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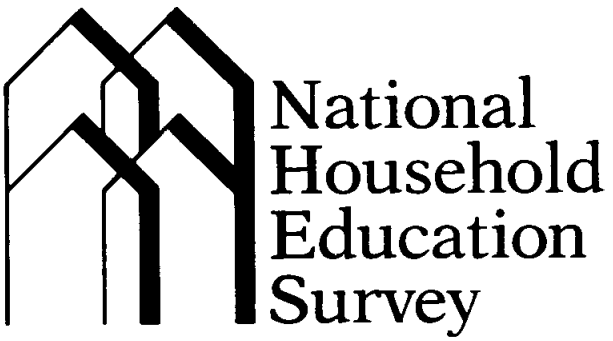
Profile of Preschool Children's Child Care and Early Education Program Participation



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Current Participation in Various Types of Child Care and Early Education Programs

In this report, the types of care and early education programs in which children participate are generally categorized as home-based and center-based arrangements. Care and early education programs within these two general types are further differentiated in terms of the relationship of the provider to the child, the location where the care is provided, and the organization of the care. The sections that follow describe children's participation in these different types of care and early education programs.

Research has demonstrated that the types of arrangements that children participate in vary with the characteristics of the child, mother, and family (Dawson and Cain 1990; Hofferth et al. 1991; O'Connell and Bachu 1992). Characteristics that have been found to be related to children's participation in different care and early education arrangements include children's age and race-ethnicity, the socioeconomic status of their families, and mother's employment status. Therefore, all findings in the following sections are presented in conjunction with each of these characteristics.

Home-Based Arrangements

Home-based arrangements include care provided in the child's own home or in another home, whether the care is provided by relatives (other than the child's parents) or nonrelatives. Care by a nonrelative in a child's home or in the caregiver's home are distinct types of home-based care. While care by nonrelatives in the child's home is traditionally known as care by a sitter or nanny, care by a nonrelative in the caregiver's home is commonly called family day care.

Parents were asked whether care was provided by a relative or by a nonrelative and whether the care was provided in the child's home, in another home, or both. Table 3 contains estimates of the percentage of preschool children receiving relative care, and table 4 contains estimates of children receiving nonrelative care. Not shown in either table is the number and percentage of children who receive some type of home-based care (relative or nonrelative) on a regular basis. In the spring of 1991, an estimated 30 percent of preschool children participated in home-based child care.*

About 17 percent of preschoolers receive home-based care on a regular basis from a **relative other than their parents** (e.g., grandparents) with only a small difference in the percentage of children receiving this care in their own homes (7 percent) or in another home (10 percent) (table 3). While 14 percent of preschool children receive home-based care from a **nonrelative** on a regular basis, most of this care is provided outside of the child's own home (11 percent) (table 4).

* Children may be cared for by both relatives and nonrelatives at different times of the day or on different days of the week. Consequently, adding the estimates in tables 3 and 4 together will not result in an estimate of the number and percent of unique children receiving some type of home-based care.

Table 3.--Percentage of preschool children receiving nonparental care from a relative on a regular basis and location of care, by child and family characteristics

Characteristic	Number of preschool children (in thousands)	Total in relative care		In relative care			
				In own home[3]		In other home	
		percent	s.e.	percent	s.e.	percent	s.e.
Total	8,442	17	0.6	7	0.4	10	0.4
Child's age[1]							
3-year-olds	3,749	16	0.7	6	0.5	10	0.6
4-year-olds	3,636	18	0.9	7	0.6	11	0.7
5-year-olds	1,044	16	1.3	7	1.2	9	1.1
6-year-olds and older	14	--	--	--	--	--	--
Child's race/ethnicity							
White, non-Hispanic	5,880	15	0.7	5	0.5	10	0.5
Black, non-Hispanic	1,241	24	2.1	11	1.6	13	1.5
Hispanic	1,002	20	2.1	8	1.3	12	1.6
Other races	319	19	3.8	11	2.3	8	2.2
Household income							
$10,000 or less	1,495	17	1.8	7	1.3	10	1.2
$10,001 to $20,000	1,439	19	1.5	7	0.9	12	1.1
$20,001 to $30,000	1,717	19	1.3	6	0.7	13	1.0
$30,001 to $40,000	1,325	16	1.3	7	1.0	9	0.9
$40,001 to $50,000	936	17	1.6	9	1.3	8	1.1
$50,001 to $75,000	975	16	1.7	5	0.9	11	1.4
More than $75,000	556	10	1.5	5	1.1	5	1.2
Parents' highest education[2]							
Less than high school	789	17	2.0	7	1.3	10	1.6
High school/high school equivalency	2,744	19	0.9	7	0.7	12	0.7
Vocational/technical or some college	2,554	18	1.1	7	0.6	11	0.8
College graduate	1,281	14	1.6	6	1.1	8	1.0
Graduate or professional school	1,020	10	1.5	4	0.8	6	1.1
Mother's employment status							
Working 35 hours per week or more	2,795	27	1.2	9	0.8	18	1.0
Working less than 35 hours per week	1,908	10	1.4	10	1.1	11	1.1
Looking for work	518	10	1.9	5	1.2	5	1.3
Not in labor force	3,014	6	0.6	3	0.4	3	0.5

[1]Calculated as of January 1, 1991.

[2]Highest level of schooling completed by either parent or guardian in the household or the only parent or guardian in the household.

[3]Includes those in own home as well as those in both own and other home.

-- Estimates are suppressed because the unweighted number is less than 30.

NOTE: The term "mother" is used to refer to mothers, stepmothers, and female guardians. Data were collected only for parents or guardians who resided in the household at the time of the interview. For this reason, the numbers for the parent variables (parents' highest education and mother's employment status) do not sum to the total. The designations of household relationships were made by the respondent. Because of rounding, details may not add to totals.

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

Table 4.--Percentage of preschool children receiving nonparental care from a nonrelative on a regular basis and location of care, by child and family characteristics

Characteristic	Number of preschool children (in thousands)	Total in nonrelative care		In nonrelative care			
				In own home[2]		In other home	
		percent	s.e.	percent	s.e.	percent	s.e.
Total	8,442	14	0.6	3	0.3	11	0.5
Child's age[1]							
3-year-olds	3,749	14	0.8	3	0.4	11	0.6
4-year-olds	3,636	14	0.8	3	0.5	11	0.7
5-year-olds	1,044	15	1.8	2	0.5	13	1.7
6-year-olds and older	14	--	--	--	--	--	--
Child's race/ethnicity							
White, non-Hispanic	5,880	17	0.8	4	0.4	13	0.7
Black, non-Hispanic	1,241	8	1.2	1	0.3	7	1.2
Hispanic	1,002	9	1.3	2	0.6	7	1.2
Other races	319	12	2.4	4	1.3	8	2.1
Household income							
$10,000 or less	1,495	6	1.0	1	0.5	5	0.9
$10,001 to $20,000	1,439	12	1.4	2	0.6	10	1.3
$20,001 to $30,000	1,717	13	1.1	3	0.6	10	1.0
$30,001 to $40,000	1,325	16	1.2	4	0.8	12	1.1
$40,001 to $50,000	936	21	2.0	4	1.1	17	1.8
$50,001 to $75,000	975	22	1.6	3	0.8	19	1.6
More than $75,000	556	26	2.2	14	2.0	12	1.7
Parent's highest education[3]							
Less than high school	789	8	1.4	2	0.8	6	1.4
High school/high school equivalency	2,744	12	0.9	2	0.4	10	0.8
Vocational/technical or some college	2,554	15	1.0	3	0.6	12	0.8
College graduate	1,281	17	1.6	4	0.9	13	1.4
Graduate or professional school	1,020	24	2.0	8	1.1	16	1.9
Mother's employment status							
Working 35 hours per week or more	2,795	25	1.3	4	0.5	21	1.1
Working less than 35 hours per week	1,908	20	1.6	5	0.9	15	1.4
Looking for work	518	1	0.5	0	0.2	1	0.5
Not in labor force	3,014	4	0.5	2	0.3	2	0.4

[1]Calculated as of January 1, 1991.

[2]Highest level of schooling completed by either parent or guardian in the household or the only parent or guardian in the household.

[3]Includes those in own home as well as those in both own and other home.

-- Estimates are suppressed because the unweighted number of cases is less than 30.

NOTE: The term "mother" is used to refer to mothers, stepmothers, and female guardians. Data were collected only for parents or guardians who resided in the household at the time of the interview. For this reason, the numbers for the parent variables (parents' highest education and mother's employment status) do not sum to the total. The designations of household relationships were made by the respondent. Because of rounding, details may not add to totals.

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

Home-Based Care and Child Characteristics. Race-ethnic differences in the percentage of children who receive relative care are not large. Nevertheless, black children are more likely than white children to experience this type of care. The pattern is reversed for nonrelative care, with white children being more likely to experience nonrelative care than either black or Hispanic children.

The location of relative care is different for white and black children. White children are twice as likely to receive relative care outside of their own home as in their own home, while no such difference is found for black children. In contrast, white, black, and Hispanic children all receive the majority of nonrelative care outside of their own homes.

Home-Based Care and Socioeconomic Characteristics. The relationship between household income and parental education and children's participation in home-based care arrangements is quite different for relative and nonrelative care. Parents' use of relative care for their children varies little by either income or their level of education. On the other hand, parents' use of regular nonrelative child care is related to both these measures of socioeconomic status.

In general, the percentage of preschool children who receive child care from a nonrelative increases with household income and parental education. A higher percentage of children from households with incomes over $40,000 receive nonrelative care than children from lower income groups ($20,000 or less). Children from households with very high incomes (over $75,000) are more likely than any other group of children to receive care from a nonrelative in their own home. This most affluent group of children is the only group whose receipt of nonrelative care in their own home nearly matches the receipt of this type of care outside of the home.

Preschoolers whose parents have not completed high school are less likely than any other group of children to receive nonrelative child care on a regular basis. On the other extreme are children whose parents' highest education includes graduate or professional school training. These children are most likely to receive care from nonrelatives and to receive this care in their own homes.

Home-Based Care and Maternal Employment. Few children whose mothers are not employed receive regular home-based care. Only 6 percent of children whose mothers are not in the labor force receive regular relative care and only 4 percent of these children receive regular nonrelative care. About one-fourth of children whose mothers are employed full-time receive each of these forms of care regularly, along with one-fifth of children whose mothers are employed part-time.

Children whose mothers work full-time are about twice as likely to receive relative care outside their own home as in their own home (18 percent and 9 percent, respectively). This is not the case for children of mothers who are either working part-time or not working, where relative care is about equally likely to be provided in or out of the child's own home.

Nonrelative care, whether provided to the children of women who are working full-time or part-time, is usually found outside of the child's home.

Center-Based Programs

Terms used to characterize center-based care and early education programs for young children are varied and overlapping, often resulting in some confusion. Center-based program arrangements include day care centers, nursery schools, and other types of organized group programs such as prekindergarten and Head Start. NHES:91 asked parents separately about their children's attendance at day care centers and nursery schools and other early education programs (i.e., prekindergartens and Head Start programs).[10]

Approximately one-half (53 percent) of preschoolers attend some type of center-based program (table 5). About 14 percent of preschoolers are reported by their parents as enrolled in a day care center, but not a nursery school, and 35 percent as enrolled in a nursery school, but not a day care center. A small percentage of preschoolers (4 percent) were reported by their parents as enrolled in both a day care center and a nursery school.[11]

Center-Based Programs and Child Characteristics. While the participation rate in home-based arrangements is similar for preschoolers of different ages, enrollment in center-based programs increases with the age of the child. An estimated 42 percent of 3-year-olds attend a center-based program compared with 60 percent of 4-year-olds and 64 percent of 5-year-olds.

Black and white preschool children are about equally likely to attend a center-based program (58 and 54 percent, respectively). Hispanic children are less likely to attend center-based programs when compared with any other group of non-Hispanic preschoolers. Similar findings have been reported in the PCS, a study of child care settings (Kisker et al. 1991). These researchers found that Hispanic children under age 5 were under-represented in center-based programs relative to their numbers in the population.

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[10] Parents were asked whether the program their children attended had an educational program. About 89 percent of the children identified by their parents as attending day care centers were enrolled in centers with an educational program. For about 95 percent of the children attending nursery school programs, their parents reported that the program had an educational program.

[11] The percentage of children reported as enrolled in both day care centers and nursery school programs may reflect in part the confusion surrounding these program categories. Consequently, most of the findings reported in this and other sections of this report focus on center-based programs as a group of activities.

Table 5.–Percentage of preschool children attending center-based programs (i.e., day care centers and/or nursery schools[1]), by child and family characteristics

Characteristic	Number of preschool children (in thousands)	Total attending any center-based program		Type of center-based program					
				Attending day care center, not nursery school		Attending nursery school, not day care center		Attending both	
		percent	s.e.	percent	s.e.	percent	s.e.	percent	s.e.
Total	8,442	53	0.9	14	0.5	35	0.7	4	0.4
Child's age[2]									
3-year-olds	3,749	42	1.4	15	0.8	24	1.1	4	0.5
4-year-olds	3,636	60	1.0	13	0.8	43	1.3	5	0.6
5-year-olds	1,044	64	2.1	11	1.3	46	2.5	6	1.0
6-year-olds and older	14	--	--	--	--	--	--	--	--
Child's race/ethnicity									
White, non-Hispanic	5,880	54	1.0	13	0.6	36	0.9	5	0.4
Black, non-Hispanic	1,241	58	2.5	21	1.6	35	2.4	3	1.0
Hispanic	1,002	39	2.2	10	1.4	27	1.0	3	1.0
Other races	319	53	3.4	10	2.2	36	3.9	6	1.7
Household income									
$10,000 or less	1,495	45	2.5	11	1.6	31	2.6	3	0.6
$10,001 to $20,000	1,439	44	1.9	13	1.3	28	1.8	4	0.7
$20,001 to $30,000	1,717	45	1.6	13	1.2	28	1.7	3	0.7
$30,001 to $40,000	1,325	53	1.8	14	1.3	34	1.7	6	1.0
$40,001 to $50,000	936	60	2.3	18	1.6	38	2.0	4	1.0
$50,001 to $75,000	975	68	2.3	15	1.0	47	2.3	7	1.0
More than $75,000	556	80	2.4	15	1.7	57	3.0	9	2.0
Parent's highest education[3]									
Less than high school	789	30	2.7	7	1.5	23	2.4	1	0.4
High school/high school equivalent	2,744	57	1.4	12	1.1	29	1.5	3	0.5
Vocational/technical or some college	2,554	56	1.4	16	1.3	34	1.5	5	0.7
College graduate	1,281	65	1.8	16	1.2	44	2.0	5	1.0
Graduate or professional school	1,020	73	2.0	15	1.5	51	1.8	8	1.1
Mother's employment status									
Working 35 hours per week or more	2,795	60	1.3	25	1.3	28	1.2	7	0.8
Working less than 35 hours per week	1,908	58	1.6	12	1.1	40	1.9	6	0.8
Looking for work	518	43	3.4	9	2.1	32	2.8	2	0.7
Not in labor force	3,014	45	1.2	5	0.6	39	1.1	2	0.3

[1]Includes children enrolled in nursery school, prekindergarten, and Head Start.

[2]Calculated as of January 1, 1991.

[3]Highest level of schooling completed by either parent or guardian in the household or the only parent or guardian in the household.

-- Estimates are suppressed because the unweighted number is less than 30.

NOTE: The term "mother" is used to refer to mothers, stepmothers, and female guardians. Data were collected only for parents or guardians who resided in the household at the time of the interview. For this reason, the numbers for the parent variables (parent's highest education and mother's employment status) do not sum to the total. The designations of household relationships were made by the respondent. Because of rounding, details may not add to totals.

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

Center-Based Programs and Socioeconomic Characteristics. While the findings concerning the relationship between children's participation in home-based child care and household income were mixed, there is a clear pattern when it comes to participation in center-based programs. Participation in center-based programs is greater among children from advantaged families. The participation rate in center-based programs for children in households with incomes ranging from less than $10,000 to $30,000 is about the same, but the rate increases steadily across each of the higher income categories. The participation rate for children living in households with incomes of up to $30,000 is about 45 percent and increases to about 60 percent for children in households with incomes of greater than $40,000 but not more than $50,000. The participation rate for children from the most affluent families is approximately 80 percent.

Attendance at center-based programs increases with parental education, a pattern also found for nonrelative home-based child care arrangements. Children whose parents completed education beyond the bachelor's level are nearly two and one-half times as likely to enroll in a center-based child care or early education program as children whose parents have not completed high school. Children whose parents graduated from college attend center-based programs at more than twice the rate of children whose parents did not complete high school.

Center-Based Programs and Maternal Employment. The pattern of participation of the children in center-based programs by maternal employment status is similar to the pattern found for home-based care. Children whose mothers are employed (58 percent to 60 percent) are more likely to attend center-based programs than children whose mothers are not employed (43 percent to 45 percent).

Primary Care Arrangements

The preceding sections have described children's participation in each of four separate types of child care and early education programs. The percentages of children participating in each type of arrangement (prevalence rates) were calculated without regard to the number of hours children spend in their arrangements or the number of arrangements in which they participate. In this section, children's participation is defined in terms of the arrangement in which they spend the greatest number of hours during the week, or their primary arrangement.

In this study, the **type of nonparental care or early education program** where the child spends the most time was designated as the primary arrangement or program and **not the single arrangement or program** where the child spends the greatest number of hours. Parents who participated in NHES:91 were asked only for the total number of hours their children spend in relative and nonrelative care arrangements, so the number of hours for each individual relative and nonrelative care arrangement is not available. Consequently, a child's primary arrangement in this report indicates whether the child spends the greater number of hours in center-based or home-based arrangements.[12] This difference is important when comparing estimates from this report to estimates reported from other surveys (e.g., CPS, NHIS-CH, SIPP).

The primary type of arrangement or program for about 44 percent of preschoolers is a center-based program (table 6). Another 23 percent spend the largest amount of time in home-based arrangements and 1 percent spend an equal number of hours in center-based and home-based settings.

Primary Arrangements and Child and Family Characteristics

As was noted in the description of the national estimates of children's participation in center-based programs, 4- and 5-year-olds attend center-based programs at higher rates than do 3-year-olds. A similar pattern is found with regard to preschoolers' primary type of arrangement. Among 4- and 5-year-olds, the percentage of children who spend the greatest number of hours in center-based settings (50 and 52 percent, respectively) is more than twice the percentage who spend the greatest number of hours in home-based programs (23 and 22 percent, respectively). While a higher percent of 3-year-olds have center-based settings (36 percent) than home-based settings (25 percent) as their primary type of arrangement, the difference is not as great as for older children. Moreover, 38 percent of these children have no regular nonparental care or early education arrangement.

[12] It is possible to separate the hours children spend in relative care from the hours they spend in nonrelative care using the NHES:91 data. However, for this report, the hours children spend in these two types of home-based care are combined.

Table 6.--Percentage of preschool children by primary type of arrangement of child care or early education program, based on weekly hours, by child and family characteristics

Characteristic	Number of preschool children (in thousands)	Home-based care		Center-based care[1]		Equal hours in two types of care		No nonparental care	
		percent	s.e	percent	s.e.	percent	s.e.	percent	s.e.
Total	8,442	24	0.60	44	0.78	1	0.19	31	0.80
Child's age[2]									
3-year-olds	3,749	25	0.95	36	1.14	1	0.24	38	1.18
4-year-olds	3,636	23	.82	50	1.10	1	0.29	26	1.06
5-year-olds	1,044	22	1.70	52	2.03	2	0.55	24	2.10
6-year-olds and older	14	--	--	--	--	--	--	--	---
Child's race/ethnicity									
White, non-Hispanic	5,880	24	0.85	44	0.87	1	0.27	31	0.87
Black, non-Hispanic	1,241	21	1.70	53	2.42	1	0.42	25	2.03
Hispanic	1,002	25	2.24	34	2.06	1	0.27	41	2.34
Other races	319	23	3.35	43	3.87	1	1.04	33	4.03
Household income									
$10,000 or less	1,495	16	1.87	40	2.37	1	0.45	42	2.65
$10,001 to $20,000	1,439	24	1.56	39	1.73	1	0.33	36	2.03
$20,001 to $30,000	1,717	24	1.17	36	1.48	1	0.35	38	1.60
$30,001 to $40,000	1,325	24	1.63	45	1.95	1	0.38	29	1.98
$40,001 to $50,000	936	28	2.16	46	2.36	2	0.65	23	1.77
$50,001 to $75,000	975	28	1.95	55	2.42	1	0.43	15	1.54
More than $75,000	556	25	2.33	64	2.62	2	1.15	9	1.60
Parent's highest education[3]									
Less than high school	789	20	2.26	28	2.56	0	0.00	52	3.65
High school/high school equivalency	2,744	25	0.98	36	1.11	1	0.30	38	1.43
Vocational/technical or some college	2,554	24	1.10	47	1.40	1	0.28	28	1.37
College graduate	1,281	23	1.70	55	1.98	1	0.48	21	1.69
Graduate or professional school	1,020	23	1.92	58	2.36	2	0.81	16	1.76
Mother's employment status									
Working 35 hours per week or more	2,795	40	1.47	44	1.53	2	0.44	13	0.88
Working less than 35 hours per week	1,908	31	1.31	45	1.47	2	0.54	23	1.56
Looking for work	518	8	1.92	41	3.30	0	0.00	51	3.65
Not in labor force	3,014	6	0.64	44	1.15	0	0.00	50	1.22

[1]Includes children enrolled in day care center, nursery school, prekindergarten, and Head Start.

[2]Calculated as of January 1, 1991.

[3]Highest level of schooling completed by either parent or guardian in the household or the only parent or guardian in the household.

-- Estimates are suppressed because the unweighted number is less than 30.

NOTE: The term "mother" is used to refer to mothers, stepmothers, and female guardians. Data were collected only for parents or guardians who resided in the household at the time of the interview. For this reason, the numbers for the parent variables (parent's highest education and mother's employment status) do not sum to the total. The designations of household relationships were made by the respondent. Because of rounding, details may not add to totals.

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

The primary type of nonparental care and early education program for preschoolers varies by race-ethnicity and certain socioeconomic characteristics of children's families. Non-Hispanic children, children from higher income households, and children whose parents have completed education beyond high school are not only more likely to participate in nonparental care and early education programs but to have center-based programs as their primary care and early education experience.

Primary Arrangements and Maternal Employment

Children's primary care arrangements differ according to their mothers' employment status. The children of women working full-time (35 hours or more per week) are about equally likely to have home-based and center-based programs as their primary type of arrangement. Among children whose mothers work part-time (less than 35 hours per week), 45 percent have center-based programs as their primary type of arrangement compared with 31 percent whose primary type of arrangement is home-based. The primary type of arrangement for the children of women who are not employed is overwhelmingly center-based. This suggests that in addition to working mothers' needs to find supplemental care for their children, center-based programs serve the educational and social needs of children of nonworking mothers.

Characteristics of Center-Based Programs

Findings from NHES:91 are consistent with those of other large-scale national studies of child care and early education program participation (Dawson and Cain 1990; Hofferth et al. 1991). Substantial numbers of today's preschool population attend center-based programs and are more likely to receive care and early education in center-based programs than in any other type of nonparental care setting. The percentage of children cared for in center-based programs has increased during the 1980s as other types of care arrangements declined or stayed roughly the same (O'Connell and Bachu 1992). Consequently, it is more important than ever to look at the characteristics of center-based programs and how variable these characteristics are for different groups of children.

Researchers, in general, agree that it is the quality of the care that children receive rather than the type of care they receive that has the most impact on children's development. Several characteristics of the early childhood programs have been found to be associated with positive developmental outcomes by researchers. These quality indicators include group size, child-staff ratios, caregiver education and training, and the rate of staff turnover (Hayes et al. 1990; Zigler and Lang 1991).

While NHES:91 did not directly examine the quality of children's care and early educational setting, it did collect data on two structural indicators of quality, group size and child-staff ratios. These structural indicators involve the organization of care and may be readily observed and regulated (Howes 1992). Research has shown that small group size is an important predictor of sensitive caregiving and the active engagement of children in their daily activities (Holloway and Reichhart-Erickson 1988; Howes 1983), while larger groups have been reported to be associated with less positive peer interaction patterns such as aggressiveness and uncooperative behavior (Howes 1983). In research involving infants and toddlers, low child-staff ratios appear to be an important factor in the development of infants and toddlers. Research on ratios for preschoolers, however, is not consistent (Hayes et al. 1990).

Descriptions of children's center-based program experience in terms of these structural characteristics follows. Data on group size and child-staff ratios for children in home-based care were not collected by the NHES:91.

Group Size

In NHES:91, the parents of preschool children enrolled in center-based programs were asked the number of children who are usually in their child's group. Nationally, the average group size for preschoolers enrolled in center-based programs was 15 children (table 7).[9] This number is within the maximum acceptable range of 14 to 20 children

[9] Group size and child-staff ratios were calculated for the program in which the child spends the most time.

recommended by the National Academy of Sciences Panel on Child Care Policy (Hayes et al. 1990).

On average, parents of 3-year-olds reported slightly fewer children in their children's center-based programs than the parents of 4- and 5-year-olds (14 and 15 children, respectively).[14] This finding that the number of children in center-based programs increases with the age of the children is consistent with other recent studies of child care settings (e.g., PCS).

There were small but statistically significant differences in the average reported group sizes in center-based programs by race-ethnicity, family income, and mother's employment status. The average group sizes for black and white children were 14 and 15 children respectively, compared with an average group size of 17 for Hispanic children. Reported group sizes decreased slightly as family income rose. The average group size for children from households with family incomes of less than $10,000 a year were higher compared with those of children from families with yearly incomes above $30,000 (16 children and 14 children, respectively).

Child-Staff Ratios

Parents of preschool children attending center-based programs were also asked about the usual number of adults (e.g., teachers, aides) in the group. Child-staff ratios were calculated by dividing the group size reported by parents by the number of adults who were usually with the group or room.[15] In general, the calculated average child-staff ratio of 7 children per adult is lower than the range of 8:1 to 20:1 for 3- to 5-year-olds recommended by professional associations (Hayes et al. 1990).[16] Differences in child-staff ratios across age groups, race-ethnicity, family socioeconomic status, and mother's employment status were small.

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[14] Willer et al. (1991) found that child-staff ratios calculated from parent reports of the number of children in their children's groups and the number of staff caring for those children tend to be lower than the child-staff ratios reported by center directors. NCES is currently sponsoring a more detailed analysis of parental reporting using data from the provider linked sample of the NCCS.

[15] Reported group sizes ranged from fewer than 10 children (16 percent of children attended these groups) to groups with more than 20 children (9 percent of children attended these groups).

[16] Child-staff ratios based on information reported by parents ranged from fewer than 5:1 (17 percent of children in center-based programs with this ratio) to more than 10:1 (11 percent of children attended programs with this ratio).

Table 7.--Average group size and child-staff ratios of center-based programs[1] by child and family characteristics

Characteristic	Number of preschool children in center-based programs (in thousands)	Average group size		Average child-staff ratio	
		mean	s.e.	mean	s.e.
Total	4,244	15	0.14	7	0.08
Child's age[2]					
3-year-olds	1,489	14	0.21	7	0.12
4-year-olds	2,104	15	0.20	8	0.10
5-year-olds	636	15	0.35	8	0.27
6-year-olds and older	14	--	--	--	--
Child's race/ethnicity					
White, non-Hispanic	3,070	14	0.18	7	0.09
Black, non-Hispanic	661	15	0.35	7	0.30
Hispanic	348	17	0.51	8	0.21
Other races	164	16	0.78	7	0.45
Household income					
$10,000 or less	625	16	0.47	7	0.36
$10,001 to $20,000	584	15	0.36	7	0.19
$20,001 to $30,000	728	15	0.33	8	0.17
$30,001 to $40,000	671	14	0.33	7	0.17
$40,001 to $50,000	544	14	0.34	7	0.20
$50,001 to $75,000	654	14	0.28	7	0.15
More than $75,000	435	14	0.35	7	0.19
Parent's highest education[3]					
Less than high school	208	16	0.68	7	0.32
High school/high school equivalency	110	15	0.26	7	0.14
Vocational/technical or some college	137	15	0.28	7	0.16
College graduate	808	14	0.28	7	0.15
Graduate or professional school	728	14	0.26	7	0.15
Mother's employment status					
Working 35 hours per week or more	1,593	14	0.20	7	0.11
Working less than 35 hours per week	1,068	14	0.27	7	0.15
Looking for work	208	15	0.26	7	0.16
Not in labor force	1,284	15	0.61	7	0.43

[1]Includes children enrolled in daycare center, nursery school, prekindergarten, and Head Start.

[2]Calculated as of January 1, 1991.

[3]Highest level of schooling completed by either parent or guardian in the household or the only parent or guardian in the household.

-- Estimates are suppressed because the unweighted number is less than 30.

NOTE: The term "mother" is used to refer to mothers, stepmothers, and female guardians. Data were collected only for parents or guardians who resided in the household at the time of the interview. For this reason, the numbers for the parent variables (parent's highest education and mother's employment status) do not sum to the total. The designations of household relationships were made by the respondent. Because of rounding, details may not add to totals.

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

Summary

The 1991 National Household Education Survey interviewed the parents of a nationally representative sample of preschool children. Parents were asked about the supplemental care and early education these children received from persons other than their parents. Information was sought on children's participation in both home-based and center-based child care and early education programs regardless of the mother's employment status.

Findings from the first NHES show that in the spring of 1991 about 5.7 million (68 percent) preschool children were receiving some type of supplemental care or early education on a regular basis from someone other than their parents. About one-third of preschoolers received this care or early education from a relative or nonrelative in a home-based setting, and about one-half through center-based programs. Thus, for a major proportion of young children, kindergarten and first grade no longer represent their first regular exposure to other adults and children in an out-of-home organized group program.

Children in regular care and early education programs spend an average of 19 hours each week in these settings. Children whose mothers work full-time spend an average of 34 hours per week in a variety of child care and early education programs.

Findings from NHES:91 also show that participation in nonparental child care and early education programs differs by children's age, race-ethnicity, socioeconomic status of their family, and maternal employment status. The participation rate among 4- and 5-year-old preschool children is higher than that among 3-year-olds. Hispanic children have the lowest rate of participation compared with white and black children. In general, the higher the education level of children's parents and the more affluent their parents, as measured by household income, the more likely they are to be in some form of nonparental care or early education setting.

Although the data show that more than three-fourths of the children of working mothers receive regular care and early education from persons other than their parents, about one-half of the children of nonworking mothers also receive such care and education. The high rate of participation of these latter children may reflect the importance that parents place on having their children exposed to early education and organized group experiences.

The types of care and early education children receive on a regular basis from persons other than their parents are not the same for all children. Children from higher income households and children whose parents have more education tend to participate in center-based programs at a higher rate than other children. They are also more likely to receive regular care from a nonrelative in a home setting, usually outside of the children's own homes.

The National Center for Education Statistics (NCES) intends to collect data on children's supplemental care and education on a regular basis through the NHES. Data on

children's participation in the full range of nonparental care and early education settings are scheduled to be collected again during the spring of 1994 and every 3 years thereafter. NCES hopes that through NHES, it can provide policymakers and researchers with a consistent set of information that can be used to describe and monitor children's experiences.

Methodology and Technical Notes

Survey Methodology

NHES:91 is a random-digit-dial (RDD) telephone survey conducted for the National Center for Education Statistics (NCES) by Westat, Inc. The survey was conducted with a sample drawn from the noninstitutionalized civilian population in households with telephones in the 50 states and the District of Columbia from late January through early May of 1991. Computer-assisted telephone interviewing (CATI) technology was used to conduct the survey. NHES:91 included two components: an Early Childhood Education (ECE) survey of the parents of children from 3 to 8 years old and an Adult Education (AE) survey of adults 16 years of age and older. This report pertains only to the ECE survey component.[11]

All children from 2 to 9 years old were enumerated in each sampled household, and the appropriate respondent for the ECE survey was identified for each child. The appropriate respondent was defined as the parent or guardian who knew the most about the child's care and education. About 78 percent of the respondents were the child's mother; another 18 percent were the child's father; and the remaining 4 percent were other persons such as grandparents, stepparents, or guardians, with stepmothers and grandparents being the most common respondents among this latter group.

The respondent was asked the month and year of the child's birth. This information was used to calculate the child's age on January 1, 1991, which was used as the primary criterion for final eligibility. Children who were 3 to 8 years old on January 1 were included in the survey. All children who were 9 years old on January 1 and had not yet completed second grade were also included, so that accurate retention rates could be calculated for second graders.

Since the sample was drawn from the noninstitutional population of 3- to 8-year-olds in households with telephones, the estimates were adjusted so that the totals were consistent with the total number of persons in all (telephone and nontelephone) households. The independent estimates were taken from the March 1991 CPS control totals of number of persons by race and age. The distributions of numbers of persons by income, home ownership status, and census region from the October 1990 CPS were also used to adjust the estimates.

Survey Content

Following determination of eligibility based on the child's month and year of birth, data were collected on household composition, the child's parents' marital status, and the

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[11] Additional information pertaining to the ECE survey component is provided in the *NHES:91 Preprimary and Primary Data Files User's Manual* (Brick et al. 1992).

child's school enrollment status. At this stage, the interview took either a preprimary path for children not yet enrolled in first grade, or a primary school path for children enrolled in first grade or above. Items for preprimary children included a) current nonparental care and early education arrangements, including care by relatives or nonrelatives, participation in day care centers, and enrollment in nursery schools, prekindergartens, and Head Start programs; b) information on planned or current kindergarten enrollment; c) a series of items on the home environment, including activities with family members; d) child's birth weight and handicap status; and e) family status variables (i.e., family income, parental education, and labor force status).

Data Reliability

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

Nonsampling Errors. Nonsampling error refers to variations in estimates which may be caused by coverage, data collection, processing, and reporting procedures. The sources of nonsampling errors typically include a) unit and item nonresponse, b) differences in respondents' interpretation of meaning of the questions, c) response differences related to the particular time the survey was conducted, and d) mistakes in data preparation.

In general, it is difficult to identify and estimate either the amount of nonsampling error or the bias caused by this error. In the NHES:91 data collection, efforts were made to prevent nonsampling errors from occurring and to compensate for them where possible. For example, during the survey design phase, cognitive laboratories and focus groups, over 500 hours of CATI instrument testing, and a pretest with more than 200 households were used to check for consistency of interpretation of items and to eliminate ambiguity in items.

A specific issue that readers should be aware of is the ambiguity associated with describing and classifying center-based programs for children. Survey results suggest that some respondents (about 128) provided duplicate reports of day care center and nursery school participation--that is, they reported that their child was enrolled in both types of programs, but reported the same number of hours and days per week, with the total hours summing to 50 or more. These are presumed to be duplicate counts and have been unduplicated by using information from the screener for the purposes of this report. Additional information on this matter is provided in the *NHES:91 Preprimary and Primary Data Files User's Manual* (Brick et al. 1992).

A source of nonsampling error for a telephone survey is the failure to include persons who do not live in households with telephones. Based on data from the October 1990 CPS, it is estimated that about 90 percent of all 3- to 8-year-olds live in households with telephones. Estimation procedures were used to adjust for bias in the estimates associated

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

Sampling Errors. The sample of telephone households selected for NHES:91 is just one of the many possible samples of telephone households that could have been selected. Thus, estimates produced from the NHES:91 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 persons (or households), rather than all persons (or households).

The standard error is a measure of the variability due to sampling when estimating a statistic such as a population total or a percentage. For each statistic, it indicates how much variance there is in the population of possible estimates for a given sample size. Standard errors can be used as a measure of the precision expected from a particular sample. The probability that a statistic from a complete census would differ from the sample statistic by less than one standard error is about 68 out of 100. The chances that the difference would be less than 1.65 times the standard error are about 90 out of 100; and that the difference would be less than 1.96 times the standard error are about 95 out of 100.

Standard errors for all estimates are given in the tables of the report. Standard errors for all statistics are estimated using a jackknife replication method.

Response Rates

NHES:91 completed screening interviews with 60,314 households. The weighted response rate for the screening of households was an estimated 81.1 percent.

A total of 13,892 interviews were completed for children who were sampled and identified as eligible for the ECE component of the survey. The weighted completion rate for the ECE interview, or the percent of interviews conducted for eligible children, was 94.5 percent. The sample included 7,655 completed preprimary interviews and 6,237 completed primary interviews. The overall weighted response rate for the ECE interview was 77 percent, the product of the household screening response rate and the ECE interview completion rate.

For the NHES:91 ECE component, the item response rate (the number of completed data items divided by the number of items that could have been completed) is in excess of 95 percent for nearly every item.

Statistical Tests

The statistical comparisons cited in this report are based on Student's t statistics. Several issues must be kept in mind in assessing the significance of the differences. First, comparisons based only on large t statistics can be misleading because the magnitude of the t statistic is related to the differences in means or percentages being compared, the number of respondents in the categories used for comparison and the degree of variability among respondents within categories. A small difference compared across a large number of cases could produce a large t statistic, while a large difference compared across a relatively small number of cases could produce a smaller t statistic.

Second, as the number of comparisons increases at the same significance level, it becomes increasingly likely that at least one of the estimated differences will be erroneously classified as being significantly different from zero. Even when there is really no difference between the means or percentages being compared, there is a 5 percent chance of getting a significant t value of 1.96 from sampling error alone. As the number of comparisons increases, the chance of making an error in inference also increases.

To guard against errors of inference based on multiple comparisons, the Bonferroni procedure to correct significance tests for multiple comparisons was used. This method adjusts the significance level for the total number of comparisons made with a particular classification variable. All statements of difference that appear in the text are significant at the .05 level, after adjustment for multiple tests using the Bonferroni procedure.

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