioeconomic characteristics than it would if a composite measure were used. For example, disparities in students' participation in summer activities may be found by household poverty status but not by parents' highest level of education, or vice versa.

- Findings by students' household poverty status are presented in three categories: *poor* (i.e., income below 100 percent of the federal poverty level); *near-poor* (i.e., income between 100 and 199 percent of the federal poverty level); and *nonpoor* (i.e., income at or above 200 percent of the federal poverty level). In the 2010–11 kindergarten class, 26 percent of students came from poor households, 23 percent came from near-poor households, and 51 percent came from nonpoor households (figure 1).

### FIGURE 1.

Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status: Spring 2011



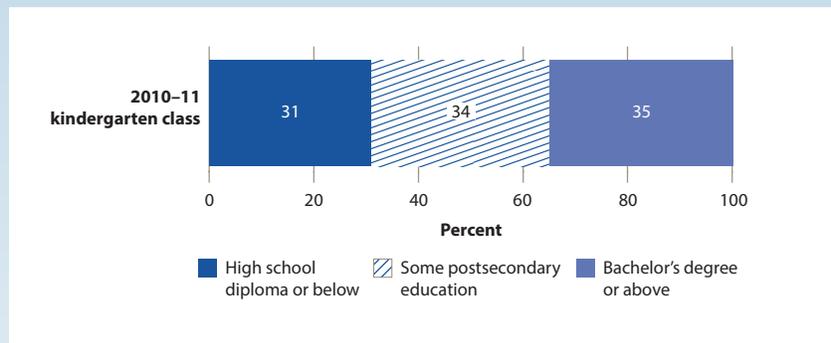
NOTE: Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children). Estimates weighted by W3CF3P\_30. Detail may not sum to total due to rounding and/or missing data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten–Second Grade Restricted-Use Data File.

- Findings by parents' highest level of education are presented in three categories: high school diploma or below; some college, associate's degree, or career/technical education (referred to as "some postsecondary education"); and a bachelor's degree or above. Parent's highest level of education is based on the education level of the parent with the highest attainment. In the 2010–11 kindergarten class, 31 percent of students had parents whose highest level of education was a high school diploma or below, 34 percent had parents with some postsecondary education, and 35 percent had parents with a bachelor's degree or above (figure 2).

## FIGURE 2.

Percentage distribution of students in the kindergarten class of 2010–11, by parents' highest level of education: School year 2010–11



NOTE: 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. "Some postsecondary education" includes parents whose highest level of education is some college, an associate's degree, or career/technical education. Estimates weighted by W3CF3P\_30. Detail may not sum to total due to rounding and/or missing data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

# 1

## During the summer after kindergarten in 2011, how did children's nonparental care arrangements and participation in summer programs vary by household poverty status and parents' highest level of education?

In the summer after kindergarten in 2011, students' vacations spanned 78 days, on average (data not in tables).

This section examines the extent to which nonparental care arrangements and participation in summer programs

(such as camp or summer school) in 2011 differed by socioeconomic characteristics.

### Nonparental care arrangements

In the ECLS-K:2011 parent interview, parents or guardians were asked to report whether their child received child care on a regularly scheduled basis during the summer from someone other than a parent or guardian. Parents were told that these arrangements may include grandparents, brothers and sisters, or any other relative other than a parent or guardian. They also may include home child care providers and regular sitters or neighbors, in addition to day care centers or extended day programs. Parents reported on the type of child care arrangement (i.e., relative, nonrelative, or day care center or extended day program) where the child spent the most time. If a child spent equal time across two or more care arrangements, parents reported in which programs the child spent equal time. For the purposes of this report, children who spent equal hours across two or more child care arrangements are reported as having multiple care arrangements. Parents or guardians were instructed not to report on summer camp in their answers. They were asked about their child's participation in summer camp in subsequent questions.

"Regular" arrangements were defined by the study as an arrangement or program occurring on a routine schedule (i.e., occurring at least weekly or on some other schedule). They did not include occasional babysitting or "back up" arrangements that are just not used routinely. Also, regular care did not include staying with a relative for a period of time during the summer.

This report classifies nonparental care arrangements into five groups:

- **Relative care** is care provided in a private home by a relative of the child. The private home may be the child's home, the caregiver's home, or another home. The care may be provided by a relative who lives in the child's household.
- **Nonrelative care** is care provided in a private home by someone not related to the child. The private home may be the child's home, the caregiver's home, or another home. The care may be provided by a nonrelative who lives in the child's household.
- **Center care** includes any type of formal program that provides care and supervision. This includes Head Start programs, nursery schools, preschools, and prekindergarten programs that include children who are in kindergarten or about to enter the first grade (some of which may be sponsored by the state). The care may be provided in a child's school or in another location, such as a church or a free-standing building.
- **Multiple care arrangements** is care provided in equal amounts of time in each of two or more types of care arrangements.
- **None** includes children who did not attend any care arrangements on a regular basis. Their primary care arrangement is with their parents.

### Primary type of nonparental care arrangement during the summer

During summer 2011, about 13 percent of children had a nonparental care arrangement with relatives; 6 percent received nonparental care from nonrelatives; 7 percent had a center care arrangement; and less than 1 percent had multiple care arrangements. About 74 percent of children did not have a regular care arrangement with someone other than a parent (figure 3).

### Household poverty status

A higher percentage of children from poor households (83 percent) than from nonpoor households (70 percent) did not have a regular care arrangement with someone other than their parents during summer 2011.

Compared to children in nonpoor households, a lower percentage of children in poor households had a relative (10 vs. 14 percent), nonrelative (3 vs. 8 percent), or center care (5 vs. 7 percent) arrangement as their primary type of nonparental care arrangement.

### Parents' highest level of education

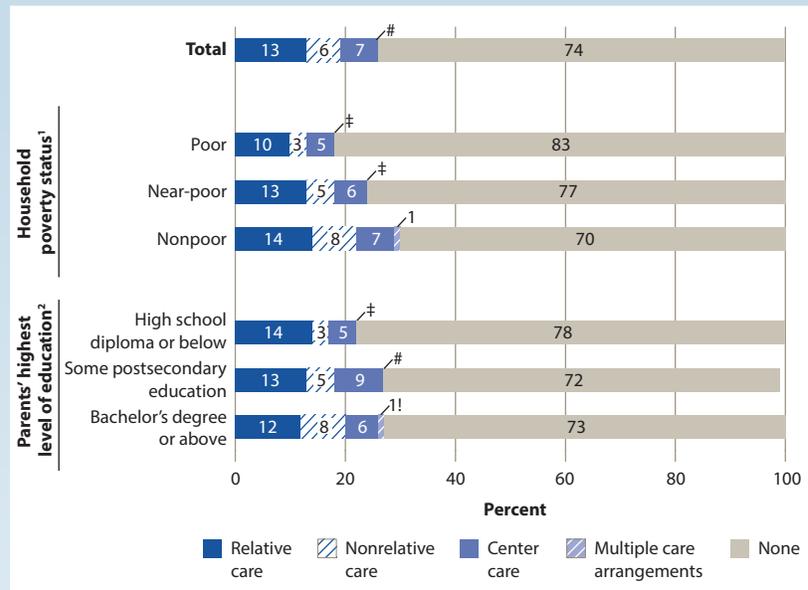
A higher percentage of children whose parents had a high school diploma or below (78 percent) than whose parents had some postsecondary education (72 percent) did not have a regular care arrangement with someone other than a parent. The percentage of children who did not have a nonparental care arrangement did not differ measurably between those whose parents had a high school diploma or below and those whose parents had a bachelor's degree or above.

Compared to children whose parents had a bachelor's degree or above, a lower percentage of children whose

parents had a high school diploma or below had a nonrelative care arrangement (3 vs. 8 percent).

## FIGURE 3.

Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status, parents' highest level of education, and primary type of nonparental care arrangement during the summer: Summer 2011



# Rounds to zero.

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

‡ Reporting standards not met. Either there are too few cases for a reliable estimate or the coefficient of variation (CV) is 50 percent or greater.

<sup>1</sup>Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

<sup>2</sup>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. "Some postsecondary education" includes parents whose highest level of education is some college, an associate's degree, or career/technical education. NOTE: Nonparental care arrangements include child care provided on a regular basis by someone other than a parent or guardian. This does not include occasional babysitting or backup care providers. It also does not include summer camp. "Center care" includes child care from day care centers or extended day programs. "Multiple care arrangements" is care provided in equal amounts of time in each of two or more types of care arrangements. "None" includes children who did not attend any care arrangements on a regular basis. Their primary care arrangement is with their parents. Data on summer vacation characteristics in summer 2011 were collected in fall 2011. Estimates weighted by W3CF3P\_30. Detail may not sum to total due to rounding and/or missing data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

### Summer camp attendance

Parents also reported on summer camp attendance. Specifically, they were asked, “Did child attend any day or overnight camps over the summer?” For this question, parents reported on any summer camp the child attended over the summer. Additional questions on summer camp attendance (not analyzed in this report) asked parents how many camps the child attended and how many days, hours each day, and weeks the child attended the camp where he or she spent the most time.

About 23 percent of children attended a day camp and 1 percent went to an overnight camp during the summer after kindergarten, compared to 76 percent of children who did not attend a day or overnight camp (figure 4).

Differences by socioeconomic characteristics were found for day camp attendance.

### Household poverty status

A higher percentage of children from nonpoor households (38 percent) attended a day camp in the summer after kindergarten than did children from near-poor (13 percent) and poor (7 percent) households.

### Parents’ highest level of education

Attendance at day camps during the summer was more common for children whose parents had a bachelor’s degree or above (43 percent) than for those whose parents had some postsecondary education (18 percent) or a high school diploma or below (6 percent).

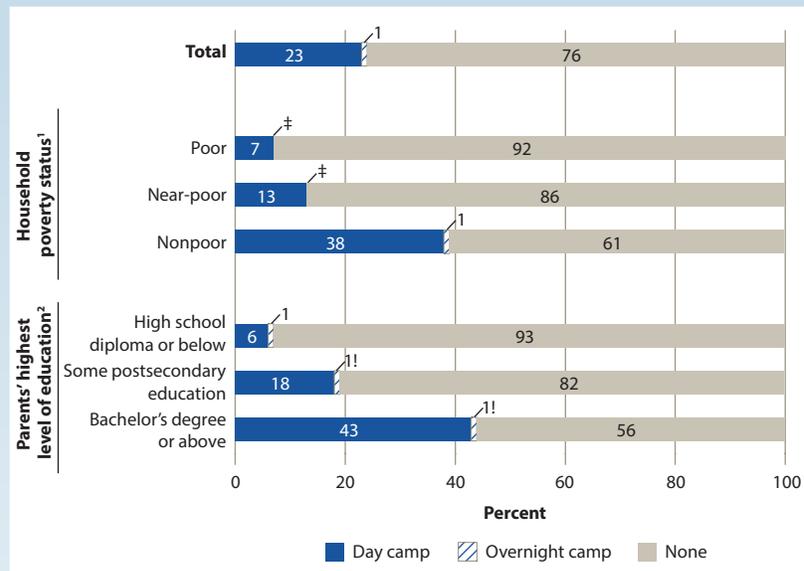
### Summer school or summer enrichment program attendance

About 10 percent of children attended summer school or a summer enrichment program in the summer

after kindergarten (table A-2). No measurable differences were found by household poverty status or parent education.

**FIGURE 4.**

**Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status, parents’ highest level of education, and summer camp attendance: Summer 2011**



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

† Reporting standards not met. Either there are too few cases for a reliable estimate or the coefficient of variation (CV) is 50 percent or greater.

<sup>1</sup> Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

<sup>2</sup> 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. “Some postsecondary education” includes parents whose highest level of education is some college, an associate’s degree, or career/technical education. NOTE: Students were categorized as attending an overnight camp if they attended camp 24 hours per day, as reported by parents. Data on summer vacation characteristics in summer 2011 were collected in fall 2011. Estimates weighted by W3CF3P\_30. Detail may not sum to total due to rounding and/or missing data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten–Second Grade Restricted-Use Data File.

## 2 Did the frequency of children’s participation in activities during the summer after kindergarten in 2011 vary by household poverty status and parents’ highest level of education?

When interviewed in fall 2011, parents described the frequency of their child’s various activities with family members in a typical week during the summer after kindergarten.<sup>2</sup> Specifically, they were asked, “How often did you or any other family member do math activities with child, such as learning numbers, adding, subtracting, or measuring; do writing activities with him or her; and read books to him or her?” Parents were also asked, “During a typical week in the summer, how often did child look at or read books on his or her own; use a computer or other electronic device for educational purposes; and play outside actively (for example, running, jumping, or swinging)?” For both sets of items, parents reported the frequency of these activities in a typical week using the following options: never, once or twice, 3 to 6 times, or every day.

Parents also reported whether their child was tutored (“Was child tutored over the summer on a regular basis, by someone other than you or a family member, in a specific subject, such as reading, math, science, or a foreign language?”) and whether the school provided a book list for their child to read over the summer (“Did child’s school give you a book list with particular books to read over the summer?”).

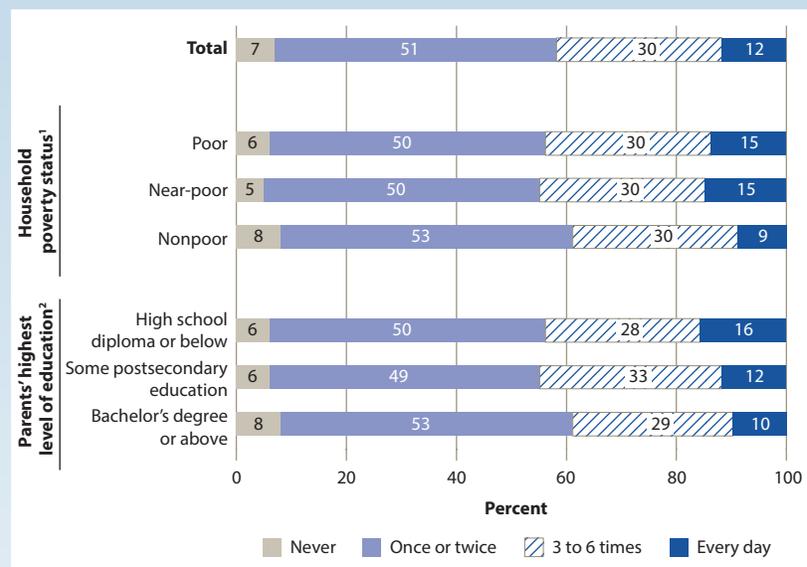
### Math activities with family members in a typical week

Overall, 12 percent of children participated in math activities with a family member every day in a typical week, while 30 percent participated

in math activities 3–6 times a week, 51 percent participated in math activities once or twice a week, and 7 percent never participated in math activities (figure 5).

**FIGURE 5.**

Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status, parents’ highest level of education, and frequency of math activities with family members during a typical week in the summer: Summer 2011



<sup>1</sup> Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

<sup>2</sup> 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. “Some postsecondary education” includes parents whose highest level of education is some college, an associate’s degree, or career/technical education.

NOTE: In the parent questionnaire, the term “family” refers to any person who lives in the child’s household and any relative of the child living outside the child’s household. Data on summer vacation characteristics in summer 2011 were collected in fall 2011. Estimates weighted by W3CF3P\_30. Detail may not sum to total due to rounding and/or missing data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

<sup>2</sup> Note that the analysis excludes fewer than 50 cases in which parents reported that their child was “away for summer.”

### Household poverty status

Higher percentages of children from poor and near-poor households (15 percent each) than from nonpoor households (9 percent) participated in math activities every day.

### Parents' highest level of education

A higher percentage of children whose parents had a high school diploma or below (16 percent) than whose parents had some postsecondary education (12 percent) or held a bachelor's degree or above (10 percent) participated in math activities every day.

### Writing activities with family members in a typical week

The percentage of children whose parents reported that they participated in writing activities with a family member once or twice a week (40 percent) was higher than the percentage who participated every day (19 percent), participated 3–6 times a week (34 percent), or never participated (6 percent) (figure 6).

### Household poverty status

Compared to children from poor households (31 percent), a higher percentage of children from nonpoor households (37 percent) participated in writing activities with a family member 3–6 times a week. Conversely, a higher percentage of children from poor (25 percent) and near-poor (22 percent) households than from nonpoor households (13 percent) participated in writing activities with a family member every day.

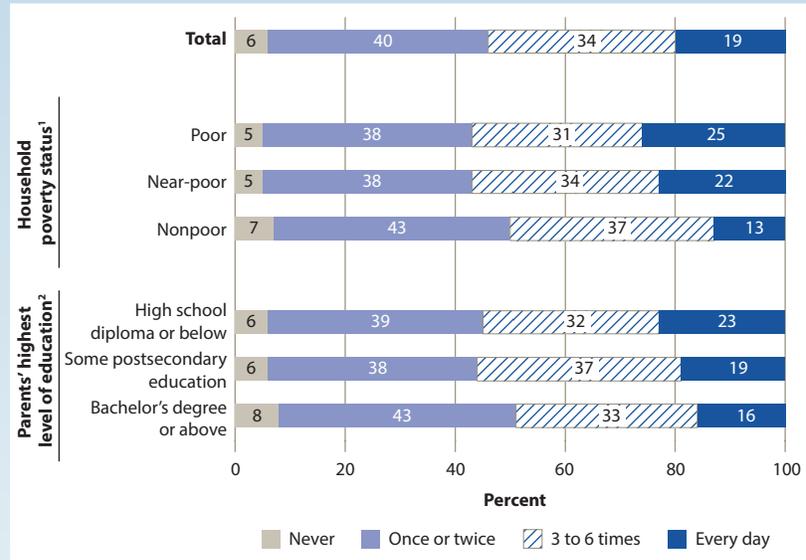
### Parents' highest level of education

Children whose parents had a high school diploma or below participated in writing activities with a family

member every day at a higher percentage (23 percent) than children whose parents had a bachelor's degree or above (16 percent).

## FIGURE 6.

Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status, parents' highest level of education, and frequency of writing activities with family members during a typical week in the summer: Summer 2011



<sup>1</sup> Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

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SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

## Family members read books to child in a typical week

The percentage of children whose parents reported that they were read to by a family member every day in a typical week (46 percent) was higher than the percentage of children who were read to 3–6 times per week (32 percent), were read to once or twice a week (20 percent), or were never read to (2 percent) (figure 7).

### Household poverty status

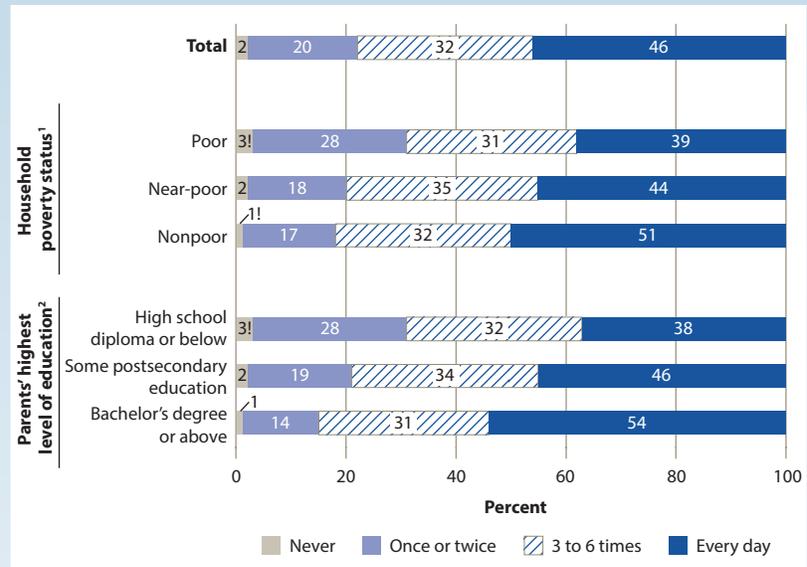
A higher percentage of children from nonpoor households were read to by a family member every day in a typical week (51 percent) than were children from poor households (39 percent).

### Parents' highest level of education

A higher percentage of children whose parents had a bachelor's degree or above (54 percent) than whose parents had some postsecondary education (46 percent) or a high school diploma or below (38 percent) were read to by a family member every day in a typical week.

## FIGURE 7.

Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status, parents' highest level of education, and frequency with which family members read books to child during a typical week in the summer: Summer 2011



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

<sup>1</sup> Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

<sup>2</sup> 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. "Some postsecondary education" includes parents whose highest level of education is some college, an associate's degree, or career/technical education.

NOTE: In the parent questionnaire, the term "family" refers to any person who lives in the child's household and any relative of the child living outside the child's household. Data on summer vacation characteristics in summer 2011 were collected in fall 2011. Estimates weighted by W3CF3P\_30. Detail may not sum to total due to rounding and/or missing data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

### *Child looked at or read books on his/her own in a typical week*

The percentage of children whose parents reported that they never looked at books on their own (4 percent) was smaller than the percentages in all other categories (figure 8). The percentages of children whose parents reported that they looked at books on their own once or twice (27 percent) was smaller than the percentages of children who looked at books on their own 3–6 times a week (35 percent) or every day (33 percent).

#### **Household poverty status**

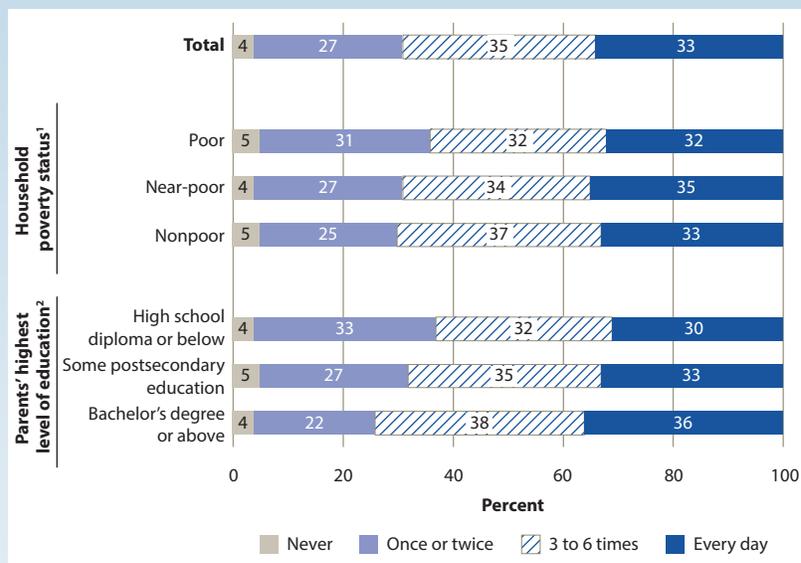
A higher percentage of children from nonpoor households (37 percent) than from poor households (32 percent) looked at or read books on their own 3–6 times a week. There were no measurable differences in the percentage of children who looked at books on their own every day by household poverty status.

#### **Parents' highest level of education**

The percentage of children whose parents had a bachelor's degree or above who looked at books on their own every day (36 percent) or 3–6 times a week (38 percent) was higher than the percentage of children in those categories whose parents had a high school diploma or below (30 percent and 32 percent, respectively).

## **FIGURE 8.**

**Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status, parents' highest level of education, and frequency with which child looked at or read books on his/her own during a typical week in the summer: Summer 2011**



<sup>1</sup> Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

<sup>2</sup> 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. "Some postsecondary education" includes parents whose highest level of education is some college, an associate's degree, or career/technical education.

NOTE: Data on summer vacation characteristics in summer 2011 were collected in fall 2011. Estimates weighted by W3CF3P\_30. Detail may not sum to total due to rounding and/or missing data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten–Second Grade Restricted-Use Data File.

### *Child used a computer or other electronic device for educational purposes in a typical week*

According to parents, about 16 percent of children used a computer or other electronic device for educational

purposes every day during the summer, compared to 28 percent who used a computer 3–6 times a week, 35 percent who used a computer once or twice a week, and 21 percent who never used a computer (figure 9).

### Household poverty status

A higher percentage of children living in near-poor (20 percent) than in nonpoor (13 percent) households used a computer for educational purposes every day. Meanwhile, a higher percentage of children living in poor households (32 percent) than in near-poor (20 percent) or nonpoor (16 percent) households never used a computer for educational purposes.

### Parents' highest level of education

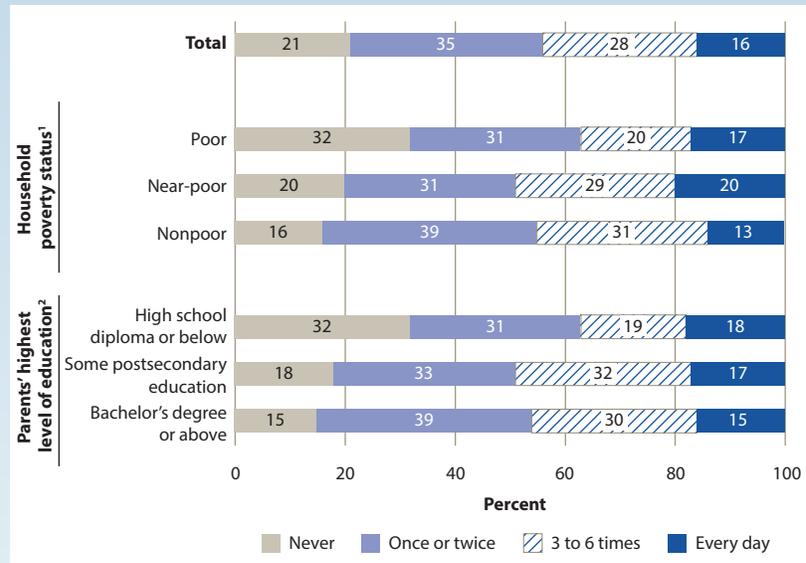
There were no measurable differences in the percentage of children who used a computer for educational purposes every day by parents' highest level of education. However, a higher percentage of children whose parents had a high school diploma or below (32 percent) than whose parents had some postsecondary education (18 percent) or a bachelor's degree or above (15 percent) never used a computer for educational purposes.

### Additional summer activities

Table A-3 also shows additional summer activities, including the frequency with which children played outside actively, whether they were tutored over the summer, and whether they received a book list from their school. The percentage of children whose parents reported that they played outside actively every day in a typical week (76 percent) in the summer after kindergarten was higher than the percentages who played outside 3-6 times a week (19 percent) or once or twice a week (5 percent). A higher percentage of children living

## FIGURE 9.

**Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status, parents' highest level of education, and frequency with which child used a computer or other electronic device for educational purposes during a typical week in the summer: Summer 2011**



<sup>1</sup> Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

<sup>2</sup> 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. "Some postsecondary education" includes parents whose highest level of education is some college, an associate's degree, or career/technical education. NOTE: Data on summer vacation characteristics in summer 2011 were collected in fall 2011. Estimates weighted by W3CF3P\_30. Detail may not sum to total due to rounding and/or missing data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

in poor households (6 percent) than in nonpoor households (4 percent) played outside actively once or twice a week. In addition, a higher percentage of children whose parents had a high school diploma or below (6 percent) than whose parents had some postsecondary education (4 percent) or a bachelor's degree or above (4 percent) played outside actively once or twice a week.

About 4 percent of children were tutored in the summer after kindergarten. About 28 percent of children received a book list from their school with particular books to read over the summer. No measurable differences were found by household poverty status or parents' education for children who were tutored over the summer or received a book list from their school.

# 3 Did the percentage of children who visited various places with family members during the summer after kindergarten in 2011 vary by household poverty status and parents' highest level of education?

Parents were also asked in fall 2011 about the places that children visited with family members during the summer after kindergarten: beaches, lakes, rivers, or state or national parks; zoos or aquariums; amusement parks; art galleries, museums, or historical sites; and plays or concerts. Similar to the results for study questions 1 and 2, differences existed by household poverty status and parent education.

## Beaches, lakes, rivers, or state or national parks

About 86 percent of children visited a beach, lake, river, or state or national park during the summer after kindergarten (figure 10).

### Household poverty status

A higher percentage of children from nonpoor households (91 percent) than from near-poor (82 percent) and poor (81 percent) households visited a beach, lake, river, or state or national park during the summer after kindergarten.

### Parents' highest level of education

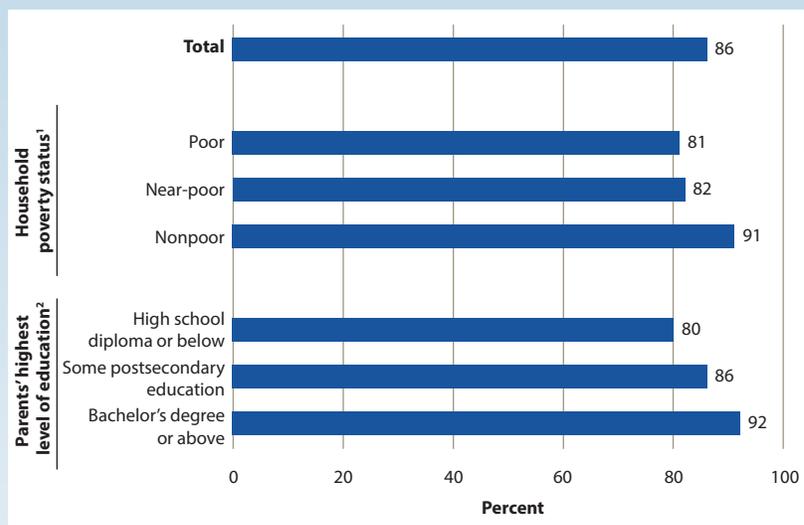
A higher percentage of children whose parents had a bachelor's degree or above (92 percent) than some postsecondary education (86 percent)

or a high school diploma or below (80 percent) visited a beach, lake, river, or state or national park. In addition, a higher percentage of children whose

parents had some postsecondary education than a high school diploma or below visited a beach, lake, river, or state or national park.

**FIGURE 10.**

Percentage of students in the kindergarten class of 2010–11 who visited beaches, lakes, rivers, or state or national parks with family members during the summer, by household poverty status and parents' highest level of education: Summer 2011



<sup>1</sup> Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

<sup>2</sup> 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. "Some postsecondary education" includes parents whose highest level of education is some college, an associate's degree, or career/technical education.

NOTE: In the parent questionnaire, the term "family" refers to any person who lives in the child's household and any relative of the child living outside the child's household. Data on summer vacation characteristics in summer 2011 were collected in fall 2011. Estimates weighted by W3CF3P\_30.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

## Zoos or aquariums

About 64 percent of children visited a zoo or aquarium during the summer after kindergarten (figure 11).

### Household poverty status

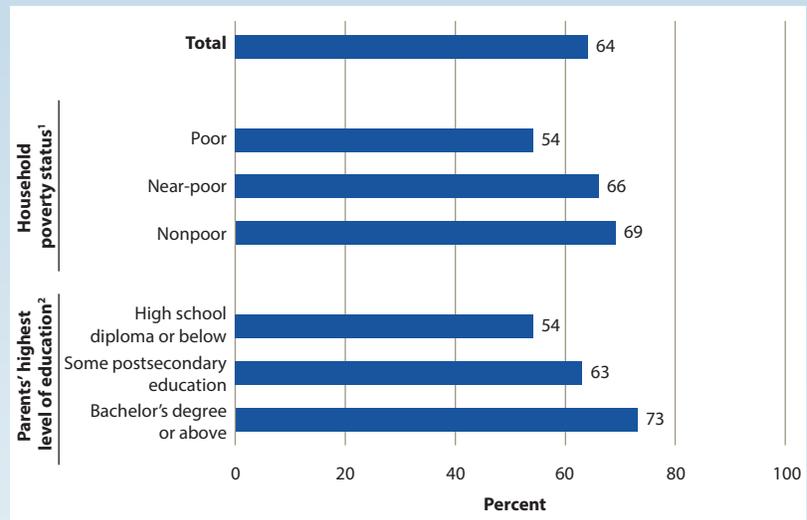
A lower percentage of children from poor households (54 percent) than from near-poor (66 percent) and nonpoor (69 percent) households went to a zoo or aquarium.

### Parents' highest level of education

A lower percentage of children whose parents had a high school diploma or below (54 percent) than children whose parents had a bachelor's degree or above (73 percent) went to a zoo or aquarium.

## FIGURE 11.

Percentage of students in the kindergarten class of 2010–11 who went to zoos or aquariums with family members during the summer, by household poverty status and parents' highest level of education: Summer 2011



<sup>1</sup> Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

<sup>2</sup> 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. "Some postsecondary education" includes parents whose highest level of education is some college, an associate's degree, or career/technical education.

NOTE: In the parent questionnaire, the term "family" refers to any person who lives in the child's household and any relative of the child living outside the child's household. Data on summer vacation characteristics in summer 2011 were collected in fall 2011. Estimates weighted by W3CF3P\_30.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

## Amusement parks

About 58 percent of children went to an amusement park in the summer after kindergarten (figure 12).

### Household poverty status

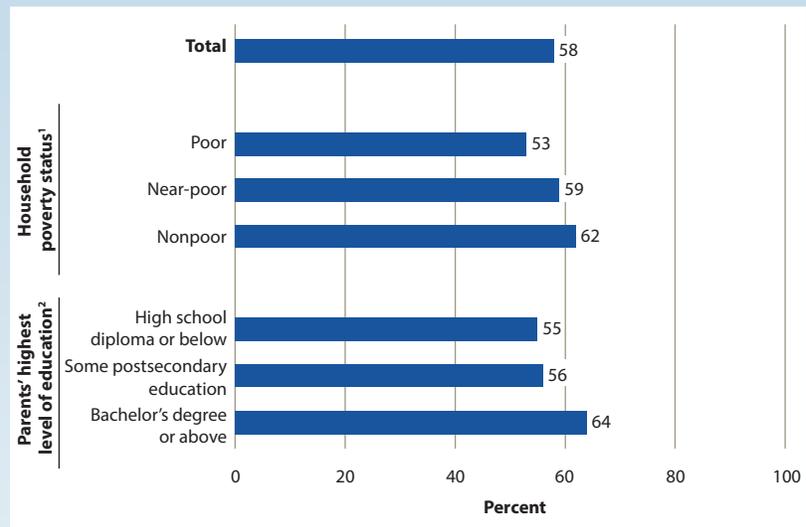
A lower percentage of children from poor households (53 percent) than from nonpoor households (62 percent) went to an amusement park.

### Parents' highest level of education

There were no measurable differences in amusement park visits by parents' level of education.

## FIGURE 12.

**Percentage of students in the kindergarten class of 2010–11 who visited amusement parks with family members during the summer, by household poverty status and parents' highest level of education: Summer 2011**



<sup>1</sup> Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

<sup>2</sup> 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. "Some postsecondary education" includes parents whose highest level of education is some college, an associate's degree, or career/technical education.

NOTE: In the parent questionnaire, the term "family" refers to any person who lives in the child's household and any relative of the child living outside the child's household. Data on summer vacation characteristics in summer 2011 were collected in fall 2011. Estimates weighted by W3CF3P\_30.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

## Art galleries, museums, or historical sites

About 50 percent of children visited an art gallery, museum, or historical site during the summer after kindergarten (figure 13).

### Household poverty status

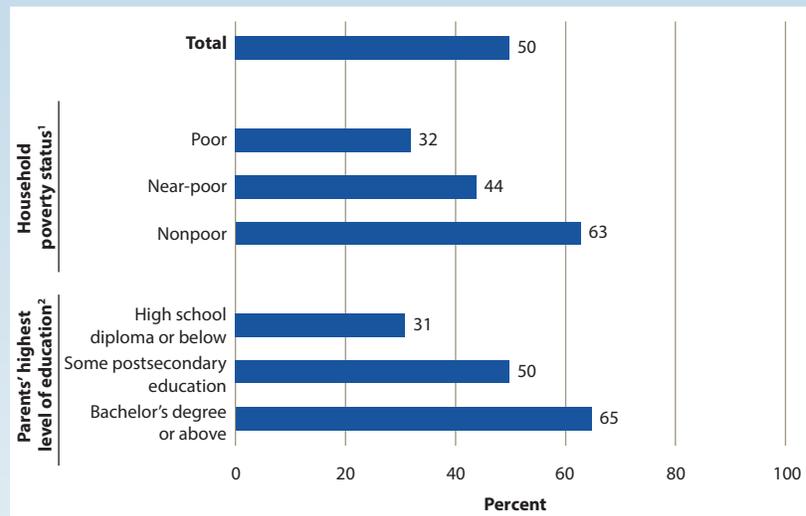
A higher percentage of children from nonpoor households (63 percent) than from near-poor (44 percent) and poor (32 percent) households visited an art gallery, museum, or historical site.

### Parents' highest level of education

A higher percentage of children whose parents had a bachelor's degree or above (65 percent) than some postsecondary education (50 percent) or a high school diploma or below (31 percent) visited an art gallery, museum, or historical site.

## FIGURE 13.

Percentage of students in the kindergarten class of 2010–11 who visited art galleries, museums, or historical sites with family members during the summer, by household poverty status and parents' highest level of education: Summer 2011



<sup>1</sup> Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

<sup>2</sup> 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. "Some postsecondary education" includes parents whose highest level of education is some college, an associate's degree, or career/technical education. NOTE: In the parent questionnaire, the term "family" refers to any person who lives in the child's household and any relative of the child living outside the child's household. Data on summer vacation characteristics in summer 2011 were collected in fall 2011. Estimates weighted by W3CF3P\_30.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

## Plays or concerts

About 25 percent of children went to a play or concert in the summer after kindergarten (figure 14).

### Household poverty status

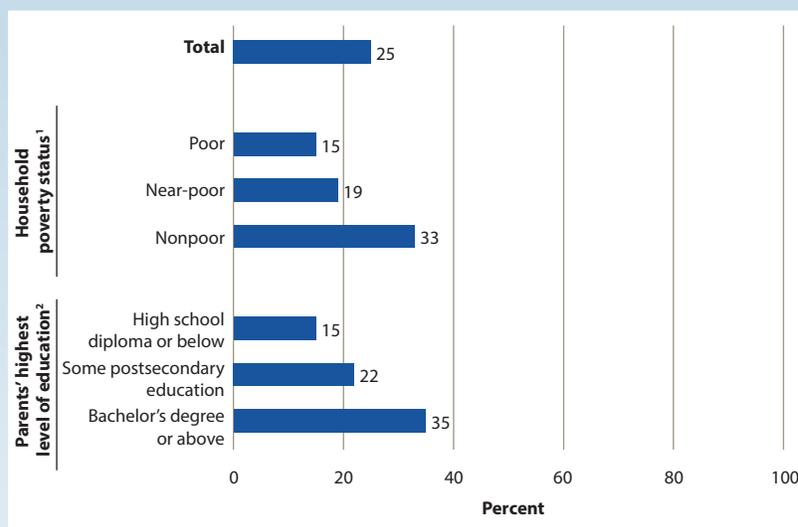
A higher percentage of children from nonpoor households (33 percent) than from near-poor (19 percent) or poor (15 percent) households went to a play or concert.

### Parents' highest level of education

A higher percentage of children whose parents had a bachelor's degree or above (35 percent) than some postsecondary education (22 percent) or a high school diploma or below (15 percent) went to a play or concert.

## FIGURE 14.

Percentage of students in the kindergarten class of 2010–11 who went to plays or concerts with family members during the summer, by household poverty status and parents' highest level of education: Summer 2011



<sup>1</sup> Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

<sup>2</sup> 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. "Some postsecondary education" includes parents whose highest level of education is some college, an associate's degree, or career/technical education.

NOTE: In the parent questionnaire, the term "family" refers to any person who lives in the child's household and any relative of the child living outside the child's household. Data on summer vacation characteristics in summer 2011 were collected in fall 2011. Estimates weighted by W3CF3P\_30.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

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<http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2018160>

More detailed information on reports produced by the National Center for Education Statistics (NCES) using the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K) and Kindergarten Class of 2010–11 (ECLS-K:2011), can be found in the following publications:

Meyer, D., Princiotta, D., and Lanahan, L. (2004). *The Summer After Kindergarten: Children's Activities and Library Use by Household Socioeconomic Status* (NCES 2004-037).

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).

Mulligan, G.M., McCarroll, J.C., Flanagan, K.D., and Potter, D. (2014). *Findings From the First-Grade Rounds of the Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011)* (NCES 2015-109).

Rathbun, A., and Zhang, A. (2016). *Primary Early Care and Education Arrangements and Achievement at Kindergarten Entry* (NCES 2016-070).

Walston, J., and McCarroll, J.C. (2010). *Eighth-Grade Algebra: Findings From the Eighth-Grade Round of the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99 (ECLS-K)* (NCES 2010-016).

Walston, J., and West, J. (2004). *Full-Day and Half-Day Kindergarten in the United States: Findings From the Early Childhood Longitudinal Study, Kindergarten Class of 1998–99* (NCES 2004-078).

West, J., Denton, K., and Germino-Hausken, E. (2000). *America's Kindergartners* (NCES 2000-070).

## METHODOLOGY AND TECHNICAL NOTES

### *Survey Overview and Methodology*

The Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011) is sponsored by the National Center for Education Statistics (NCES) to provide detailed information on the school achievement and experiences of students throughout their elementary school years. The study follows students longitudinally from kindergarten (the 2010–11 school year) through the spring of 2016, when most participants were expected to be in fifth grade. This sample of students is designed to be nationally representative of all students who were enrolled in kindergarten or who were of kindergarten age and being educated in an ungraded classroom or school in the United States in the 2010–11 school year, including those in public and private schools,<sup>3</sup> those who attended full-day and part-day programs, those who were in kindergarten for the first time, and those who were kindergarten repeaters.

The ECLS-K:2011 places an emphasis on measuring students' experiences within multiple contexts and development in multiple domains. The study is designed to collect information from students as well as from their parents and guardians, teachers, schools, and before- and afterschool care providers.

### *Socioeconomic Characteristics Used in the Report*

#### **Poverty status [X2POVTY]**

The federal poverty level status composite variable is derived from household income and the total number of household members. Parent respondents first were asked to report household income using a standard list of income categories. If a parent reported a household income indicating the household was close to or lower than 200 percent of the U.S. Census Bureau poverty threshold for a household of its size, the respondent was asked to report household income to the nearest \$1,000 (referred to as exact income).

Poverty classification was determined using the reported income category, exact income when necessary, and household size. Preliminary weighted 2010 Census poverty thresholds were used to define household poverty status. Households with a total income that fell below the appropriate threshold were classified as being below the federal poverty level (labeled poor in this report). Households with a total income that was at or above the poverty threshold but below 200 percent of the poverty threshold were classified in a middle category, 100 to 199 percent of the federal poverty level (labeled near-poor in this report). Households with a total income that was at or above 200 percent of the poverty threshold were categorized as being at 200 percent of the federal poverty level or above (labeled nonpoor in this report).

For example, if a household contained two members with two children and the household income was lower than \$22,113, the household was classified as being below the federal poverty level. If a household with two members with two children had an income of \$22,113 or more, but less than \$44,226 (200 percent of the poverty threshold for a household of two with two children), the household was classified in the category "100 to 199 percent of the federal poverty level." If a household with two members with two children had an income of \$44,226 or more, the household was classified as being at 200 percent of the federal poverty level or above.

#### **Parents' highest level of education [X12PAR1ED\_I, X12PAR2ED\_I]**

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. This composite is derived from parent interview information about parents' educational attainment. Data were imputed using a hot-deck procedure if they were not obtained during the parent interview but a parent completed at least a portion of the parent interview in either the fall or spring data collection. For this report, the parent education composite variable available on the data file was collapsed into three categories: high school diploma or below; some college, associate's degree, or career/technical education (referred to as "some postsecondary education"); and Bachelor's degree or above.

<sup>3</sup>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.

## Sample Design

### Base Year

A nationally representative sample of approximately 18,170 children from about 1,310 schools<sup>4</sup> participated in the base-year administration of the ECLS-K:2011 in the 2010–11 school year.

The ECLS-K:2011 cohort was sampled using a multistage sampling design. In the first stage, 90 primary sampling units (PSUs) were selected from a national sample of PSUs. The PSUs were counties and county groups. In the second stage, public and private schools educating kindergartners (or ungraded schools educating children of kindergarten age) were selected within the PSUs. Finally, students were sampled from the selected schools. The schools were selected from a preliminary version of the frame developed for the 2010 National Assessment of Educational Progress (NAEP), which contained information about public schools that were included in the 2006–07 Common Core of Data Public Elementary/Secondary School Universe Survey and private schools that were included in the 2007–08 Private School Universe Survey. The NAEP frame had not yet been updated and, therefore, was not final at the time it was obtained for use in the ECLS-K:2011. For this reason, a supplemental frame of newly opened schools and kindergarten programs was developed in the spring of 2010, and a supplemental sample of

schools selected from that frame was added to the main sample of study schools in the ECLS-K:2011. In the third stage of sampling, approximately 23 kindergartners were selected from a list of all enrolled kindergartners (or students of kindergarten age being educated in an ungraded classroom) in each of the sampled schools.

### Fall First Grade

A subsample of students was selected for the fall first-grade data collection via a three-step procedure. In the first step, 30 PSUs were sampled from the 90 PSUs selected for the base year. These 90 PSUs consisted of 10 self-representing PSUs (due to their large population size) and 80 non-self-representing PSUs selected from 40 strata. The 10 self-representing PSUs were included in the fall first-grade sample with certainty. The remaining 20 PSUs were selected from the 80 non-self-representing PSUs. To select the 20 non-self-representing PSUs, 20 strata were sampled with equal probability from the 40 strata used to stratify the 80 non-self-representing PSUs in the full sample and then one PSU was sampled within each stratum, also with equal probability. This is equivalent to selection with probability proportional to size since the original PSU sample was selected with probability proportional to size.

In the second step, all eligible schools within the sampled PSUs with students who were sampled in the base year were included in the fall first-grade

sample. In the third step, students attending the subsampled schools who were respondents in the base year<sup>5</sup> and who had not moved outside of the United States were included as part of the fall first-grade sample. A subsample of eligible students who had moved to another school in the same PSU or another sampled PSU were assessed in their new school (or home, if the student's new school refused to participate in the study). An attempt was made to complete a parent interview, but not a child assessment, for students who moved to a PSU that was not part of the full ECLS-K:2011 sample of 90 PSUs.

## Data Collection

### Base Year

Parent interviews were conducted mostly by telephone, although the interview was conducted in-person for parents who did not have a telephone or who preferred an in-person interview. The respondent to the parent interview was usually a parent or guardian in the household who identified himself or herself as the person who knew the most about the child's care, education, and health. During the spring kindergarten data collection round, interviewers attempted to complete the parent interview with the same respondent who answered the parent interview in the fall kindergarten round; however, another parent or guardian in the household who knew about the child's care, education, and health was

<sup>4</sup>This number includes both schools that were part of the original sample of schools selected for the study (approximately 970) and schools to which children transferred during the base year of the study (approximately 340).

<sup>5</sup>A base-year respondent has child data—scoreable assessment data or height or weight measurements (or was excluded from assessment due to lack of accommodation for a disability)—or parent interview data from at least one round of data collection in the base year.

selected if the fall respondent was not available.

The parent interview was fully translated into Spanish before data collection began and could be administered by bilingual interviewers if parent respondents preferred to speak in Spanish. Because it was cost prohibitive to do so, the parent interview was not translated into other languages. However, interviews could be completed with parents who spoke other languages by using an interpreter who translated from the English during the interview.

### Fall First Grade

During the first-grade data collection rounds, interviewers attempted to complete the parent interview with the same respondent who completed the parent interview in the previous round; however, another parent or guardian in the household who knew about the child's care, education, and health was selected if the prior-round respondent was not available.

### Response Rates

The weighted parent unit response rates were 74 percent for the fall kindergarten data collection, 67 percent for the spring kindergarten data collection, and 87 percent for the fall first-grade data collection. The overall response rates for the parent interviews, which also take into account school-level response, were 47 percent for the fall kindergarten data collection, 42 percent for the spring kindergarten data collection, and 54 percent for the fall first-grade data collection.

NCES statistical standards require that any survey instrument with a unit response rate less than 85 percent be evaluated for potential nonresponse bias.

Nonresponse bias analyses were conducted to determine if substantial bias was introduced as a result of nonresponse in the kindergarten and first-grade rounds of data collection. Three methods were used to examine the potential for nonresponse bias in the kindergarten data: (1) a comparison of estimates from the ECLS-K:2011 schools to those produced using frame data (i.e., data from the Common Core of Data and the Private School Universe Survey); (2) a comparison of estimates from the ECLS-K:2011 to those from other data sources (for example, the National Household Education Surveys Program); and (3) a comparison of estimates produced using weights that include adjustments for nonresponse to estimates produced using weights without nonresponse adjustments. The nonresponse bias analysis for the first-grade data focused on the third method.

The findings from the kindergarten and the first-grade analyses suggest that there is not a substantial bias due to nonresponse after adjusting for that nonresponse. For more information on the nonresponse bias analyses, refer to the *Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), User's Manual for the ECLS-K:2011 Kindergarten Data File and Electronic Codebook* (Tourangeau et al. 2013) and the *Early Childhood Longitudinal Study, Kindergarten Class*

*of 2010–11 (ECLS-K:2011), User's Manual for the ECLS-K:2011 Kindergarten–First Grade Data File and Electronic Codebook* (Tourangeau et al. 2014).

### Data Reliability

Estimates produced using data from the ECLS-K:2011 are subject to two types of error: nonsampling error and sampling error. 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.

### Nonsampling Errors

Nonsampling error is the term used to describe variations in the estimates that may be caused by population coverage limitations, as well as data collection, processing, and reporting procedures. The sources of nonsampling errors are typically nonresponse, differences in respondents' interpretations of the meaning of survey questions, response differences related to the particular time the survey was conducted, and mistakes in data preparation.

In general, it is difficult to identify and estimate either the amount of nonsampling error or the bias caused by this error. In the ECLS-K:2011, efforts were made to prevent such errors from occurring and to compensate for them where possible (e.g., by field-testing items and assessments, using survey questions that had been tested and used in previous surveys, conducting multiday assessor/interviewer training, holding assessor certification sessions, and monitoring assessor/interviewer

performance and field data quality throughout the collection period).

Another potential source of nonsampling error is respondent bias that occurs when respondents systematically misreport (intentionally or unintentionally) information in a study. One potential source of respondent bias is social desirability bias, which can result when respondents provide information they believe is socially desirable or acceptable but that does not accurately reflect the respondents' characteristics or experiences. An associated error occurs when respondents give undue positive reports about those close to them. For example, parents may overestimate their children's reading ability compared to information that might be obtained from a direct assessment. If there are no systematic differences among specific groups under study in their tendency to give socially desirable or undue positive responses, then comparisons of the different groups will provide reasonable measures of relative differences among the groups.

### **Sampling Errors and Weighting**

The ECLS-K:2011 data are weighted to compensate for unequal probabilities of selection at each sampling stage and to adjust for the effects of school, teacher, before- and afterschool care provider, child, and parent nonresponse. The sample weights used in the ECLS-K:2011 analyses were developed in several stages. The first stage of the weighting process

assigned weights to the sampled primary sampling units that are equal to the inverse of the PSU probability of selection. The second stage of the weighting process assigned weights to the schools sampled within selected PSUs. The base weight for each sampled school is the PSU weight multiplied by the inverse of the probability of the school being selected from the PSU. The base weights of responding schools were adjusted to compensate for nonresponse among the set of eligible schools. These adjustments were made separately for public and private schools.

To compute the base weight for each student in the sample, the school nonresponse-adjusted weight for the school the student attended was multiplied by the within-school student weight. The within-school student weight was calculated separately for Asian/Pacific Islander (API) students and non-Asian/Pacific Islander students to account for oversampling of API students.<sup>6</sup> For API students, the within-school student weight is the total number of API kindergarten students in the school divided by the number of API kindergarten students sampled in the school. For non-API students, the within-school student weight is the total number of non-API kindergarten students in the school divided by the number of non-API kindergarten students sampled in the school. The student-level base weight was then adjusted for nonresponse for different components of the study.

In this brief, estimates were weighted by W3CF3P\_30. The weight is computed from the child base weight adjusted for nonresponse associated with child assessment data from spring kindergarten and fall first grade, parent data from fall kindergarten or spring kindergarten, and parent data from fall first grade.

In addition to properly weighting the data in this brief, special procedures for estimating the statistical significance of the estimates were employed, because the data were collected using a complex sample design. A complex sample design, like that used in the ECLS-K:2011, results in data that violate the assumptions that are normally required to assess the statistical significance of results. The standard errors of the estimates from complex surveys may vary from those that would be expected if the sample were a simple random sample and the observations were independent and identically distributed random variables. Using the statistical software Stata, the jackknife replication variance estimation method was used to compute approximately unbiased estimates of the standard errors of the estimates in this brief.

### **Statistical Procedures**

Comparisons made in the text were tested for statistical significance at the  $p < .05$  level to ensure that the differences were larger than might be expected due to sampling variation. When comparing estimates within categorical groups (e.g., sex, race/

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<sup>6</sup> Asians, Native Hawaiians, and Other Pacific Islanders were sampled at a higher rate in order to achieve the minimum sample size required to generate reliable estimates. Although they were oversampled as one group, the numbers of completed interviews for children in the Asian group and children in the Native Hawaiian and Other Pacific Islander group were large enough to produce estimates for each of these two groups separately.

ethnicity), *t* statistics were calculated. The formula used to compute the *t* statistic is

$$t = \frac{x_2 - x_1}{\sqrt{SE_2^2 + SE_1^2}}$$

where  $x_1$  and  $x_2$  are the estimates being compared and  $SE_1$  and  $SE_2$  are their corresponding standard errors. No adjustments were made for multiple comparisons.

### **Additional Technical Documentation**

For more information, refer to the *Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), User’s Manual for the ECLS-K:2011 Kindergarten Data File and Electronic Codebook* (Tourangeau et al. 2013); the *Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), User’s Manual for the*

*ECLS-K:2011 Kindergarten–First Grade Data File and Electronic Codebook* (Tourangeau et al. 2014); and the *Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), User’s Manual for the ECLS-K:2011 Kindergarten–Second Grade Data File and Electronic Codebook* (Tourangeau et al. 2015).

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## APPENDIX A: DATA TABLES

**Table A-1. Percentage distribution of students in the kindergarten class of 2010–11, by selected socioeconomic characteristics: School year 2010–11**

<b>Selected socioeconomic characteristic</b>	<b>Total</b>
<b>Total</b>	<b>100.0</b>
Household poverty status, spring 2011 <sup>1</sup>	
Income below 100 percent of the federal poverty level	26.2
Income between 100 and 199 percent of the federal poverty level	22.7
Income at or above 200 percent of the federal poverty level	51.1
Parents' highest level of education, 2010–11 school year <sup>2</sup>	
High school diploma or below	30.7
Some college, associate's degree, or career/technical education	34.1
Bachelor's degree or above	35.2

<sup>1</sup> Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

<sup>2</sup> 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.

NOTE: Estimates weighted by W3CF3P\_30. Detail may not sum to total due to rounding and/or missing data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

**Table A-2. Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status, parents' highest level of education, and selected summer care and education programs: Summer 2011**

Selected summer care and education program	Total	Household poverty status, spring 2011 <sup>1</sup>			Parents' highest level of education, 2010–11 school year <sup>2</sup>		
		Income below 100 percent of the federal poverty level	Income between 100 and 199 percent of the federal poverty level	Income at or above 200 percent of the federal poverty level	High school diploma or below	Some college, associate's degree, or career/technical education	Bachelor's degree or above
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Primary type of nonparental care arrangement during the summer <sup>3</sup>							
Relative care	12.8	9.5	12.9	13.7	13.6	13.0	12.1
Nonrelative care	5.6	2.5	4.6	8.3	3.2	5.4	7.8
Center care	6.7	4.5	5.8	7.2	4.8	8.9	6.0
Multiple care arrangements	0.5	‡	‡	0.8	‡	0.4!	0.6!
None	74.4	83.1	76.6	70.0	78.0	72.4	73.5
Attended camp during the summer <sup>4</sup>							
Yes, day camp	22.9	7.1	13.1	38.1	6.4	17.6	42.7
Yes, overnight camp	0.8	‡	‡	0.8	0.7	0.7!	0.9!
No	76.3	92.3	85.8	61.1	92.9	81.7	56.4
Attended summer school or summer enrichment program							
Yes	9.6	10.4	10.9	8.0	10.9	8.6	9.0
No	90.4	89.6	89.1	92.0	89.1	91.4	91.0

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

‡ Reporting standards not met. Either there are too few cases for a reliable estimate or the CV is 50 percent or greater.

<sup>1</sup> Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

<sup>2</sup> 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.

<sup>3</sup> Nonparental care arrangements include child care provided on a regular basis by someone other than a parent or guardian. This does not include occasional babysitting or backup care providers. It also does not include summer camp. "Center care" includes child care from day care centers or extended day programs. "Multiple care arrangements" is care provided in equal amounts of time in each of two or more types of care arrangements. "None" includes children who did not attend any care arrangements on a regular basis. Their primary care arrangement is with their parents.

<sup>4</sup> Students were categorized as attending an overnight camp if they attended camp 24 hours per day, as reported by parents.

NOTE: Data on summer vacation characteristics in summer 2011 were collected in fall 2011. Estimates weighted by W3CF3P\_30. Detail may not sum to total due to rounding and/or missing data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

**Table A-3. Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status, parents' highest level of education, and activities during the summer: Summer 2011**

Activity during the summer	Total	Household poverty status, spring 2011 <sup>1</sup>			Parents' highest level of education, 2010–11 school year <sup>2</sup>		
		Income below 100 percent of the federal poverty level	Income between 100 and 199 percent of the federal poverty level	Income at or above 200 percent of the federal poverty level	High school diploma or below	Some college, associate's degree, or career/technical education	Bachelor's degree or above
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Math activities with family members in a typical week							
Never	6.8	6.3	4.9	8.1	5.7	6.4	8.1
Once or twice	50.8	49.5	50.4	53.3	50.4	49.2	53.0
3 to 6 times	29.9	29.5	29.8	30.0	28.0	32.5	28.8
Every day	12.4	14.7	14.9	8.6	15.9	11.9	10.0
Writing activities with family members in a typical week							
Never	6.4	5.4	5.0	7.3	5.5	5.8	7.6
Once or twice	40.0	38.4	38.5	42.8	39.1	37.8	43.0
3 to 6 times	34.3	30.8	34.3	36.9	32.1	37.1	33.4
Every day	19.3	25.3	22.3	13.0	23.3	19.2	16.0
Family members read books to child in a typical week							
Never	1.9	2.6!	2.5	1.3!	2.8!	1.7	1.3
Once or twice	19.7	27.7	18.1	16.5	27.8	18.5	13.8
3 to 6 times	32.1	31.0	35.4	31.7	31.6	33.9	30.8
Every day	46.2	38.7	44.0	50.5	37.8	45.9	54.1
Child looked at or read books on his/her own in a typical week							
Never	4.4	4.9	4.0	4.5	4.2	4.8	4.3
Once or twice	27.0	31.4	27.1	25.2	33.2	26.6	22.2
3 to 6 times	35.3	31.7	33.9	36.8	32.1	35.2	37.8
Every day	33.3	31.9	35.0	33.4	30.4	33.4	35.7
Child used a computer or other electronic device for educational purposes in a typical week							
Never	21.3	32.1	19.6	16.4	32.2	17.8	15.3
Once or twice	34.7	31.5	30.9	38.9	31.1	33.4	39.2
3 to 6 times	27.6	19.6	29.0	31.4	19.2	32.1	30.3
Every day	16.4	16.7	20.5	13.3	17.6	16.7	15.2

See notes at end of table.

**Table A-3. Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status, parents' highest level of education, and activities during the summer: Summer 2011—continued**

Activity during the summer	Total	Household poverty status, spring 2011 <sup>1</sup>			Parents' highest level of education, 2010–11 school year <sup>2</sup>		
		Income below 100 percent of the federal poverty level	Income between 100 and 199 percent of the federal poverty level	Income at or above 200 percent of the federal poverty level	High school diploma or below	Some college, associate's degree, or career/technical education	Bachelor's degree or above
Child played actively outside in a typical week							
Never	0.4!	0.7!	0.7!	‡	1.0!	‡	‡
Once or twice	4.7	6.1	5.5	3.5	6.1	4.0	4.0
3 to 6 times	18.6	17.2	20.5	18.7	17.2	19.3	19.1
Every day	76.3	76.0	73.3	77.7	75.7	76.6	76.8
Child tutored over the summer							
Yes	4.5	4.1	3.3!	5.2	4.2	4.5	4.5
No	95.5	95.9	96.7	94.8	95.8	95.5	95.5
School provided a book list with particular books for child to read over the summer							
Yes	28.2	23.2	27.4	30.7	23.5	29.0	31.3
No	67.9	72.3	69.2	66.0	71.5	67.2	65.6
Don't know	3.9	4.6	3.4	3.3	5.0	3.8	3.1

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

‡ Reporting standards not met. Either there are too few cases for a reliable estimate or the CV is 50 percent or greater.

<sup>1</sup> Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

<sup>2</sup> 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.

NOTE: In the parent questionnaire, the term "family" refers to any person who lives in the child's household and any relative of the child living outside the child's household. Data on summer vacation characteristics in summer 2011 were collected in fall 2011. Estimates weighted by W3CF3P\_30. Detail may not sum to total due to rounding and/or missing data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

**Table A-4. Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status, parents' highest level of education, and places visited with family members during the summer: Summer 2011**

Place visited with family members during the summer	Total	Household poverty status, spring 2011 <sup>1</sup>			Parents' highest level of education, 2010–11 school year <sup>2</sup>		
		Income below 100 percent of the federal poverty level	Income between 100 and 199 percent of the federal poverty level	Income at or above 200 percent of the federal poverty level	High school diploma or below	Some college, associate's degree, or career/technical education	Bachelor's degree or above
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Art galleries, museums, or historical sites							
Yes	49.6	31.5	43.8	62.8	30.9	50.0	65.4
No	50.4	68.5	56.2	37.2	69.1	50.0	34.6
Zoos or aquariums							
Yes	63.7	54.2	66.1	68.8	53.5	63.2	73.0
No	36.3	45.8	33.9	31.2	46.5	36.8	27.0
Amusement parks							
Yes	58.4	52.5	59.4	61.8	54.7	56.4	63.5
No	41.6	47.5	40.6	38.2	45.3	43.6	36.5
Beaches, lakes, rivers, or state or national parks							
Yes	86.1	80.7	82.0	91.1	79.6	86.1	91.7
No	13.9	19.3	18.0	8.9	20.4	13.9	8.3
Plays or concerts							
Yes	24.7	14.6	18.6	33.1	14.9	22.4	35.3
No	75.3	85.4	81.4	66.9	85.1	77.6	64.7

<sup>1</sup> Household poverty status is based on preliminary U.S. Census thresholds for 2010, which identify incomes determined to meet household needs, given the household size. Poor households are those with incomes below 100 percent of the federal poverty level (\$22,113 in 2010 for a family of four with two children); near-poor households are those with incomes between 100 and 199 percent of the federal poverty level (greater than or equal to \$22,113 in 2010 for a family of four with two children, but less than \$44,226); and nonpoor households are those with incomes at or above 200 percent of the federal poverty level (greater than or equal to \$44,226 in 2010 for a family of four with two children).

<sup>2</sup> 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.

NOTE: In the parent questionnaire, the term "family" refers to any person who lives in the child's household and any relative of the child living outside the child's household. Data on summer vacation characteristics in summer 2011 were collected in fall 2011. Estimates weighted by W3CF3P\_30. Detail may not sum to total due to rounding and/or missing data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

## APPENDIX B: STANDARD ERROR TABLES

**Table B-1. Standard errors for table A-1: Percentage distribution of students in the kindergarten class of 2010–11, by selected socioeconomic characteristics: School year 2010–11**

<b>Selected socioeconomic characteristic</b>	<b>Total</b>
<b>Total</b>	†
Household poverty status, spring 2011	
Income below 100 percent of the federal poverty level	2.33
Income between 100 and 199 percent of the federal poverty level	1.16
Income at or above 200 percent of the federal poverty level	2.73
Parents' highest level of education, 2010–11 school year	
High school diploma or below	1.93
Some college, associate's degree, or career/technical education	1.29
Bachelor's degree or above	2.79

† Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

**Table B-2. Standard errors for table A-2: Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status, parents' highest level of education, and selected summer care and education programs: Summer 2011**

Selected summer care and education program	Total	Household poverty status, spring 2011			Parents' highest level of education, 2010–11 school year		
		Income below 100 percent of the federal poverty level	Income between 100 and 199 percent of the federal poverty level	Income at or above 200 percent of the federal poverty level	High school diploma or below	Some college, associate's degree, or career/technical education	Bachelor's degree or above
<b>Total</b>	†	†	†	†	†	†	†
Primary type of nonparental care arrangement during the summer							
Relative care	0.92	1.36	1.22	1.22	1.35	1.85	1.41
Nonrelative care	0.89	0.76	0.97	1.54	0.78	1.04	1.31
Center care	0.59	0.89	1.06	0.80	1.00	0.96	0.80
Multiple care arrangements	0.11	†	†	0.21	†	0.15	0.28
None	1.24	1.39	1.58	1.79	1.52	1.31	1.94
Attended camp during the summer							
Yes, day camp	1.67	1.68	1.88	1.57	1.09	1.49	1.59
Yes, overnight camp	0.13	†	†	0.23	0.17	0.30	0.38
No	1.69	1.78	1.98	1.70	1.14	1.39	1.67
Attended summer school or summer enrichment program							
Yes	1.00	1.63	1.48	1.13	1.70	1.06	1.25
No	1.00	1.63	1.48	1.13	1.70	1.06	1.25

† Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

**Table B-3. Standard errors for table A-3: Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status, parents' highest level of education, and activities during the summer: Summer 2011**

Activity during the summer	Total	Household poverty status, spring 2011			Parents' highest level of education, 2010–11 school year		
		Income below 100 percent of the federal poverty level	Income between 100 and 199 percent of the federal poverty level	Income at or above 200 percent of the federal poverty level	High school diploma or below	Some college, associate's degree, or career/technical education	Bachelor's degree or above
Total	†	†	†	†	†	†	†
Math activities with family members in a typical week							
Never	0.62	1.10	1.12	0.81	0.95	1.69	1.07
Once or twice	0.79	2.62	1.76	1.06	1.51	1.27	1.66
3 to 6 times	0.69	1.57	1.92	1.10	2.10	1.19	1.41
Every day	0.70	1.51	2.59	0.85	1.65	1.18	1.07
Writing activities with family members in a typical week							
Never	0.69	1.10	1.05	0.83	1.02	1.42	0.94
Once or twice	0.84	2.18	2.34	1.25	1.78	2.30	2.43
3 to 6 times	0.90	1.99	2.71	1.11	2.06	1.92	1.51
Every day	0.92	2.08	1.67	0.76	2.00	0.98	1.51
Family members read books to child in a typical week							
Never	0.39	1.02	0.60	0.40	0.87	0.51	0.26
Once or twice	1.00	2.02	1.90	1.06	1.75	1.77	1.52
3 to 6 times	1.05	1.62	2.13	1.46	2.18	1.70	1.02
Every day	1.73	3.56	3.22	1.58	2.96	2.40	2.12
Child looked at or read books on his/her own in a typical week							
Never	0.44	0.79	0.77	0.60	0.72	0.62	0.83
Once or twice	1.18	2.83	3.22	1.80	1.79	2.26	2.16
3 to 6 times	0.83	2.06	2.08	1.52	0.78	1.65	1.56
Every day	1.40	2.59	2.19	1.72	1.58	2.46	1.63
Child used a computer or other electronic device for educational purposes in a typical week							
Never	1.80	2.64	2.29	1.37	2.88	2.42	1.53
Once or twice	1.01	2.15	1.75	1.60	1.88	1.20	1.33
3 to 6 times	1.06	1.52	1.69	1.27	1.31	2.17	0.49
Every day	1.37	2.45	1.61	1.40	1.98	1.70	1.90

See notes at end of table.

**Table B-3. Standard errors for table A-3: Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status, parents' highest level of education, and activities during the summer: Summer 2011—continued**

Activity during the summer	Total	Household poverty status, spring 2011			Parents' highest level of education, 2010–11 school year		
		Income below 100 percent of the federal poverty level	Income between 100 and 199 percent of the federal poverty level	Income at or above 200 percent of the federal poverty level	High school diploma or below	Some college, associate's degree, or career/technical education	Bachelor's degree or above
Child played actively outside in a typical week							
Never	0.14	0.37	0.34	†	0.45	†	†
Once or twice	0.45	0.74	0.94	0.48	0.58	0.65	0.75
3 to 6 times	1.31	1.91	2.49	1.21	1.47	1.74	1.39
Every day	1.51	2.09	3.09	1.37	1.73	2.20	1.39
Child tutored over the summer							
Yes	0.52	0.51	1.08	0.92	0.73	0.86	0.88
No	0.52	0.51	1.08	0.92	0.73	0.86	0.88
School provided a book list with particular books for child to read over the summer							
Yes	3.65	1.67	3.96	5.17	2.02	4.75	4.58
No	3.57	1.90	3.91	5.08	2.49	4.67	4.58
Don't know	0.43	1.03	0.66	0.31	1.01	0.45	0.44

† Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.

**Table B-4. Standard errors for table A-4: Percentage distribution of students in the kindergarten class of 2010–11, by household poverty status, parents’ highest level of education, and places visited with family members during the summer: Summer 2011**

Place visited with family members during the summer	Total	Household poverty status, spring 2011			Parents’ highest level of education, 2010–11 school year		
		Income below 100 percent of the federal poverty level	Income between 100 and 199 percent of the federal poverty level	Income at or above 200 percent of the federal poverty level	High school diploma or below	Some college, associate's degree, or career/technical education	Bachelor's degree or above
<b>Total</b>	†	†	†	†	†	†	†
Art galleries, museums, or historical sites							
Yes	2.65	2.41	3.78	2.34	2.50	2.83	2.54
No	2.65	2.41	3.78	2.34	2.50	2.83	2.54
Zoos or aquariums							
Yes	3.33	3.40	4.62	3.16	3.61	3.75	3.32
No	3.33	3.40	4.62	3.16	3.61	3.75	3.32
Amusement parks							
Yes	1.52	2.42	2.66	3.03	2.38	1.63	4.01
No	1.52	2.42	2.66	3.03	2.38	1.63	4.01
Beaches, lakes, rivers, or state or national parks							
Yes	1.45	1.53	2.28	1.45	1.09	1.88	1.55
No	1.45	1.53	2.28	1.45	1.09	1.88	1.55
Plays or concerts							
Yes	1.83	1.96	3.01	1.67	1.04	1.93	2.29
No	1.83	1.96	3.01	1.67	1.04	1.93	2.29

† Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 2010–11 (ECLS-K:2011), Kindergarten-Second Grade Restricted-Use Data File.