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# **Before- and After- School Care, Programs, and Activities of Children in Kindergarten Through Eighth Grade: 2001**

## **Statistical Analysis Report**

**April 2004**

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## Executive Summary

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### Background

Many children in the nation are cared for by parents before and after school each day. Other children spend time in various nonparental arrangements before and after school, either because their parents choose or are obliged to work during these hours or because the children are participating in programs or activities geared toward their enrichment or enjoyment. Some children stay with one relative before and after school, or different relatives on different days, while others are cared for by people not related to them, such as neighbors, regular sitters, or family day care providers. Many children participate in center- or school-based programs before and after school, while other children participate in before- or after-school activities such as sports, clubs, or community service. Still other children are responsible for themselves before and after school, some for a few minutes at a time, others for several hours.

Surveys conducted in the 1990s found that while most children in kindergarten through eighth grade are in school during most of the hours when their mothers work (Smith 2000; Casper, Hawkins, and O'Connell 1994), many types of nonparental arrangements are utilized by parents of school-age children during time before and after school. Approximately 39 percent of all children in kindergarten through third grade in 1995 received some form of nonparental care before and after school, spending an average of 14 hours per week in such care, and most received care in a private home from a relative (Brimhall, Reaney, and West 1999). Employed parents often depended on multiple arrangements to provide supervision for their children (Hofferth et al. 1991), possibly including self-care. In 1991, 8 percent of 5- to 14-year olds with working mothers were in self-care (Casper, Hawkins, and O'Connell 1994). There is evidence that factors such as a child's age, race/ethnicity, family income, and parent education level have all been found to be related to

children's participation in various types of before- and after-school arrangements.

This report presents findings from a national survey of families with children in kindergarten through eighth grade, the 2001 Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (ASPA-NHES:2001). This nationally representative study was conducted for the National Center for Education Statistics (NCES) of the U.S. Department of Education. Households were sampled using random-digit-dialing (RDD) methods. Interviews were completed with parents of 9,583 children attending kindergarten through eighth grade. Computer-assisted telephone interviewing (CATI) technology was used to conduct the interviews.

The survey asked parents about nonparental arrangements in which children participated before and after school during the school year, including care by relatives and people not related to the child; center- or school-based programs; scouting, sports, and other extracurricular activities; and self-care. These arrangements may be used primarily for the purposes of providing adult supervision for children or primarily for children's enrichment. Information was also collected about the characteristics of arrangements, parents' preferred types of after-school arrangements, and parents' ratings of aspects of their children's arrangements. An extensive array of household and family characteristic data was also collected.

This report provides various types of analyses based on data from the NHES:2001 Before- and After-School Programs and Activities Survey, including the extent of children's participation in nonparental arrangements during out-of-school hours and details the characteristics of participants and nonparticipants in these arrangements. All of the estimates presented in this report are based on data that were weighted to produce unbiased and consistent estimates of the

national totals. To test the differences between estimates, Student's *t* statistic was employed. All differences cited in the report are statistically significant at the 0.05 level of significance.

eighth-grade children were in the care of a nonrelative (6 percent) or in extracurricular activities used for supervision (7 percent) after school. Survey findings indicate that

### Key Findings

Overall, 20 percent of children in kindergarten through eighth grade had regularly scheduled nonparental arrangements before school in 2001 (table A), and 50 percent had nonparental arrangements after school. The three most common after-school arrangements for children were center- or school-based programs (19 percent), relative care (17 percent), and self-care (13 percent). Fewer kindergarten through

- Overall, children who had regular weekly scheduled arrangements (before and/or after school) spent on average 10.4 hours per week in them, or about 2 hours per day (not shown in tables). Children with regular weekly scheduled before-school arrangements spent on average 4.7 hours per week in them, and children with after-school arrangements spent on average 9.0 hours per week in them (table B).

Table A. Percent of kindergarten through eighth-grade children participating in various before- and/or after-school arrangements (scheduled at least monthly): 2001

Characteristic	Before-school		After-school	
	Percent	s.e.	Percent	s.e.
Any arrangements.....	20	0.5	50	0.6
Relative care.....	7	0.4	17	0.5
Nonrelative care.....	3	0.3	6	0.3
Center- or school-based program.....	4	0.3	19	0.5
Activities used for supervision.....	1	0.1	7	0.4
Self-care.....	6	0.3	13	0.4
Parental care only.....	80	0.5	50	0.6

NOTE: s.e. is standard error. Home-schooled children are excluded. Includes arrangements regularly scheduled at least once per month. Detail does not sum to totals due to multiple response—children who had more than one type of arrangement are reported under each type.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

Table B. Mean number of hours per week kindergarten through eighth-grade children spent in before- and/or after-school arrangements (scheduled at least weekly): 2001

Characteristic	All arrangements		Types of arrangements									
			Relative care		Nonrelative care		Center- or school-based programs		Activities used for supervision		Self-care	
	Estimate	s.e.	Estimate	s.e.	Estimate	s.e.	Estimate	s.e.	Estimate	s.e.	Estimate	s.e.
Total number of children in before-school arrangements (thousands)....	7,086	184	2,566	129	1,133	95	1,324	93	267	38	2,246	103
Mean before-school hours ....	4.7	0.1	5.0	0.2	5.5	0.3	4.5	0.2	2.2	0.2	3.5	0.1
Total number of children in after-school arrangements (thousands).....	17,650	207	5,882	178	2,243	106	6,433	180	2,615	148	4,591	125
Mean after-school hours .....	9.0	0.2	9.7	0.3	9.5	0.3	7.5	0.1	4.2	0.1	4.8	0.1

NOTE: s.e. is standard error. Home-schooled children are excluded. May include hours after 6:00 p.m. Includes arrangements regularly scheduled at least once each week. Due to multiple response, children who had more than one type of arrangement are reported under each type.

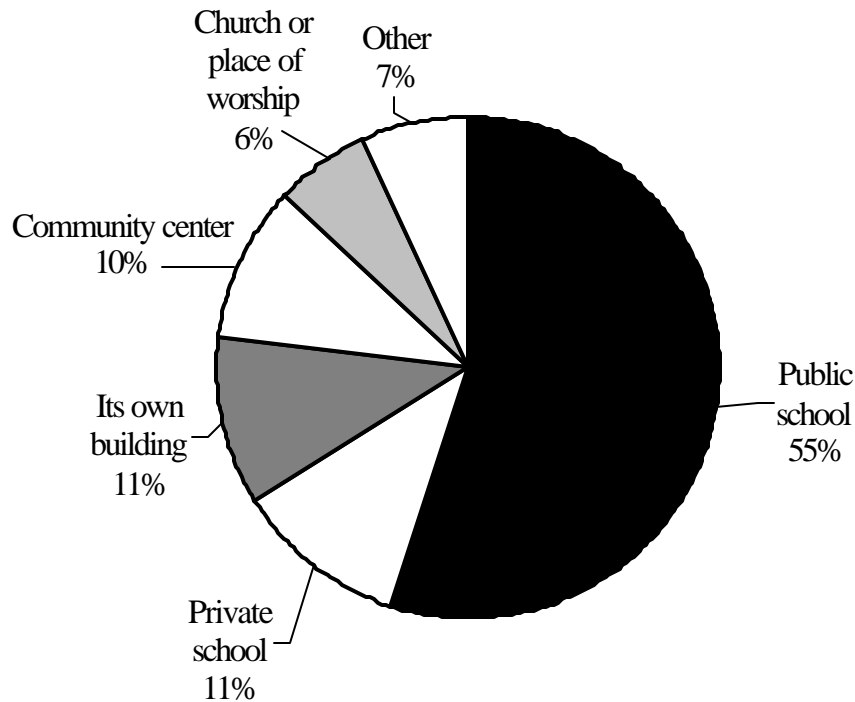
SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

- Of those children who had at least some nonparental arrangements before and/or after school, almost one-third were in more than one regularly scheduled arrangement (figure 1 and table 3).
- Generally, younger children (in kindergarten through fifth grade) were more likely than older children (in sixth through eighth grade) to be in the care of a relative, in the care of a nonrelative, or in a center- or school-based program before and after school, and were less likely than older children to care for themselves during out-of-school time (tables 1 and 2).
- Differences existed across racial/ethnic groups: Black, non-Hispanic children were more likely than White, non-Hispanic and Hispanic children to be cared for by a relative and to be in self-care both before and after school. They were also more likely to participate in center- or school-based programs after school (tables 1 and 2).
- Two characteristics that were consistently related to nonparental arrangements were family type and mother's employment status. Generally, single-parent households and households where mothers worked full time were more likely to have nonparental arrangements for their children before and after school (tables 1 and 2).

The survey also provided data on the characteristics of the nonparental arrangements of kindergarten through eighth graders in 2001, including children's activities within their arrangements, the location and cost of arrangements, characteristics of relative and nonrelative care providers, and the number of children and adults present in different arrangement types. Survey findings indicate that

- In general, according to parents' reports, many children were engaged in education-related activities (such as homework) in all types of after-school arrangements (table 5). Many were also spending time in activities such as watching television, playing video games, and listening to music within their relative care, nonrelative care, and self-care arrangements after school.
- Children in relative care were more likely to be cared for in their own homes than children in nonrelative care (figure 2), and children in self-care after school were very likely to spend at least some of this time in their own homes rather than other places, such as other homes, public places, community centers, schools, or outdoors (figure 4). The majority of center- or school-based arrangements in which children participated were located in public schools (figure A).

Figure A. Percent of kindergarten through eighth-grade children attending before- and/or after-school center- or school-based programs (scheduled at least monthly) in various locations: 2001



NOTE: Standard errors are as follows: public school, 1.4; private school, 0.8; its own building, 1.0; community center, 0.9; church or place of worship, 0.7; other, 0.8. If more than one center- or school-based program was reported, only the one with the most hours is represented. Includes arrangements regularly scheduled at least once each month. Home-schooled children are excluded.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

- Many relative care providers were grandmothers of the children (52 percent) (figure 6), but 21 percent of relative care providers were siblings. Most children who had sibling care providers were cared for by brothers or sisters in their teens or older (86 percent); however, 14 percent were cared for by siblings between the ages of 10 and 12 (figure 7). Overall, 0.5 percent of all children were cared for by siblings between the ages of 10 and 12 (not shown in tables).
- With respect to cost, parents of 19 percent of children in relative care reported a fee (paid either by them or some other person or agency) for their children's relative care arrangements, while parents of 72 percent of children in nonrelative care reported a fee for their nonrelative care (table 7). Parents of 58 percent of children in a center- or

school-based program reported a fee. On average, for those children whose arrangements required a fee, parents paid \$5.60 per hour for relative care, \$7.90 per hour for nonrelative care, and \$5.60 per hour for center- or school-based programs.

This report presents a broad view of the out-of-school time of kindergarten through eighth-grade children in the nation in 2001. Results suggest that children's experiences before and after school were quite varied. Many children simply were in the care of their parents, while others were in one or more nonparental arrangements during at least some of their out-of-school time on school days. The variability in children's experiences in nonparental arrangements reflects how parents from different backgrounds managed the demands and contingencies of work, the availability of different types of arrangements, the cost and location of arrangements, and other factors.

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## 1. INTRODUCTION

Many children in the nation are cared for by parents before and after school each day. Other children spend time in various nonparental arrangements before and after school, either because their parents choose or are obliged to work during these hours, or because the children are participating in programs or activities geared toward their enrichment or enjoyment. Some children stay with one relative before and after school, or different relatives on different days, while others are cared for by people not related to them, such as neighbors, regular sitters, or family day care providers. Many children participate in center- or school-based programs, while other children participate in before- and after-school activities such as sports, clubs, or community service. Still other children are responsible for themselves, some for a few minutes at a time, others for several hours.

As outlined by Seppanen et al. (1993), two decades of societal trends have influenced the need for increased before- and after-school nonparental care. Two of these trends are the increased number of women in the labor force and the increase in single-parent families (see also Hofferth et al. 1991). In 2000, both parents were employed in 64 percent of two-parent families with children under age 18. Among families with children ages 6 to 17, 75 percent of the mothers were employed. In addition, 79 percent of single mothers were employed—a figure that has increased about 11 percentage points since 1994 (U.S. Bureau of Labor Statistics 2001).

This report presents findings from a national survey of families with school-age children: the 2001 Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (ASPA-NHES:2001). It provides data on the extent of children's participation in nonparental arrangements during out-of-school hours. Before- and after-school arrangements consist of a broad array of alternatives that vary tremendously in scope, purpose, structure, and quality of programming—both between and within arrangement types. In the ASPA-NHES:2001, five arrangement types were studied: relative care, nonrelative care, center- or school-based programs, before- and after-school activities, and self-care. These five arrangement types cover most, if not all, of the kinds of nonparental arrangements in which school-age children usually participate before and after school.

Relative care includes grandparents, siblings, aunts, uncles, and other relatives as caregivers. Relative care takes place in the child's home or another home. Nonrelative care includes care by family child care providers, neighbors, regular sitters, and other people not related to the child. This care too

may be provided in the child's home or another home. Center- or school-based programs encompass supervised and organized activities in a nonresidential setting, such as the child's school or a community center. Programs may be used by parents for the care and/or enrichment of their children. Before- and after-school activities are defined as activities within organized settings that children attend on weekdays outside of school hours that are not part of a before- or after-school program. As with programs, these activities may be used by parents to cover hours when they need adult supervision for their children, or they may represent opportunities for enrichment or physical exercise. Activities include organized sports, music lessons, scouts, and religious education. Finally, self-care comprises times when a child is responsible for himself or herself, without a parent or other adult available for supervision.

Many school-age children participate in more than one arrangement over the course of a week or even in a day. This report describes the extent to which parents have pieced together multiple arrangements so that their children may be cared for during the before- and after-school hours. Finally, the report includes details about child and family characteristics associated with participation, as well as characteristics of the care arrangements, programs, and activities in which children participate.

## **1.1 Previous Research**

Surveys conducted in the 1990s found that while most children in kindergarten through eighth grade are in school during most of the hours when their mothers work (Smith 2000; Casper, Hawkins, and O'Connell 1994), many types of nonparental arrangements are utilized by parents of school-age children during the out-of-school hours.<sup>1</sup> Approximately 39 percent of all children in kindergarten through third grade in 1995 received some form of nonparental care before and after school, spending an average of 14 hours per week in such care, and most received care in a private home from a relative (Brimhall, Reaney, and West 1999). Employed parents often depended on multiple arrangements to provide supervision for their children (Hofferth et al. 1991), possibly including self-care. In 1991, 8 percent of 5- to 14-year olds with working mothers were in self-care (Casper, Hawkins, and O'Connell 1994). However, estimates of self-care can vary depending on the age- or grade-range considered and the time frame under consideration (Brimhall, Reaney, and West 1999). A continuing concern of researchers has been the potential underreporting by parents of the use of self-care, especially for younger children.

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<sup>1</sup> In this report, before- and after-school time will also be referred to as "out-of-school time."



### **1.1.1 Demographic Variation in Participation**

There is evidence that participation in before- and after-school arrangements varies as a function of child and family characteristics. Specifically, factors such as a child's age, race/ethnicity, family income, and parent education level have all been found to be related to children's participation in various types of out-of-school arrangements. For example, race/ethnicity is a factor in the utilization of nonparental out-of-school arrangements. Black, non-Hispanic children in kindergarten through third grade were found to be more likely to receive nonparental after-school care than children of any other race or ethnicity. Black, non-Hispanic and Hispanic children were more likely than White, non-Hispanic children to be in relative care and were less likely to be in nonrelative care (Brimhall, Reaney, and West 1999).<sup>2</sup> Children's participation in center- or school-based programs after school increased with household income and mother's education. Also, those children living in single-parent homes or who had mothers who were employed full time were more likely to participate in after-school arrangements than children who lived with two parents or whose mothers were not in the labor force (Brimhall, Reaney, and West 1999).

The amount of time spent in after-school arrangements was also related to child and family characteristics. Specifically, children who were members of a racial/ethnic minority subgroup, who lived with a single parent, or who had mothers who were employed full time were more likely to spend a greater number of hours in nonparental care than children who lived with two parents, who were White, or whose mothers worked part time or were not employed (Brimhall, Reaney, and West 1999).

Other studies have addressed the characteristics of families and children that depend upon a self-care arrangement, although the findings are varied and somewhat inconsistent. Some research has indicated that self-care arrangements were more prevalent in higher income families (Posner and Vandell 1994; Todd, Albrecht, and Coleman 1990; Vandell and Ramanan 1991), White families (Brandon 1999; Posner and Vandell 1994; Todd, Albrecht, and Coleman 1990), and families that included more highly educated parents (Todd, Albrecht, and Coleman 1990). However, other evidence (Pettit et al. 1997) found that lower socioeconomic status children were more likely than their more economically advantaged peers to be in self-care. Children's likelihood of being in self-care also increased as mothers' hours of employment increased (Brandon 1999; Casper, Hawkins, and O'Connell 1994; Todd, Albrecht, and Coleman 1990). Other family characteristics associated with higher levels of self-care included

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<sup>2</sup> For ease of presentation, in the remainder of the report, race/ethnicity backgrounds will be referred to as White, Black, or Hispanic.

having a single parent (Todd, Albrecht, and Coleman 1990) and living in the suburbs (Casper, Hawkins and O'Connell 1994). The likelihood of being in self-care also increased with children's age (Smith 2000; Casper, Hawkins, and O'Connell 1994; Todd, Albrecht, and Coleman 1990).

The 1994 Survey of Income and Program Participation showed that participation in extracurricular activities (both weekday and weekend) was associated with several child and family characteristics, including children's age, sex, and race, and parents' marital status, income, and employment status. Specifically, older children were more likely to participate in sports activities than younger children, while younger children were more likely to participate in lessons than older children. Girls were more likely than boys to participate in clubs and lessons, while boys were more likely to be involved in sports activities than girls (Fields et al. 2001). Activity rates for sports, clubs, and lessons were higher among White children than either Black or Hispanic children. Children living in more economically advantaged households were more likely to participate in extracurricular activities (Hofferth et al. 1991; Fields et al. 2001). In addition, participation was consistently higher across all three types of activities for children in married-couple families. Finally, children's participation was higher when their parents were employed than when one or more parents did not work.

### **1.1.2 Characteristics of Before- and After-School Arrangements**

Just as there are numerous types of before- and after-school programs and activities, the characteristics of such programs vary widely in their content and quality, both within and between program types. Different programs are designed to provide such diverse services or functions as academic work, cultural enrichment, safe places for children to stay, and adult supervision for children. Findings from the National Study of Before- and After-School Programs conducted in 1991 provide some insight into the variability of such programs. About 75 percent of programs responded that providing adult supervision and a safe environment was their primary purpose (Seppanen et al. 1993). Children's activities included socializing, free time, board/card games, reading, homework, physically active play, block building, and arts and crafts. About half (51 percent) of the programs reported providing more different activities for children in the fourth grade and above than for children in earlier grades. Programs also reported that the child-to-staff ratio ranged from 4 to 25 children for every staff member. In addition, program location varied in 1991: about 35 percent of after-school programs were housed in child care centers, 28 percent were in public schools, 19 percent were in religious institutions or schools, and 18 percent were in other locations.

More recently, in a study of federally supported 21st Century Learning Centers, Dynarski et al. (2003) found that 69 percent of the middle school programs reported improving academic performance as a major objective.<sup>3</sup> Fifty-six percent indicated that a major objective was to provide recreational opportunities, and 56 percent said that a major objective was providing a safe environment for children after school. The top three major objectives reported by the elementary school 21st Century Learning Centers were improving academic performance (83 percent), providing a safe environment for children after school (44 percent), and helping children to develop socially (39 percent).

Research has also provided insight into the costs of before- and after-school arrangements to families. According to data from the Survey of Income and Program Participation (SIPP), in 1995, of the 41 percent of employed mothers (married or unmarried) of school-age children who paid for child care, 7 percent of their family's income went toward such care. In addition, child care costs consumed a larger share of the budgets of poor women who paid for care (Smith 2000). Other data showed that families pay less for relative care than for center- or school-based care. Families with higher incomes or with mothers employed full time also had higher care costs, but no differences were detected in the cost of care by race/ethnicity or family type (Brimhall, Reaney, and West 1999).

## **1.2 Data Source and Indicators**

This report is based on data from the 2001 administration of the National Household Education Surveys Program (NHES). The NHES:2001 was conducted by Westat for the National Center for Education Statistics (NCES) of the U.S. Department of Education. The NHES periodically gathers descriptive data to learn about the educational activities of families and their children in the United States that cannot be studied through school or other institution-based studies. Households were sampled using random-digit-dialing (RDD) methods and interviews were conducted using computer-assisted telephone interviewing (CATI) technology. For the NHES:2001 Before- and After-School Programs and Activities Survey, data were collected from January through mid-April of 2001 on a nationally representative sample of 9,583 children attending kindergarten through grade 8.

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<sup>3</sup> The middle school programs in the Dynarski study were only those receiving 21<sup>st</sup> Century Learning Center funding and may not reflect the objectives of most middle school programs.

The survey asked parents about nonparental arrangements in which their children participated during before- and after-school hours. This includes any care they received from relatives and people not related to the child; center- or school-based programs; scouting, sports, and other extracurricular activities, and self-care. Arrangements could have been used primarily for the purposes of having adult supervision for children or primarily for children's enrichment. Information was also collected about children's enrichment activities, their activities within care arrangements and programs, parents' preferred types of after-school arrangements, and parents' ratings of different aspects of their children's arrangements. For each arrangement reported, parents were asked whether it was regularly scheduled at least once each week or, if not, at least once each month. An extensive array of household and family characteristic data was also collected.

### **1.3 Overview of the Report**

The remainder of this report presents details of children's participation in various before- and after-school arrangements. It begins with the types of arrangements and the amount of time children spent in their arrangements. This is followed by a description of the characteristics of the before- and after-school arrangements in which children participated. Chapter 2 presents findings on overall participation rates in various types of before- and after-school arrangements, as well as the child, family, and community characteristics associated with participation. The average number of hours children spent in before- and after-school arrangements is presented, as is the extent to which families relied upon multiple arrangements to meet their children's needs for care and/or enrichment.

Chapter 3 addresses the features of various arrangements in which children spent their time before and after school, including the activities, locations of arrangements, child-to-adult ratios, characteristics of relative and nonrelative care providers, and the costs of arrangements to parents. A summary of the findings and conclusions are presented in Chapter 4. The appendix describes the survey methodology, including response rates, weighting, and sampling and nonsampling errors.

## **2. PARTICIPATION IN BEFORE- AND AFTER-SCHOOL CARE, PROGRAMS, AND ACTIVITIES**

The state of children's before- and after-school time in the nation is complex and varied. Although many parents rely on a single arrangement for their children during out-of-school time, many others piece together patchworks of arrangements that meet the contingencies of time, convenience, availability, cost, and other factors. For example, a child may spend several days each week with a grandmother before school and participate several days each week in a center- or school-based program after school.

The picture is further complicated by the fact that the amount of time children spend in nonparental arrangements during out-of-school time varies widely. Depending on parents' work schedules and other factors, children may spend from several minutes to many hours each week in various before- and after-school arrangements.

In the ASPA-NHES:2001, parents were asked questions about the extent of their children's participation in a variety of arrangements. This chapter presents findings on participation rates during 2001 in relative care, nonrelative care, center- or school-based programs, before- and after-school activities used to cover hours when parents needed adult supervision for their children, and self-care. A note of explanation about the latter two arrangement types is in order. Parents were asked about the before- and after-school activities of their children, defined in the survey as "...activities that (CHILD'S NAME) might do on weekdays outside of school hours that are not part of a before- or after-school program." Activities included arts, sports, clubs, academic activities, community service, religious activities, and scouts. To ascertain whether such activities were serving as type of nonparental arrangement, parents of children who participated in any before- or after-school activities were asked in the survey whether that participation helped to cover the hours when the parent needed adult supervision for the child. For this report, only activities that were reported by parents as helping to cover hours when they needed adult supervision for their children were counted as nonparental arrangements.

Although not in the care of an adult, self-care children are also in a nonparental arrangement. Qualitative research conducted during the design of the survey revealed that parents thought of self-care as a kind of arrangement (Nolin et al. 2002); typically they allowed children of a certain age or maturity to leave other kinds of care arrangements and be responsible for themselves while parents were at work or school. Thus, the survey also regarded self-care as an arrangement. It should also be kept in mind that due to social desirability issues, some parents may have underreported their use of self-care, especially for

younger children. To reduce the potential of underreporting of self-care, rather than asking parents if their children cared for themselves, parents were asked whether they allowed their children to “be responsible for themselves” before or after school.

This chapter also includes discussion of the prevalence of multiple arrangements, as well as participation viewed with respect to the average number of hours spent per week in the various arrangements. Findings are examined by child, family, and community characteristics, including children’s grade, sex,<sup>4</sup> race/ethnicity, number of parents in the household, parents’ language spoken most at home, parents’ highest level of education, mother’s employment status, household income, and urbanicity (community type).<sup>5</sup>

## **2.1 Participation in Before-School Arrangements**

Although there is a growing body of research concerning children’s after-school arrangements, less is known about how children spend their time before school. Some parents who work make arrangements with others to care for their children or leave their children by themselves in the morning. Findings from the NHES indicate that 80 percent of children did not have (or need) before-school arrangements and presumably were in the care of a parent before leaving for school (table 1). A smaller percentage of children in kindergarten through eighth grade (20 percent) participated in some form of regularly scheduled nonparental arrangements (either weekly or monthly) before school in 2001. Seven percent of children were cared for by a relative before school, 3 percent were cared for by a nonrelative, and 4 percent participated in a center- or school-based program. One percent participated in before-school activities, and 6 percent of children were in self-care before school.<sup>6</sup>

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<sup>4</sup> While results by children’s sex are included in the tables, they are not treated in the chapter, because no significant differences were detected for any measures according to the sex of children.

<sup>5</sup> Urbanicity is a derived variable that categorizes the subject’s ZIP Code as urban inside urbanized area, urban outside urbanized area, or rural. The definitions for these categories were taken directly from the 1990 Census of Population (U.S. Department of Commerce 1992). An urbanized area (UA) comprises a place and the adjacent densely settled surrounding territory that together have a minimum population of 50,000 people. The second category, urban, outside urbanized area, includes incorporated or unincorporated places outside of a UA with a minimum population of 2,500 people. Places not classified as urban are rural.

<sup>6</sup> Children could have been in more than one arrangement type and are reported under each type. Before-school activities were only included in the percentages given in table 1 if respondents said that the activities were used to cover hours when they needed adult supervision for their children.

Table 1. Percent of kindergarten through eighth-grade children participating in various before-school arrangements (scheduled at least monthly), by child, family, and community characteristics: 2001

Characteristic	Number of children (thousands)	Parental care only before school		Any arrangement before school		Types of arrangements									
						Relative care		Nonrelative care		Center- or school-based programs		Activities used for supervision		Self-care	
		Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
Total .....	35,743	80	0.5	20	0.5	7	0.4	3	0.3	4	0.3	1	0.1	6	0.3
<b>Child's grade</b>															
K-2 .....	11,778	80	0.9	20	0.9	9	0.8	5	0.6	6	0.5	#	0.1	1	0.3
3-5 .....	12,343	81	0.9	19	0.9	7	0.6	4	0.5	4	0.5	1	0.2	4	0.5
6-8 .....	11,622	78	0.7	22	0.7	5	0.4	1	0.2	2	0.2	1	0.2	14	0.5
<b>Child's sex</b>															
Male .....	18,342	80	0.8	20	0.8	8	0.6	3	0.3	4	0.4	1	0.1	6	0.4
Female .....	17,401	79	0.8	21	0.8	7	0.5	3	0.4	4	0.4	1	0.1	7	0.4
<b>Child's race/ethnicity</b>															
White, non-Hispanic .....	22,144	82	0.7	18	0.7	6	0.5	3	0.4	4	0.3	1	0.1	5	0.3
Black, non-Hispanic .....	5,822	70	1.7	30	1.7	12	1.2	3	0.6	4	0.5	1	0.3	13	1.1
Hispanic .....	5,686	80	1.2	20	1.2	8	0.8	3	0.6	3	0.6	1	0.2	7	0.7
Other .....	2,091	79	2.2	21	2.2	8	1.4	2	0.7	5	1.3	1	0.5	7	1.3
<b>Family type</b>															
Two parents .....	24,809	84	0.6	16	0.6	5	0.3	3	0.3	4	0.3	1	0.1	5	0.3
One parent .....	9,924	70	1.3	30	1.3	13	0.9	4	0.5	4	0.6	1	0.2	10	0.7
Nonparent guardian(s) .....	1,010	67	2.8	33	2.8	17	2.6	2	1.0	1	0.7	1	0.9	13	2.0
<b>Parents' language spoken most at home</b>															
Both/only parent(s) speaks English .....	32,606	79	0.5	21	0.5	7	0.4	3	0.3	4	0.3	1	0.1	7	0.3
One of two parents speaks non-English language .....	636	77	4.3	23	4.3	7	2.1	3	1.5	7	3.2	0	†	10	3.3
Both/only parent(s) speaks non-English language .....	2,502	86	1.7	14	1.7	6	0.9	2	0.6	1	0.4	1	0.4	5	0.9
<b>Parents' highest level of education</b>															
Less than high school .....	3,193	80	1.9	20	1.9	9	1.4	2	0.5	1	0.6	#	0.1	10	1.4
High school diploma or equivalent .....	10,353	75	1.0	25	1.0	10	0.8	3	0.4	3	0.4	1	0.2	9	0.7
Vocational education or some college .....	10,492	79	1.0	21	1.0	8	0.7	4	0.6	4	0.5	#	0.1	6	0.5
College graduate .....	6,392	84	1.2	16	1.2	4	0.6	3	0.6	5	0.7	1	0.3	4	0.4
Graduate or professional school .....	5,312	85	1.1	15	1.1	3	0.6	3	0.6	5	0.8	1	0.2	3	0.4
<b>Mother's employment status<sup>1</sup></b>															
Works 35 or more hours per week .....	16,067	69	1.0	31	1.0	12	0.7	5	0.5	6	0.5	1	0.2	9	0.5
Works less than 35 hours per week .....	7,459	88	0.9	12	0.9	3	0.5	2	0.4	2	0.4	1	0.1	4	0.5
Not employed .....	10,952	91	0.8	9	0.8	3	0.4	1	0.2	1	0.2	1	0.2	4	0.5
<b>Household income</b>															
\$25,000 or less .....	10,671	76	1.1	24	1.1	10	0.9	3	0.5	3	0.4	1	0.2	9	0.8
\$25,001-\$50,000 .....	9,542	80	0.9	20	0.9	8	0.6	3	0.5	3	0.4	#	0.1	7	0.5
\$50,001-\$75,000 .....	7,608	83	1.0	17	1.0	6	0.6	3	0.5	5	0.5	1	0.2	4	0.4
More than \$75,000 .....	7,922	82	1.0	18	1.0	5	0.5	4	0.6	6	0.7	1	0.2	4	0.4
<b>Urbanicity</b>															
Urban, inside urbanized area .....	22,673	80	0.6	20	0.6	7	0.4	3	0.3	4	0.3	1	0.1	7	0.4
Urban, outside urbanized area .....	4,465	78	1.7	22	1.7	9	1.0	3	0.7	3	0.7	#	0.2	7	1.0
Rural .....	8,605	80	1.2	20	1.2	8	0.9	4	0.6	3	0.5	1	0.2	5	0.5

<sup>1</sup> Only includes children who had a mother in the household. "Not employed" includes both mothers who were seeking work but unemployed and mothers not in the labor force.

† Not applicable. Estimates of standard error is not derived because it is based on a statistic estimated at 0 percent.

# Rounds to zero.

NOTE: s.e. is standard error. Home-schooled children are excluded. Types of arrangements include those regularly scheduled at least once a month, except for "activities used for supervision," which are included if they occurred at least once each week. Detail may not sum to totals because of rounding and multiple response—children who had more than one type of arrangement are reported under each type.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

In general, before-school participation in nonrelative care, center- or school-based programs, and activities used for supervision varied little by the child, family, and community characteristics presented in this report. However, there was variation by these characteristics with respect to overall use of nonparental arrangements, relative care, and self-care before school.

### **2.1.1 Before-School Arrangements by Child Characteristics**

**Before-school arrangements by grade.** With the exception of self-care, sixth through eighth graders were less likely than kindergarten through second graders and third through fifth graders to participate in nonparental arrangements before school; sixth through eighth graders were less likely than kindergarten through second graders and third through fifth graders to be cared for by a relative (5 percent vs. 9 and 7 percent), a nonrelative (1 percent vs. 5 and 4 percent), and to participate in a center- or school-based program before school (2 percent vs. 6 and 4 percent). Sixth through eighth graders were more likely than kindergarten through second and third through fifth graders to be in self-care before school (14 percent vs. 1 and 4 percent). (Further, kindergarten through second graders were less likely than third through fifth graders to be in self-care before school.)

**Before-school arrangements by race/ethnicity.** There were few differences detected in children's before-school arrangements by race/ethnicity. Overall, Black children were more likely than White children, Hispanic children, and children of other racial/ethnic backgrounds to have nonparental arrangements before school (30 percent vs. 18, 20, and 21 percent, respectively). Black children were more likely than White and Hispanic children to be cared for by a relative before school (12 percent vs. 6 and 8 percent). Black children were also more likely than White children, Hispanic children, and children of other racial/ethnic backgrounds to be in self-care before school (13 percent vs. 5 to 7 percent).

### **2.1.2 Before-School Arrangements by Family Characteristics**

**Before-school arrangements by family type.** Children in households with two parents were less likely than those in households with one parent or with nonparent guardians<sup>7</sup> to have before-school arrangements. Indeed, 16 percent of children in two-parent households had nonparental arrangements

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<sup>7</sup> Children living with persons other than birth, adoptive, step, or foster mothers and fathers, such as grandparents, aunts, or uncles, were classified as living with nonparent guardians.



before school, compared with 30 percent for one-parent households and 33 percent for nonparent guardian households. Children in two-parent households were less likely than children in one-parent households and nonparent guardian households to be in relative care (5 percent vs. 13 and 17 percent) and self-care (5 percent vs. 10 and 13 percent) before school. Children in one- and two-parent households were more likely than those in nonparent guardian households to participate in a center- or school-based program before school (4 percent and 4 percent vs. 1 percent).

**Before-school arrangements by parents' language spoken most at home.** Children whose parents spoke mainly English at home were more likely than children whose parents spoke mainly a non-English language at home to have before-school arrangements (21 percent vs. 14 percent), and to participate in a center- or school-based program (4 percent vs. 1 percent).

**Before-school arrangements by parents' highest level of education.** Children whose parents had only a high school credential, or vocational education or some college education but not a degree were more likely than children whose parents had a college degree or graduate education to have any before-school arrangements. Children whose parents had at least some graduate education were less likely than children whose parents had a high school credential or less to be in the care of a relative and to be in self-care. Children whose parents had less than a high school education were less likely than those whose parents had a vocational education, a college degree, or graduate education to be in a center- or school-based program before school.

**Before-school arrangements by mother's employment status.** Children of mothers who worked full time (35 or more hours per week) were more likely to have before-school arrangements than children of mothers who worked part time (less than 35 hours) or who were not employed<sup>8</sup> (31 percent vs. 12 and 9 percent). Children of full-time working mothers were more likely than children of part-time and unemployed mothers to be in the care of a relative (12 percent vs. 3 and 3 percent), a nonrelative (5 percent vs. 2 and 1 percent), in a center- or school-based program (6 percent vs. 2 and 1 percent), and in self-care (9 percent vs. 4 and 4 percent) before school.

**Before-school arrangements by household income.** Overall, children from households with an annual income of \$25,000 or less were more likely than all other children to have arrangements before school (24 percent vs. 20, 17, and 18 percent). Further, low-to-moderate household income was

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<sup>8</sup> "Not employed" includes mothers who were seeking work but were unemployed, as well as mothers who were not in the labor force.

associated with greater use of relative care and self-care, whereas higher income was associated with greater use of center- or school-based programs. Specifically, children from households with incomes of \$25,000 or less and between \$25,001 and \$50,000 were more likely than children from households with incomes between \$50,001 and \$75,000 and over \$75,000 to be in relative care (10 percent and 8 percent vs. 6 and 5 percent), and self-care (9 and 7 percent vs. 4 and 4 percent) before school. The opposite was true with respect to center- or school-based programs: children from lower income households were less likely than children from higher income households to be in a center- or school-based program before school (3 and 3 percent vs. 5 and 6 percent).

## **2.2 Participation in After-School Arrangements**

Respondents were asked whether they had arrangements regularly scheduled either weekly or monthly for their children after school. Overall, more children had arrangements after-school than before-school: 50 percent of children in kindergarten through eighth grade were reported to be in after-school arrangements in 2001 (tables 1 and 2). Specifically, 17 percent of children were cared for by a relative, 6 percent were in the care of a nonrelative, and 19 percent participated in a center- or school-based program after school. Seven percent of children participated in after-school activities used to cover time when parents needed adult supervision for them, and 13 percent of children were in self-care after school.

### **2.2.1 After-School Arrangements by Child Characteristics**

Use of the various types of after-school arrangements was more varied by child and family characteristics than for before-school arrangements, although patterns were similar in many instances.

**After-school arrangements by grade.** Sixth through eighth graders were less likely than kindergarten through second and third through fifth graders to be in the care of a relative (13 percent vs. 19 and 18 percent), a nonrelative (3 percent vs. 10 and 6 percent), and in a center- or school-based program (14 percent vs. 21 and 20 percent) on a regularly scheduled basis after school. Conversely, kindergarten through second graders were less likely than third through fifth and sixth through eighth graders to be in after-school activities (e.g., sports, arts, scouts, or clubs) that were used to cover hours when adult supervision was needed (5 percent vs. 8 and 9 percent) and were less likely to be in self-care (2 percent vs. 8 and 30 percent).

Table 2. Percent of kindergarten through eighth-grade children participating in various after-school arrangements (scheduled at least monthly), by child, family, and community characteristics: 2001

Characteristic	Number of children (thousands)	Types of arrangements													
		Parental care only after school		Any arrangement after school		Relative care		Nonrelative care		Center- or school-based programs		Activities used for supervision		Self-care	
		Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
Total.....	35,743	50	0.6	50	0.6	17	0.5	6	0.3	19	0.5	7	0.4	13	0.4
<b>Child's grade</b>															
K-2 .....	11,778	52	1.3	48	1.3	19	1.1	10	0.6	21	1.0	5	0.5	2	0.3
3-5 .....	12,343	51	1.0	49	1.0	18	0.9	6	0.6	20	0.9	8	0.8	8	0.6
6-8 .....	11,622	46	0.8	54	0.8	13	0.6	3	0.2	14	0.6	9	0.5	30	0.7
<b>Child's sex</b>															
Male .....	18,342	50	0.8	50	0.8	17	0.7	6	0.5	18	0.8	7	0.5	14	0.5
Female.....	17,401	49	0.9	51	0.9	17	0.7	7	0.5	19	0.8	8	0.6	13	0.5
<b>Child's race/ethnicity</b>															
White, non-Hispanic.....	22,144	54	0.8	46	0.8	15	0.6	7	0.4	15	0.6	7	0.4	13	0.4
Black, non-Hispanic.....	5,822	34	1.6	66	1.6	25	1.6	6	0.8	29	1.8	10	1.5	18	1.3
Hispanic.....	5,686	50	1.5	50	1.5	17	1.2	7	0.8	20	1.2	6	0.7	11	0.8
Other.....	2,091	48	2.7	52	2.7	14	1.8	4	0.9	23	2.1	12	1.9	13	1.7
<b>Family type</b>															
Two parents .....	24,809	56	0.7	44	0.7	13	0.5	6	0.4	16	0.5	7	0.4	12	0.4
One parent.....	9,924	33	1.2	67	1.2	26	1.1	9	0.7	25	1.2	9	0.9	17	0.8
Nonparent guardian(s).....	1,010	43	3.0	57	3.0	22	2.5	4	1.3	23	3.1	10	2.4	15	2.3
<b>Parents' language spoken most at home</b>															
Both/only parent(s) speaks English.....	32,606	49	0.6	51	0.6	17	0.5	7	0.3	19	0.5	7	0.4	14	0.4
One of two parents speaks non-English language ...	636	54	4.8	46	4.8	12	2.9	7	2.9	22	4.0	7	2.8	12	3.1
Both/only parent(s) speaks non-English language...	2,502	59	2.0	41	2.0	12	1.3	4	0.8	19	1.9	5	1.0	7	1.1
<b>Parents' highest level of education</b>															
Less than high school.....	3,193	54	2.6	46	2.6	16	2.1	4	0.9	17	1.8	5	1.3	14	1.6
High school diploma or equivalent .....	10,353	49	1.1	51	1.1	20	0.9	6	0.5	17	1.0	6	0.8	15	0.8
Vocational education or some college.....	10,492	47	1.2	53	1.2	19	1.1	7	0.6	20	0.9	7	0.6	13	0.6
College graduate.....	6,392	52	1.5	48	1.5	14	1.0	7	0.8	19	1.1	9	0.9	12	0.7
Graduate or professional school.....	5,312	52	1.6	48	1.6	10	0.9	8	0.9	19	1.3	10	1.0	12	0.8
<b>Mother's employment status<sup>1</sup></b>															
Works 35 or more hours per week .....	16,067	32	0.9	68	0.9	26	0.8	10	0.5	23	0.7	9	0.5	18	0.7
Works less than 35 hours per week.....	7,459	57	1.4	43	1.4	12	1.0	6	0.7	14	1.0	6	0.7	12	0.9
Not employed .....	10,952	72	1.0	28	1.0	6	0.5	2	0.3	14	0.9	6	0.9	6	0.6
<b>Household income</b>															
\$25,000 or less.....	10,671	48	1.3	52	1.3	19	1.2	6	0.6	21	1.2	7	1.0	14	0.8
\$25,001-\$50,000 .....	9,542	49	1.1	51	1.1	20	1.0	6	0.6	17	1.0	7	0.5	14	0.6
\$50,001-\$75,000 .....	7,608	52	1.4	48	1.4	16	1.0	6	0.6	17	0.9	7	0.6	13	0.7
More than \$75,000.....	7,922	51	1.3	49	1.3	12	0.8	8	0.7	19	1.1	9	0.8	12	0.7
<b>Urbanicity</b>															
Urban, inside urbanized area .....	22,673	48	0.8	52	0.8	17	0.6	6	0.4	21	0.7	7	0.5	13	0.5
Urban, outside urbanized area.....	4,465	53	1.9	47	1.9	17	1.5	6	0.9	14	1.4	6	0.9	16	1.1
Rural .....	8,605	52	1.4	48	1.4	18	1.0	7	0.8	15	1.0	8	0.8	13	0.7

<sup>1</sup> Only includes children who had a mother in the household. "Not employed" includes both mothers who were seeking work but unemployed and mothers not in the labor force.

NOTE: s.e. is standard error. Home-schooled children are excluded. Types of arrangements include those regularly scheduled at least once a month, except for "activities used for supervision," which are included if they occurred at least once each week. Detail may not sum to totals because of rounding and multiple response—children who had more than one type of arrangement are reported under each type.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

**After-school arrangements by race/ethnicity.** Black children were more likely than White children, Hispanic children, and children of other racial/ethnic groups to have nonparental arrangements after school (66 percent vs. 46, 50, and 52 percent). Black children were also more likely than White children, Hispanic children, and children of other racial/ethnic groups to be cared for by a relative after school (25 percent vs. 15, 17, and 14 percent). They were also more likely than White and Hispanic children to participate in center- or school-based programs (29 percent vs. 15 and 20 percent) and to be in self-care after school (18 percent vs. 13 and 11 percent). White children were less likely than Black and Hispanic children and children of other racial/ethnic groups to participate in center- or school-based programs after school (15 percent vs. 29, 20, and 23 percent).

### **2.2.2 After-School Arrangements by Family Characteristics**

**After-school arrangements by family type.** Children from two-parent households were less likely than children from one-parent households or children living with nonparent guardians to have nonparental arrangements after school (44 percent vs. 67 and 57 percent). Children from two-parent households were also less likely than children from one-parent and nonparent-guardian households to be in regularly scheduled relative care after school (13 percent vs. 26 and 22 percent), and were less likely than children from one-parent households to be in nonrelative care (6 percent vs. 9 percent), a center- or school-based program (16 percent vs. 25 percent), and in self-care (12 percent vs. 17 percent).

**After-school arrangements by parents' language spoken most at home.** Children whose parents spoke mainly English at home were more likely than children whose parents spoke mainly a non-English language at home to have after-school arrangements (51 percent vs. 41 percent), to be in the care of a relative (17 percent vs. 12 percent), and to be in self-care (14 percent vs. 7 percent).

**After-school arrangements by parents' highest level of education.** Few differences were detected with respect to participation by parents' highest level of education. One exception was that children with at least one parent who had a high school diploma or its equivalent or vocational education or some college were more likely than children whose parents were college graduates or had been in graduate or professional school to be in the care of a relative after school (20 and 19 percent vs. 14 and 10 percent).

**After-school arrangements by mother's employment status.** There were differences in children's after-school arrangements depending on their mothers' employment status. Mothers who worked full time (defined as 35 or more hours per week) were more likely than those who worked part time (less than 35 hours) and those not employed to have children in regularly scheduled arrangements after school (68 percent vs. 43 and 28 percent). Full-time working mothers were more likely to have children in each type of arrangement, including the care of a relative (26 percent vs. 12 and 6 percent), nonrelative (10 percent vs. 6 and 2 percent), in a center- or school-based program (23 percent vs. 14 and 14 percent), in after-school activities used for supervision (9 percent vs. 6 and 6 percent), and in self-care (18 percent vs. 12 and 6 percent).

Children with mothers who worked part time were more likely to be in some kind of nonparental care than children with nonworking mothers (43 percent vs. 28 percent). Further, mothers who worked part time were more likely than mothers not employed to have children in regularly scheduled relative care (12 percent vs. 6 percent), nonrelative care (6 percent vs. 2 percent), and self-care (12 percent vs. 6 percent) after school.

**After-school arrangements by household income.** With respect to after-school arrangements, differences by household income were fewer than they were with before-school arrangements. An exception was that households with incomes of more than \$75,000 were less likely than households at all other income levels to have children in the regular care of a relative after school (12 percent vs. 19, 20, and 16 percent).

### **2.3 Patterns of Arrangements**

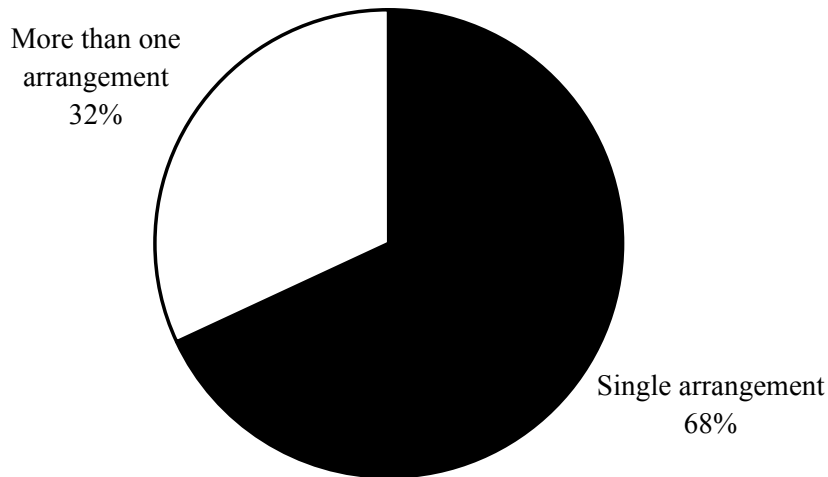
Not all parents rely on a single arrangement for their children during out-of-school time. Many piece together different arrangements to cover the hours when they cannot provide supervision. This may include more than one arrangement type (including self-care and before- or after-school activities used for adult supervision), for instance, care by a grandmother before school and self-care after school. This may also include more than one of a single type of arrangement before and/or after school, for example, care by a grandmother before school and care by another grandmother after school.<sup>9</sup>

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<sup>9</sup> Care by the same person or program both before and after school would have been reported as a single arrangement that took place both before and after school because of the design of the questionnaire.

Figure 1 shows that about one-third of children (32 percent) in before- or after-school arrangements in 2001 had more than one arrangement. Thus, two-thirds of children (68 percent) participated in only one arrangement on a regular basis.

Figure 1. Percent of kindergarten through eighth-grade children with before- and/or after-school arrangements who had a single arrangement only or more than one arrangement: 2001



NOTE: Standard error is 0.8. Home-schooled children are excluded. Includes all arrangements reported.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

Table 3 shows that of all children who had at least some regularly scheduled arrangements before or after school, 18 percent had only one relative care arrangement, 8 percent had only one nonrelative care arrangement, and 20 percent participated in only one center- or school-based program. Five percent of children had only before- or after-school activities used to cover hours when parents needed supervision for them, and 17 percent of children had no arrangements involving supervision by another person, but took care of themselves before or after school on a regular basis.

Eight percent of children had more than one arrangement within a type (e.g., more than one relative care arrangement or more than one center- or school-based program). Thirteen percent had more than one type of arrangement, not including self-care (e.g., one center- or school-based program and one nonrelative care arrangement), and 11 percent were in self-care plus some other arrangement.<sup>10</sup>

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<sup>10</sup> The categories included in table 3 are mutually exclusive. Readers interested in the percent of children with a single arrangement versus multiple arrangements by child and family characteristics may sum across the components within the respective categories.

Table 3. Percent of kindergarten through eighth-grade children with at least one nonparental arrangement, whose parents reported various combinations of before- and after-school arrangements, by child and family characteristics: 2001

Characteristic	Number of children (thousands)	One relative arrangement only		One nonrelative arrangement only		One center- or school-based program only		One arrangement only: activities used for supervision		Self-care only		More than one arrangement of a single type <sup>1</sup>		Combination of arrangements (not including self-care) <sup>2</sup>		Self-care and other arrangements <sup>3</sup>	
		Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
Total.....	19,231	18	0.7	8	0.5	20	0.8	5	0.4	17	0.6	8	0.4	13	0.6	11	0.5
<b>Child's grade</b>																	
K-2.....	6,051	22	1.4	14	1.2	29	1.7	5	0.7	1	0.4	9	0.9	17	1.2	2	0.5
3-5.....	6,471	20	1.3	8	0.9	21	1.4	6	0.9	11	1.1	11	0.9	16	1.3	8	0.8
6-8.....	6,708	12	0.8	3	0.3	9	0.6	5	0.5	37	1.1	5	0.6	7	0.6	22	1.0
<b>Child's sex</b>																	
Male.....	9,756	18	1.0	8	0.8	20	1.1	5	0.6	17	0.7	8	0.6	12	0.8	11	0.7
Female.....	9,474	18	0.9	8	0.7	19	1.0	5	0.6	17	0.9	8	0.5	15	1.0	11	0.6
<b>Child's race/ethnicity</b>																	
White, non-Hispanic.....	11,089	17	0.9	9	0.7	19	0.9	6	0.5	19	0.8	9	0.6	13	0.7	9	0.6
Black, non-Hispanic.....	3,981	20	1.6	5	0.9	19	1.6	4	0.8	14	1.5	6	0.8	15	2.1	17	1.6
Hispanic.....	2,989	19	1.4	11	1.2	22	1.5	4	1.0	14	1.3	7	0.9	14	1.7	10	1.1
Other.....	1,172	14	2.3	3	1.1	26	3.0	9	2.1	15	2.4	8	2.2	13	2.6	12	2.0
<b>Family type</b>																	
Two parents.....	11,613	16	0.8	8	0.7	21	1.0	6	0.5	18	0.8	8	0.5	12	0.7	10	0.6
One parent.....	7,026	20	1.2	7	0.7	17	1.3	4	0.6	15	0.8	8	0.8	15	1.3	13	0.8
Nonparent guardian(s).....	593	22	4.2	4	1.9	17	3.5	8	3.3	14	3.4	7	2.2	12	3.1	16	2.8
<b>Parents' language spoken most at home</b>																	
Both/only parent(s) speaks English.....	17,851	18	0.7	8	0.5	19	0.8	5	0.4	17	0.6	8	0.4	13	0.7	11	0.5
One of two parents speaks non-English language.....	300	13	4.3	12	5.5	19	5.9	4	2.0	11	4.7	8	2.9	15	5.5	17	6.1
Both/only parent(s) speaks non-English language.....	1,079	20	2.4	8	1.6	30	3.2	6	1.8	12	2.2	6	1.2	11	1.9	8	1.5
<b>Parents' highest level of education</b>																	
Less than high school.....	1,535	20	3.3	6	1.3	20	2.8	6	2.3	18	2.4	5	1.1	9	1.9	16	1.9
High school diploma or equivalent.....	5,729	22	1.3	8	0.9	16	1.1	4	0.7	18	1.2	7	0.7	13	1.6	12	1.0
Vocational education or some college.....	5,984	19	1.3	8	1.0	20	1.5	4	0.5	16	0.8	9	0.8	14	1.1	11	0.9
College graduate.....	3,266	14	1.5	8	1.2	23	1.6	7	1.0	16	1.1	9	1.2	13	1.6	10	1.0
Graduate or professional school.....	2,717	11	1.3	9	1.3	22	1.9	9	1.4	16	1.3	8	1.4	16	1.6	9	1.0
<b>Mother's employment status<sup>4</sup></b>																	
Works 35 or more hours per week.....	11,610	20	0.9	9	0.6	17	0.8	3	0.4	17	0.7	7	0.5	15	0.7	12	0.7
Works less than 35 hours per week.....	3,428	17	1.8	9	1.3	19	1.9	7	1.2	20	1.6	10	1.1	10	1.2	9	1.1
Not employed.....	3,296	11	1.6	4	1.0	30	2.6	12	1.6	15	1.5	9	1.3	11	1.9	9	1.1
<b>Household income</b>																	
\$25,000 or less.....	5,953	19	1.6	8	1.0	20	1.5	4	0.8	16	1.3	7	0.8	14	1.5	12	0.9
\$25,001-\$50,000.....	5,186	22	1.4	7	0.9	16	1.2	5	0.7	18	1.1	8	0.9	12	1.0	12	0.9
\$50,001-\$75,000.....	3,964	17	1.3	9	1.1	20	1.4	6	1.0	17	1.1	8	0.9	13	1.3	10	0.9
More than \$75,000.....	4,129	12	1.1	9	1.1	23	1.6	6	0.9	17	1.3	8	1.2	14	1.3	9	0.8
<b>Urbanicity</b>																	
Urban, inside urbanized area.....	12,426	17	0.8	8	0.6	22	0.9	5	0.4	16	0.7	8	0.4	14	0.8	11	0.6
Urban, outside urbanized area.....	2,303	19	1.7	9	1.4	14	2.0	4	1.0	21	1.5	9	1.3	11	1.7	12	1.4
Rural.....	4,502	20	1.6	9	1.2	16	1.6	7	1.1	16	1.2	9	1.0	13	1.2	10	1.1

<sup>1</sup>Includes more than one arrangement of a given type (e.g., two relative arrangements).

<sup>2</sup>Includes any combination of relative care, nonrelative care, center-based programs, and activities used for supervision but only one arrangement of a given type (e.g. one nonrelative arrangement, one center- or school-based program, and activities used for supervision). Does not include self-care.

<sup>3</sup>Includes self-care in combination with one or more arrangements including relative care, nonrelative care, center- or school-based programs, or activities used for supervision.

<sup>4</sup>Only includes children who had a mother in the household. "Not employed" includes both mothers who were seeking work but unemployed and mothers not in the labor force.

NOTE: s.e. is standard error. Home-schooled children are excluded. Includes all reported arrangements, with the exception of activities used for supervision, which were limited to those scheduled at least once per week. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

Table 3 gives a picture of the variety of arrangements of children in kindergarten through eighth grade, a somewhat different picture than in tables 1 and 2. One way to view these arrangements is to focus on the single arrangement versus multiple arrangements. Another way is to focus on adult supervision versus self-care. For 17 percent of children in grades K–8 who were in some kind of arrangement, their only arrangement was self-care (this translates into over 3 million children). Another 11 percent took care of themselves on a regular basis in addition to being in other kinds of nonparental arrangements (an additional 2 million children).

### **2.3.1 Patterns by Child Characteristics**

**Patterns by grade.** Sixth through eighth graders were less likely than kindergarten through second and third through fifth graders to have more than one arrangement of a single type (5 percent vs. 9 and 11 percent) and more than one arrangement across arrangement types, not including self-care (7 percent vs. 17 and 16 percent). Conversely, sixth through eighth graders were more likely than kindergarten through second and third through fifth graders to be in self-care plus some other type of arrangement (22 percent vs. 2 and 8 percent).

**Patterns by race/ethnicity.** Black children were more likely than White and Hispanic children to be in self-care plus some other arrangement on a regular basis before and/or after school (17 percent vs. 9 and 10 percent). It is interesting to note that whereas Black children were more likely than White children to have self-care as an arrangement in combination with other arrangements before school and after school (tables 1 and 2), White children were more likely to have only self-care and no other arrangements (19 percent vs. 14 percent). Finally, White and Hispanic children were more likely than Black children and children of other racial/ethnic groups to have only nonrelative care (9 percent vs. 5 and 3 percent, and 11 percent vs. 5 and 3 percent).

### **2.3.2 Patterns by Family Characteristics**

**Patterns by family type.** No difference was detected between children from two-parent households and children from one-parent and nonparent guardian households with respect to a single kind of arrangement (8 percent vs. 8 and 7 percent) or more than one arrangement of a single type, not including self-care (12 percent vs. 15 and 12 percent). However, children from two-parent households



were more likely than those from one-parent households to attend only one center- or school-based program (21 percent vs. 17 percent) and only to be in self-care (18 percent vs. 15 percent).

**Patterns by parents' highest level of education.** Few notable differences were detected with respect to parents' level of education. An exception was that children whose parents had less than a high school education were more likely than those for whom at least one parent had been to graduate or professional school to be in self-care plus some other arrangement(s) (16 percent and 9 percent).

**Patterns by mother's employment status.** Children of full-time working mothers were more likely than children of part-time working mothers to have a combination of arrangements that did not include self-care (15 percent vs. 10 percent), and were more likely to be in self-care plus some other arrangement(s) (12 percent vs. 9 percent). Children of mothers not employed were less likely than children whose mothers worked full time and part time to be in relative care only (11 percent vs. 20 and 17 percent) and nonrelative care only (4 percent vs. 9 and 9 percent), but they were more likely to participate in a center- or school-based program only (30 percent vs. 17 and 19 percent) and only activities used for supervision (12 percent vs. 3 and 7 percent).

## 2.4 Amount of Time Spent in Before- and After-School Arrangements

Depending on such factors as parents' work schedules, availability of care, and cost, children can spend varying amounts of time in nonparental arrangements. Overall, children who had regular weekly scheduled arrangements (before and/or after school) spent on average 10.4 hours per week in them, or about 2 hours per day (not shown in tables).<sup>11</sup> Table 4 shows the mean number of hours each week that children spent before and after school in regular weekly scheduled arrangements.<sup>12</sup>

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<sup>11</sup> Standard error: 0.2.

<sup>12</sup> Hours for arrangements that were not regularly scheduled at least once each week were not included, since these might misrepresent the average number of hours that children spent in care *each week*. For example, a child who has relative care 28 hours during only one week in a month would be represented as participating 28 hours per week, which is not the case. Similarly, if those 28 hours were divided by four (to get a weekly estimate), it would appear that that child had relative care 7 hours per week, which again is not the case. Since regularly scheduled monthly arrangements constituted a small percentage of cases overall (less than 5 percent), excluding them from the analysis did not substantially affect the means reported in table 4.

Table 4. Mean number of hours per week kindergarten through eighth-grade children spent in before- and/or after-school arrangements (scheduled at least weekly): 2001

Characteristic	All arrangements		Types of arrangements									
			Relative care		Nonrelative care		Center- or school-based programs		Activities used for supervision		Self-care	
	Estimate	s.e.	Estimate	s.e.	Estimate	s.e.	Estimate	s.e.	Estimate	s.e.	Estimate	s.e.
Total number of children in before-school arrangements (thousands)...	7,086	184	2,566	129	1,133	95	1,324	93	267	38	2,246	103
Mean before-school hours.....	4.7	0.1	5.0	0.2	5.5	0.3	4.5	0.2	2.2	0.2	3.5	0.1
Total number of children in after-school arrangements (thousands)...	17,650	207	5,882	178	2,243	106	6,433	180	2,615	148	4,591	125
Mean after-school hours.....	9.0	0.2	9.7	0.3	9.5	0.3	7.5	0.1	4.2	0.1	4.8	0.1

NOTE: s.e. is standard error. Home-schooled children are excluded. May include hours after 6:00 p.m. Includes arrangements regularly scheduled at least once each week. Due to multiple response, children who had more than one type of arrangement before school, after school, or both, are reported under each type.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

### 2.4.1 Before-School Hours

Overall, children who were in before-school arrangements spent an average of 4.7 hours per week before school in their regular weekly arrangements. This translates into a little less than 1 hour per day. Children with regularly scheduled weekly relative care arrangements spent on average 5 hours per week before school in this type of arrangement. Children who had nonrelative care at least once each week spent an average of 5.5 hours per week in that type of arrangement, and those attending center-based programs at least once each week before school spent on average 4.5 hours per week. The average number of hours spent per week in before-school activities used for supervision was 2.2, and the average number of hours spent in self-care before school was 3.5 per week. Children spent more hours on average in nonrelative care before school each week than in center- or school-based programs, before-school activities, and in self-care. They also spent more hours per week before school in center- or school-based programs and relative care compared with before-school activities and self-care.

### **2.4.2 After-School Hours**

On average, children spent more time in after-school arrangements than they did in before-school arrangements. Children with regularly scheduled after-school arrangements at least once each week spent on average 9.0 hours per week in them, or less than 2 hours per day. Children with relative care at least once each week spent on average 9.7 hours per week after school in this type of arrangement. Those with nonrelative care spent on average 9.5 hours per week after school, and those with center- or school-based programs spent 7.5 hours per week in these arrangements. Children with weekly scheduled after-school activities used for adult supervision spent 4.2 hours per week on average in such activities, and those in self-care after school spent a mean of 4.8 hours per week responsible for themselves. More hours were spent on average each week in relative care and nonrelative care than in center- or school-based programs, after-school activities, and in self-care. Also, children spent more time on average in center- or school-based programs each week than in after-school activities and self-care.

### **2.4.3 Number of Arrangements by Number of Hours**

Children who participated in more than one arrangement spent more total time in them than children who had a single arrangement; children in more than one arrangement spent a mean of 13.7 hours per week in them, compared with 7.9 hours per week for children with single arrangements (not shown in tables).<sup>13</sup> Children who had only after-school arrangement spent about one hour longer each week in a center- or school-based program than children who had more than one arrangement after school (8.1 hours versus 6.8 hours).

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<sup>13</sup> Standard errors: mean hours for children not in multiple arrangements, 0.2; mean hours for children in multiple arrangements, 0.2.

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### **3. CHARACTERISTICS OF BEFORE- AND AFTER-SCHOOL ARRANGEMENTS**

While there is a growing body of information about the types and amount of care children receive during the out-of-school hours, far less is known at the national level about the characteristics of various kinds of arrangements for school-age children. For instance, little is known about the kinds of activities that take place within arrangements or about other important characteristics relating to location, numbers of children and adults present in arrangements, relationships of care providers to children, costs, and so on. Such information is vital to understanding the details of the settings in which children spend their out-of-school time.

The survey asked parents about their children's activities in their arrangements, the location of arrangements, numbers of children and adults present, the characteristics of relative and nonrelative care providers, and the cost of arrangements. Parents were also asked about their children's before- and after-school activities, such as sports, music lessons, and community service (whether for supervision or enrichment), including whether these were sponsored by their children's schools, and whether they were used to cover hours when parents needed adult supervision for their children. This section contains findings that portray these features of the various arrangements in which children spent their time before and after school in 2001.

#### **3.1 Characteristics of Before- and After-School Arrangements**

##### **3.1.1 Activities of Children in After-School Arrangements**

One means of distinguishing among arrangements is the kinds of activities that children engage in within them. Do children in different kinds of arrangements engage in different kinds of activities? Are children engaging in academic work, cultural enrichment, play activities, etc.? Parents were asked to report up to three of their children's activities within each of their children's arrangements for arrangements that were after school or both before and after school.<sup>14</sup> Survey interviewers coded each of

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<sup>14</sup> Tests conducted before the survey was fielded indicated that there was little variation in the kinds of activities engaged in before school, and these tended to be associated with getting ready to go to school. As a result, detailed questions about activities children engaged in during before-school arrangements were not included in the final questionnaire and are not discussed in this report.

the reported activities into the 11 categories shown in table 5.<sup>15</sup> Before discussing results, however, it should be noted that although parents are usually the best respondents when it comes to their children, some parents might not know exactly what activities their children are engaged in on a daily basis when they are not there to observe them.

Table 5. Percent of kindergarten through eighth-grade children in after-school arrangements (scheduled at least monthly) participating in various types of activities: 2001

Type of activity	Relative care		Nonrelative care		Center- or school-based programs		Self-care	
	Estimate	s.e.	Estimate	s.e.	Estimate	s.e.	Estimate	s.e.
Total (thousands) .....	6,041	188	2,304	110	6,680	179	4,765	128
Homework/school-related/educational.....	69%	1.4	56%	2.7	56%	1.6	65%	1.5
Television/videos/video games/ listening to music .....	59	1.6	48	2.5	10	0.9	58	1.5
Outdoor play/activities/sports.....	36	1.4	49	3.0	49	1.6	24	1.4
Indoor play .....	27	1.4	46	2.9	35	1.5	11	1.2
Reading/writing.....	19	1.4	15	1.9	19	1.2	13	1.1
Eating/snacks.....	15	1.1	19	2.2	6	0.7	10	0.7
Computers .....	13	1.3	10	1.7	12	1.1	24	1.4
Arts.....	12	1.0	18	2.1	37	1.4	8	0.9
Chores/work.....	11	1.0	5	0.9	2	0.5	16	1.1
Telephone.....	4	0.6	2	0.7	#	0.1	9	0.9
Talking to parent/care provider .....	3	0.5	5	1.0	2	0.4	1	0.3

# Rounds to zero.

NOTE: s.e. is standard error. Home-schooled children are excluded. Due to multiple response, children who had more than one type of arrangement are reported under each type. Parents were asked what their children spent most of their time doing, and could have named up to three activities for each reported arrangement. All reported activities are included. Includes arrangements regularly scheduled at least once each month.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

Findings suggest that children were engaged in a variety of activities in their arrangements, ranging from more structured, academic and cultural activities to less structured, free play and relaxing activities. However, differences in reported activities across arrangement types were not pronounced. In fact, children were doing remarkably similar things in relative care, nonrelative care, center- or school-based programs, and self-care, with a few notable exceptions.

<sup>15</sup> Categories were developed following a field test that elicited open-ended responses to the question of children's activities within arrangements. An "other" category was included in the interview, but those results are not presented here. Between 3 and 5 percent of households with children in relative care, nonrelative care, center- or school-based programs, and self-care reported "other" activities. Table 5 includes arrangements regularly scheduled at least once each month.

Overall, homework, school-related, or other educational activities were more commonly cited by parents than all other activities for children in relative care and self-care, although it should be kept in mind that these results represent what parents believe their children are doing in their absence. For nonrelative care, homework, school-related, or other educational activities (56 percent), television, videos, video games, or listening to music (48 percent), outdoor play, activities, or sports (49 percent), and indoor play (46 percent) were cited most often compared with other activities. Homework, school-related, or other educational activities were more commonly cited for relative care arrangements (69 percent) than for nonrelative care (56 percent) and center- or school-based program arrangements (56 percent).

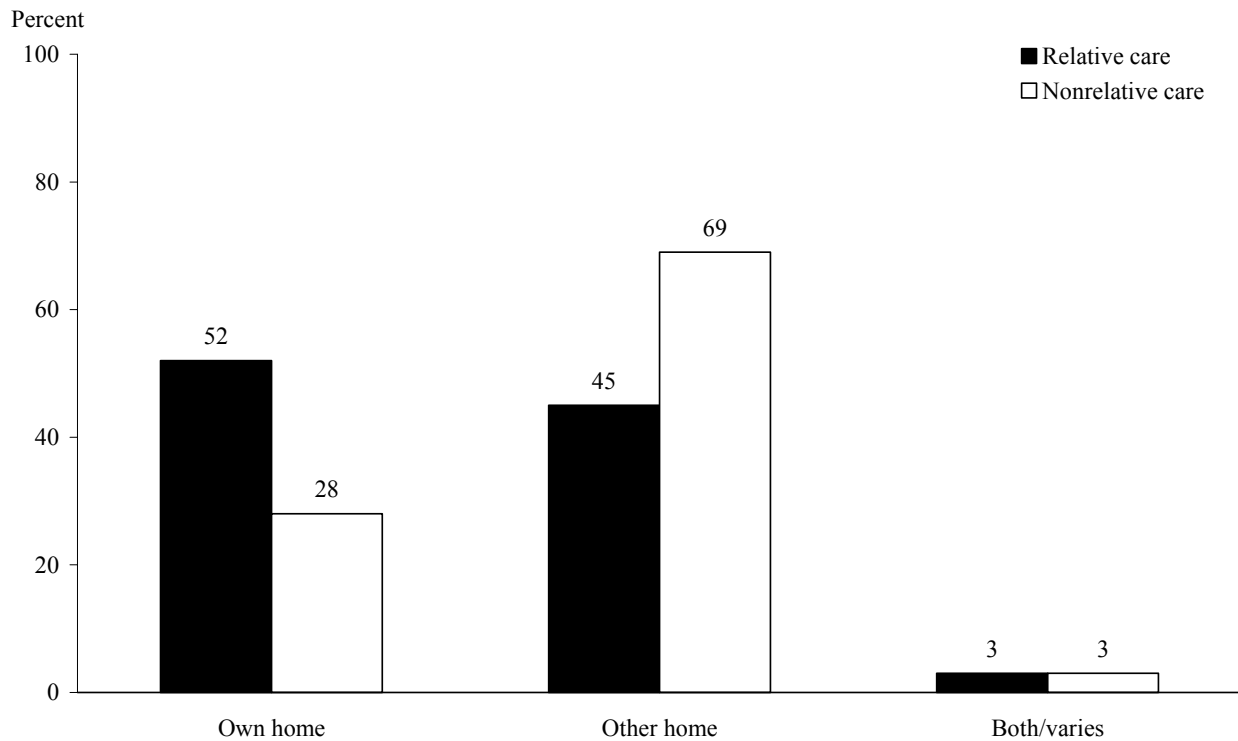
The next most commonly cited activity for relative care and self-care was watching television or videos, playing computer games, and/or listening to music. This was also high on the list of activities in nonrelative care. These activities were cited by parents of 59 percent of children who were in the regular care of a relative, 48 percent of those whose children who were in nonrelative care, and 58 percent of those with children in regular self-care. Parents of only 10 percent of children cited these activities as being part of center- or school-based programs.

Children also appear to be spending some of their time playing in their after-school arrangements (not including playing computer games). For example, outdoor play, activities, or sports were activities of 36 percent of children in relative care, 49 percent of children in nonrelative care, 49 percent of children in center- or school-based programs, and 24 percent of children in self-care. Similarly, indoor play was an activity of 27 percent of children in relative care, 46 percent of children in nonrelative care, 35 percent of children in center- or school-based programs, and 11 percent of children in self-care. The relatively lower percentages of children engaged in play in self-care may reflect the fact that most children in self-care are older, and play is an activity that parents generally ascribe to younger children. In addition, play is not necessarily an activity that parents want their children to do while taking care of themselves. Finally, it should be noted that children were more likely to take part in activities related to the arts within center- or school-based programs compared with relative care, nonrelative care, and self-care.

### 3.1.2 Locations of Before- and After-School Arrangements and Time in Transit

Figure 2 shows that 52 percent of children in before- and/or after-school relative care arrangements were cared for in the child’s home, 45 percent in another home, and 3 percent in both locations. Twenty-eight percent of children in nonrelative care arrangements were cared for in the child’s home, compared with 69 percent in another home, and 3 percent in both locations. Children in center- or school-based programs were most likely to be cared for in a public school (55 percent) (figure 3). However, children also attended programs located in private schools (11 percent), their own buildings (11 percent), community centers (10 percent), churches or other places of worship (6 percent), and in other locations (7 percent).

Figure 2. Percent of kindergarten through eighth-grade children in before- and/or after-school relative and nonrelative care whose arrangements (scheduled at least monthly) were located in their own homes, another person’s home, or both: 2001

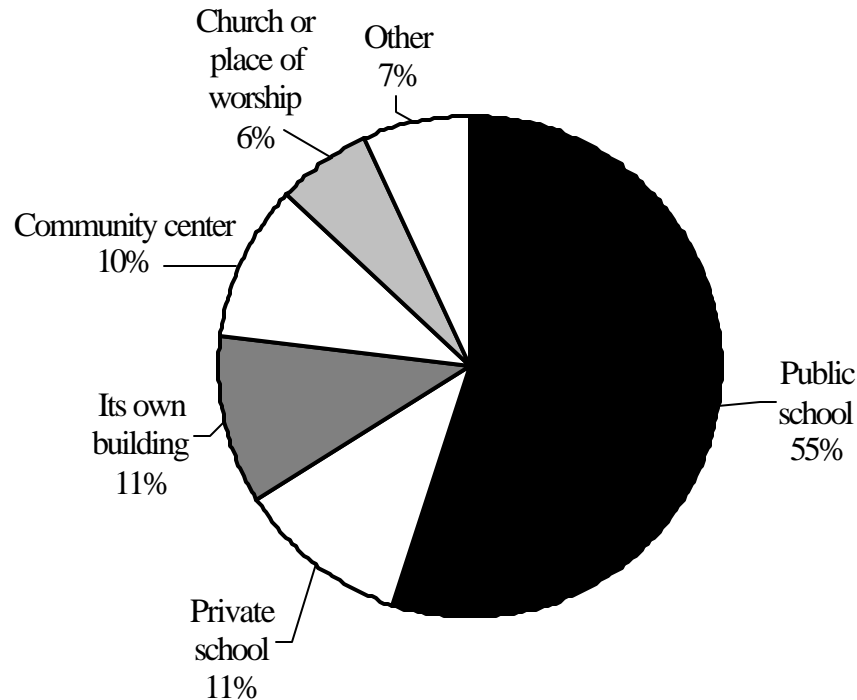


NOTE: Standard errors are as follows: relative care own home, 1.6; relative care other home, 1.7; relative care both/varies, 0.6; nonrelative care own home, 2.4; nonrelative care other home, 2.5; nonrelative care both/varies, 0.6. If more than one relative or nonrelative care arrangement was reported, only the one with the most hours is represented. Children who had more than one type of arrangement are reported under each type. Includes arrangements regularly scheduled at least once each month. Home-schooled children are excluded.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.



Figure 3. Percent of kindergarten through eighth-grade children attending before- and/or after-school center- or school-based programs (scheduled at least monthly) in various locations: 2001



NOTE: Standard errors are as follows: public school, 1.4; private school, 0.8; its own building, 1.0; community center, 0.9; church or place of worship, 0.7; other, 0.8. If more than one center- or school-based program was reported, only the one with the most hours is represented. Includes arrangements regularly scheduled at least once each month. Home-schooled children are excluded.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

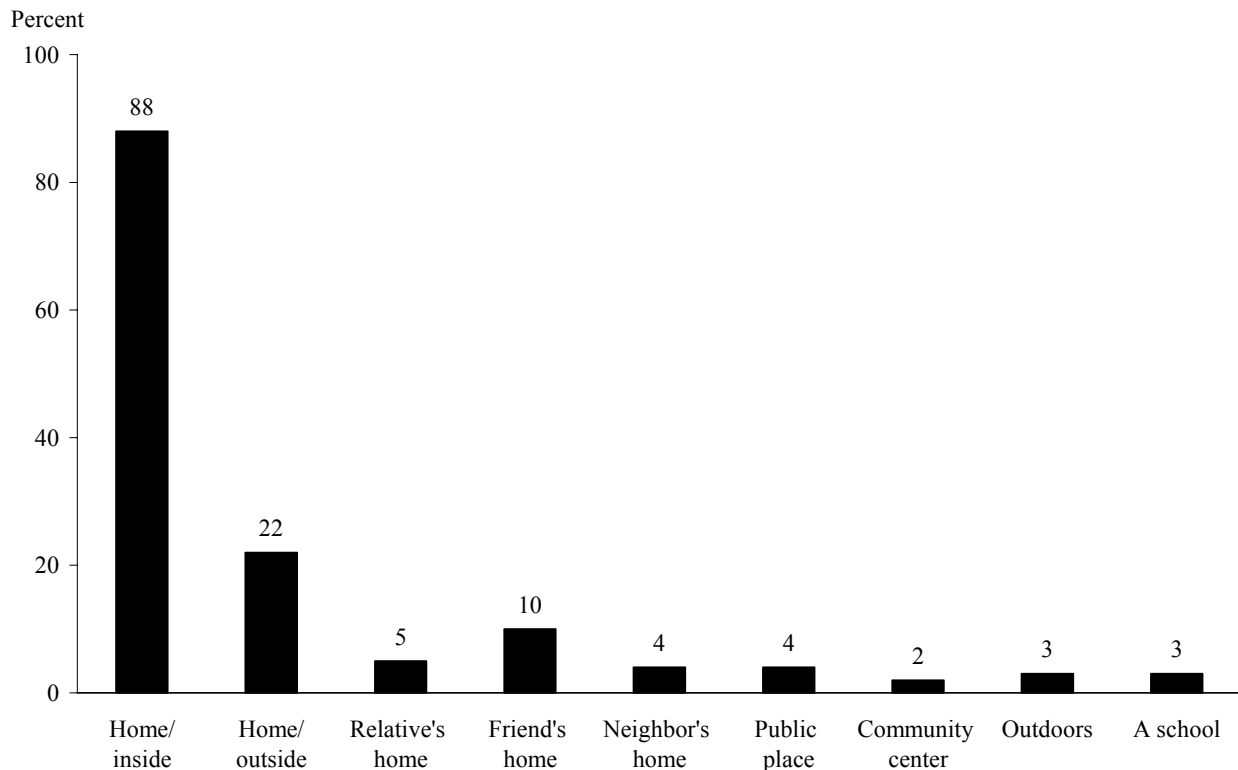
Parents with children in self-care *after school* were asked where their children usually spent that time (and could report more than one place).<sup>16</sup> Parents of 88 percent of these children said that their children spent at least part of their self-care time after school in the home (figure 4). Twenty-two percent of children were said to spend time in self-care at home but outside, and 10 percent spent time at a friend's home. Smaller percentages were reported as spending time in various other locations.

Overall, children spent about 10 minutes on average traveling (both to and from) between home and relative care, 8 minutes between home and nonrelative care, and 11 minutes between home and center- or school-based programs. On average, children spent about 15 minutes in transit (both to and from) between school and relative care, 13 minutes between school and nonrelative care, and 12 minutes

<sup>16</sup> Tests conducted before the survey was fielded indicated that there was little variation in the location of where children cared for themselves before school hours. By and large, most children in before-school self-care are in their own homes. Detailed questions about location of self-care during before-school hours were not included in the final questionnaire and are not discussed in the report.

between school and center- or school-based programs (in cases where programs were not located at children's schools) (not shown in tables).<sup>17</sup>

Figure 4. Percent of kindergarten through eighth-grade children in self-care (scheduled at least monthly) who spent at least some of their time after school in various locations: 2001



NOTE: Standard errors are as follows: home/inside, 1.1; home/outside, 1.4; relative's home, 0.8; friend's home, 1.0; neighbor's home, 0.5; public place, 0.6; community center, 0.6; outdoors, 0.6; a school, 0.6. Home-schooled children are excluded. Detail does not sum to total due to multiple response. Includes arrangements regularly scheduled at least once each month.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

### 3.1.3 Center- or School-Based Before- and After-School Programs: Sign Up or Drop In

Parents whose children attended center- or school-based programs in 2001 were asked whether their children were signed up to attend their before- and/or after-school programs on particular days and times. Overall, 80 percent of children were signed up in advance to attend their programs on a preset

<sup>17</sup> Standard errors: between home and relative care, 0.5; between home and nonrelative care, 0.5; between home and a center- or school-based program, 0.4; between school and relative care, 0.4; between school and nonrelative care, 0.6; between school and a center- or school-based program, 0.6.

schedule (not shown in tables).<sup>18</sup> The remainder attended their programs on a “drop in” basis, meaning that the children attended the programs weekly or monthly, but at varying times.

### 3.1.4 Child-to-Adult Ratios in Before- and After-School Arrangements

Another means of distinguishing among arrangements as well as serving as an indicator of arrangement quality is the ratio of children to adults (National Health and Safety Performance Standards Guidelines for Out-of-Home Child Care Programs 1992). Parents were asked how many children and adults were present in their child’s relative care, nonrelative care, and center- or school-based program arrangements. Table 6 presents the mean number of children and adults as well as the mean number of children per adult in the three types of arrangements.

Table 6. Mean number of adults and children in kindergarten through eighth-grade for children in before- and/or after-school relative, nonrelative, and center- or school-based program arrangements (scheduled at least monthly), and mean child to adult ratio: 2001

Characteristic	Relative care		Nonrelative care		Center- or school-based programs	
	Estimate	s.e.	Estimate	s.e.	Estimate	s.e.
Total children (thousands) .....	6,420	203	2,633	114	6,970	184
Mean number of children.....	2.5	0.1	4.2	0.2	22.1	0.6
Mean number of adults .....	1.7	#	1.5	0.1	3.3	0.1
Mean number of children per adult.....	1.7	#	3.0	0.1	8.1	0.2

# Rounds to 0.0.

NOTE: s.e. is standard error. Home-schooled children are excluded. Includes arrangements regularly scheduled at least once per month. Due to multiple response, children who had more than one type of arrangement are reported under each type.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

There were, on average, 2.5 children present in relative care arrangements, compared with 4.2 children in nonrelative care arrangements, and 22.1 in center- or school-based programs. There was a mean of 1.7 adults in relative care arrangements, 1.5 in nonrelative care arrangements, and 3.3 in center- or school-based programs. The child-to-adult ratio was lower on average for children in relative care arrangements (1.7 children per adult) than for children in nonrelative care arrangements (3.0 children per adult), which was in turn lower than for children in center- or school-based programs (8.1 children per adult). These average ratios compare favorably to the National Health and Safety Performance Standards

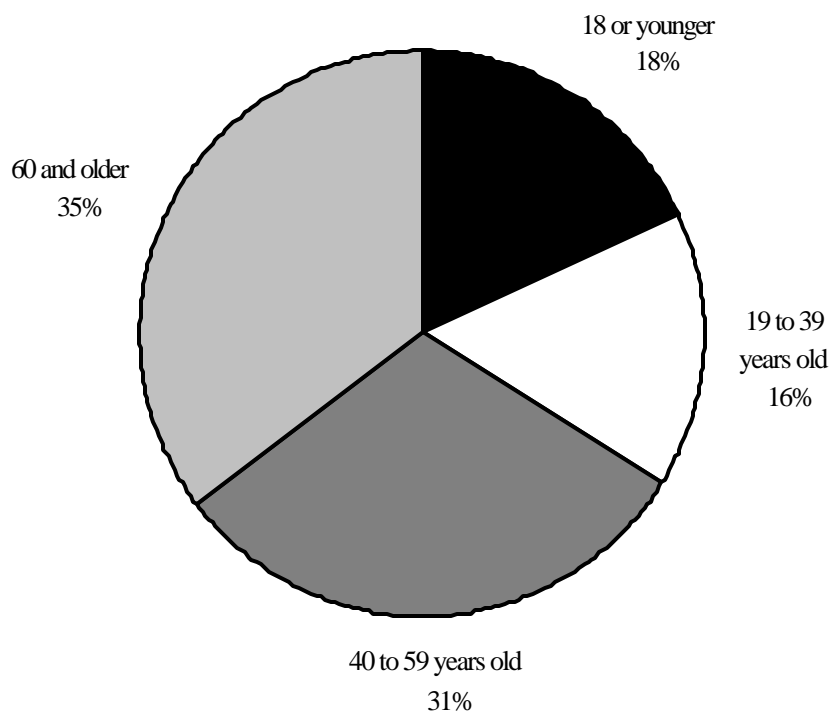
<sup>18</sup> Standard error: 1.3.

Guidelines for Out-of-Home Child Care Programs (1992), which recommended no more than 8 5-year olds, 10 6- to 8-year-olds, and 12 9- to 12-year-olds per adult.

### 3.1.5 Characteristics of Before - and After-School Relative and Nonrelative Care Providers

Children in before- and/or after-school relative care tended to have care providers that were 40 years old or more in 2001; 31 percent of their relative care providers were between the ages of 40 and 59, and 35 percent were 60 or older, compared to 18 percent who were 18 or younger and 16 percent who were between 19 and 39 years old (figure 5). Parents were also asked about the age of their children’s nonrelative care providers, specifically whether the nonrelative care providers were 18 or older; parents of only 2 percent of children reported that their children’s nonrelative care providers were under 18 (not shown in tables).<sup>19</sup>

Figure 5. Percent of kindergarten through eighth-grade children in before- and/or after-school relative care (scheduled at least monthly), by age of care providers: 2001



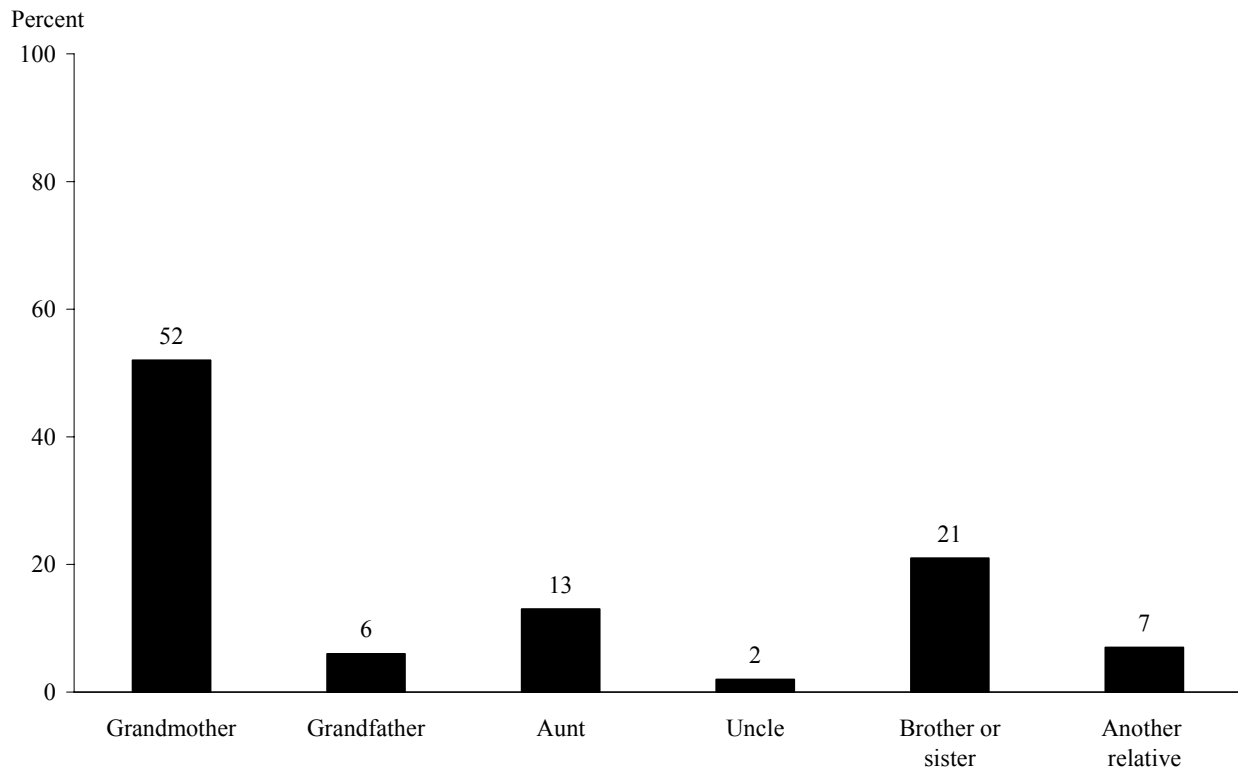
NOTE: Standard errors are as follows: 18 or younger, 1.3; 19–39, 1.2; 40–59, 1.5; 60 and older, 1.7. If more than one relative care arrangement was reported, only the one with the most hours is represented. Includes arrangements regularly scheduled at least once each month. Home-schooled children are excluded.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

<sup>19</sup> Standard error: 0.6.

Children in relative care were most likely to be cared for by grandmothers (52 percent) (figure 6). Approximately one-fifth (21 percent) of children were cared for by siblings (9 percent were brothers, and 12 percent were sisters).<sup>20</sup> Focusing on those in sibling care, 14 percent were cared for by siblings between the ages of 10 and 12, 36 percent were cared for by siblings between 13 and 15, 32 percent were cared for by siblings between 16 and 18, and 18 percent were cared for by siblings who were 19 or older (figure 7). Overall, less than 1 percent of all children were cared for by a sibling between ages 10 and 12 (not shown in tables).<sup>21</sup>

Figure 6. Percent of kindergarten through eighth-grade children in before- and/or after-school relative care (scheduled at least monthly), by relationship of care providers: 2001



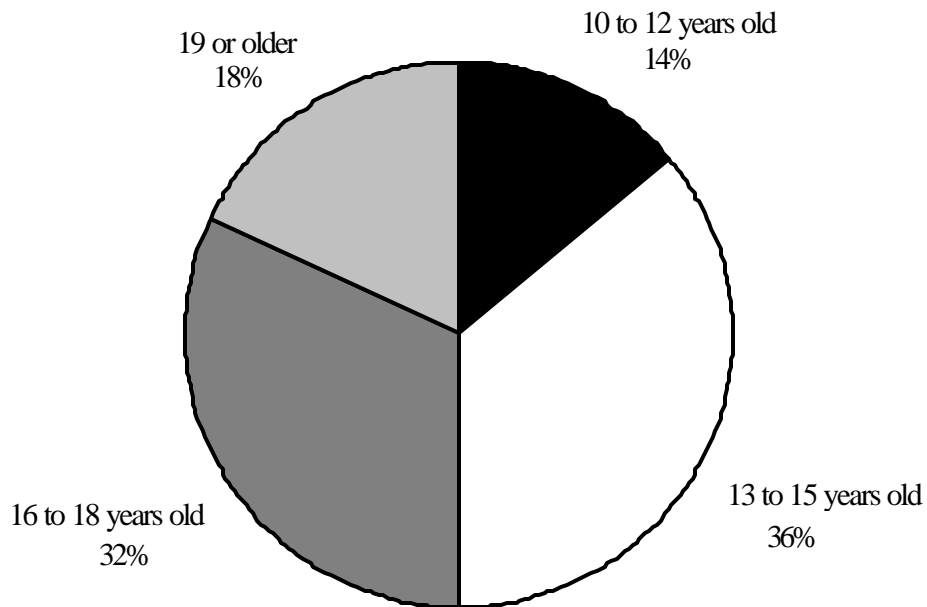
NOTE: Standard errors are as follows: grandmother, 1.7; grandfather, 0.7; aunt, 1.0; uncle, 0.5; brother or sister, 1.4; another relative, 0.8. If more than one relative care arrangement was reported, only the one with the most hours is represented. Includes arrangements regularly scheduled at least once each month. Detail does not sum to total due to rounding. Home-schooled children are excluded.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

<sup>20</sup> Standard errors: brothers, 0.9; sisters, 1.0.

<sup>21</sup> Standard error: 0.1.

Figure 7. Percent of kindergarten through eighth-grade children with before- and/or after-school sibling care providers (scheduled at least monthly), by age of sibling: 2001



NOTE: Standard errors are as follows: 10–12 years old, 3.4; 13–15 years old, 3.4; 16–18 years old, 2.9; 19 and older, 2.7. Home-schooled children are excluded. If more than one relative care arrangement was reported, only the one with the most hours is represented. Includes arrangements regularly scheduled at least once each month.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

### 3.1.6 Cost of Before - and After-School Arrangements to Parents

Parents of 19 percent of children in before- and/or after-school relative care reported a fee (paid either by them or some other person or agency) for their children’s relative care arrangements, and parents of 72 percent of children in nonrelative care reported a fee for their children’s nonrelative care (table 7). Parents of 58 percent of children reported a fee for their children’s center- or school-based programs. On average, for those children whose arrangements required a fee, parents paid \$5.60 per hour for relative care, \$7.90 per hour for nonrelative care, and \$5.60 per hour for center- or school-based programs. No statistically significant differences were detected for relative care, nonrelative care, and center-based programs based on whether the costs were for one child only or more than one child, and if the family received financial help from outside of the household (table 7). However, for nonrelative care, households without outside financial help paid more on average if that care was for more than one child than if it was for one child only (\$12.20 versus \$4.20).

Table 7. Percent of kindergarten through eighth-grade children in before- and/or after-school relative, nonrelative, and center- or school-based program arrangements (scheduled at least monthly) that required a fee, and average cost per hour paid by households: 2001

	Relative care		Nonrelative care		Center- or school-based programs	
	Estimate	s.e.	Estimate	s.e.	Estimate	s.e.
Total children (thousands) .....	6,276	200	2,565	113	6,567	173
Arrangement has a fee <sup>1</sup> .....	19%	1.4	72%	2.4	58%	1.6
Total children (thousands) in arrangements with a fee .....	1,053	92	1,447	105	2,465	142
Average cost per hour (in dollars) to households <sup>2</sup>						
Total .....	\$5.60	0.5	\$7.90	0.6	\$5.60	0.4
Without financial help from outside of household						
Cost for one child only.....	4.70	0.5	4.20	0.4	5.40	0.4
Cost includes more than one child .....	6.50	0.8	12.20	1.1	10.00	3.4
With financial help from outside of household						
Cost for one child only.....	3.20	0.9	‡	‡	4.50	1.3
Cost includes more than one child .....	6.00	3.0	‡	‡	5.10	1.8

‡ Reporting standard not met.

<sup>1</sup> Children were excluded from the analysis if one arrangement of a type required a fee and a second or third did not, because child-level estimates required that all cases be unambiguously classified as having a fee or not having a fee.

<sup>2</sup> Children were excluded from the analysis if one arrangement of a type involved financial help and a second or third did not, or if one arrangement of a type involved more than one child and another did not. This is because child-level estimates required unambiguous classification of cases in the various categories involving cost to households.

NOTE: s.e. is standard error. Home-schooled children are excluded. Due to multiple response, children who had more than one type of arrangement are reported under each type. Includes arrangements regularly scheduled at least once each month.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

### 3.2 Before- and After-School Activities

The foregoing analyses addressed activities that take place within nonparental care and center- or school-based program arrangements. Many children also spend their out-of-school time in organized activities such as sports, arts, clubs, and community service that are not associated with such arrangements. In some cases, children participate in these activities not just for enjoyment or enrichment, but also so that their parents, who are often working, may be assured that they are supervised by adults in a safe setting. Many before- and after-school activities are sponsored by children's schools, while others are sponsored by other agents, such as community organizations and churches. This section presents results regarding overall participation rates in before- and after-school activities in 2001, the specific

types of activities in which children participated, whether activities were sponsored by children's schools, and whether activities were used to cover hours when parents needed adult supervision for their children.

Parents were asked whether their children currently participated in before- or after-school activities such as team sports, music lessons, scouts, or religious education on weekdays on a regular basis. Although participation is ordinarily fluid and changing (for instance, according to season), at the time of the survey 38 percent of children in kindergarten through eighth grade were involved in before- or after-school activities on a regularly scheduled basis at least once each week (not shown in tables). Of these, 1 percent had activities before school only, 93 percent participated in activities only after school, and 6 percent had activities both before and after school (not shown in tables).<sup>22</sup>

### **3.2.1 Kinds of Before- and After-School Activities**

Next, parents of children who currently participated in activities out of school (either primarily for supervision or enrichment) were asked whether their children had participated in each of a series of specific activities since the beginning of the school year. Results shown in figure 8 reveal that sports were the most common before- and after-school activities for children in each grade category (63 to 75 percent). For sixth through eighth graders, the next most reported were religious activities (52 percent), followed by arts, like music, dance, or painting (40 percent). For kindergarten through second and third through fifth graders, religious activities (40 and 47 percent) and arts (33 and 42 percent) were next most often cited by parents.<sup>23</sup>

As children mature and their interests evolve, the kinds of before- and after-school activities in which they participate change. For example, sixth through eighth graders were more likely than kindergarten through second and third through fifth graders to have participated in sports (75 percent vs. 63 and 69 percent); clubs, like yearbook, debate, or book club (16 percent vs. 5 and 10 percent); academic activities, such as tutoring or math lab (19 percent vs. 9 and 13 percent); and community service (26 percent vs. 8 and 13 percent). They were less likely than kindergarten through second and third through fifth graders, on the other hand, to have participated in scouts (14 percent vs. 28 and 27 percent). Third through fifth graders were more likely than kindergarten through second graders to have participated in clubs, community service, and religious activities.

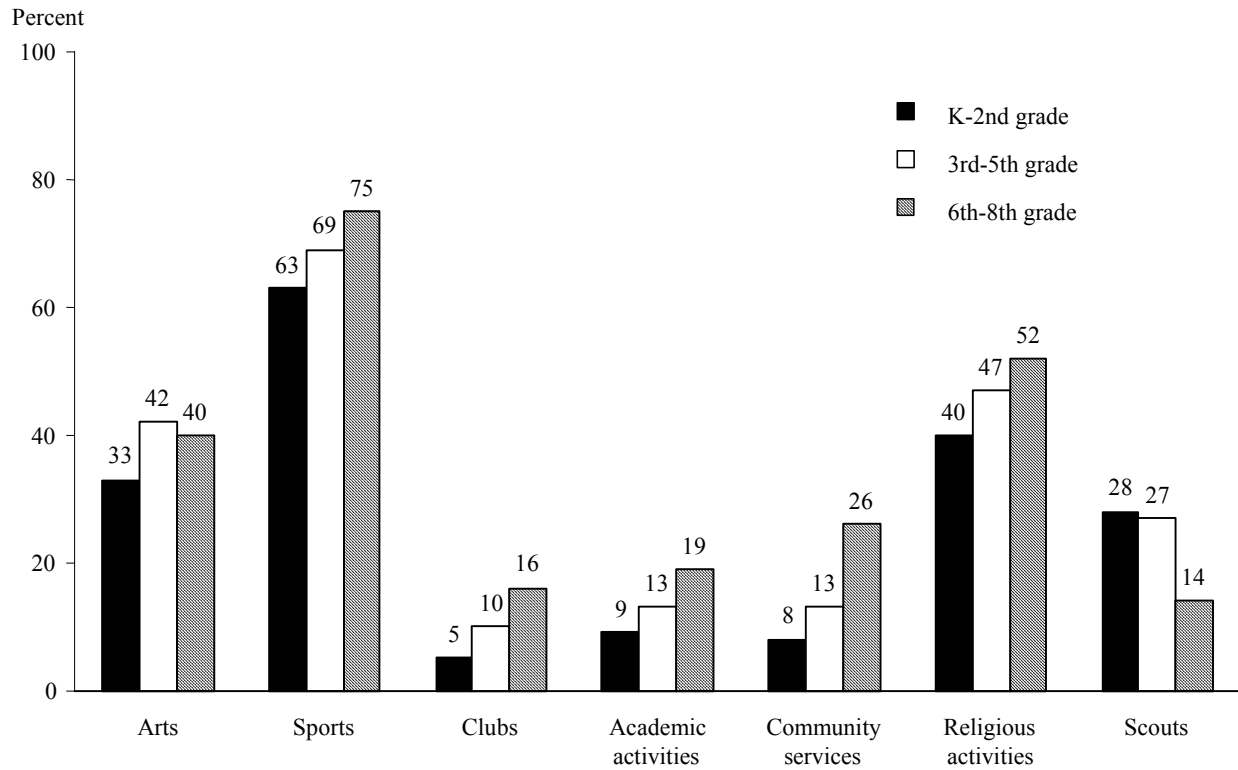
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<sup>22</sup> Standard errors are as follows: before school only, 0.3; after school only, 0.5; both before and after school, 0.5.

<sup>23</sup> However, for K–second graders, there was no significant difference between participation in arts (33 percent) and scouts (28 percent).



Figure 8. Percent of kindergarten through eighth-grade children who participated in various before-and/or after-school activities (scheduled at least monthly) since the beginning of the school year, by grade: 2001



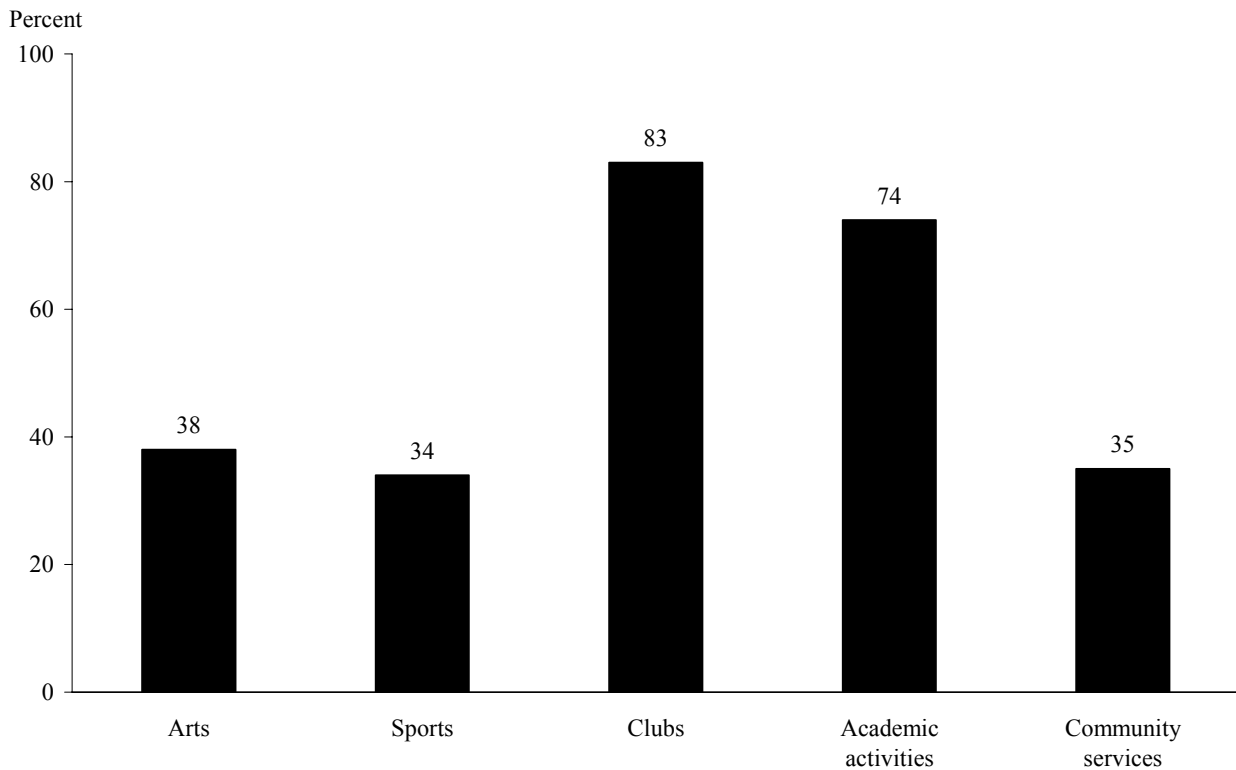
NOTE: Standard errors are as follows: arts: K-2; 1.6, 3-5; 1.5, 6-8; 1.2; sports: K-2; 2.0, 3-5; 1.7, 6-8; 1.0; clubs: K-2; 0.8, 3-5; 1.1, 6-8; 0.8; academic activities: K-2; 1.1, 3-5; 1.0, 6-8; 0.9; community service: K-2; 0.9, 3-5; 1.2, 6-8; 1.0; religious activities: K-2; 1.7, 3-5; 1.9, 6-8; 1.0; scouts: K-2; 1.7, 3-5; 1.5, 6-8; 0.7. Home-schooled children are excluded. Includes all regularly scheduled activities whether for enrichment or supervision. Includes arrangements regularly scheduled at least once each month.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

### 3.2.2 Activities Sponsored by Schools

Parents were asked whether any of their children's specific before- or after-school activities were sponsored by their children's schools. Not surprisingly, parents of 83 percent of children said that at least some of their children's club activities were sponsored by their children's schools, and 74 percent of academic activities by children were sponsored at least in part by children's schools (figure 9). Most arts, sports, and community service activities for kindergarten through eighth graders were sponsored by other organizations.

Figure 9. Percent of kindergarten through eighth-grade children whose schools sponsored at least some of the before- and/or after-school activities (scheduled at least monthly) in which they participated: 2001



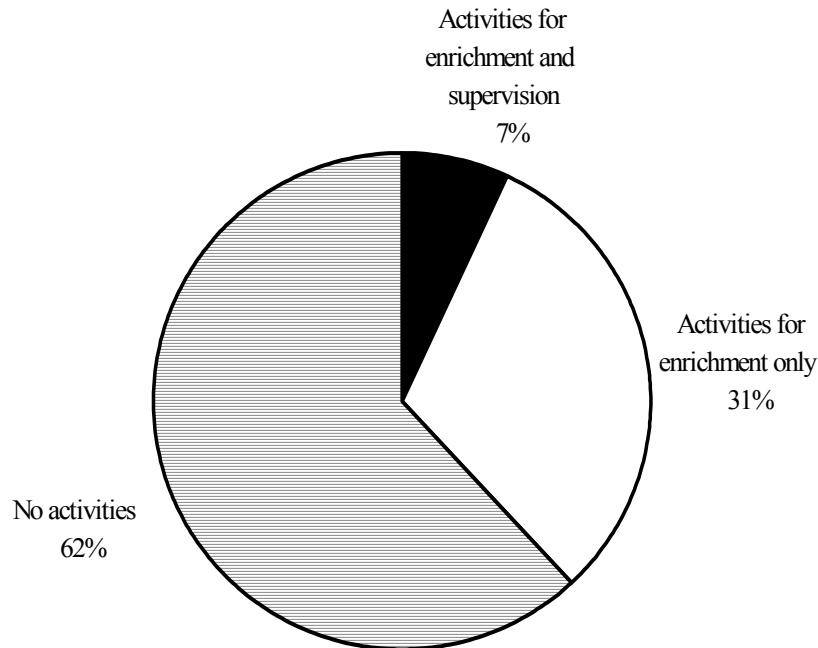
NOTE: Standard errors are as follows: arts, 1.3; sports, 0.9; clubs, 2.2; academic activities, 2.1; community service, 1.8; religious activities, 4.1. Home-schooled children are excluded. Includes all regularly scheduled activities whether for enrichment or supervision. Includes arrangements regularly scheduled at least once each month.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

### 3.2.3 Activities that Help Provide Adult Supervision

Children may participate in before- and after-school activities out of personal interest, and such activities help to broaden and develop their skills and knowledge. At the same time, many working parents may use such activities to ensure that their children are supervised by adults during out-of-school time. Parents were asked whether their children's participation in before- and after-school activities helped to cover hours when they needed adult supervision for their children. Overall, 7 percent of all children participated in before- or after-school activities used for supervision (and enrichment), compared with 31 percent of children who participated for enrichment only (figure 10). Of the 38 percent of children who currently participated in regularly scheduled weekly before- or after-school activities, parents of about one-fifth (19 percent) reported that their children's activities helped to cover hours when they needed adult supervision for them (not shown in tables).<sup>24</sup> This suggests that most children's participation in before- and after-school activities was primarily for their own interest and enrichment and not simply so that they would be under the supervision of adults.

Figure 10. Percent of kindergarten through eighth-grade children who participated in before- and/or after-school activities (scheduled at least weekly) used for enrichment only or for enrichment and adult supervision: 2001



NOTE: Standard errors are as follows: no activities, 0.6; activities used for enrichment only, 0.6; activities used for enrichment and supervision, 0.4. Only activities scheduled weekly were included. Home-schooled children are excluded.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Before- and After-School Programs and Activities Survey of the National Household Education Surveys Program (NHES), 2001.

<sup>24</sup> Standard error: 1.0.

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#### 4. SUMMARY AND CONCLUSIONS

Results of the 2001 NHES Before- and After-School Survey provide some insight into the complex and varied ways kindergarten through eighth graders in the nation spend their time out of school. Some parents place their children in the care of a relative or a nonrelative in a home setting. Others find adult supervision and safe settings for their children in center- or school-based programs or organized activities that are also aimed toward their enrichment or enjoyment. Still other parents allow their children to be responsible for themselves during out-of-school time. In some cases, parents must piece together a patchwork of arrangements in order to meet the contingencies of availability, cost, transportation, and other factors. Children may spend from a few minutes to many hours each week in their various nonparental arrangements.

Overall, 20 percent of children were in regularly scheduled nonparental arrangements before school in 2001, and 50 percent were in nonparental arrangements after school. The three most common after-school arrangements for children were relative care (17 percent), center- or school-based programs (19 percent), and self-care (13 percent). Fewer kindergarten through eighth graders were in the care of a nonrelative (6 percent) or in activities used for supervision (7 percent) after school. Of those children who had at least some nonparental arrangements before or after school, almost one-third were in more than one regularly scheduled arrangement.

Overall, kindergarten through eighth graders who had regular weekly scheduled arrangements (before and/or after school) spent on average 10.4 hours per week in them, or about 2 hours per day. This is consonant with the findings of Brimhall, Reaney, and West (1999) that children in kindergarten through third grade with some form of nonparental arrangements before and/or after school spent an average of 14 hours per week in them. Children with regular weekly scheduled before-school arrangements spent an average of 4.7 hours per week in them, and children with after-school arrangements spent on average 9.0 hours per week in them. On average, children spent more hours per week after school in relative care and nonrelative care arrangements (9.7 and 9.5 hours) than in center- or school-based programs (7.5 hours), activities arranged for adult supervision (4.2 hours), and self-care (4.8 hours).

This complexity of the state of children's out-of-school time is further compounded by variation across child and family characteristics. In general, Black children, children from households with one parent or nonparent guardians, and children with mothers who work full time were more likely than their

counterparts to have any nonparental arrangements before school, and they were also more likely to have any nonparental arrangements after school. With respect to participation in specific arrangement types, younger children (kindergarten through second grade) were more likely than older ones (sixth through eighth grade) to be in the care of a relative, nonrelative, or in a center- or school-based program before and after school,<sup>25</sup> rather than care for themselves during out-of-school time. Thirty percent of children in sixth through eighth grade were in regular self-care after school, compared with 8 percent of third through fifth graders and 2 percent of kindergarten through second graders. The finding that older children are more likely than younger ones to be in self-care is supported by previous research (Casper, Hawkins and O'Connell 1994; Todd, Albrecht, and Coleman 1990).

There were also differences between racial/ethnic subgroups. Similar to findings from previous research (Brimhall, Reaney, and West 1999), Black children were more likely than White and Hispanic children to be cared for by a relative both before and after school. Unlike previous research, which indicated that White children were more likely to be in self-care than other children (Todd, Albrecht, and Coleman 1990), Black children were found to be in self-care at higher rates than White and Hispanic children. They were also more likely to participate in center- or school based programs after school.

Variation was less pronounced for some socioeconomic indicators such as parents' highest level of education and household income, particularly for after-school hours. For example, while previous research has provided mixed results on the relationship between socioeconomic indicators and self-care (Todd, Albrecht, and Coleman 1990; Vandell and Ramanan 1991; and Pettit et al. 1997), no relationship was detected between household income and the use of self-care for children after school.

Two characteristics that were consistently related to nonparental arrangements were family type and mother's employment status. Generally, single-parent households and ones where mothers worked full time were more likely to have before- and after-school arrangements for their children. This finding is consistent with that of Brimhall, Reaney, and West 1999, that children in kindergarten through second grade living in single-parent homes or who had mothers who were employed full time were more likely to participate in after-school arrangements than children who lived with two parents or whose mothers were not in the labor force. The current study also showed that children from single-parent households and households with full-time working mothers were more likely than their counterparts to be in self-care

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<sup>25</sup> There is evidence that the number of older children in programs is increasing. In 1991, less than 1 percent of 7th and eighth graders were in center- or school-based programs after school (Seppanen et al. 1993). In 2001, 14 percent of 6th through eighth graders were in such programs.

after school, findings supported by other research (Brandon 1999; Casper, Hawkins, and O-Connell 1994; Todd, Albrecht, and Coleman 1990).

NHES:2001 also provides data on a variety of salient characteristics of the nonparental arrangements of kindergarten through eighth graders, including children's activities in their arrangements, location and cost of arrangements, characteristics of relative and nonrelative care providers, and numbers of children and adults present in different arrangement types. According to parents' reports, many children were engaged in education-related activities (such as homework) across arrangement types. Many were also spending time watching television, playing video games, and listening to music in their relative care, nonrelative care, and self-care arrangements. Children in school- or center-based programs were less likely to spend time watching television than children in other arrangements.

As for location, children in relative care were more likely to be cared for in their own homes than children in nonrelative care, and children in self-care were very likely (88 percent) to spend at least some of their time in their homes rather than other places, such as other homes, public places, community centers, schools, or outdoors. The majority of children who had center- or school-based arrangements in 2001 had them in public schools (55 percent).

Many children in relative care (52 percent) were cared for by their grandmothers. Another large group of children in relative care were cared for by their siblings (21 percent). Most of the children's sibling care providers were teenagers, but some were between 10 and 12 years old. With respect to cost, parents of 19 percent of children reported a fee (paid either by them or some other person or agency) for their children's relative care arrangements, while parents of 72 percent of children reported a fee for nonrelative care, and parents of 58 percent reported a fee for their children's center- or school-based programs. The cost of nonrelative care was higher on average than the cost of relative care and center- or school-based programs. Finally, the mean number of children per adult within arrangements ranged from 1.7 for relative care, to 3.0 for nonrelative care, to 8.1 for center- or school-based programs.

The variability in children's experiences in nonparental arrangements in 2001 suggests how parents in different circumstances managed the care of their school-aged children. Future research using data from the ASPA-NHES:2001 could examine topics such as parental satisfaction with current arrangements, difficulties finding adequate arrangements, characteristics of arrangements that parents find important, and reasons for choosing nonparental care, among others. In addition, further analyses of the ASPA-NHES:2001 data set could include multivariate tests to examine the relationships between

independent variables with respect to children's participation in arrangements. For example, multivariate tests might shed light on whether the greater overall participation of Black children in nonparental arrangements was related to other factors, such as urbanicity, socioeconomic status, and mother's employment status.



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## **Appendix**

### **Survey Methodology**

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## SURVEY METHODOLOGY

The National Household Education Surveys Program (NHES) is a data collection system of the National Center for Education Statistics (NCES) of the U.S. Department of Education that is designed to address a wide range of education-related issues. It provides descriptive data on the educational activities of the United States population and offers policy-makers, researchers, and educators a variety of statistics on the condition of education in the U.S. The NHES has been conducted in the spring of 1991, 1993, 1995, 1996, and 1999. Survey topics have included adult education and lifelong learning (1991, 1995, 1999, 2001), civic involvement (1996, 1999), early childhood education and school readiness (1991, 1993, 1995, 1999, 2001), household library use (1996), parent and family involvement in education (1996, 1999), and school safety and discipline (1993).

The 2001 administration of the National Household Education Surveys Program (NHES:2001) is composed of three telephone surveys developed by NCES and conducted by Westat. Data collection took place January 2 through April 14 of 2001. When appropriately weighted, the sample for each survey is nationally representative of all children or all civilian, noninstitutionalized persons in the 50 states and the District of Columbia. The sample of households was selected using random-digit-dial (RDD) methods, and the data were collected using computer-assisted telephone interviewing (CATI) technology. This section provides a brief description of the study methodology; further details will appear in the *National Household Education Surveys of 2001: Methodology Report* (Nolin et al. forthcoming) and the *NHES:2001 Data File User's Manual* (Hagedorn et al. 2003).

In the NHES:2001, a set of screening items was administered to an adult member of each household contacted. Household members were enumerated, age and grade information was collected on all children newborn through age 15 in order to determine eligibility for the study, and an appropriate respondent for the interview was selected. Children age 15 and younger who were enrolled in kindergarten through eighth grade were eligible to be sampled as subjects of the Before- and After-School Survey in the 2001 National Household Education Surveys Program (ASPA). The survey was administered to the parent or guardian living in the household who was identified by the Screener respondent as most knowledgeable about the care and education of the child. In 77 percent of the cases, this person was the mother of the sampled child.

In the ASPA interview, information was collected about household and child characteristics, current school status and school characteristics, participation in several types of before- and after-school arrangements, including self-care, parent perceptions of quality of arrangements and factors influencing their choice of arrangement(s), and parent/guardian and household characteristics. Questions about participation in the different arrangement types were asked in a particular order (i.e., relative care, nonrelative care, center-based programs, before- and after-school activities, and self-care) so as to increase validity in reporting and minimize order effects. Results on the various arrangements were presented in the tables, figures, and text of this report in the same order in which they were asked about in the ASPA interview.

Multiple attempts were made to complete interviews with the selected parent/guardian respondent if he or she was not available when the child was initially sampled as the subject of an interview, and interviews were conducted in both English and Spanish. This report is based on data from the 9,583 completed ASPA interviews.

Central to the mission of The National Center for Education Statistics is a commitment to protecting the identity of respondents to its various data collections. Surveys that make up the National Household Education Surveys program are designed to protect respondent identity. This design includes an extensive respondent disclosure risk analysis. As in past NHES collections, results from this analysis led to modifications to some data included on the data files. These confidentiality edits modify respondent data in order to prevent positive identification of individual respondents. Tests on the modified data were conducted to assure that the data remain accurate and useful.

## **Response Rates**

In the NHES:2001, Screener Interviews were completed with 48,385 households, yielding a weighted Screener response rate of 69.2 percent. Of the 11,000 eligible children sampled for the ASPA Survey, interviews were completed with parents of 9,583 children. When weighted, this is a completion rate of 86.4 percent. Thus, the overall weighted response rate for the ASPA interview was 58.1 percent (the product of the Screener response rate and the ASPA interview completion rate).

In order to minimize the effect of unit (interview) nonresponse on the survey estimates, adjustments to the weights were made at the household and child levels. These adjustments were based

upon CHAID analyses conducted to select nonresponse adjustment cells for the Screener and the ASPA interview; the factors associated with response propensity were consistent with those in prior NHES surveys. Following the nonresponse adjustment, the final raking procedure further adjusted for residual nonresponse effects as well as for coverage bias. Bias analyses conducted for the Parent-NHES:1999 survey, which included the ASPA population and used similar adjustment procedures, indicated no significant response bias in the estimates examined (Nolin et al. forthcoming). Estimates from the ASPA were compared to estimates from the Current Population Survey and prior NHES surveys where possible to assess the reasonableness of the estimates.

Item nonresponse (i.e., the failure to complete some items in an otherwise completed interview) was low for most items in the survey. Ninety-four percent of the items had a 90 percent or higher response rate. Eighty-six percent had a response rate of 95 percent or above, and 63 percent attained a response rate of 98 percent or above. Items that had a lower than 90 percent response rate were household income (89 percent), items ascertaining the number of weeks per month the child had nonparental arrangements (including self-care) that were less than weekly (71 to 89 percent), the amount of time in activities (86 to 88 percent), and some items related to the cost of arrangements (50 to 88 percent). Items with very low response rates were frequently associated with second or third rather than primary arrangements. Consequently, few respondents were eligible to answer the question, so a very small number of missing cases account for a low response rate. This holds for items with less than a 95 percent response rate also. For instance, only 62 respondents were eligible to be asked the number of weeks per month that the child was in self-care (73 percent item response rate), and only 4 were eligible to provide the unit of time for the cost of the fourth program in which the child participated (50 percent item response rate). Likewise, 30 respondents were eligible to report the age of the third relative care provider (93 percent item response rate); and 11, to name the activities the child participated in while at the fourth center- or school-based program (91 percent item response.) Items with missing data (i.e., “don’t know,” “refused,” or “not ascertained”) were imputed using a hot-deck procedure (Kalton and Kasprzyk 1986). The estimates in this report are based in part on imputed data.

### **Data Reliability**

Although the NHES is designed to account for sampling error and minimize nonsampling error, estimates produced using data from the ASPA are subject to both types of error. Sampling errors occur

because the data are collected from a sample rather than a census of the population. Nonsampling errors are made in the collection and processing of data.

### **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. Another potential source of nonsampling error is response bias. Response bias occurs when respondents systematically misreport information in a study (intentionally or unintentionally). One of the best known forms of response bias is *social desirability bias*, which occurs when respondents give what they believe is the socially desirable response. Although response bias may affect the accuracy of some survey estimates, including totals, if there are no systematic differences among specific groups under study in their tendency to give socially desirable responses, then comparisons of the different groups will accurately reflect differences among the groups.

In general, it is difficult to identify and estimate either the amount of nonsampling error or the bias caused by this error. While this is an important issue for any survey, it is particularly problematic in RDD surveys because so little is known about the sampled telephone numbers with which contact has not been made. In the NHES:2001, efforts were made to prevent nonsampling errors from occurring and to compensate for them where possible. For instance, during the survey design phase, cognitive interviews were conducted to assess respondent comprehension of the questions and the sensitivity of the items. The CATI instrument was extensively tested, and a multi-cycle field test was conducted during which over 700 Screeners and 340 ASPA interviews were conducted. Also, as explained above, weighting procedures are used to help reduce potential bias due to nonresponse.

An important source of nonsampling error for a telephone survey is the failure to include persons who do not live in households with telephones. About 94 percent of students in kindergarten through eighth grade live in households with telephones (U.S. Department of Commerce 1999). Estimation procedures were used to help reduce the bias in the estimates associated with excluding the 6 percent who do not live in households with telephones (Brick, Burke, and West 1992). The sample was based on wired household telephone lines only and did not include wireless cellular phones.



## Sampling Errors

The sample of telephone households selected for the NHES:2001 is just one of many possible samples that could have been selected. Therefore, estimates produced from the NHES:2001 sample 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 can be used as a measure of the precision expected from a particular sample. The probability that a population parameter obtained from 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.

Complex sample designs result in data that violate some of the assumptions that are normally used to assess the statistical significance of results from a simple random sample. Frequently, the standard errors of the estimates from complex sample surveys are larger than would be expected if the sample was a simple random sample and the observations were independent and identically distributed random variables. Standard errors for estimates presented in this report were computed using a jackknife replication method (Wolter 1985). The jackknife variance estimator,  $v(\hat{\theta})$ , generally takes the form

$$v(\hat{\theta}) = \frac{G-1}{G} \sum_{g=1}^G (\hat{\theta}_{(g)} - \hat{\theta})^2,$$

where

$\hat{\theta}$  is the full-sample estimate of the population parameter  $\theta$ ,  
 $\hat{\theta}_{(g)}$  is the estimate of  $\theta$  based on the observations included in the  $g$ -th replicate,  
and  $G$  is the total number of replicates formed.

Eighty subsets of telephone numbers, each of approximately equal size and each representing the full sample, were constructed from the full sample of telephone numbers. Replicates were formed by deleting one subset at a time and adjusting the weights of persons in the other subsets accordingly. The estimates of interest were calculated from the full sample weight and from each of the replicates. The variation among the replicate estimates was used to estimate the standard errors for the full sample estimates.

Standard errors for all of the estimates are presented in the tables of the report. These standard errors can be used to produce confidence intervals. For example, an estimated 19 percent of children in kindergarten through eighth grade participated in center- or school-based programs after school, and this estimate has an estimated standard error of 0.5. Therefore, the estimated 95 percent confidence interval for this statistic is approximately 18 to 20 percent ( $19 \pm 1.96 (0.5)$ ). That is, in 95 out of 100 samples from the same population of children, the percentage of children who are reported participating in center- or school-based programs would be approximately 18 to 20.

### Statistical Tests

All of the estimates in this report are based on weighting the observations using the probabilities of selection of the respondents and other adjustments to partially account for nonresponse and coverage bias.<sup>26</sup> Weights were developed to produce unbiased and consistent estimates of the national totals. (For more details on weighting procedures, see the *National Household Education Surveys of 2001: Methodology Report*, Nolin et al. forthcoming and Korn and Graubard 1999.) Special procedures for estimating the statistical significance of the estimates were employed because the NHES:2001 data were collected using a complex sample design.

The tests of significance used in this analysis are based on Student's *t* statistics for the comparison of individual estimates and for bivariate relationships. To test the differences between estimates, unbiased estimates of standard errors were used, derived by jackknife replication methods. To test for a difference between two subgroups in the population proportion having a particular characteristic, say  $P_1$  versus  $P_2$ , the test statistic is computed as:

$$T = \frac{p_2 - p_1}{\sqrt{[s.e.(p_1)]^2 + [s.e.(p_2)]^2}},$$

where  $p_i$  is the estimated proportion of subgroup  $i$  ( $i = 1, 2$ ) having the particular characteristic and  $s.e.(p_i)$  is the standard error of that estimate.

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<sup>26</sup> The full sample weight for the ASPA is FSWT.

For the aforementioned comparison, the decision rule is to reject the null hypothesis (i.e., that there is no difference between the two groups in the population in terms of the proportion having the characteristic) if  $|T| > t_{\frac{\alpha}{2};df}$ , where  $t_{\frac{\alpha}{2};df}$  is the value such that the probability that a Student's  $t$  random variable with  $df$  degrees of freedom exceeds that value is  $\alpha/2$ .

When multiple comparisons within a variable are made (e.g., comparing the percentage of children in arrangements across household income levels of less than \$25,000, \$25,001 to \$50,000, \$50,001 to \$75,000, and more than \$75,000), a Bonferroni adjustment is used to correct for the increased likelihood of error (Miller 1966). This method adjusts the significance level for the total number of comparisons made with a particular classification variable. All the differences cited in this report are significant at the 0.05 level of significance after a Bonferroni adjustment. Using a 0.05 level of significance means that the probability of incorrectly concluding that any pair of means or percentages are different is 5 percent.

### **Measuring Participation in Arrangements Scheduled at Least Once Per Month**

Parents could report up to four relative, nonrelative, and center- or school-based arrangements. They were also asked if their child was responsible for himself or herself on a regular basis. The number of arrangements was recorded for relative, nonrelative and center-based programs, and certain information was collected about every arrangement. For instance, parents were asked to report the type of relative who cared for the child (e.g., grandmother, aunt), whether the relative and nonrelative care was provided in the child's home or another home, the location of the center- or school-based program, the amount of time it takes to go from the home to the arrangement and from the arrangement to school, and whether the arrangement was before school, after school, or both before and after school. Following this series, the parent was asked whether the arrangement was regularly scheduled at least once each week. If not, the parent was asked whether the arrangement was regularly scheduled at least once each month. More details (e.g., hours in the program, activities, cost) were gathered about each arrangement that was scheduled weekly or monthly. Detailed questions were not asked about arrangements that were not scheduled at least once per month.

Of the 1,708 parents who reported a first relative care arrangement for their children, only 42 indicated it was not scheduled weekly or monthly (less than 1 percent). Of the 295 parents who reported a second relative care arrangement for their children, 59 (20 percent) said the arrangement was not scheduled at least once per month. A similar pattern holds for nonrelative care arrangements. Parents of

about 3 percent of children (18 out of 624) who reported a first arrangement and parents of 17 percent of children (11 out of 66) who reported a second arrangement indicated it was not scheduled at least monthly. Of the 1,841 parents who reported a first center- or school-based program for their children, 84 (5 percent) said it was not regularly scheduled at least once a month. A total of 343 parents reported a second center- or school-based program, and 15 (4 percent) indicated it was not at least monthly. Overall, parents of about 5 percent of children with relative, nonrelative, or center- or school-based arrangements indicated that they were not scheduled at least once per month.

With the exception of table B, table 3, table 4, and figures 1 and 10, the data presented in this report include arrangements scheduled at least once per month, as specified in the notes to the tables and figures. Table 3 and figure 1 show the patterns of all arrangements scheduled for children in kindergarten through eighth grade. Including arrangements that were scheduled less often than once per month added a relatively small percentage of cases to those scheduled weekly or monthly, as described above. Table B and table 4 show results based only on those arrangements that were scheduled at least once a week. In figure 10, the percentage of children with activities scheduled at least once per week is shown. Findings presented in tables 1, 2, and 3 for activities used for adult supervision of children are based upon activities scheduled at least weekly. Parents were only asked whether their children's activities helped to cover hours when they needed adult supervision for them only if their children participated in the activities at least once each week.

### **Measuring Urbanicity**

The definition of urbanicity used in this report is taken directly from the 1990 Census of Population (U.S. Department of Commerce 1992). An urbanized area (UA) comprises a place and the adjacent densely settled surrounding territory that together have a minimum population of 50,000 people. The term "place" in the UA definition includes both incorporated places, such as cities and villages, and Census-designated places (unincorporated population clusters for which the Census Bureau delineated boundaries in cooperation with state and local agencies to permit tabulation of data for Census Bureau products). The "densely settled surrounding territory" adjacent to the place consists of contiguous and noncontiguous territory of relatively high population density within short distances. The specific density and distance requirements are defined in the *Federal Register*, Vol. 55, No. 204.

The second category is urban, outside of UA. This category includes incorporated or unincorporated places outside of a UA with a minimum population of 2,500 people. One exception is for those who live in extended cities.<sup>27</sup> Persons living in rural portions of extended cities are classified as rural rather than urban. Places not classified as urban are rural.

Urbanicity was based on respondents' ZIP Codes, which were collected in the ASPA interview.<sup>28</sup> Since a ZIP Code can cut across geographic areas that are classified in any of the three categories, the ZIPURBAN variable is classified into the category that has the largest number of persons. For example, if a ZIP Code has 5,000 persons in the first category (urban, inside UA), 0 persons in the second category (urban, outside UA), and 1,200 persons in the third category (rural), it is classified as inside UA.

The values for ZIPURBAN are:

1 = Urban, inside UA (urbanized area)

2 = Urban, outside UA (urbanized area)

3 = Rural

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<sup>27</sup> An extended city is either an incorporated place of any population size inside a UA, or an incorporated place with a population of 2,500 or more people outside a UA that contains one or more component rural areas. Each component rural area must have a population density of less than 100 people per square mile, consist of at least one entire Census block, and include at least 5 square miles of continuous area. An extended city can have both urban and rural population and land areas.

<sup>28</sup> The item response rate for the question asking for the respondent's ZIP Code was 93 percent. Imputation was done using a link between the telephone exchange and the first three digits of the ZIP Code.

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