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## ABSTRACT

This report presents information on selected activities that preprimary children engage in with family members, based on the 1991 and 1993 National Household Education Surveys. Focusing on parent-child activities found to facilitate the development of literacy skills and the motivation to learn, the report examines (1) the changes between 1991 and 1993 in family-child engagement in particular literacy activities, and (2) the relationship between the frequency of family-child participation in such activities and characteristics that are often used to identify children as being at-risk for school failure. These factors include poverty, race or ethnicity, and the mother's education level. The first part of the report presents the statistical data on the literacy activities: being read to; being told a story; learning letters, words, or numbers; being taught songs or music; doing arts and crafts; and visiting a library. The second part presents the study methodology and technical notes, including definitions of risk factors. Among the results noted was an increase from 1991 to 1993 in the number of preprimary children who regularly engaged in at least three of the literacy activities with family members, and an increase in children identified as at-risk, participating in such activities. Nevertheless, there continues to be a disparity between at-risk and not-at-risk children, which may be a product of a variety of factors such as parental beliefs. The report notes that despite the increase in literacy activities at home, Goal One of the National Education Goals, that every parent will be a child's first teacher, has yet to be attained. (HTH)

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# NATIONAL CENTER FOR EDUCATION STATISTICS

## Statistics in Brief

December 1994

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### Family-Child Engagement in Literacy Activities: Changes in Participation Between 1991 and 1993

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The road to success in school begins early in life. It begins with parents who are children's first teachers. By setting an example, encouraging imagination and curiosity, and engaging in activities with their children, parents arouse a joy of learning in their children. Evidence points to the fact that children are more successful in school when their parents are actively involved in their learning and show an interest in their progress (Entwisle 1979; McLoyd 1990; Snow 1983). Parental involvement represents a form of resource or social capital which children rely on when they face difficulties with such things as friendships and school-work (Coleman 1991).

Goal One of the National Education Goals stresses the importance of family-child engagement in literacy activities to children's development, especially for those children who are "at-risk" for school failure. This goal suggests that for all children in America to start school ready to learn, parents need to devote time to helping their children learn.

This brief report presents information on selected activities that preprimary children<sup>1</sup> engage in with family members based on the 1991 and 1993 National Household Education Surveys (NHES:91 and NHES:93) sponsored by the National Center for Education Statistics (NCES). This report focuses on parent-child activities that have been found to facilitate the development of literacy skills and the motivation to learn (Chall et al. 1982; Paulu 1992; Wigfield and Asher 1984). The report examines 1) the changes between 1991 and 1993 in family-child engagement in particular literacy activities and 2) the relationship between the frequency of family-child participation in literacy activities and characteristics that are often used to identify children as being educationally at-risk for school failure. Comparing the rates of participation in family-child literacy activities aids in evaluating the nation's progress in achieving an objective of the goal—every parent in America will be a child's first teacher, and devote time each day helping his or her preschool child learn.

#### Family-Child Literacy Activities

Parents and other family members engage in a wide range of activities with young children. Table 1 shows the percentages of preprimary children in 1991 and 1993 who had participated in several literacy-related activities with a family member three or more times in the previous week.

**1993 Participation Rates.** A majority of preprimary children (78 percent) in 1993 were read to by a parent or other family member on a regular basis, that is, three or more times during the previous week.<sup>2</sup> Sixty percent of children were regularly taught letters, words, or numbers. About 41 percent of children were regularly told stories, and 40 percent had visited a library at least once in the past month. Furthermore, 37 percent were regularly taught songs or music, and 32 percent regularly engaged in arts and crafts activities with a family member.

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**Participation Rates, 1993 versus 1991.** The 78 percent of preprimary children who were read to regularly in 1993 represents an increase from two years earlier.<sup>3</sup> In 1991, 71 percent of this age group of children were read to on a regular basis by a family member. The percentage of children who were regularly told stories also increased from 1991 to 1993 (36 percent to 41 percent). There was also a small, but significant, increase in the percentage of children who had visited a library at least once in the past month (38 percent to 40 percent).

**Participation Rates by Risk Factors.** Children with certain family, community, and school experiences are more at risk for failing in school, dropping out of school, and having difficulties making the transition to adulthood (Pallas et al. 1989). This report examines the question whether there is a relationship between family-child engagement in literacy activities and selected characteristics that are most often associated with educational disadvantage. The five risk factors used to identify children as being educationally at-risk presented in table 1 include: 1) living in a household with an income below the poverty threshold, 2) being black or Hispanic, 3) having fewer than two parents living in the home, 4) living with a mother who has less than a high school education, and 5) living with a mother whose main language at home is not English (see Methodology and Technical Notes for definitions of risk factors). Because having multiple risk factors may be more detrimental to a child's development than having any particular risk factor (Sameroff et al. 1987), and because having multiple risk factors has been found to be associated with some school outcomes (Hafner et al. 1992), the number of risk factors children have was also included in these analyses.

The relationships between each of these factors and children's 1993 engagement in literacy activities with a family member are examined separately. Changes in the rates of participation between 1991 and 1993 are also reported.

**Poverty Status.** The percentage of children in 1993 who were regularly read to by a family member was lower for children living in poverty (68 percent) than for other children (81 percent). Children living in poverty were less likely than other children to have been told a story (37 percent v. 42 percent), to have engaged in arts and crafts activities on a regular basis (27 percent v. 34 percent), or to have visited a library (29 percent v. 43 percent). On the other hand, children living in households with incomes below the poverty threshold were more likely than more affluent children to have been taught songs or music (41 percent v. 35 percent).

Although children living in poverty were less likely than other children to have been read to on a regular basis

by a family member in both 1991 and 1993, the percentage who were read to regularly increased from 59 percent to 68 percent. The percentage of children who were read to regularly also increased for the group of children who were living at or above the poverty threshold (76 percent to 81 percent).

The percentage of children living in poverty who regularly participated in the other five literacy activities with a family member did not change between 1991 and 1993. In contrast, there were some increases in the percentage of more affluent children who were regularly told a story (37 percent to 42 percent) or who visited a library (41 percent to 43 percent).

**Race-Ethnicity.** Being black or Hispanic was associated with higher rates of participation in some activities and lower rates of participation in others. Black or Hispanic children were more likely than other children to be regularly taught letters, words, or numbers (64 percent v. 59 percent) or taught songs or music (41 percent v. 35 percent). On the other hand, they were less likely to be read to (64 percent v. 83 percent) or told a story regularly (38 percent v. 41 percent). These children were also less likely to engage in arts and crafts activities with a family member on a regular basis (27 percent v. 34 percent) or to visit a library in the past month (30 percent v. 43 percent).

The percentage of black or Hispanic children who were read to on a regular basis increased from 57 percent in 1991 to 64 percent in 1993. A larger percentage of these children were regularly taught songs or music in 1993 (41 percent) as compared with 1991 (37 percent) and the percentage who visited a library also rose (27 percent to 30 percent). The percentage of children from non-minority groups who were regularly taught songs or music or who visited a library did not increase significantly over this two-year period.

**Family Type.** Having two parents in the home was associated with more frequent family-child interactions for many of the activities found in table 1. Children from two-parent families were more likely than children from families with less than two parents to have been read to (81 percent v. 70 percent), or to have done arts and crafts with a family member on a regular basis (33 percent v. 29 percent), or to have visited a library (43 percent v. 32 percent).

The percentage of children who were read to on a regular basis increased for both groups of children, those living with and without two parents in the home, from 1991 to 1993 (74 percent to 81 percent and 62 percent to 70 percent, respectively). There was also an increase in the percentage of children living in homes without two

Table 1.—Percentage of preprimary children<sup>1</sup> who have participated in literacy activities with a family member three or more times in the past week, by year and risk factors

Risk Factors	Children (thousands)		Read to <sup>2</sup>				Told a story				Taught letters, words, or numbers			
	1991	1993	1991		1993		1991		1993		1991		1993	
			percent	s.e. <sup>3</sup>	percent	s.e.	percent	s.e.	percent	s.e.	percent	s.e.	percent	s.e.
<b>Total</b>	12,436	12,601	71.4	.60	77.5	.61	36.3	.63	40.5	.71	61.8	.63	60.4	.70
<b>Poverty Status</b>														
Above poverty threshold	9,275	9,263	75.8	.59	81.1	.62	36.5	.67	41.7	.77	61.0	.68	59.6	.77
Below poverty threshold	3,160	3,338	58.5	1.56	67.6	1.50	35.9	1.50	37.0	1.59	64.4	1.51	62.6	1.57
<b>Race/Ethnicity</b>														
White, Asian, or Other	9,125	9,086	76.7	.64	82.9	.64	37.0	.70	41.4	.82	60.7	.72	59.1	.82
Black or Hispanic	3,311	3,515	56.9	1.37	63.7	1.35	34.6	1.33	38.0	1.37	65.0	1.32	63.7	1.36
<b>Family Type</b>														
Two parents	9,651	9,033	74.1	.63	80.5	.66	36.8	.68	41.2	.81	61.4	.70	59.7	.80
None or one parent	2,785	3,568	62.2	1.52	70.0	1.34	34.9	1.49	38.6	1.43	63.4	1.49	62.1	1.43
<b>Mother's Education</b>														
Completed high school/GED	10,352	10,510	74.3	.62	81.0	.63	37.1	.68	41.5	.77	61.6	.68	60.9	.76
Did not complete high school	1,751	1,831	55.0	1.93	59.4	1.91	32.9	1.81	35.4	1.89	63.6	1.84	59.1	1.93
<b>Mother's Home Language</b>														
English	11,239	11,457	73.9	.61	80.3	.62	36.9	.66	41.0	.75	62.0	.66	60.9	.74
Not English	864	884	40.7	2.55	46.1	2.42	32.0	2.44	35.4	2.31	60.4	2.54	57.0	2.41
<b>Number of Risk Factors</b>														
None	6,217	6,059	80.9	.67	85.5	.73	37.9	.84	41.4	1.01	60.1	.85	57.9	1.01
One	2,987	2,576	69.0	1.21	79.8	1.21	34.7	1.22	42.3	1.47	62.4	1.28	64.1	1.44
Two or more	3,231	3,966	55.4	1.40	63.8	1.26	34.8	1.35	37.8	1.31	64.6	1.34	61.9	1.30

Table 1.—Percentage of preprimary children<sup>1</sup> who have participated in literacy activities with a family member three or more times in the past week, by year and risk factors—Continued

Risk Factors	Taught songs or music				Did arts and crafts				Visited a library <sup>4</sup>			
	1991		1993		1991		1993		1991		1993	
	percent	s.e.	percent	s.e.	percent	s.e.	percent	s.e.	percent	s.e.	percent	s.e.
<b>Total</b>	35.3	.63	36.8	.70	33.2	.61	32.2	.67	37.5	.62	39.5	.70
<b>Poverty Status</b>												
Above poverty threshold	34.7	.66	35.4	.75	34.5	.66	34.0	.74	40.9	.68	43.3	.78
Below poverty threshold	37.4	1.52	40.7	1.60	29.5	1.41	27.0	1.45	27.3	1.42	29.1	1.48
<b>Race/Ethnicity</b>												
White, Asian, or Other	34.9	.70	35.1	.80	34.8	.70	34.2	.79	41.4	.72	43.1	.83
Black or Hispanic	36.5	1.34	41.3	1.38	28.7	1.23	26.9	1.27	26.5	1.21	30.2	1.27
<b>Family Type</b>												
Two parents	35.5	.68	35.8	.89	34.3	.67	33.4	.78	40.7	.70	42.6	.81
None or one parent	34.9	1.50	39.4	1.43	29.3	1.40	29.2	1.32	26.3	1.33	31.7	1.36
<b>Mother's Education</b>												
Completed high school/GED	35.6	.68	37.0	.76	33.8	.66	33.7	.74	41.2	.69	42.5	.77
Did not complete high school	33.8	1.83	37.8	1.90	30.0	1.77	23.9	1.66	17.5	1.47	23.6	1.70
<b>Mother's Home Language</b>												
English	35.6	.66	37.5	.74	33.1	.64	32.8	.71	39.2	.66	40.7	.74
Not English	32.2	2.44	32.0	2.19	34.2	2.47	24.4	2.04	20.0	2.16	27.6	2.17
<b>Number of Risk Factors</b>												
None	35.4	.83	34.6	.97	37.0	.84	35.4	.98	46.9	.87	48.5	1.02
One	33.5	1.20	37.5	1.44	29.2	1.14	32.4	1.42	33.8	1.24	35.3	1.44
Two or more	37.0	1.37	39.7	1.31	29.6	1.28	27.0	1.19	22.7	1.20	28.6	1.21

<sup>1</sup> Preprimary children includes all 3- to 6-year-olds who are not yet in first grade.

<sup>2</sup> In 1993, respondents were asked about reading frequency in one of two versions. The percentages presented in this table are for all of the respondents who answered three or more times on either version of the questions.

<sup>3</sup> s.e. represents standard error

<sup>4</sup> Refers to visiting a library at least once in the past month.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1991 and 1993.

parents who were regularly taught songs or music (35 percent to 39 percent) and who had visited a library (26 percent to 32 percent).

**Mother's Education.** In 1993, whether children were read to or told a story regularly was related to their mother's level of education. Children whose mothers had completed at least a high school education or GED were more likely than children with less educated mothers to have been read to (81 percent v. 59 percent) or told stories regularly (42 percent v. 35 percent). Children of more educated mothers were also more likely to have frequently engaged in arts and crafts activities with a family member (34 percent v. 24 percent) or to have visited a library (43 percent v. 24 percent).

There was little change from 1991 to 1993 in the percentage of children who were a) read to, b) told a story, c) taught letters, words, or numbers, or d) taught songs or music for the group of children whose mothers had not completed high school. On the other hand, the percentage of these children who had engaged in arts and crafts activities declined over this period (30 percent to 24 percent) while the percentage who had visited a library increased (18 percent to 24 percent). For children of more educated mothers, the percentage who were regularly read to or told a story increased from 1991 to 1993 (74 percent to 81 percent and 37 percent to 42 percent, respectively).

**Mother's Home Language.** The language that children's mothers spoke in the home was associated with the rates of family-child interactions for most of the literacy activities studied here. Children whose mothers mainly spoke a language other than English in the home were less likely than children who lived in homes where English was the usual language to have been read to (46 percent v. 80 percent) or told a story (35 percent v. 41 percent). Also associated with the predominant use of English in the home were regular engagement in activities involving a) songs or music (38 percent v. 32 percent), b) arts and crafts (33 percent v. 24 percent), and c) visits to the library (41 percent v. 28 percent).

With a few exceptions, there were no changes between 1991 and 1993 in the percentages of children from homes in which the mother did not usually speak English who had regularly engaged in literacy activities with a family member. The exceptions were arts and crafts and library visits. The percentage of children who had engaged in arts and crafts activities declined over this period (34 percent to 24 percent) while the percentage who had

visited a library increased (20 percent to 28 percent). In homes where the mothers usually spoke English, a higher percentage of children were regularly read to or told a story in 1993 than in 1991 (from 74 percent to 80 percent and from 37 percent to 41 percent, respectively).

**Risk Factors.** Many of the risk factors found in table 1 often occur together (e.g., low maternal education and a household income below poverty). To examine the relationship between the number of risk factors children had and family-child interactions, the number of factors that were reported for a child were summed. About 48 percent of the children had no risk factors, 20 percent had one, and 32 percent had two or more.

Children with one and children with two or more risk factors were increasingly less likely than children with no risk factors to have had a family member read to them on a regular basis. About 86 percent of children with no risk factors were read to regularly. Having one risk factor lowers this to 80 percent, and with two or more risk factors the percentage falls to 64 percent. This pattern of decreasing participation as the number of risk factors increases was also present for library visitation (49 percent, 35 percent, and 29 percent, respectively).

Children with one or multiple risk factors were more likely to be regularly taught letters, words, or numbers (64 percent and 62 percent, respectively) than children with no risk factors (58 percent). Also, children with two or more risk factors were less likely than children with less than two risk factors to have engaged in arts and crafts activities with a family member on a regular basis—i.e., 27 percent as compared to 32 percent for children with one risk factor and 35 percent for children with no risk factors.

For a few of the literacy activities, the percentage of children with and without risk factors who had participated regularly with family members changed from 1991 to 1993. The percentages of children who were read to regularly increased for all three groups of children, those with no risk factors (81 percent to 86 percent), those with one factor (69 percent to 80 percent), and those with two or more factors (55 percent to 64 percent). The percentages of children with one or no risk factors who were told a story also increased over this two-year period (35 percent to 42 percent and 38 percent to 41 percent, respectively). Also, children with two or more risk factors were more likely to have visited a library in 1993 than they were in 1991 (29 percent v. 23 percent).

## Summary

In general, there was an increase from 1991 to 1993 in the number of preprimary children who regularly engaged in three of the five literacy activities with family members. Furthermore, in 1993 as compared to 1991, more children identified as being at-risk for school failure regularly participated in literacy activities with a family member. This increase may be attributed to heightened awareness resulting from local initiatives and national efforts directed toward encouraging parents to be their child's first teacher.

Nevertheless, there continues to be a disparity between children identified as being educationally at-risk and children who are not at-risk. Disparities in the types and frequency of family-child interactions may be the product of a variety of factors such as parental beliefs. Using data from the NHES:93, West et al. (1993) found that parental beliefs about what attributes and behaviors their children will need to succeed in kindergarten are associated with their educational attainment. The types

of literacy activities which parents engaged in with their children examined in this report correspond to the beliefs parents hold about what is necessary to enter kindergarten (see West et al. 1993). In that study, parents of preschoolers with lower levels of education were more likely to rate specific school-related skills and behaviors such as knowing the letters of the alphabet and numbers as essential for kindergarten entry compared with parents of preschoolers with higher levels of education.

Although there is an increase in the number of children who regularly engage in literacy activities with family members, the Goal One objective that every parent will be a child's first teacher and devote time each day helping his or her preschool child learn has yet to be attained. If the objective of Goal One is to be achieved, all parents will need to engage in activities which foster the joy of learning in their children.

# Methodology and Technical Notes

## Survey Methodology

The National Household Education Survey (NHES) is a random-digit-dial (RDD) telephone survey conducted by Westat, Inc. for the National Center for Education Statistics (NCES). It collects data on high priority topics on a rotating basis using computer-assisted telephone interviewing (CATI) technology. The sample is drawn from the civilian, noninstitutionalized population in households with telephones in the 50 states and the District of Columbia.

Data collection for the NHES:91 took place between January and May of 1991, and data collection for the NHES:93 took place between January and April of 1993. In both 1991 and 1993, a Screener interview was conducted with an adult member of the household and was used 1) to determine whether any children of the appropriate ages lived in the household, 2) to collect information on each household member, and 3) to identify the parent/guardian most knowledgeable about the care and education of each sampled child. In 1991 an interview was conducted for each eligible child, while in 1993 if more than two eligible children resided in a household, two children were randomly sampled as interview subjects.

The Early Childhood Education (ECE) component of the NHES:91 sampled 3- to 8-year-olds. The interview took either a preprimary path for children not yet enrolled in first grade, or a primary path for children enrolled in first grade or above. The School Readiness (SR) component of the NHES:93 sampled 3- to 7-year-olds and 8- and 9-year-olds enrolled in second grade or below. Since the samples for both the ECE and SR interviews were drawn from households with telephones, the estimates were adjusted using control totals from the Census Bureau's Current Population Survey (CPS) so that the totals were consistent with the total number of civilian, noninstitutionalized persons in all (telephone and nontelephone) households.<sup>4</sup>

## Response Rates

The NHES:91 completed screening interviews with 60,314 households, of which 10,317 contained at least one child eligible for the survey. The response rate for the Screener was 81 percent. The completion rate for the ECE interview was 94 percent, or 13,892 interviews (7,655 preprimary interviews and 6,237 primary interviews). Thus, the overall response rate for the ECE interview was 77 percent (the product of the Screener response rate and the ECE completion rate). This report

is based on the 3- to 6-year-olds not yet enrolled in first grade. The number of interviews included in this analysis is 7,639.

The NHES:93 completed screening interviews with 63,844 households, of which 9,936 contained at least one child eligible for the survey. The response rate for the Screener was 82 percent. The completion rate for the SR interview was 90 percent, or 10,888 interviews. Thus, the overall response rate for the SR interview was 74 percent. This report is based on a subset of the total SR sample: 3- to 6-year-olds not yet enrolled in first grade. The number of interviews included in this analysis is 6,568.

For the NHES:91, the item nonresponse (the failure to complete some items in an otherwise completed interview) was less than 2 percent for all of the items used in creating the risk factors in this report (except for income which has an item nonresponse rate of 13.3 percent). The missing responses to these items were imputed using a hot-deck procedure. For the literacy items, the item nonresponse was less than 1 percent. Nonresponse to these items was treated as missing data. This is equivalent to assuming equal distributions for both respondents and nonrespondents.

For the NHES:93, the item nonresponse was also less than 2 percent for the items used in creating the risk factors (except for income which has an item nonresponse rate of 7.1 percent) and less than 1 percent for the literacy items. However, in 1993 missing responses to all items were imputed using a hot-deck procedure.

## Data Reliability

Estimates produced using data from these surveys are subject to two types of error, sampling and nonsampling errors. Nonsampling errors are errors made in the collection and processing of data. Sampling errors occur because the data are collected from a sample rather than a census of the population.

**Nonsampling Errors.** Nonsampling error is the term used to describe variations in the estimates that may be caused by population coverage limitations and data collection, processing, and reporting procedures. The sources of nonsampling errors are typically problems like unit and item nonresponse, the differences in respondents' interpretations of the meaning of the 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 NHES:91 and NHES:93, efforts were made to prevent such errors from occurring and to compensate for them where possible. These efforts included the use of focus groups and cognitive laboratory interviews when designing the survey instruments, extensive testing of the CATI system, and a pretest with over 200 households.

An important nonsampling error for a telephone survey is the failure to include persons who do not live in households with telephones. About 90 percent of all 3- to 6-year-olds live in households with telephones. Estimation procedures were used to help reduce the bias in the estimates associated with children who do not live in telephone households.<sup>5</sup>

**Sampling Errors.** The samples of telephone households selected for the NHES:91 and NHES:93 are each just one of many possible samples that could have been selected. Therefore, estimates produced from these samples may differ from estimates that would have been produced from other samples. This type of variability is called sampling error because it arises from using a sample of households with telephones, rather than all households with telephones.

The standard error is a measure of the variability due to sampling when estimating a statistic. Standard errors for estimates presented in this report were computed using a Taylor Series approximation. Standard errors can be used as a measure of the precision expected from a particular sample. The probability that a complete census count would differ from the sample estimate by less than 1 standard error is about 68 percent. The chance that the difference would be less than 1.65 standard errors is about 90 percent; and that the difference would be less than 1.96 standard errors, about 95 percent.

The standard errors found in the tables can be used to produce confidence intervals. For example, an estimated 67.6 percent of children below the poverty threshold in 1993 were read to by a family member three or more times in the past week. This figure has an estimated standard error of 1.50. Therefore, the estimated 95 percent confidence interval for this statistic is approximately 64.7 to 70.5 percent.

### Statistical Tests

The significance of differences cited in this report for the percentage of children who have participated in literacy activities with a family member three or more times in the past week were tested using Student's *t* statistic. All the differences cited in this report are significant at

the 0.05 level of significance with a Bonferroni adjustment procedure used to correct the significance tests for multiple comparisons.

### Definitions of Risk Factors

**Poverty.** Children were classified as living above or below the poverty threshold using criteria for household size and income obtained from the Bureau of the Census and data from NHES on household income and the number of persons living in the household. In the NHES household income data are collected in broad categories. Therefore, it was not possible to use an exact poverty line. In this report, for both 1991 and 1993, households with a) 2 or 3 persons and annual income of \$10,000, b) 4 persons and annual income of \$15,000, c) 5 or 6 persons and annual income of \$20,000, d) 7 or 8 persons and annual income of \$25,000, and e) 9 or more and annual income of \$30,000 were considered below the poverty threshold.

**Race-Ethnicity.** Two NHES questions concerning children's race and ethnic backgrounds were combined to identify children's minority status. If a child was black, non-Hispanic or Hispanic (regardless of race), he or she was classified as being a member of a racial-ethnic minority.

**Family Type.** Children were classified as living in a family with less than two parents if they lived in a household with only one parent or a household with nonparent guardians or no parents. Between 1991 and 1993, there was an increase in the number of single parent and non-parent families. Data from the two years was compared by parent type, and the percent of children with a birth or adoptive mother, a step- or foster mother, or a step- or foster father residing in the household did not change. However, the percent of children with a birth or adoptive father residing in the household decreased from 1991 to 1993. Children with birth or adoptive fathers were compared by race-ethnicity, household income, and mother's education, and there were no significant differences between the 1991 and 1993 distributions.

**Mother's Education.** Children were identified as having a mother with a low maternal education if the highest grade or year of school their mother completed was less than 12th grade and if their mother did not earn a GED. If a child did not have a mother (birth, adoptive, step, or foster) residing in the household and if the respondent on the telephone was not a female, the child was not included in any analyses involving mother's education.

**Mother's Home Language.** Children were identified as having a mother whose home language was not English if the first language their mother learned to speak

was not English and if their mother did not speak English primarily at home. If a child did not have a mother (birth, adoptive, step, or foster) residing in the household and if the respondent on the telephone was not a female, the child was not included in any analyses involving mother's home language.

### Endnotes

<sup>1</sup> Preprimary children are defined as children between the ages of 3 and 6 years who are not yet enrolled in first grade.

<sup>2</sup> In the 1993 NHES, two question formats were used to ask respondents about the frequency they or other family members read to their child in the past week. One-half of the sample was asked a single question whereas the other half was asked a series of questions. Respondents to the series of questions were first asked if they had read to their child in the past week. An affirmative response was followed by a question on reading frequency. Multiple regression analyses were used to examine whether the question format used to query parents explained any of the variation in family-child reading taking into account the other factors that were related to the frequency of reported reading (e.g., race-ethnicity, mother's employment, family structure, home language). The findings of these analyses indicated that the question format that was used did not account for differences in reading frequency. Consequently, the data obtained from the two question formats were combined for the analyses performed in this report. In the 1991 NHES, household respondents were asked a series of questions similar to those asked of one-half of the 1993 NHES sample.

<sup>3</sup> When interpreting the significance of changes from 1991 to 1993, one must necessarily consider that the same question format was not used for asking *all* respondents how often they or other family members read to their child in the past week.

<sup>4</sup> Additional information pertaining to the ECE survey component is provided in the *NHES:91 Preprimary and Primary Data Files User's Manual* (Brick et al. 1992). Additional information pertaining to the SR survey component is provided in the *NHES:93 School Readiness Data Files User's Manual* (Brick et al. 1994).

<sup>5</sup> Additional information on nonresponse coverage issues and a detailed presentation of the results of the types of adjustments made for the NHES:91 field test appear in the report *Telephone Undercoverage Bias of 14- to 21-year-olds and 3- to 5-year-olds* (Brick and Burke 1992).

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