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ABSTRACT

This document reports the results of two coordinated studies of early education and care in the United States. Information on child care demand was provided through the National Child Care Survey 1990 (NCCS), which involved interviews with 4,392 parents. Information on child care supply was provided by A Profile of Child Care Settings (PCS), which involved interviews with 2,089 center directors and 583 day care providers. The results of the NCCS are presented in terms of types of supplemental care arrangements, hours children spend in care, and overall demand. The results of the PCS are presented in a profile of care settings and descriptions of child care programs' regional distribution and organizational sponsorship. A study of the relationship between supply and demand considers the process of locating the proper form of care. Those seeking care will consider the options and types of service available, and the costs of care. The key characteristics of care, including program goals, child-staff ratios, teacher training, and parental satisfaction, are highlighted. Trends in program enrollment, fees, and resources are identified. References number 20. An appendix describes the NCCS and PCS methodology, and evaluates NCCS and PCS estimates of day care center enrollments and the number of nonregulated family day care homes. (BC)

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AND SUPPLY

Joint findings from

THE NATIONAL CHILD CARE SURVEY 1990
and
A PROFILE OF CHILD CARE SETTINGS

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THE DEMAND AND SUPPLY OF CHILD CARE IN 1990

Joint findings from

THE NATIONAL CHILD CARE SURVEY 1990
and
A PROFILE OF CHILD CARE SETTINGS

Barbara Willer
Sandra L. Hofferth
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NATIONAL ASSOCIATION FOR THE EDUCATION OF YOUNG CHILDREN

ADMINISTRATION ON CHILDREN, YOUTH AND FAMILIES
U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES

OFFICE OF POLICY AND PLANNING,
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RELATED REPORTS

This joint summary is based on two studies which are also available separately. For further information, contact the following.

A Profile of Child Care Settings: Early Education and Care in 1990 by Ellen Eliason Kisker, Sandra L. Hofferth, Deborah Phillips, and Elizabeth Farquhar. Contact John Kane, U.S. Department of Education, 400 Maryland Avenue, S.W., Room 4049, Washington, DC 20202-4110.

The National Child Care Survey 1990, by Sandra L. Hofferth, April Brayfield, Sharon Gennis Deich, and Pamela Holcomb. Contact University Press of America, 4720-A Boston Way, Lanham, MD 20706.

Data from *A Profile of Child Care Settings* and *The National Child Care Survey 1990* may be ordered from Dr. J.J. Card, Sociometrics Corporation, 170 State Street, Suite 260, Los Altos, CA 94022.

ABOUT THE STUDIES

The National Child Care Survey 1990 was jointly sponsored by the National Association for the Education of Young Children (NAEYC) and the Head Start Bureau of the Administration on Children, Youth and Families (ACYF) in the U.S. Department of Health and Human Services (DHHS). Other partners included the DHHS Office of the Assistant Secretary for Planning and Evaluation, which funded a substudy of low-income families, and the Department of the Navy, which funded a substudy of military families.

A Profile of Child Care Settings Study was sponsored by the Office of Policy and Planning, U.S. Department of Education (ED). Funding for the coordination of the two studies was also provided by the Department of Education through an interagency agreement with ACYF.

The two studies were collaboratively executed by three research teams. The prime contractor for *The National Child Care Survey 1990* was The Urban Institute in Washington, D.C. Abt Associates, Inc., under contract to The Urban Institute, selected the sample and carried out field work from offices in Cambridge, Massachusetts; Amherst, Massachusetts; and Chicago, Illinois. The prime contractor for *A Profile of Child Care Settings* was Mathematica Policy Research, Inc., Princeton, New Jersey, assisted by The Urban Institute as subcontractor.

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1

INTRODUCTION

The National Child Care Survey 1990 (NCCS) and *A Profile of Child Care Settings* (PCS) reflect a unique collaborative effort in which separately funded research studies were closely coordinated in order to provide a comprehensive picture of early education and care in the United States. Information about the demand for child care is provided through *The National Child Care Survey*, based on a nationally representative sample of families with children younger than age 13. The NCCS describes the types of care and education (excluding formal schooling) which parents use to supplement their own care of children. Information on child care supply is provided by *A Profile of Child Care Settings*, which describes the characteristics of programs in public and private child care centers, nursery schools, and preschools as well as regulated family day care homes.[1] The PCS is representative of all formal early childhood centers and regulated family day care homes serving preschoolers. This perspective on the child care market is supplemented by the results of a separate component of the NCCS utilizing a nationally generalizable sample of regulated and nonregulated family day care providers. The two studies thus cover the major forms of child care provided outside the family in both regulated and nonregulated segments of the child care market. This joint report contains highlights of both studies as well as discussions of key topics from the perspectives of parents and providers.[2]

BACKGROUND AND CONTEXT

The second half of the twentieth century has been characterized by large-scale changes in work and family life. Chief among these trends is the increased labor force participation of mothers. The proportion of all American children under age 18 with mothers in the labor force has risen from 39% in 1970 to 62% in 1990 (U.S. Bureau of Labor Statistics, 1990). These increases are evident in both full- and part-time employment. Among all mothers, the proportion of those employed full-time has risen from 26 to 46%, and the proportion of those employed part-time has increased

[1] *The PCS focused primarily on services offered to children ages 5 or under; nonregulated programs exclusively for school-age children were not included in this survey. A study funded by the U.S. Department of Education to be released in 1992 will provide additional information on programs for school-age children.*

[2] *For further details regarding the individual studies, see* The National Child Care Survey 1990 *(Hofferth et al., in press) and* A Profile of Child Care Settings: Early Education and Care in 1990 *(Kisker et al., 1991).*

from 14 to 17%. Accompanying the rise in maternal employment, the use of supplemental care for children while parents are employed has increased for infants (under age 1) and toddlers (ages 1 to 2) as well as for older preschoolers (ages 3 to 4).

Another significant change has been that families are enrolling their children in educational programs prior to school entry at an increasingly early age regardless of maternal employment. For example, in 1965, only 16% of 4-year-olds and 5% of 3-year-olds attended any type of preschool program. By 1989, enrollment had increased to just over half (51%) of all 4-year-olds and 27% of all 3-year-olds (U.S. Bureau of the Census, 1991).

These changing patterns give rise to important questions about early care and education. To what extent do families rely on their own members for care and supervision? When non-parental care is used, what sorts of arrangements are made? For what purposes? In what ways does maternal employment affect the choices parents make about their children's care and early education? How extensive is their use of various types of arrangements? How do choices change as children move from infancy through preschool and into their school years? What types of options are generally available in different types of communities? What are the characteristics of programs available to families with children of various ages? Are there major gaps or imbalances between demand and supply?

Nationally representative studies to examine such questions have not been undertaken since the mid-1970s. Earlier studies are useful for understanding changing patterns in child care and early education; however, their investigations did not cover all types of families or forms of care. For example, surveys of child care demand have focused on the arrangements of employed mothers, excluding families in which the mother is not employed as well as households in which the father is a single parent. Supply studies have focused on full-day, licensed programs or those defined as preschool services. Yet, parents utilize a wide array of care and education arrangements for their children depending on their family's needs, their resources, and the options known to them in their community. Many parents provide all of their children's care themselves or rely on relatives to help out for short periods. When supplemental care is needed, parents make different types of arrangements to meet differing child and family needs. Families with a parent at home, for example, may send older preschoolers to a child development program for a few hours each week, whereas full-time care may be required when mothers are employed. Friends, neighbors, and other family day care providers also care for children in a wide variety of circumstances. Table 1 describes the categories of care and how they are defined in this study.

***Table 1.* Definitions of Child Care**

The following definitions of supplemental child care arrangements are used throughout this report.

Center Care—Establishments where children are cared for in a group in a nonresidential setting for all or part of the day. Centers can be categorized by their legal status and auspice. The following categories are used in this report: nonprofit centers, both sponsored and independent; and for-profit centers, both independent and members of a chain. Nonprofit, sponsored programs are further categorized by auspice, including those sponsored by Head Start, public schools, religious organizations, or other sponsors such as employers or community agencies.

Family Day Care—Care provided for a small group of children in the caregiver's home. Often a family day care provider is a mother with children of her own at home. Family day care may be regulated or nonregulated. Nonregulated care includes providers who are not licensed or registered whether or not they are subject to regulation.

In-Home Care—Care provided by a non-relative who comes into the family home. Sometimes the provider brings her own children along to the home.

Relative Care—Care provided by a relative in the child's home or the relative's home.

No Supplemental Care—Parents provide all care for their children or use non-parental arrangements only on an irregular basis.

Given societal changes and the need to understand more clearly how emergent trends are affecting patterns of early education and care, the NCCS and PCS were undertaken to provide a comprehensive overview from the perspective of both parents and providers. These studies are the first to systematically consider all types of families and a full range of options. Together the NCCS and PCS provide detailed information about the needs and resources of American families with children; about the extent to which they utilize child care and education services; and about the availability, affordability, and characteristics of early education and care options.

RESEARCH DESIGNS AND SAMPLES

The National Child Care Survey focuses on families' choice of child care arrangements for children younger than age 13. *A Profile of Child Care Settings* examines the affordability, availability, and characteristics of centers and regulated family day care homes serving primarily preschool children. The designs of the two studies were coordinated so that field operations were conducted simultaneously within the same probability sample of 100 counties or county groups, stratified on geographic and some socio-economic characteristics. Use of the same primary sampling units allowed the studies to minimize differences arising from environmental factors.[3]

THE NATIONAL CHILD CARE SURVEY

The objectives of the NCCS were to (1) obtain information about the characteristics of families with children younger than age 13 and the extent to which parents supplement the care that they provide for their children with other arrangements; (2) describe what choices of care are made for children of different ages in families with differing characteristics; and (3) describe the characteristics of nonregulated and informal care arrangements. The NCCS was conducted by telephone using a random-digit-dialing method.[4] The sample design for the NCCS was a 3-stage cluster sample. At the first stage of sampling, NCCS researchers identified a stratified probability sample of 100 counties or county groups. At the second stage, a random sample of telephone exchanges within each of these counties or county groups was compiled. Based on this list, researchers placed calls to a random sample of residential telephone numbers and completed a brief screening procedure.

The NCCS screening procedure resulted in two nationally representative samples of households: (1) families with children under age 13 and (2) families in which an adult member provided child care for at least one other family. Eligible respondents in both groups were then interviewed using a computer-assisted telephone interview (CATI) system which allowed researchers to follow different lines of inquiry according to the respondent's family and child care situation.

During the parent interview, carried out between October 1989 and May 1990, a total of 4,392 parents (primarily mothers) described the early education and care of their children along with their own activities, employment, and demographic

[3]*For technical information on research methodology, see* The National Child Care Survey 1990 *and* A Profile of Child Care Settings: Early Education and Care in 1990.

[4]*For further information regarding this sampling method, see the Appendix.*

characteristics.[5] Parents were asked to identify all of the programs or people who cared for each child on a regular basis (at least once a week) as well as which arrangements they used the most.

The second NCCS sample consisted of 162 family day care providers identified during the telephone screening process. These individuals, primarily nonregulated family day care providers who were caring for the children of friends, neighbors, and relatives, were interviewed with the same questionnaire as that used in the PCS to describe regulated family day care. The information regarding nonregulated family day care is based on this sample. Due to the small sample size and possible bias in the sample, findings for nonregulated family day care must be interpreted with caution. See the Appendix for further discussion of sample limitations.

A PROFILE OF CHILD CARE SETTINGS

The major objective of the PCS was to obtain national estimates of the number and characteristics of early childhood programs in operation during 1990. The sample frame for the PCS was composed of the following types of providers: 1) child care centers and early education programs licensed by state or county child care licensing agencies; 2) unlicensed church-based programs and part-day preschool programs located in states where those programs are not required to be licensed; 3) early childhood programs in the public schools which are exempt from state child care regulations; and 4) regulated family day care (home-based) providers, including group day care homes where they are defined and regulated as a separate category of care. Two types of programs were specifically excluded from the sample frame because they do not provide regular care for preschool children and the lists were too difficult to obtain. These include unlicensed programs serving only school-age children and unlicensed programs serving children exclusively on a drop-in basis.

PCS researchers obtained lists of child care centers and regulated family day care homes from state and county licensing offices in the same 100 counties or county groups used by the NCCS. Because of variations in state regulations, licensing lists were supplemented with lists of programs that are exempt from regulation in some states. These were primarily Head Start programs, centers based in religious institutions, and public school programs. All of the states within the sample which exempt centers based in religious institutions from licensing were able to provide lists of these programs. Some part-day programs were exempt in 11 states in the sample.

[5]*Separate samples of low-income and military families were also interviewed. The results from these sub-studies are available in separate reports.*

It is likely that some of these programs were not included in the sample, leading to a slight undercount of the total number of centers and children enrolled in these centers.[6]

A nationally representative random sample of 2,089 center directors and 583 regulated family day care providers was generated from the compiled lists. The survey was conducted from October 1989 through February 1990 using computer-assisted telephone interviewing methods.

[6]*See the Appendix for further explanation.*

2

THE MARKET FOR EARLY EDUCATION AND CARE

The market for early education and care consists of demand, supply, and the interrelationships between them. Demand is reflected in the quantity and characteristics of services parents *buy* at a given price; supply in the quantity and characteristics that providers *offer* at a given price. The number and ages of children and the number of mothers who are employed outside the home are key determinants of child care demand. But demand is also affected by a variety of other factors—marital status, family income, number of children in the family, parents' career goals and opportunities, whether relatives live nearby, educational goals for children, the types of care available in the community, and how accessible or affordable a potential option might be. These factors are complex and intertwined. For example, some mothers remain at home when children are very young, then return to the labor force when the youngest child reaches a certain age. Mothers may also move from part-time to full-time employment as children grow older. Many parents juggle their work schedules, making use of full-time and part-time employment, flextime, or shift work, to reduce the need for supplemental care. Alternatively, children may be enrolled in programs for child development purposes even though parents are available to care for them.

THE DEMAND FOR CHILD CARE AND EARLY EDUCATION

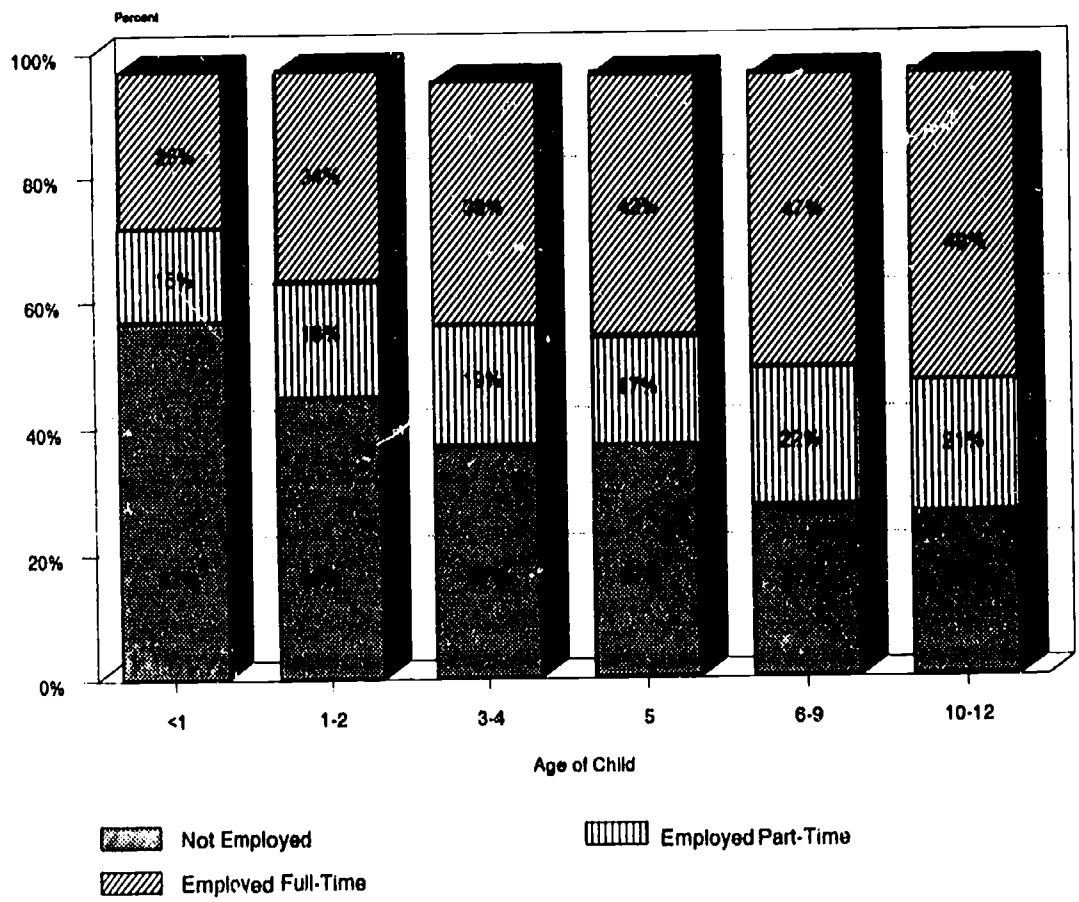
The NCCS was designed to capture the full range of programs and people other than parents who provide education and care for children on a regular basis as well as to describe patterns of parent care. Both full-time and part-time participation in supplemental care arrangements were of interest; therefore, all regular uses (at least one hour per week each week) were recorded. If families utilized more than one regular supplemental arrangement, arrangements were rank ordered by the number of hours each was used. The "primary supplemental arrangement" refers to the arrangement used for the most hours per week. Families using no supplemental care

on a regular basis were classified as such.[7] The estimates presented in this section are based on the primary supplemental arrangement of the youngest child in order to avoid unduplicated counts and to allow comparisons with earlier studies.

NCCS results confirm that the extent to which families with children younger than 13 use supplemental care—and the types of care they use—is directly related to the age of the child and the mother's employment status. In 1990, 25% of all mothers with a youngest child under age 1 were employed full-time with an additional 15% employed part-time for an overall employment rate of 40% for mothers of infants. This percentage rose with the age of youngest child. For mothers whose youngest child was 10 to 12 years of age, the employment rate was 70% (49% full-time and 21% part-time). Figure 1 shows the distribution of children by age and the employment status of their mothers.

[7]*This group also includes a small number of families in which the mother was employed and the father was identified as the primary care provider. Fewer than 10% of families in this small group used supplemental arrangements for more than 5 hours per week.*

***Figure 1.* Employment Status of Mother by Age of Youngest Child**



Note: Totals do not equal 100%; employment status not reported for all mothers.
Source: National Child Care Survey 1990

TYPES OF SUPPLEMENTAL CARE ARRANGEMENTS

The following paragraphs first describe the extent to which families use any supplemental arrangements on a regular basis. However, limited usage (a few hours per week) may have different implications for both children and parents than usage for a substantial proportion of time. Therefore, the number of hours per week that children are in supplemental care is also examined.

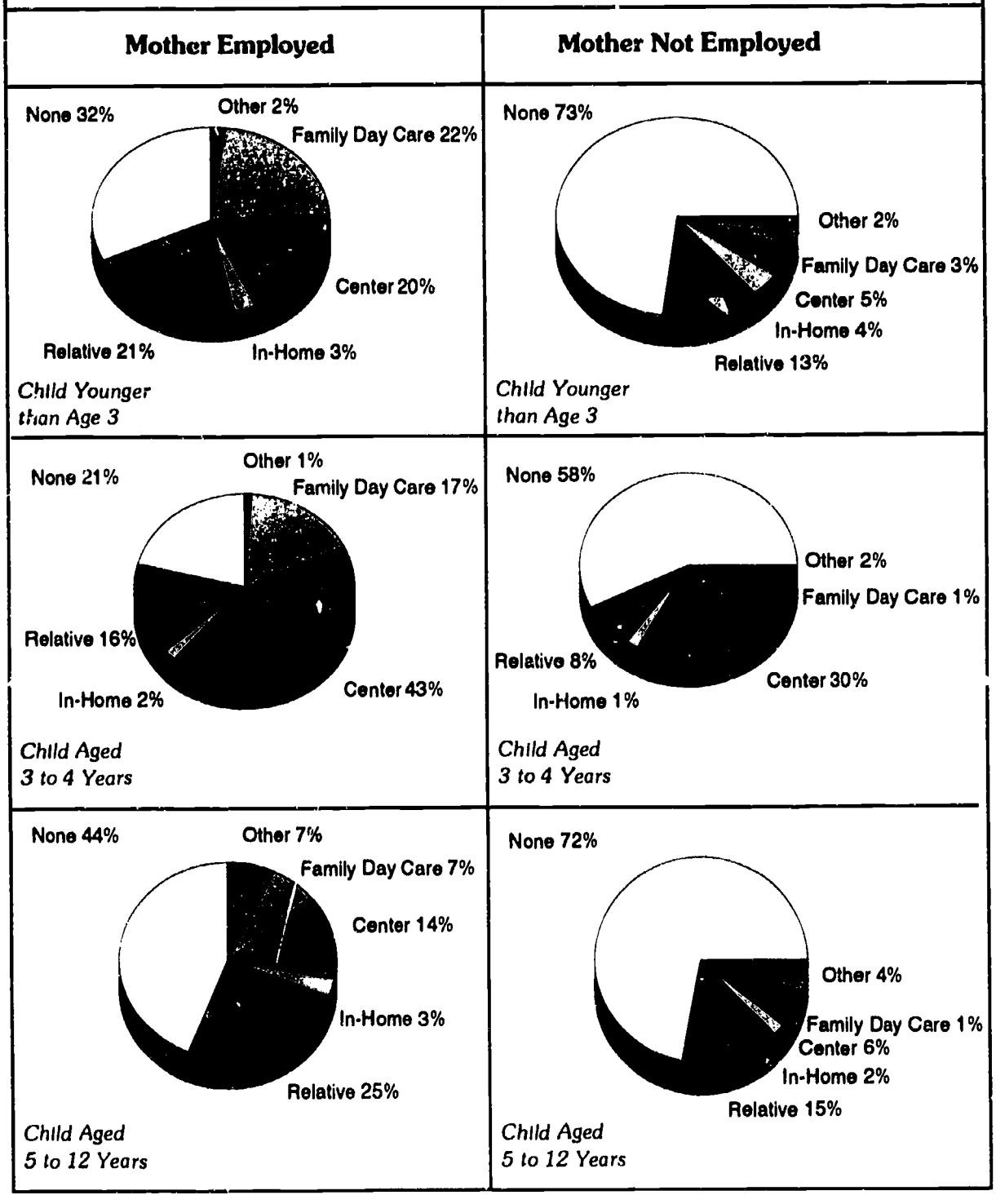
Figure 2 shows the percentage of families who identified each type of care as their primary supplemental arrangement (or no such arrangement), based on the age of the child and the mother's employment status. The NCCS data show distinctly different patterns in families' use of supplemental care depending on the mother's employment. As expected, families in which the mother was not employed used supplemental arrangements much less often than did families with employed mothers.

In addition to differences based on maternal employment, Figure 2 shows that there are also age-related trends in the use of supplemental education and care. For example, 32% of employed mothers and 73% of nonemployed mothers reported no supplemental arrangements for their infants and toddlers. As the use of preschool programs increased at ages 3 and 4, fewer families reported no use of supplemental care (21% of employed mothers and 58% of nonemployed mothers). As children entered kindergarten and elementary school, more families (44% of employed mothers and 72% of nonemployed mothers) again reported no use of supplemental care. This is because parents are often able to care for their children before and after school or allow children to supervise themselves.

Relatives also help with child care, especially when the mother is employed. The use of relative care as a primary supplemental arrangement ranged from 16 to 25% among families with employed mothers and 8 to 15% among families in which the mother was not employed. In families with nonemployed mothers, relative care was the predominant form of supplemental care for all age groups except 3- and 4-year-olds. In families with employed mothers, relative care was predominant only for school-age children.

For all families, the use of centers (including both full- and part-time programs) peaked when children were 3 and 4 years of age. Nearly half (43%) of employed mothers and nearly one-third (30%) of nonemployed mothers reported center care as their primary supplemental arrangement. Among families with infants and toddlers, 20% of employed mothers and just 5% of nonemployed mothers reported center care as their primary supplemental arrangement. Among mothers of school-age children, center care was the primary supplemental arrangement for 14% of employed mothers and 6% of those not employed.

***Figure 2.* Use of Supplemental Care by Age of Child**



Figures reflect the supplemental child care arrangement used for the most hours per week by the youngest child excluding school or kindergarten attendance.

Source: National Child Care Survey 1990

Based on NCCS findings, family day care (care in another person's home) appears to be used almost exclusively by families in which the mother is employed. Family day care was most frequently used for infants and toddlers at 22% for employed mothers compared to 3% for nonemployed mothers. For 3- and 4-year-olds, the use of family day care declined to 16% for employed mothers and 1% for nonemployed mothers. Even fewer families used family day care for school-age children (7% among employed mothers and none among nonemployed mothers).

In-home care (where the caregiver comes into the family home) was used by only a small percentage of families, never exceeding 4% regardless of the age of child or maternal employment status.

Arrangements other than those mentioned above accounted for less than 4% of the total in every age group, except for school-age children. Only among families with older school-age children (aged 10 to 12; not shown in Figure 2) did other types of arrangements account for up to 13 to 16% of families' primary supplemental arrangements. Most of these children were said to be in charge of themselves before or after school.

HOURS IN SUPPLEMENTAL CARE

In addition to simply examining whether or not families utilize supplemental care, the NCCS considered the extent to which these arrangements are used. Tables 2 and 3 present information not only on the proportion of families using each type of supplemental arrangement but also present the distribution of hours per week for which care was used.

As expected, children of employed mothers in supplemental care spent more time away from their parents. Variation was also found by type of arrangement and the age of child. For example, among infants and toddlers of employed mothers, 76% of those in centers and 69% of those in family day care spent at least 35 hours per week in the arrangement, compared to roughly half for other types of care (55% for relative care and 48% for in-home care). In contrast, only a small fraction of infants and toddlers with nonemployed mothers were in supplemental care; two-thirds spent less than 20 hours per week in care, mostly in the care of a relative.

While 3- and 4-year-olds were more likely to be in supplemental care than infants and toddlers, a smaller proportion were in care for 35 hours a week or more, regardless of maternal employment. Of the nearly 80% of 3- and 4-year-olds with an employed mother who were in some form of supplemental care, more than half (55%) spent at least 35 hours a week in the arrangement. Among 3- and 4-year-olds of nonemployed mothers, center care was by far the most commonly used form of

***Table 2.* Use of Various Supplemental Arrangements and Distribution of Hours in Care per Week by Age of Child and Type of Arrangement; Employed Mothers Only**

Type of Supplemental Care	< Age 3		Ages 3-4		Ages 5-12		Total All Ages	
	Total in Type	% of Users	Total in Type	% of Users	Total in Type	% of Users	Total in Type	% of Users
No Supplemental Care	**32%**	—	**21%**	—	**44%**	—	**37%**	—
Relative								
1-9 hrs		15		18		58		40
10-19 hrs		14		13		22		19
20-29 hrs		8		20		9		10
30-34 hrs		8		6		3		5
35+ hrs		55		43		8		26
All Relative	**21%**	**100%**	**16%**	**100%**	**25%**	**100%**	**22%**	**100%**
Center								
1-9 hrs		1		9		28		13
10-19 hrs		6		13		39		20
20-29 hrs		9		13		12		12
30-34 hrs		8		7		4		6
35+ hrs		76		58		17		49
All Center	**20%**	**100%**	**43%**	**100%**	**14%**	**100%**	**21%**	**100%**
Family Day Care								
1-9 hrs		1		3		32		10
10-19 hrs		9		16		43		21
20-29 hrs		14		7		14		12
30-34 hrs		7		11		2		7
35+ hrs		69		63		9		50
All Family Day Care	**22%**	**100%**	**17%**	**100%**	**7%**	**100%**	**13%**	**100%**
In-Home								
1-9 hrs		13		*		52		36
10-19 hrs		14		*		38		31
20-29 hrs		21		*		1		8
30-34 hrs		4		*		5		6
35+ hrs		48		*		4		19
All In-Home	**3%**	**100%**	**2%**	*	**3%**	**100%**	**3%**	**100%**
Other[1]								
1-9 hrs		*		*		73		65
10-19 hrs		*		*		22		22
20-29 hrs		*		*		5		4
30-34 hrs		*		*		0		0
35+ hrs		*		*		0		9
All Other	**2%**	*	**1%**	*	**7%**	**100%**	**4%**	**100%**
All Supplemental								
1-9 hrs		6		10		47		25
10-19 hrs		10		15		31		21
20-29 hrs		11		13		10		11
30-34 hrs		7		7		3		5
35+ hrs		66		55		9		38
ALL TOTAL	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

[1]*Includes self care.*

**Sample cells too small to compute.*

Source: National Child Care Survey 1990

Table 3. Use of Various Supplemental Arrangements and Distribution of Hours in Care per Week by Age of Child and Type of Arrangement; Nonemployed Mothers Only

Type of Supplemental Care	< Age 3		Ages 3-4		Ages 5-12		Total All Ages	
	Total in Type	% of Users	Total in Type	% of Users	Total in Type	% of Users	Total in Type	% of Users
No Supplemental Care	**73%**	—	**58%**	—	**72%**	—	**70%**	—
Relative								
1-9 hrs		53		54		73		59
10-19 hrs		16		17		20		18
20-29 hrs		16		6		0		9
30-34 hrs		4		0		4		4
35+ hrs		11		23		3		10
All Relative	**13%**	**100%**	**8%**	**100%**	**15%**	**100%**	**13%**	**100%**
Center								
1-9 hrs		36		38		43		37
10-19 hrs		26		41		47		38
20-29 hrs		13		14		10		13
30-34 hrs		8		4		0		5
35+ hrs		17		3		0		7
All Center	**5%**	**100%**	**30%**	**100%**	**6%**	**100%**	**9%**	**100%**
Family Day Care								
1-9 hrs		49		*		*		49
10-19 hrs		13		*		*		22
20-29 hrs		12		*		*		11
30-34 hrs		0		*		*		0
35+ hrs		26		*		*		18
All Family Day Care	**3%**	**100%**	**1%**	*	**1%**	*	**2%**	**100%**
In-Home								
1-9 hrs		63		*		*		66
10-19 hrs		8		*		*		14
20-29 hrs		16		*		*		11
30-34 hrs		4		*		*		3
35+ hrs		9		*		*		6
All In-Home	**4%**	**100%**	**1%**	*	**2%**	*	**3%**	**100%**
Other[1]								
1-9 hrs		*		*		*		88
10-19 hrs		*		*		*		12
20-29 hrs		*		*		*		0
30-34 hrs		*		*		*		0
35+ hrs		*		*		*		0
All Other	**2%**	*	**2%**	*	**4%**	*	**3%**	**100%**
All Supplemental								
1-9 hrs		52		41		65		52
10-19 hrs		16		37		28		25
20-29 hrs		14		13		2		11
30-34 hrs		4		3		3		4
35+ hrs		14		6		2		8
TOTAL	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

[1]*Includes self care.*

**Sample cells too small to compute.*

Source: National Child Care Survey 1990

supplemental care (30% compared to 8% for relative care). However, nearly 80% of these children attended their center for less than 20 hours a week. Only 6% of children of nonemployed mothers were in care for 35 hours a week or more.

The time that kindergartners and school-age children (ages 5 to 12) spend in supplemental care is necessarily lessened by the amount of time they are in school. The vast majority of school-age children spent less than 20 hours a week in their primary supplemental arrangement (79% for those with employed mothers and 94% if mothers were not employed).

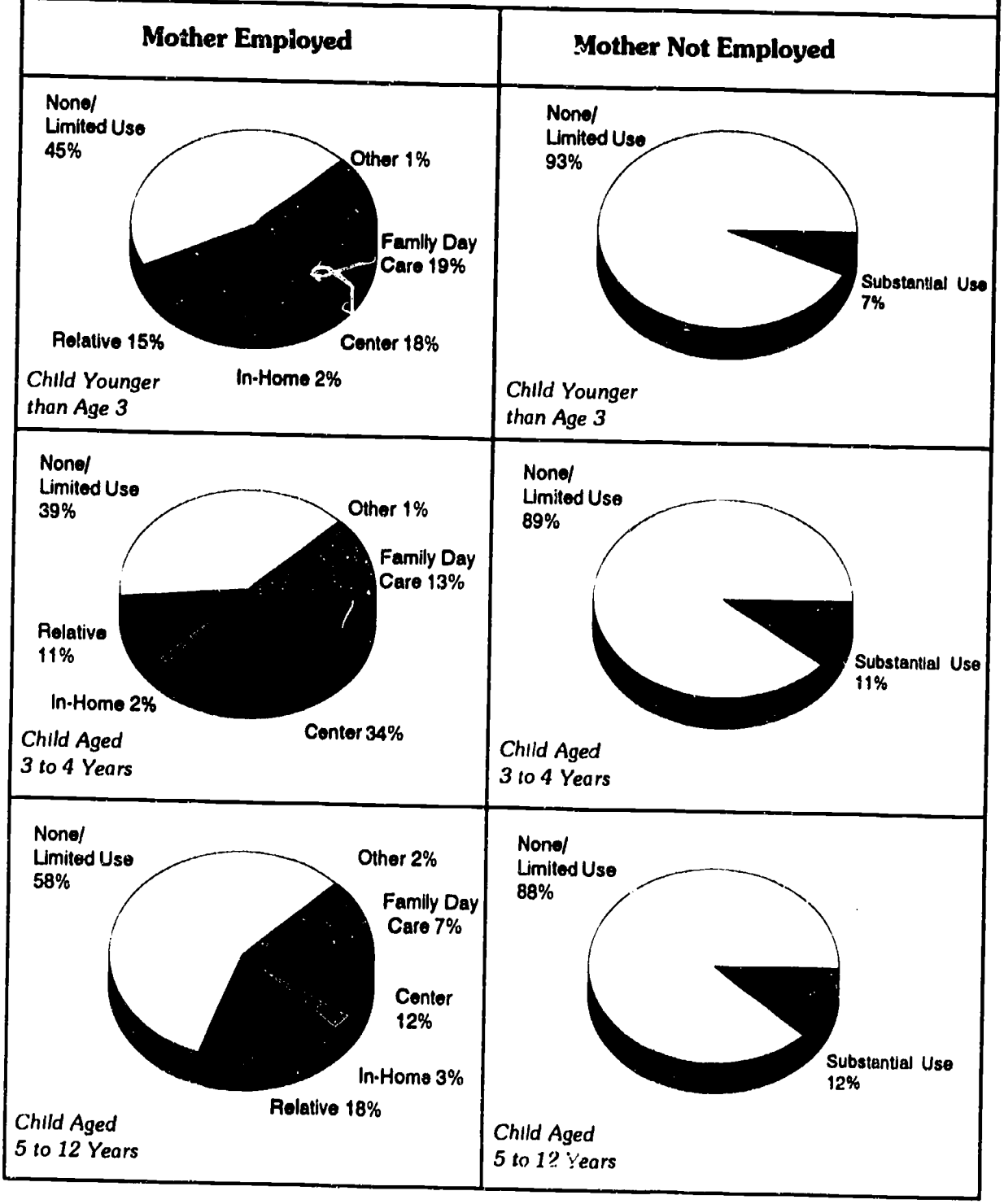
Substantial Use of Supplemental Care

The previous paragraphs describe the distribution of hours in care for different types of supplemental arrangements. Another approach is to consider the proportion of children who spend substantial time in supplemental care and the types of care arrangements in which that time is spent. Figure 3 presents these data. "Substantial time" is defined as at least 20 hours a week for children younger than age 5 and at least 5 hours per week for children ages 5 to 12. Substantial usage of supplemental care is almost exclusively limited to families in which the mother is employed. Only a small fraction (from 6 to 12%) of families in which the mother is not employed report substantial usage of any type of supplemental arrangement. Among families with employed mothers, relative care (15%) was somewhat less frequent than center care and family day care (18% and 19%, respectively) for infants and toddlers. Among 3- and 4-year-olds spending substantial time in supplemental care, center care was the primary arrangement, while relative care predominated as the supplemental arrangement for those spending substantial time in care for those ages 5 to 12.

Age 5: A Transition Year

Age 5 is a transitional year that does not fit neatly into either the preschool or school-age category. Nearly all (90%) of the 5-year-olds in the NCCS were either in kindergarten (70%) or a center (an additional 20%). They are grouped with school-age children throughout this report because both kindergarten and school attendance were specifically excluded as a supplemental arrangement. Therefore, the primary supplemental arrangement refers to the type of care attended the most hours per week exclusive of kindergarten. This section briefly notes some of the unique characteristics of this transitional year. (Data are not depicted in this chapter's tables and figures.) Among 5-year-olds, the number of families with no supplemental care increased slightly for employed mothers (27% versus 21% for 3- and 4-year-olds) and remained relatively constant for nonemployed mothers (60% versus 58%). The use of centers declined to 32% for employed mothers (from 43% at ages 3 and 4) and

***Figure 3.* Substantial Use of Supplemental Care by Age of Child**



Figures reflect the supplemental child care arrangement used for the most hours per week by the youngest child, excluding school or kindergarten attendance, for those children spending at least 20 hours per week in supplemental care if younger than age 5 or at least 5 hours per week in care if ages 5 to 12.

Source: National Child Care Survey 1990

to 19% for nonemployed mothers (from 30% at ages 3 and 4). The mother's employment status appears to be an important factor in determining the extent to which supplemental care is utilized. For example, more than a quarter (26%) of 5-year-olds with employed mothers were in supplemental care for 35 hours a week or more. In contrast, no 5-year-olds with nonemployed mothers were in supplemental care for more than 30 hours a week.

THE OVERALL DEMAND

The figures presented above are estimates based on parental reports of the primary supplemental arrangement for their youngest child. When both primary and secondary supplemental arrangements for all children are considered, the NCCS found that in 1990 5.1 million preschool children (prior to kindergarten entry) were enrolled in centers and 2.5 million school-age children were enrolled. These figures total to an estimated 7.6 million children younger than 13 who were enrolled in centers in 1990. Four million children were enrolled in family day care on a regular basis. In contrast, 34 million children younger than 13 (of a total 47.7 million) were cared for only by their parents or were not enrolled in a center or family day care on a regular basis.[8]

THE SUPPLY OF EARLY EDUCATION AND CARE

Having examined the demand for child care, what is the available supply? This section deals with the two most common forms of care outside the family: centers and family day care homes. The supply of early education and care services is influenced by expected demand and by local labor costs, rents, regulations, and the specific operations of each provider. According to *A Profile of Child Care Settings* (PCS), at the beginning of 1990 there were approximately 80,000 early education and care centers with a licensed capacity to serve 4.2 million preschool children and actually serving 4 million children. The PCS also reports that there were approximately 118,000 regulated family day care providers with a licensed capacity to serve 860,000 children and actually serving 700,000 children.[9]

There is no direct measure of the total number of nonregulated family day care providers. Indirect estimates from the NCCS, based on parents' reports of their child care arrangements and the number of individuals identifying themselves as providers, suggest that there may be anywhere from 550,000 to 1.1 million nonregulated family day care homes (See Table A-1, Appendix).[10]

[8,9,10] *See the Appendix for further discussion of these estimates.*

A Comparison of Enrollment Estimates

In analyzing data from the NCCS and the PCS, an attempt was made to compare enrollment estimates in centers serving preschool children, the subgroup common to both studies. However, the estimates of demand—based on the child care arrangements reported by parents in the NCCS—and the estimates of supply—based on the enrollments and capacities reported by providers in the PCS—are not equivalent. They suggest that the number of preschool children in center care ranges from a low of 4 million children in the PCS to a high of 5.1 million children in the NCCS. The differences are due to a variety of factors such as variations in terminology, objectives, and methodology.

The NCCS randomly sampled households with telephones; the PCS created its sample frame from lists of programs available from national, state, and local agencies. These strategies may have contributed to an over-estimation (in the case of the NCCS) if households with telephones are more likely to utilize supplemental care than those without, or under-estimation (in the case of the PCS) if some centers or regulated family day care providers were omitted from the available lists. In addition, the NCCS viewed demand from the standpoint of families who use child care of various kinds, phrasing its questions in terms of the number of *uses* of care. The PCS, on the other hand, asked program directors to identify the number of slots filled by children and their licensed capacity. Particularly in the case of centers, parents may have called some arrangements center care that would not meet the PCS definitions of a center. Also, the referent points also differ: NCCS respondents were asked to give data on any care used at least once a week for the past two weeks; PCS respondents provided the number of children "currently enrolled." Other possible causes for the discrepancy in enrollment figures are discussed in the Appendix.

A PROFILE OF SUPPLY

To characterize child care supply, the studies gathered detailed descriptive information on the characteristics of centers and family day care, including such factors as their programmatic structure, clientele, staffing, fees, legal status, and auspices. Table 4 shows the extent which programs vary on some of these attributes, according to legal status and sponsorship, providing a capsule overview of some of the characteristics of child care supply. Each of the program attributes are discussed more fully in the pages that follow.

Table 4. Profiles of Early Education and Care Settings, 1990[a]

	Centers				
	Nonprofit				
Program Characteristic	**Head Start**	**Public School**	**Religious Sponsor**	**Other Sponsor**	**Independent**
Average enrollment per program	50 children	58	73	58	63
Average percentage of children ages 3 to 5 in relation to total enrollment	99%	83%	74%	74%	69%
Average percentage of children from families receiving public assistance	68%	NA	5%	30%	10%
Average percentage of program income from public agencies	95%	76%	3%	38%	11%
Percentage of programs charging fees	NA	39%	99%	91%	98%
Average hourly fees of programs charging fees	NA	$1.19[b]	$1.65	$1.39	$1.73
Average hourly wage of teachers	$9.67 per hr	$14.4[c]	$8.10	$8.46	$7.40
Average group size for 3-year-olds	19 children	16	16	20	18
Average child/staff ratio for 3-year-olds	8.4 children per adult	7.4	8.7	8.8	8.4
Average percentage of teachers who have a college degree	45%	88%	50%	52%	49%
Average annual teacher turnover rate	20%	14%	23%	25%	25%
Distribution of centers by legal status and auspices within sample	9%	8%	15%	8%	25%

[a]Data on nonregulated family day care from the NCCS (see Appendix for sample limitations); all other data from the PCS

[b]Small sample sizes

[c]See footnote 19, p. 38 NA=Not applicable or not available

Sources: A Profile of Child Care Settings; National Child Care Survey 1990

For profit		All Centers	Family Day Care	
Chain	Independent		Regulated	Nonregulated
91	67	62	6	3
48%	59%	62%	39%	40%
6%	8%	17%	5%	13%
3%	6%	22%	NA	NA
100%	99%	85%	99%	77%
$1.47	$1.53	$1.59	$1.64	$1.48
$5.43	$6.30	$7.49	$4.04	$1.25
18	18	17	7/5[c]	4/2[c]
11.0	9.0	9.9	6.4/4.0[c]	4.2/1.4[c]
31%	35%	47%	11%	15%
39%	27%	25%	NA	NA
6%	29%	100%	NA	NA

REGIONAL AND METROPOLITAN DISTRIBUTION OF PROGRAMS

One important aspect of child care supply is the availability of community options relative to the number of families with young children who potentially might need these services. One way of examining this question is by determining whether the supply of early childhood programs and spaces is generally distributed in proportion to the number of children under age 5 in the same geographic region. As shown in Table 5, the PCS found that the supply of center care was more concentrated in the South relative to the number of children (41% of all centers were in the South compared to 35% of all children) and less concentrated in the West (18% versus 23%). Regulated family day care programs were relatively more concentrated in the West (36% versus 23%) and Midwest (29% versus 24%) and less concentrated in the South (21% versus 35%) and Northeast (14% versus 19%). Nonregulated family day care programs were more concentrated in the Midwest (30% versus 24%) and less concentrated in the South (30% versus 35%) and the Northeast (16% versus 19%).

Centers and regulated and nonregulated family day care are generally distributed in urban areas in proportion to the population. Approximately three-fourths of all programs are located in metropolitan areas, and one-fourth are in nonmetropolitan areas.

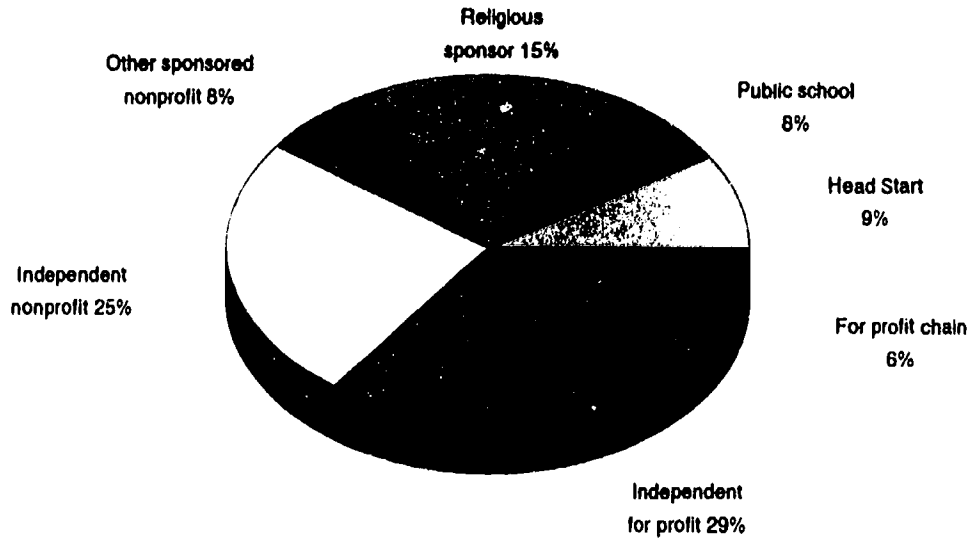
***Table 5.* Regional Distribution of Children and Programs**

	Children < Age 5	Centers	Regulated Family Day Care	Nonregulated Family Day Care
Total U.S.	100%	100%	100%	100%
By Region **Northeast**	19%	18%	14%	16%
South	35%	41%	21%	30%
Midwest	24%	23%	29%	30%
West	23%	18%	36%	23%
By Urbanicity **Urban/ Suburban**	75%	76%	77%	72%
Rural	25%	24%	23%	28%

Data on nonregulated family day care come from the NCCS; all other data come from the PCS. See the Appendix regarding limitations of nonregulated family day care sample.

Sources: A Profile of Child Care Settings; National Child Care Survey 1990

***Figure 4.* Auspices of Centers**



Source: A Profile of Child Care Settings

SPONSORSHIP

According to PCS data, two-thirds (65%) of early education and care centers serving preschool children were nonprofit organizations, and the remaining one-third (35%) operated for profit (Figure 4). There were strong regional differences in sponsorship, with more for-profit programs in the South than in any other region. For-profit programs were more likely to be located in rural and suburban areas and least likely to be located in urban areas. More than half (61%) of nonprofit centers were sponsored by another organization, primarily religious organizations, public schools, or Head Start. Most for-profit programs were independent programs rather than members of local or national chains. Center enrollments averaged 62 children per program but varied substantially by sponsorship. Head Start and public school programs, averaging 50 and 58 children per program respectively, were smaller than other programs, while for-profit programs were larger, averaging 67 children per program in independent for-profits and 91 children per program in those associated with for-profit chains.

The majority of family day care providers operated independently; 23% of regulated providers and only 2% of nonregulated providers were sponsored by a group that organizes family day care in their community.

RELATIONSHIPS BETWEEN SUPPLY AND DEMAND

The child care "market" is complex. Families may opt to stay out of the market by caring for their children themselves, or they may choose to utilize care by relatives. The option of relative care is important to a number of families. According to the NCCS, 15% of all parents and 38% of those using supplemental care reported relative care as their primary supplemental arrangement. Typically services provided by relatives are not considered market-based. However, the NCCS found that 21% of families using relative care paid for care, making it in some sense a market service. Recognizing these complexities, the following discussion of the child care market focuses primarily on the areas of intersection of the NCCS and the PCS: the supply of and demand for care provided outside the child's home by non-relatives in early education and care centers and family day care homes. Specifically, this section examines how parents locate care among the community options that are available to them; the different services needed by parents and offered by providers; the relationships between parental fees and program expenditures; the key characteristics of centers and family day care homes as reported by providers and parent-consumers; and parental satisfaction with their arrangements.

LOCATING CARE AMONG AVAILABLE OPTIONS

Parents consider a variety of factors when they choose a center or family day care home as a child care arrangement. The availability, cost, and quality of potential services are all considerations. According to the NCCS, the single factor most frequently cited by parents as most important in their choice of arrangements was a warm and loving provider. Approximately 60% of parents who used center programs or family day care said that some aspect of quality (including a warm and loving provider) was most important in their choice of the current arrangement. Aspects related to the availability, location, or hours were mentioned by 22% of those using family day care and 29% of those using centers; fewer than 10% (6% of center users and 8% of family day care users) mentioned cost as their most important consideration. Among families citing quality as their most important criterion, a number of aspects were mentioned. As outlined in Table 6, characteristics of the provider or staff were the most frequently mentioned, both by users of centers (57%) and family day care (68%). While characteristics of the child's group ranked next in importance for users of family day care (19%), program goals were ranked next by center users at 18% followed by group characteristics at 14%. About 10% of users of each type cited characteristics of the program or setting as most important.

***Table 6.* Aspects of Quality Considered Important by Parents in Their Choice of Centers or Family Day Care Homes**

	Users of Centers	Users of Family Day Care
Provider/Staff Characteristics		
Warm, loving care	28%	37%
Reliability	6%	9%
Training	11%	5%
Known to family	11%	15%
Experienced	1%	2%
Subtotal	**57%**	**68%**
Characteristics of Child's Group		
Child/staff ratio	10%	11%
Group size	3%	6%
Age range of children	1%	2%
Subtotal	**14%**	**19%**
Program/Setting Characteristics		
Available equipment/materials	3%	1%
Homelike atmosphere	2%	6%
Safety	6%	1%
Subtotal	**11%**	**8%**
Goals of Program/Setting		
Prepares child for school	8%	0%
Promotes child development	6%	1%
Promotes religious instruction	4%	1%
Provides cultural appreciation	0%	0%
Subtotal	**18%**	**2%**
Other	**0%**	**3%**
TOTAL	**100%**	**100%**

Source: National Child Care Survey 1990

In addition to considering specific factors, parents must identify services that are available and accessible to their family. According to the NCCS, over half (55%) of parents using centers and nearly three-quarters (71%) of those using family day care learned about their primary care arrangement from friends, neighbors, or relatives. Only about 10% (9% of family day care users and 13% of center users) found care through a resource and referral service or network.

Reports from providers were consistent with those from parents as to their reliance on filling vacancies informally by word of mouth. About 60% each of centers and regulated family day care homes reported using this method. The majority of centers, but just less than one-third of regulated family day care homes, said that they also advertise in the media to fill vacancies. Over half of all nonregulated family day care providers said that they take *no* steps to fill a vacancy.

Two-thirds of centers reported having waiting lists, but only one-third filled openings from waiting lists in 1990. The average length of time to fill a vacancy was 8 days for a center, 25 days for regulated family day care, and 23 days for nonregulated family day care. Parents reported, however, that it took approximately 5 weeks to settle on a care arrangement for their youngest child.

In centers, the overall utilization rate (enrollment divided by capacity) is sufficiently high to suggest that the supply of care in centers is close to being fully utilized. Overall, 88% of the available spaces in early education and care centers were filled at the beginning of 1990. More than 25% of all centers had no vacancies at all. Of programs with vacancies, the average utilization rate was 82%.

Approximately 82% of the spaces available in regulated family day care homes were filled at the beginning of 1990.[11] Almost half of all regulated and nonregulated family day care providers (46% of each) reported that they would be willing and able to care for more children full-time, and 4 out of 10 reported that they would be willing and able to care for more children part-time. The unfilled spaces in regulated family day care were distributed evenly across regions of the country but were concentrated more in urban than in suburban and rural areas. Only 77% of regulated family day care spaces in urban areas were filled at the beginning of 1990, compared with 84% of spaces in suburban areas and 88% of spaces in rural areas.

[11]*Capacity cannot be directly defined for nonregulated homes. However, an estimate was constructed based on the total number of children these providers said they would be willing to care for. Based on this estimate, it appears that 60% of the spaces in nonregulated family day care homes were filled at the beginning of 1990.*

THE SUPPLY AND DEMAND FOR DIFFERENT TYPES OF SERVICES

There are a number of types of services that parents may need; for example, services for infants and toddlers (many programs do not accept children who are not yet toilet-trained), part-day versus full-day services, services for children with disabilities, or care for mildly ill children. Following is information on how well the market operates for these families.

Programs for Infants and Toddlers

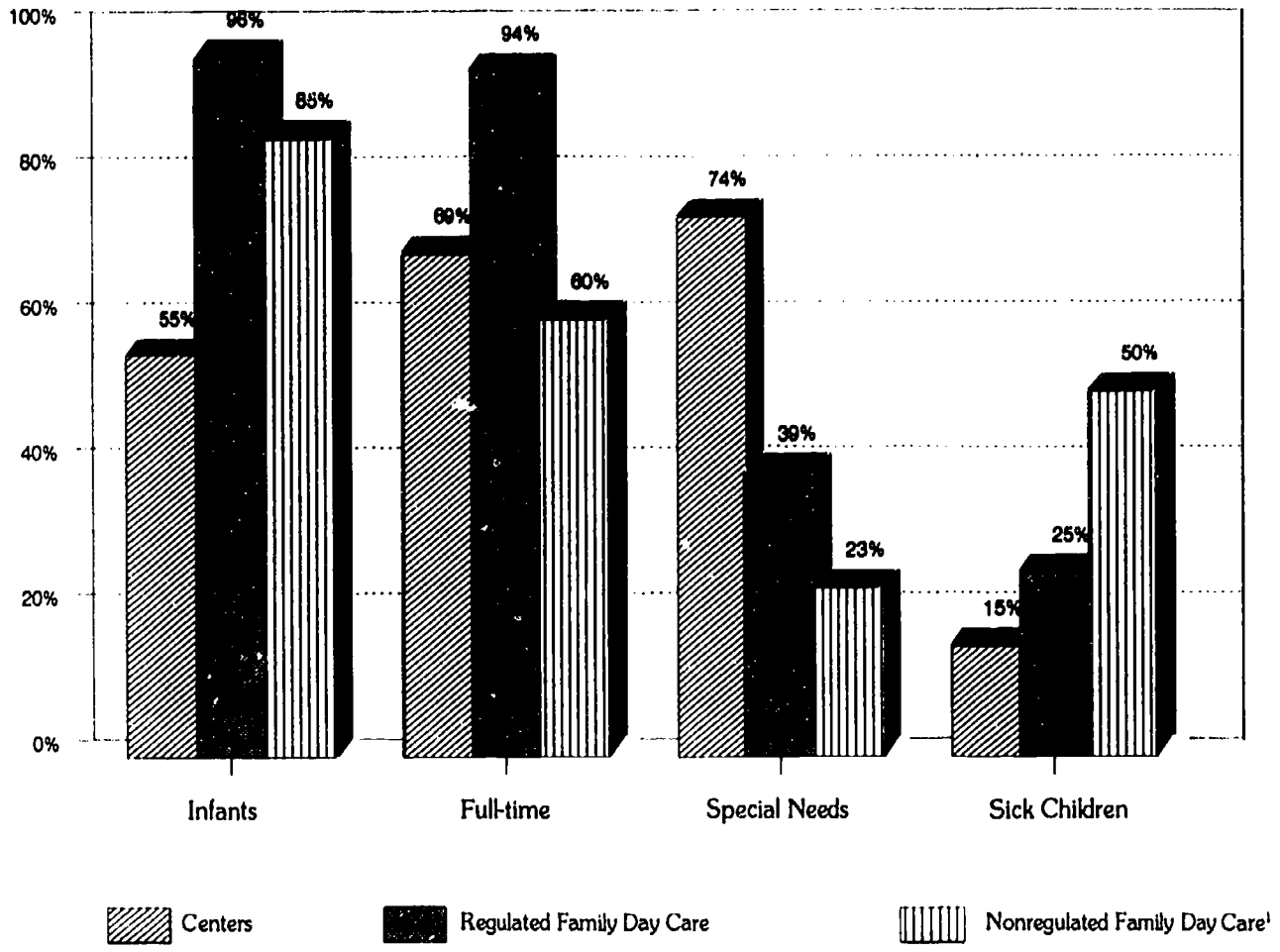
The NCCS suggests that the demand for infant care is largely limited to families in which the mother is employed. Among families with infants under 1 year in which the mother was not employed, only 2% reported center care and 4% reported family day care as a primary supplemental arrangement. Among families with employed mothers, however, 14% of infants were enrolled in centers and 20% were in family day care. The higher usage of family day care for very young children is consistent with the operating policies of child care providers. The PCS found that family day care homes are more likely than centers to accept infants and toddlers. Nearly all (96%) regulated and 85% of nonregulated family day care providers, compared with 55% of centers, said that they accept very young children (Figure 5). As a consequence, infants and toddlers constituted only 7% of the children in centers, compared with 26% of the children in regulated family day care and 23% of children in nonregulated family day care as shown in Figure 6. In addition, about half of all family day care providers reported that they could serve more children, including infants. In contrast, fewer than 10% of the vacancies reported in centers could be filled by infants.

Full-time versus Part-time Programs

According to the PCS, almost all regulated family day care providers (94%) and about two-thirds of centers (69%) reported that they operate full-time (at least 35 hours per week) (Figure 5). Conversely, only a very few (6%) of regulated family day care providers operate on a part-time basis, and just over one-fifth (21%) of centers operate part-time. (The extent to which programs operating on a full-time schedule also offer a part-time option is not known.) Nonregulated family day care providers were also asked about their hours of operation. Sixty percent said that they provide full-time care.

The high percentage of providers offering full-time services is consistent with the NCCS finding that three-quarters of the children using centers or family day care had an employed mother and that two-thirds of these mothers were employed full-time.

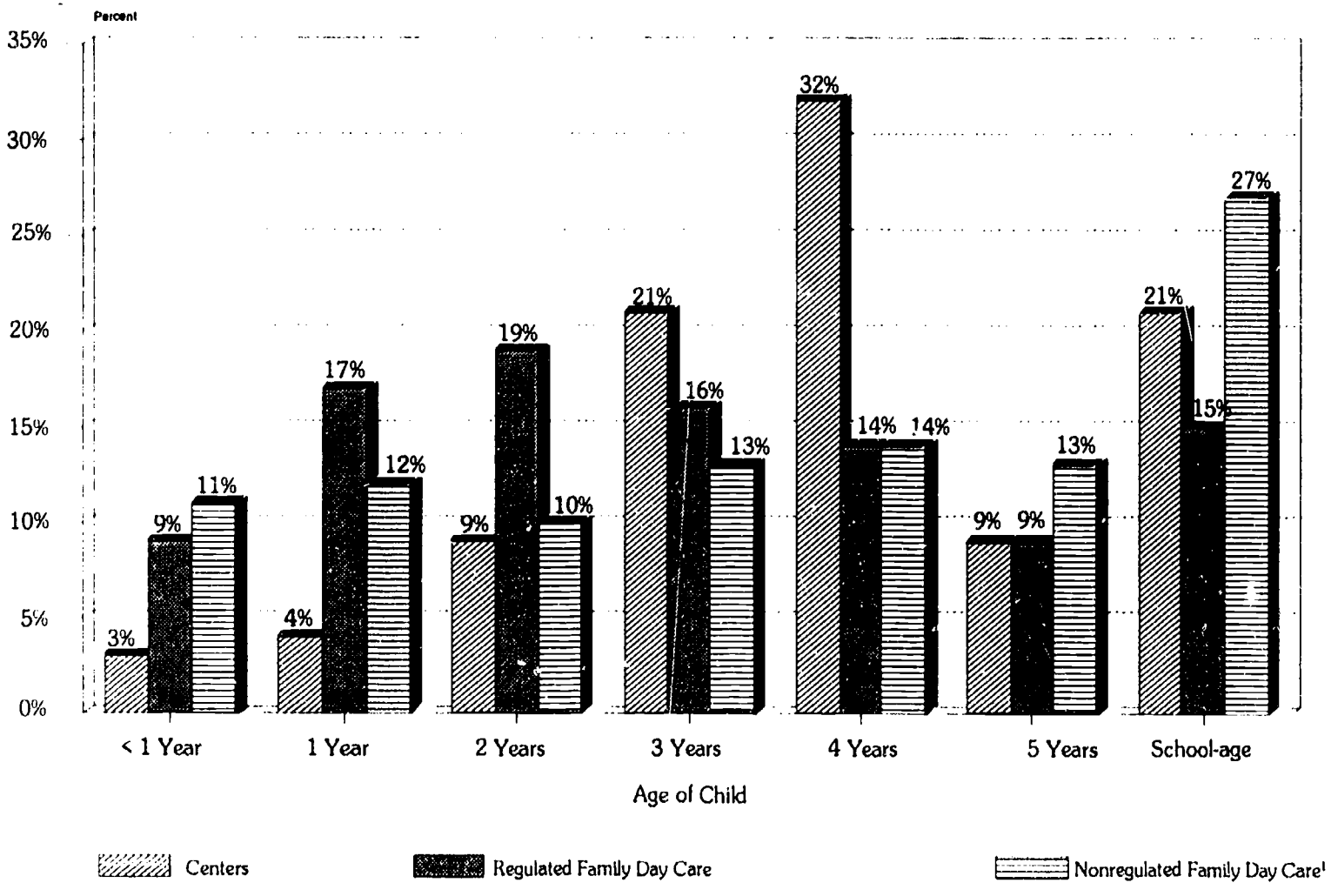
***Figure 5.* Admission Policies of Early Education and Care Programs**



[1]*Data on nonregulated family day care from the NCCS (see Appendix for sample limitations); all other data from the PCS.*

Sources: A Profile of Child Care Settings, National Child Care Survey 1990

***Figure 6.* Age Distribution of Children in Early Education and Care Programs**



[1]*Data on nonregulated family day care from the NCCS (see Appendix for sample limitations); all other data from the PCS.*

Sources: A Profile of Child Care Settings, National Child Care Survey 1990

Sixty-seven percent of children in centers and 72% of children in family day care were in care for 35 or more hours per week.

Few programs in the PCS, either centers or family day care providers, reported that they operate during nonstandard hours. A higher proportion of centers (10%) than family day care homes (6%) reported providing care on weekends, while a higher proportion of regulated and nonregulated family day care homes (13% and 20%, respectively) provided care in the evenings than did centers (3%). According to the NCCS, 1 out of 8 mothers and 1 out of 7 fathers worked one weekend day, and about the same proportion worked a non-day shift. Some families with nonstandard hours of employment may have chosen this schedule so that supplemental care would not be needed.

Program Availability for Children with Disabilities

Approximately three-fourths (74%) of early education and care centers, compared with 39% of regulated family day care providers and 23% of nonregulated family day care providers, reported that they accept or would accept children with diagnosed handicaps (see Figure 5) Only a small proportion of centers were said to primarily serve children with disabilities. Approximately half of all centers reported that they accept children with disabilities; 18% reported that they make decisions on a case-by-case basis; and 7% reported that they do not currently care for children with disabilities but that they would be willing to do so.

Care for Sick Children

When all adults in a household are employed, the care of sick children can be a concern. Employed parents often miss work when a child becomes sick because their regular child care provider will not care for children who exhibit symptoms of illness. According to NCCS data, 35% of all mothers employed outside the home reported that one of their children was sick on a work day in the past month. Over half of those women stayed home to care for the sick child. Of those who did go to work when they had a sick child, 21% reported that their husband or partner stayed home with the child, over a third left the child with relatives; almost one-quarter used their regular arrangement; 6% had the child care for him or herself; 4% took the child with them to work; and 10% used other arrangements. While some parents may need to work when their child is sick, PCS data show that few child care providers will allow parents to leave a sick child in their care (see Figure 5). Approximately 15% of centers reported that they allow parents to leave a child with a severe cough; 6% allow parents to leave children with a feverish appearance; and 3% allow children with unusual spots or rashes. Regulated family day care providers were more likely than

centers to report that they accept sick children, but those who do are still a minority. Approximately one-fourth reported that they will allow parents to leave children with severe coughs; 20% said they accept children with a feverish appearance; and 10% would allow parents to leave children with unusual spots or rashes. Nonregulated family day care providers were the most likely to care for sick children; 50% would care for children with a severe cough or feverish appearance; and 36% would care for a child with unusual spots or rashes.

PARENTAL EXPENDITURES, PUBLIC ASSISTANCE FOR CHILD CARE COSTS, AND PROVIDER FEES

Once families locate their arrangements, what do they pay for them? From the provider's perspective, what fees are charged? This section first describes the expenditures parents report for child care and their relation to the fees reported by programs. The proportion of the family budget that fees represent is discussed along with the extent to which public assistance is provided for child care costs. The section then reports the relation of fees to the program budget.

Whether parents pay for care, and the amount that they pay, was found to differ by the employment status of the mother and age of the youngest child. Employed mothers were more likely than nonemployed mothers to pay for their supplemental care arrangements. Fifty-six percent of employed mothers whose youngest child was under age 5 made monetary payments for their main care arrangement compared with only 14% of nonemployed mothers. Among mothers of school-age children, 36% of employed mothers and 21% of nonemployed mothers of school-age children paid for their main supplemental care arrangement. These percentages reflect all types of non-parental care, including informal, unpaid arrangements with relatives. Of those using centers and family day care, 91% of all family day care users and 82% of those using center care for their youngest child paid for this service.

For families using centers and family day care, there is a close correspondence between the expenditures reported by families and the fees reported by providers. Practically all regulated family day care providers reported that they charge fees as did 85% of all centers. The average fee reported by centers that charged fees in 1990 was $1.59 per hour, 26 cents less than the average hourly expenditure reported by parents with their youngest child in center care ($1.85).[12] The average hourly fee

[12]*This discrepancy is largely due to differences between the PCS and NCCS samples concerning center-based school-age programs, which charge more per hour than programs for younger children. The average hourly fee reported by employed mothers of preschool children in the NCCS was $1.67 per hour, very similar to the $1.59 per hour reported by PCS center-based providers.*

reported by regulated family day care providers was $1.64 per hour. Nonregulated family day care providers who charged fees reported charging $1.48 per hour. These fees are very close to the $1.57 per hour reported by parents using family day care.

Fees charged by centers and family day care homes differ by the age of the child, program characteristics, the amount of time the child spent in the program, geographic region, and program auspices (see Tables 7 and 8). For example, services for both infants and toddlers and school-age children were reported to be more expensive than those for 3- and 4-year-olds. As expected, the fewer children per staff member, the higher the fee charged both in regulated family day care and in centers that charge for care. Part-time programs charge more than full-time programs. Publicly funded programs, such as Head Start (which does not charge fees) and public school programs cost families the least, while church-sponsored non-profit centers and independent non-profit centers charged the most. Finally, there was a substantial amount of variation in the fees charged by region—a good proxy for differences in the cost of living. For example, fees were relatively higher in the Northeast and West than in the South and Midwest and higher in urban and suburban areas than in rural areas.

***Table 7.* Child Care Fees Across the Country[1]**

	% of Centers Charging Fees	Average Fee of Programs Charging Fees Only		
		Centers	Regulated Family Day Care	Nonregulated Family Day Care
Total U.S.	85%	$1.59/hour	$1.64/hour	$1.48/hour
By Region **Northeast**	85%	$2.18/hour	$2.02/hour	$1.83/hour
South	88%	$1.29/hour	$1.32/hour	$0.89/hour
Midwest	84%	$1.63/hour	$1.42/hour	$1.83/hour
West	89%	$1.71/hour	$1.86/hour	$1.32/hour
By Urbanicity **Urban**	86%	$1.78/hour	$1.74/hour	$1.74/hour
Suburban	92%	$1.55/hour	$1.67/hour	$1.66/hour
Rural	82%	$1.31/hour	$1.38/hour	$1.07/hour

[1]Programs that charge fees only. Data on nonregulated family day care come from the NCCS; all other data come from the PCS. See the Appendix regarding limitations of nonregulated family day care sample.

Source: A Profile of Child Care Settings; National Child Care Survey 1990

In 1990, employed mothers with a child younger than age 5 who paid for care spent an average of $63 per week, about 10% of their weekly family income, on all types of child care for all children in the family. Nonemployed mothers with a preschool child spent about $35 per week, or about 6% of the family income, on child care. Although less likely to pay for care, single mothers and low-income families who did pay spent a substantially greater share of their income on child care than did two-parent or nonpoor families, regardless of maternal employment status or the youngest child's age.[13] For example, families with annual incomes under $15,000 who paid for any form of care spent as much as 23% of their income on it (Figure 7). In contrast, families with annual incomes of $50,000 or more paid only about 6%. Ten percent of the family income is comparable to the average expenditures on food; 23% is comparable to average expenditures on housing.

***Table 8.* Average Hourly Fees of Centers by Auspices[1]**

Auspices	Avg. Fee/Hr
Nonprofit centers	
Public school	$1.19[2]
Religious sponsor	$1.65
Other sponsor	$1.39
Independent	$1.73
For profit centers	
Chain	$1.47
Independent	$1.53

[1]Centers charging fees only
[2]Small sample size

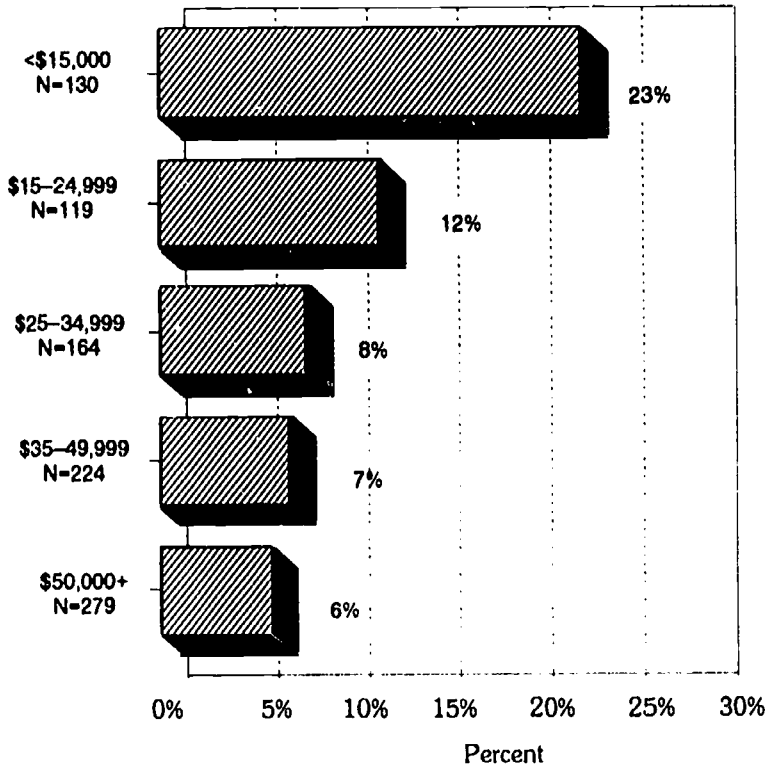
Source: A Profile of Child Care Settings

Public Assistance for Child Care Costs

Public subsidies for early education and care programs are provided in a variety of ways. Programs may receive subsidies to serve children, specifically children of low-income families, or families may receive subsidies either for the purchase of care (e.g., vouchers/certificates) or as a tax credit for child care expenditures (e.g., the federal Child and Dependent Care Tax Credit). The NCCS collected information regarding family income and whether families received assistance for the purchase of care, had children enrolled in a subsidized program, or claimed the federal child care tax credit. The PCS collected information as to which centers and family day care providers accepted children whose fees were paid by a public agency.

[13]For example, of families with incomes below $15,000 per year, 42% of families with an employed mother and 8% of families with a nonemployed mother paid for child care for their youngest child.

***Figure 7.* Mean Percentage of Family Income Spent on Child Care by Family Income, Employed Mothers With Youngest Child Under 5 Who Pay for Care**



Source: National Child Care Survey 1990

Assistance to Programs and Enrollment of Children from Low-Income Families

PCS researchers collected information on the number of programs receiving public subsidies to provide early education and care. Excluding school-based early childhood programs, approximately one-third of centers were reported to currently care for some children whose fees are paid by a public agency. Including public school programs in this group since they receive public funds, an estimated 40% of all centers received some assistance to provide care for some children of low-income families. Only about 17% of family day care providers said that they receive assistance to provide care for children of low-income families. However, in 1990, 86% of

regulated family day care providers and 87% of nonregulated providers reported that they would be willing to care for such children.[14]

Excluding those enrolled in public school programs, about 17% of children enrolled in early education and care centers[15] are from families receiving public assistance. This percentage varied substantially by type of program. For example, approximately two-thirds of children enrolled in Head Start, which is mandated to serve low-income families, are from families receiving public assistance. Conversely, fewer than 10% of children enrolled in independent nonprofit programs and for-profit programs come from families receiving public assistance. Five percent of children enrolled in regulated family day care and 13% of children enrolled in nonregulated family day care come from families receiving public assistance.

The NCCS was able to compare the proportion of families reporting that they received assistance with child care expenses by income. At least 45% of families with incomes below $15,000 reported that they received assistance for child care expenses or had children enrolled in subsidized centers, compared with 15% of families with incomes between $15,000 and $24,999 per year, and almost no families with incomes of $25,000 or more. NCCS results indicate that children from families whose annual incomes were under $15,000 were almost as likely as children from families with incomes of $50,000 or more to be enrolled in centers, and were more likely to be enrolled than children from families whose incomes averaged $15,000 to $24,999. Families with incomes just above the poverty line but still below the median income level were the least likely to use early childhood centers in 1990.

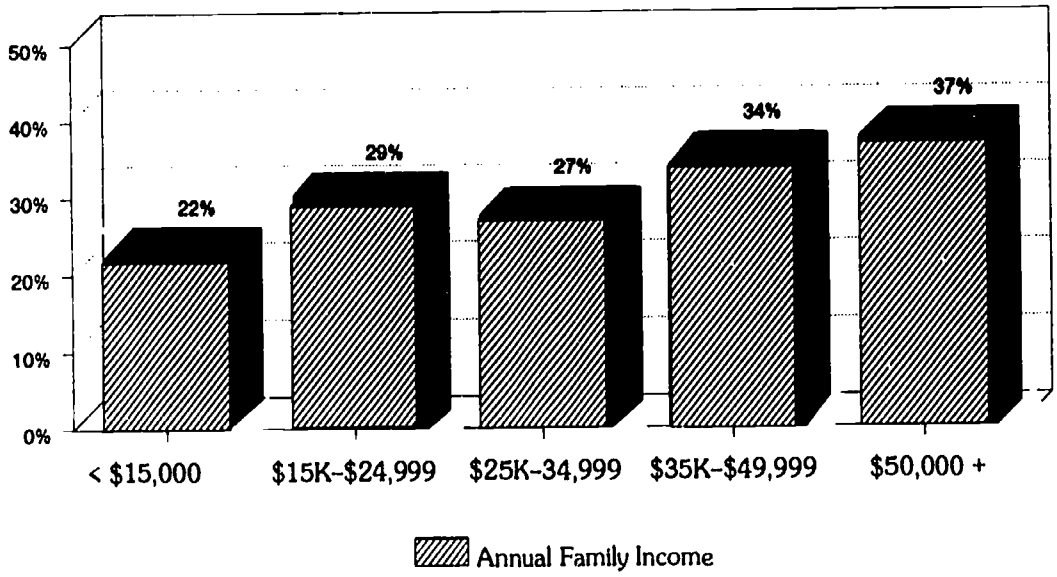
Families' Use of the Federal Child and Dependent Care Tax Credit

While public subsidies are typically associated with providing assistance to low-income families, a major source of public assistance for child care is provided by the federal Child and Dependent Care Tax Credit. In fiscal year 1988, this credit provided $3.4 billion to families, 52% of the funding for all federal programs supporting child care-related services (U.S. General Accounting Office, 1989). The NCCS asked if families had claimed the credit for the 1988 tax year (the most recent at the time of the survey). As depicted in Figure 8, 22% of families with annual incomes of less than $15,000 reported that they claimed the credit compared to 27

[14]*This question was not asked of center-based programs.*

[15]*Data on the public assistance status of children enrolled was not collected for public school programs. However, the majority of public school early childhood programs are targeted to and serve children of low-income families.*

***Figure 8.* Proportion of Families With Employed Mothers Claiming the Federal Child and Dependent Care Tax Credit in 1988**



Source: National Child Care Survey 1990

to 29% of families with annual incomes from $15,000 up to $35,000. Just over one-third of families with incomes of $35,000 or more reported claiming the credit.

Fees and Program Budgets

Fees and the proportion of the program budget they represent varied by auspice, according to PCS findings. Fees were nearly universal in private non-profit and for-profit programs and accounted for 90% to 95% of their income, while 39% of public school programs charged fees which represented 17% of the program income. Head Start programs do not collect fees.

Detailed budget information was not collected from early education and care centers or from family day care providers. Centers were asked, however, if they made money last year. Half of all centers reported breaking even, one-quarter reported losing money, and one-quarter reported making money. Among for-profit programs, 50 to 60% reported making a profit last year.

Information was also collected about the percentage of centers' budgets devoted to the salaries and benefits of all staff in centers, the wages of teachers in centers, and the incomes of family day care providers. As expected, staff salaries and benefits were

found to be the major expense in centers, accounting for an average of 62% of the total budget. This varied by auspice. In nonprofit programs, personnel costs ranged from 63% to 71% of the total budget, while in for-profit programs, personnel costs represented 47% of the total budget for programs associated with chains and 53% of the total budget for independent for-profit programs. These differences may partially reflect differences in in-kind contributions such as rent. The percentage of programs reporting that they receive in-kind donations ranged from 5% of for-profit programs associated with chains to 81% of all Head Start programs. Less than half of religious-sponsored centers (40%) and other sponsored nonprofit centers (47%) reported receiving in-kind donations, compared to 35% of independent nonprofit centers and 13% of independent for-profit centers.

Teacher and Provider Wages and Income

In 1990, the average annual salary for a preschool teacher (excluding assistant teachers and aides) in centers was approximately $11,500; half of preschool teachers earned less than $11,000 per year. The average hourly wage earned by preschool teachers in 1990 was $7.49.[16] Hourly wages are highest in the Northeast, in urban areas, and in public school programs. Among benefits reported, 75% of preschool teachers received paid sick leave, 64% received paid vacations, and 77% received education stipends.

The average annual revenue received from child care services by regulated family day care providers was $10,000, and half received less than $8,000 per year. Since data were not collected about the total costs involved in the provision of family day care services, no estimates of net income can be made. However, even if no costs were involved, based on the hours of care provided,[17] this annual revenue translates into average earnings of $4.04 per hour for regulated providers. Nonregulated providers took in $1,961 per year on average, or about $1.25 per hour.

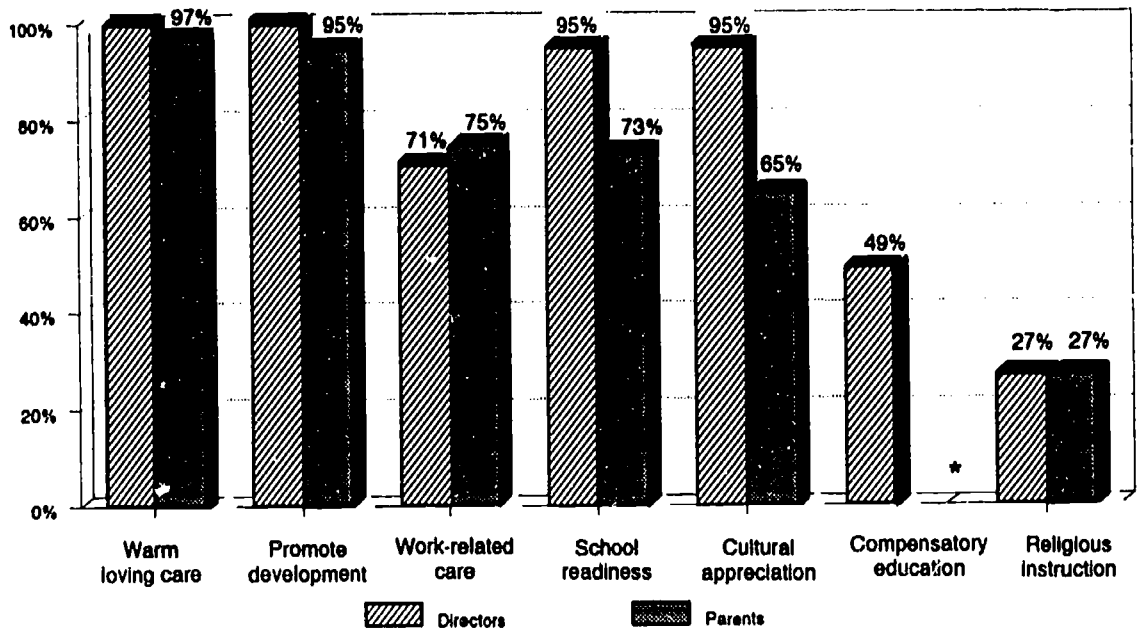
KEY CHARACTERISTICS OF CARE

The NCCS and PCS, respectively, asked questions concerning the key characteristics of care received by or provided to children. For centers only, parents and directors were asked about program goals. For centers and family day care, both parents and providers were asked about specific program features, such as the number of children in the group, the child/staff ratio, and the education or training of the teacher/caregiver.

[16]*The average preschool teacher reported working approximately 30 hours per week, and most programs reported that they are open 50 weeks per year.*

[17]*The average regulated family day care provider reported working 55 hours per week and 50 weeks per year.*

***Figure 9.* Goals of Centers Reported by Directors and Parents**



**Parents were not asked this question.*

Source: A Profile of Child Care Settings, National Child Care Survey 1990

PROGRAM GOALS

There was considerable consensus between the reports of parents and center directors regarding program goals (Figure 9). Nearly all parents and all center directors reported that providing a warm and loving environment was a program goal. All directors and nearly all parents (95%) agreed that promoting children's development was an important objective, and three-quarters of both directors and parents agreed that providing care so parents can work was an important goal. Preparing children for school was identified by 95% of center directors. In addition, about half (49%) of the center directors specifically mentioned compensatory education. Almost three out of four parents also mentioned preparation for school as a priority. Instructing children in their own culture was also more frequently cited by center directors (95%) than parents (65%). Equal proportions of center directors and parents (27%) said that providing religious instruction was one of their program goals.

Center directors and family day care providers were also asked about their main goal. Just over half (55%) of all center directors and 78% of all family day care providers reported that providing a warm and loving environment was their main goal. Twenty percent of center directors identified their main goal as promoting child development, and another 13% said their main goal was to prepare children for school. Head Start and public school program directors were twice as likely as other center directors to report either promoting child development or preparing children for school as their main goal. For family day care homes, 7% of providers identified promoting child development as their main goal, while 6% identified preparing children for school.

GROUP SIZE AND CHILD/STAFF RATIOS

Across all ages, the average group sizes and ratios reported by centers fall in the middle to upper end of the ranges of these characteristics recommended by early childhood professionals (Table 9).[18] For example, the average group of infants was reported to be 7 children. For groups of 1-year-olds only, average group size was reported at 10, compared to 12 for groups of 2-year-olds only and 17 for groups of 3- to 5-year-olds. The average child/staff ratio in centers was reported to be 4 children per staff member for groups of infants only, 6 to 7 children per staff member for groups of 1-year-olds only, 7 to 8 children per staff member for groups of 2-year-olds only, and 10 children per staff member for groups of 3- to 5-year-olds. Approximately three-quarters of center directors reported group sizes and child/staff ratios that met their state regulations. In general, these reports indicated that a higher proportion of centers met state regulations and professional recommendations for group size and ratio for older preschool children than for infants and toddlers.

There were variations in child/staff ratio by auspices. For example, for groups of 3-year-olds, there were, on average, 7 to 8 children per staff member in public school programs; 8 to 9 children per staff member in Head Start, private nonprofit programs, and independent for-profit programs; and 11 children per staff member in programs associated with for-profit chains. Group size did not vary significantly by auspices.

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[18]*See the National Academy of Sciences' report (Hayes et al., 1990) for a review of these recommendations. In general, early childhood professionals recommend smaller group sizes and fewer children per staff member at younger ages.*

***Table 9.* Average Group Sizes and Child/Staff Ratios by Age of Child and Auspices**

	Group Size	Child/Staff Ratio
Centers		
By Age of Child		
< 1 Year Only	7	4:1
1-Year-Olds Only	10	6–7:1
2-Year-Olds Only	12	7–8:1
3- to 5-Year-Olds	17	10:1
By Auspices		
(Groups of 3-Year-Olds Only)		
Nonprofit		
Head Start	19	8–9:1
Public School	16	7–8:1
Religious sponsor	16	8–9:1
Other sponsor	20	8–9:1
Independent	18	8–9:1
For profit		
Chain	18	11:1
Independent	18	9:1
All Centers	**17**	**10:1**
Family Day Care		
Regulated	7/5[1]	4/2[1]
Nonregulated	6.4/4.0[1]	4.2/1.4[1]

[1]*See footnote 19 below.*

See the Appendix for limitations of nonregulated family day care sample. All data except for nonregulated family day care (from NCCS) come from the PCS. Sources: A Profile of Child Care Settings; National Child Care Survey 1990

The average group sizes in regulated family day care tended to fall in the lower end of the recommended ranges. Approximately three-quarters of regulated family day care homes reported group sizes that met their state regulations and professional recommendations. The average reported group size in regulated family day care ranged from 5 to 7 children, compared to 2 to 4 children per group reported in nonregulated family day care.[19] Overall, there was an average report of 3 children per caregiver in family day care homes. Regulated providers reported an average of 4 to 6 children per caregiver, while nonregulated providers reported averages of 1 to 4 children per caregiver.[20]

Generally, the average group size reported by parents was consistent with the average group size reported by center directors. The average group size for all ages of children in center care reported in the PCS was 16 children,

[19]*The higher estimate is the actual number of children cared for together. The lower estimate adjusts for the number of hours each child is in care. It is defined as the sum of hours in care across children divided by the number of hours the provider cares for the children. The lower number represents an average, while the higher number represents a maximum group size.*

[20]*See the Appendix regarding limitations of the nonregulated family day care sample.*

compared with 15 children, on average, reported by parents in the NCCS. However, there was less consistency in the reports of parents and center directors for the number of children per staff member (child/staff ratio). On average, parents reported fewer children per staff member than did center directors. The NCCS calculated a ratio of 6.5 children per staff member in centers, based upon parents' estimates of the number of children and the number of staff caring for those children, while in the PCS, directors reported an average of 8.6 children per staff member. The average reports of group size and child/adult ratio were consistent between parents and providers in family day care. For example, the average group size as reported by regulated and nonregulated family day care providers in the PCS and NCCS—3 children—is the same as that reported by parents. Family day care providers reported that they cared for an average of 3.2 children per staff member, while parents reported a ratio of 3.1 children per caregiver. Group size and ratio are usually the same in family day care except in group homes which have a helper. It may therefore be easier for parents to know about groupings in family day care than in centers.

EDUCATION AND TRAINING OF TEACHERS AND PROVIDERS

Parents with a child enrolled in a center were asked whether the person mainly responsible for caring for their youngest child had received training specifically related to young children, such as early childhood education or child psychology. More than 90% of center users responded, and 87% said that their provider had some specialized training. This corresponds quite well to what providers reported themselves. The PCS found that 93% of teachers (not including assistant teachers and aides) were reported to have had some special child care or early childhood training. The most commonly reported types of child-related training among teachers were child care workshops or courses (56%), child development or psychology courses (36%), teacher training (36%), and other education training (41%). Teachers in centers were relatively well-educated. On average, nearly half (47%) of all teachers had a college degree, and an additional 13% had a 2-year college degree. Among teachers without a college degree, 12% possessed a Child Development Associate (CDA) credential, and 15% had some college experience. Only 14% of teachers had no formal training beyond high school.

Parents were also asked whether their family day care providers had any education or training specifically related to young children. About 88% of users of family day care responded. Among these parents, almost 40% said that their provider had some training. According to providers, 64% of regulated family day care providers and 34% of nonregulated family day care providers have had some special child care or early education training. Since most family day care providers are not regulated, the parent and provider reports are reasonably consistent.

PROGRAM STABILITY AND TEACHER TURNOVER

Stability of arrangements and continuity of caregivers within an arrangement are important to children's development, because stability affects children's comfort with and attachment to their caregiver. Based on parents' reports in the NCCS, changing arrangements does not appear to constitute a major source of instability. Of children who were either in kindergarten or had not yet started school, 27% had no regular supplemental care arrangements during the past year, 29% were in the same arrangement, 30% began a supplemental care arrangement, and 3% left regular supplemental care. Eleven percent switched care providers. Many of these transitions were related to children's age rather than dissatisfaction.

The PCS collected information on turnover among teachers[21] (but not assistant teachers and aides). The overall average annual rate of teacher turnover in centers was 25% (see Table 10). However, some programs had little teacher turnover, while others experienced considerable instability. Approximately half of all centers experienced some turnover in teachers during the year prior to the survey, and among programs experiencing turnover, the rate of turnover was quite high, at 50%. Degree of teacher stability did not vary by region or by urbanicity. However, it did vary by auspices, with turnover below average in Head Start and public school programs and above average in for-profit chains. Head Start and public school programs were less likely than other types of programs to experience teacher turnover during the year prior to the survey. Only one-fourth of public school programs and one-third of Head Start programs experienced turnover, compared with over half of the other types of programs. Among centers that experienced some teacher turnover, average turnover rates were higher in Head Start and public school programs than in other types of programs (64% and 60%, compared with 41% and 50% of religious-sponsored and other programs, respectively).

[21]*Annual teacher turnover is defined as the number of teachers who left the center during the past 12 months divided by the total number of teachers employed by the center. This measure includes teachers and lead teachers but not assistant teachers and aides.*

***Table 10.* Annual Teacher Turnover in Centers[1]**

Type of Program	Percentage of Programs that Experienced Teacher Turnover	Average Teacher Turnover[2] in Programs with Turnover	Average Teacher Turnover All Programs
All Programs	**50%**	**50%**	**25%**
Programs by region			
Northeast	43%	56%	24%
South	53%	47%	25%
Midwest	44%	55%	24%
West	55%	47%	26%
Programs by urbanicity			
Urban areas	51%	49%	25%
Suburban areas	52%	48%	25%
Rural areas	42%	55%	23%
Nonprofit programs			
Head Start	31%	64%	20%
Public school	23%	60%	14%
Religious-sponsor	54%	41%	23%
Other sponsor	53%	47%	25%
Independent	52%	48%	25%
For-profit programs			
Chain	77%	50%	39%
Independent	50%	53%	27%
Sample size	1,773	832	1,773

[1]*Excludes programs that serve primarily children with disabilities and programs that do not serve preschool children ages 3 and above.*

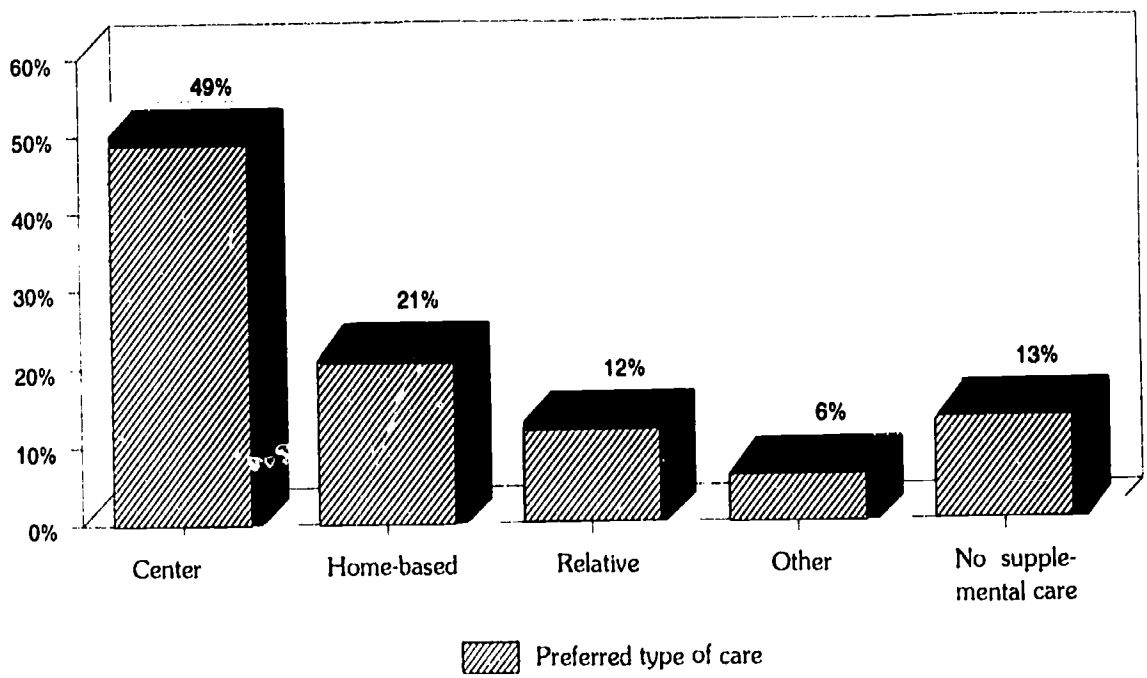
[2]*Teacher turnover is defined as the number of teachers who left the program during the past 12 months divided by the total number of teachers employed in the program. This measure does not include assistant teachers and aides.*

Source: A Profile of Child Care Settings

PARENTAL SATISFACTION

To what extent do parents' choices reflect their preferences, and to what extent do they represent what is available? Two separate questions in the NCCS address this issue. Parents were asked how satisfied they were with their current arrangement (or using no supplemental arrangement). Parents appear content; 9 out of 10 parents reported satisfaction with their current arrangement. Parents were also asked if they would like to change their current type of care, including to switch to or from using no supplemental care.Three-quarters of parents do not want to change their arrangement. Of the 25% of parents who said that they would like to change, nearly half (49%) want to switch to a center (Figure 10). Approximately one-fifth (21%) would prefer a home setting, either family day care or in-home care. Thirteen percent of those currently using some form of supplemental care would prefer not to, wanting to rely only on parent care.

***Figure 10.* Preferred Alternative Care Arrangement of Families Wishing to Change Care Arrangements**



**Home-based refers to either family day care or in-home care.*

Source: National Child Care Survey 1990

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TRENDS IN EARLY EDUCATION AND CARE

NUMBER OF PROGRAMS AND ENROLLMENT

Based on comparisons of the PCS findings with earlier studies, the number of early education and care programs has increased substantially since the mid to late 1970s.[22] In early 1990, there were three times as many centers as there were in the mid-1970s, and four times as many children were enrolled in such programs. As a result, the average number of children per program increased 39%, reflecting a greater increase in enrollment than in number of programs. In spite of these increases in enrollments in centers, the average number of staff increased by only 25% over the period, not enough to maintain constant child/staff ratios.

In regulated family day care, the estimated number of providers did not increase between 1976 and 1990, but enrollment increased by 53% over the period.[23] Consistent with the fact that total enrollment increased more than the number of providers, the average number of nonresident children cared for in regulated family day care homes increased 50%. The percentage of regulated family day care providers with helpers appears to have increased over the period, which helped to maintain child/staff ratios.

Trends based on parental reports are consistent with the reports of providers. Use of centers for children younger than age 5 with employed mothers has increased consistently over the past 25 years, both because of the increased number of employed mothers and because the proportion using these programs has increased more than four-fold, from 6% in 1965 to 28% in 1990 (Figure 11). Accompanying

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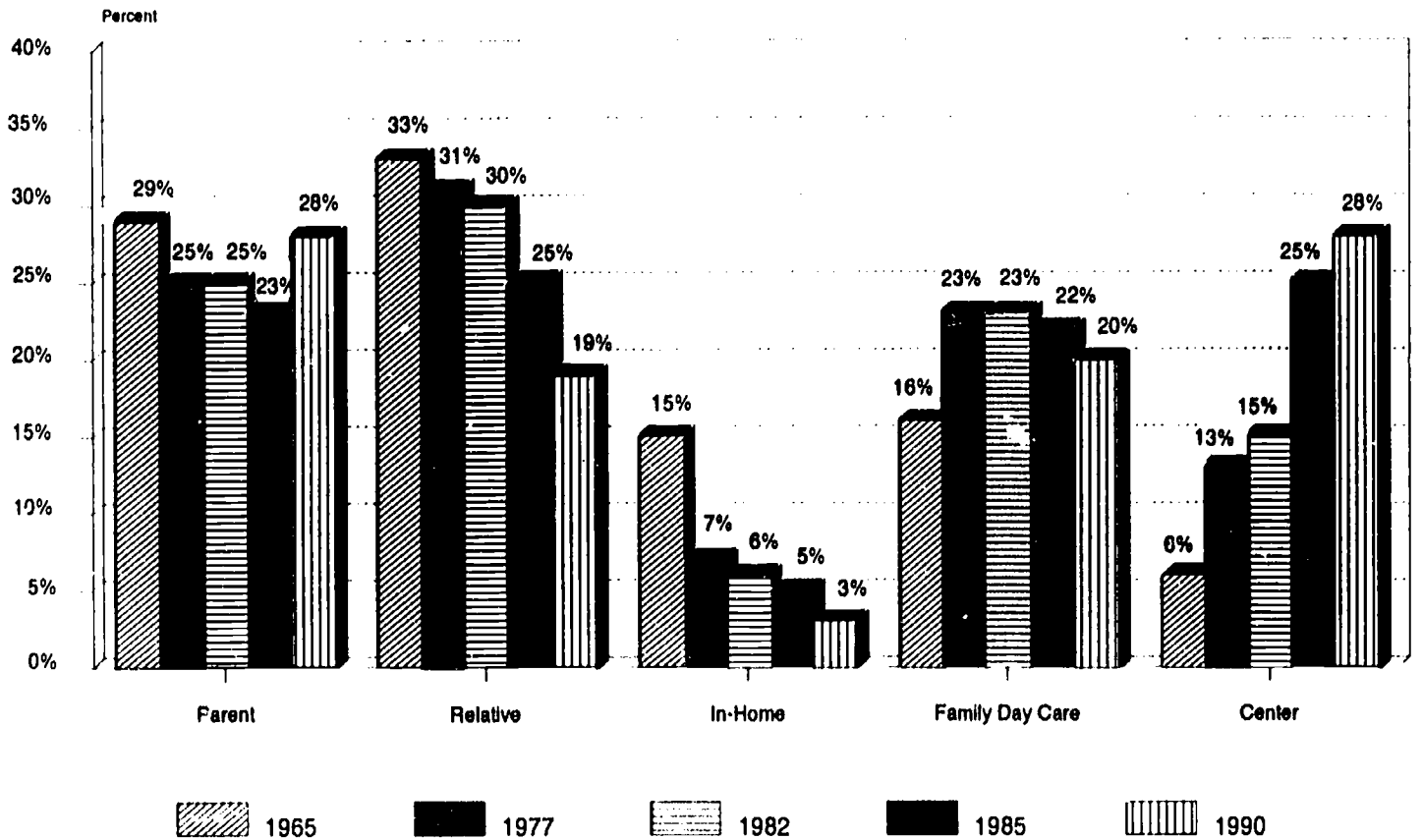
[22]*To examine trends for center-based programs, a subsample of the PCS data was selected and compared with results from the 1976–77* National Day Care Survey *(Coelen et al., 1979; Ruopp et al., 1979). To be comparable with the earlier study, the PCS subsample was restricted to programs operating at least 25 hours per week for 9 months a year, with a licensed capacity of 13 or more children and enrollments including 50% or fewer handicapped children.*

[23]*To make comparisons of family day care over time, a subsample of the PCS was selected that was as comparable as possible to the 1976–77* National Day Care Home Study *(Fosburg, 1981). As in the earlier study, family day care homes that enrolled at least one child between 12 and 60 months of age for pay and for at least 20 hours per week were selected from metropolitan areas. While nonregulated family day care providers were included in both studies, there were not enough cases to permit trend analyses for this type of care.*

Figure 11. **Child Care for Youngest Preschool Child, Employed Mothers, 1965–1990**



Sources: Low and Spindler, 1968; U.S. Bureau of the Census, 1982, 1983, 1987, 1990; National Child Care Survey 1990

the increase in the proportion enrolled in centers has been a decline in the proportion cared for by in-home providers and relatives. The number of families with employed mothers relying solely on parental care appears to have increased somewhat over the past 15 years, reflecting increased time spent by both fathers and mothers in caring for their preschool children. For children of employed mothers, enrollment in family day care relative to the use of other types of arrangements has remained constant over the period; however, the number of children in family day care has risen because of the increase in the number of employed mothers.

Because the NCCS is the first study to examine early education and care for the children of nonemployed mothers by age of child, no detailed trend analysis is possible for these families.[24] However, we infer that their use of preschool programs has also increased, based upon estimates of enrollments of older preschoolers in early childhood programs. Based upon data from the U.S. Bureau of the Census (U.S. Bureau of the Census, 1991), the proportion of 3- to 4-year-olds enrolled in preschool programs nearly doubled between 1970 and 1990, from 21% to 39%, for all mothers, employed or not.

AVAILABILITY OF PROGRAMS

The characteristics of children enrolled in early education and care centers have changed. There has been a shift toward caring for younger children in centers, reflecting the increased proportion of mothers of very young children who are in the labor force. Between 1976 and 1990, the proportion of children in center care who are under age 1 increased four-fold (from 1 to 4%) and the proportion of children ages 1 to 2 nearly doubled (from 3 to 5%). While the proportional increase is large, infants and toddlers still constitute a small proportion of the total enrollment in these programs. Little change occurred in family day care, where the proportion of infants between 1976 and 1990 has remained at about 25%. There is now less difference between the proportion of infants in centers and family day care than in the past. A comparison of data reported by parents in 1982 and 1990 confirms these reports from providers on care for infants and toddlers.

[24]*Both age of the child and employment status of the mother critically affect the type of child care used. Unco (1975) reported on child care use for the children of both employed and nonemployed mothers; however, none of their tables look both at the age of the youngest child and the employment status of the mother jointly. Therefore, no trends could be constructed for the preschool children of nonemployed mothers.*

PROGRAM FEES AND EXPENDITURES

In real terms, parent fees for centers have not changed since 1976-77. Fees averaged $1.46 to $2.00 per hour in 1976-77, assuming an average of 30 hours of care per week, and $1.51 per hour in 1990. Average hourly fees charged by family day care providers have risen only slightly. When adjusted for inflation, average hourly fees rose by about 7% among regulated and sponsored family day care providers, and by about 11% among nonregulated family day care providers.

Average hourly expenditures on centers and family day care for the youngest preschool-age child as reported by NCCS parents are shown in Figure 12. Adjusted for inflation, average hourly expenditures on center care rose 19% between 1975 and 1990, and average hourly expenditures on family day care rose 5%.

In contrast, after adjusting for inflation, hourly expenditures on supplemental care in the child's own home increased sharply from 1975 to 1990, rising by 180%. Among those who pay, the cost of care by a relative rose only by 7%.

WAGES AND INCOME OF TEACHERS AND CAREGIVERS

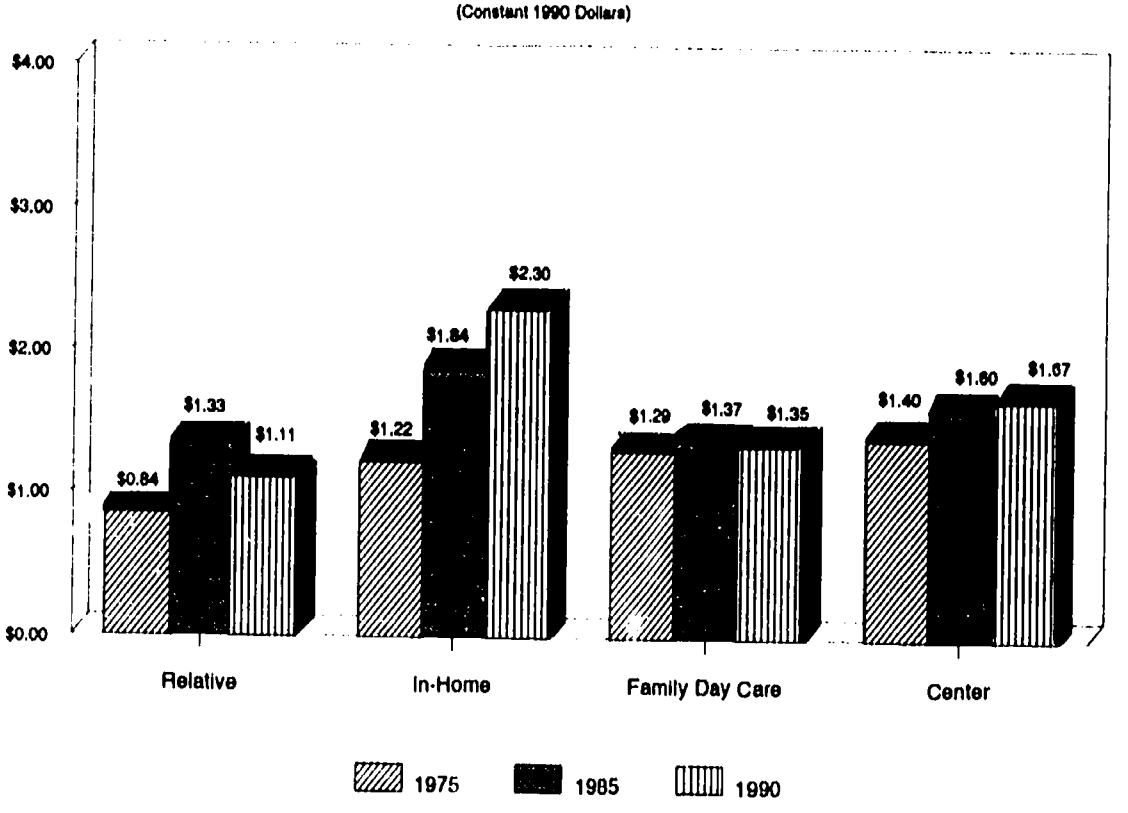
The data suggest a substantial decline in the real wages of teachers in centers and family day care providers over the past 15 years, despite increased levels of staff education and training. Adjusting for inflation, the average salary of center teachers appears to have declined by almost one-quarter between the mid-1970s and 1990.

Regulated family day care providers charge only slightly more than they did 15 years ago and their average revenue from child care ($11,000 per year) has remained virtually unchanged. Because information on the costs incurred in the provision of family day care are not available, changes in net income cannot be projected. The total household incomes of family day care providers rose 30% in real terms since the mid-1970s, so that earnings from child care have declined as a percentage of total household income. Nonregulated family day care providers brought in 17% less in 1990 than they did in 1976. Their current total revenue represents only about one-fourth of their total household income.

KEY CHARACTERISTICS OF PROGRAMS

Comparative data over time are available for several key characteristics of programs, including the level of education and training of teachers and caregivers, group size, and child/staff ratio, and wages and incomes of teachers and caregivers.

***Figure 12.* Mean Hourly Payment for Youngest Child Under 5, Employed Mothers Paying for Child Care 1975–1990**



Sources: 1975—National Child Care Consumer Study (Unco, 1975)
1985—The National Longitudinal Survey of Youth, 1985 (Hofferth, 1987)
1990—National Child Care Survey

The average levels of education and training received by both regulated family day care providers and center staff have increased substantially over the past 15 years. For example, in 1990, 41% of teachers in centers had 16 or more years of education, compared with 29% in 1976–77. The average schooling of family day care providers has also risen, from high school in 1976 to one year of college in 1990. Not only has the education of providers increased, but it has continued to exceed general increases in the level of education among all women. Providers today, as they were 15 years ago, continue to be better educated than the population as a whole.

In centers only, perhaps as a result of increased enrollments and only a small increase in staff, there have been increases in group size and the average number of children per staff member. Group sizes and ratios now tend to hover in the upper ranges of those recommended by early childhood professionals, particularly for infants and toddlers. Across all ages, average group sizes increased by approximately 16%, while the average child/staff ratio rose 25% between 1976–77 and 1990.

In contrast, child/adult ratios have not increased in regulated family day care, primarily because the proportion of regulated providers with helpers seems to have increased. The average group sizes in regulated family day care homes have increased, although it is important to note that average group sizes are still small. Based on the available data, no trends could be determined for nonregulated family day care.

In centers, there has been a slight increase in teacher turnover between the mid-1970s and 1990. According to the PCS, teacher turnover rose from 15% to 19% in comparable centers between 1976–77 and 1990. No trends could be determined for turnover of other staff based on the available data.

PROGRAM RESOURCES

Since the mid-1970s, the proportion of individual center budgets paid for by public agencies dropped from 29% to 19%, while the percentage of center budgets paid for directly by parental fees rose from 70% to 76%. This trend may reflect the fact that federal subsidies for child care paid directly to parents through tax credits and voucher/certificates have increased, while subsidies paid directly to programs have declined. The proportion from other (private) sources has doubled, but remains a very small proportion of center budgets.

PARENTAL SATISFACTION

Finally, when selecting early childhood programs for their children, the quality of the care their children are receiving is as important to parents in 1990 as it was in 1975. Parents do not report higher levels of dissatisfaction or greater desires to change care than they did 15 years ago.

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APPENDIX[1]

NATIONAL ESTIMATES OF CENTER ENROLLMENTS AND THE NUMBER OF NONREGULATED FAMILY DAY CARE HOMES

The purpose of this appendix is to discuss the national estimates projected by *The National Child Care Survey* (NCCS) and *A Profile of Child Care Settings* (PCS). Comparisons between the two studies requires close attention to differences in definitions and the universes covered, to potential sources of nonresponse bias and response error, and to differences in the objectives and wording of specific questions. This appendix provides more detailed information regarding each of these areas so that readers may be better informed regarding the national estimates derived from each of the data sets.

As in any survey, estimates produced using data from the NCCS and PCS are subject to two types of error: sampling error and non-sampling error. Sampling errors occur because the data are collected from a sample rather than a census of the population. The sample chosen is just one of many possible samples that could have been selected. Therefore, estimates produced from one sample may differ from estimates that would have resulted from other samples.

To deal with sampling error, researchers calculate the standard error, a measure of the variability in the population estimates due to sampling. The standard error indicates how much variance there is in the population of possible estimates for other samples of a given size taken by the same methods as the sample for data collection. Standard errors can be used as a measure of the precision expected from a particular sample. The probability that a complete census, conducted by the same procedures as the sample survey, would differ from the sample by less than one standard error are 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; the differences would be less than 1.96 times the standard error, about 95 out of 100 samples.

Nonsampling errors do not enter into the standard error measures of precision. However, they may contribute unknown biases to the accuracy of the estimates.

[1]*Statistical consultation on sampling issues was provided by Edward C. Bryant.*

Nonsampling errors include variations in the estimates which may be caused by coverage, data collection, processing, and reporting procedures. Nonsampling errors typically are caused by unit and item nonresponse, deliberately incorrect responses, the differences in respondents' interpretation of the meaning of the questions, response differences related to the particular time the survey was conducted, and mistakes in data preparation. In general, it is difficult to identify and estimate either the amount of nonsampling error or the bias caused by this error.

To understand how each of these types of errors might have affected the estimates derived from the NCCS and PCS, it is important to understand the survey methodology and data reliability of each study. Therefore, a brief description of the survey methodology and response rates follows for the NCCS and PCS, respectively. Following these descriptions are specific discussions of the estimates of the number of children enrolled in center programs and the number of nonregulated family day care homes and potential sources of error which may have affected the estimates.

STUDY METHODOLOGIES

A PROFILE OF CHILD CARE SETTINGS

In the PCS, telephone surveys were conducted with a nationally representative sample of formal early education and care programs. The sample for the telephone surveys was selected in two stages. In the first stage, a stratified probability sample of 100 counties or county groups representative of counties in the United States was selected. Counties were stratified according to region, metropolitan status, and poverty level and were selected from each stratum with a probability proportional to the size of the population younger than age 5. In the second stage, a stratified random sample of providers within the sample of counties was drawn. The providers were sorted into strata according to the type of provider (Head Start program, public school program, other center-based programs, and regulated family day care homes) to ensure that each category of provider was represented.

The complete sample frame for *A Profile of Child Care Settings* comprised the following types of providers:

- All child care centers and early education programs that are licensed by state or county child care licensing organizations;
- Unlicensed Head Start programs, church-based programs, and part-day preschool programs located in states that do not require that these programs be licensed;

- Public school-based early education programs that are not licensed by state child care licensing agencies; and
- Regulated home-based child care (family day care) providers, including group day programs where they are defined and regulated as a separate category of provider.

The basic sample frame consisted of the child care centers, early education programs, and home-based child care providers that are licensed or registered by the state or county in which they are located. Because the coverage of licensing regulations varies among states, this basic sample frame was augmented with church-based programs, part-day preschool programs, and other programs that are exempt from licensing in some states. The basic sample frame was also expanded to include public and private school-based programs, which rarely fall under the jurisdiction of child care licensing and are usually regulated by state education departments. Two types of programs—unlicensed programs that serve only school-age children and unlicensed programs that serve children exclusively on a drop-in basis—were specifically excluded from the sample frame because they do not provide *regular* care for *preschool* children and the lists were too difficult to obtain.

Response Rates

Interviews were completed with the directors of 2,089 center-based early education and care programs and 583 regulated family day care providers. Completion rates with center directors were high, ranging from 86% of centers not including Head Start and public school programs to 98% among Head Start programs. Completion rates among regulated family day care providers were also high (87%). Item nonresponse was very low.

THE NATIONAL CHILD CARE SURVEY 1990

The NCCS was a telephone survey, with a sample representative of all civilian, non-institutionalized persons in the 50 states and the District of Columbia. The sample was selected within the same 100 counties used in the PCS sample. Data were collected using a random-digit-dialing (RDD) method commonly referred to as the Mitofsky-Waksberg method[2] and a computer-assisted telephone interviewing (CATI) technology.

[2]*For further information, see "Sampling methods for random digit dialing," by J. Waksberg in the* Journal of the American Statistical Association, *volume 73, No. 361, March 1978, pp. 40–46.*

A household screener was administered to an adult member of the household to determine whether any children under the age of 13 lived in the household. It also determined whether any children, other than members of the household, were cared for in the home. An interview was conducted with the person most knowledgeable (generally the mother) about the care of children younger than age 13 in the household. Data were collected for each such child. More detailed data were collected for the youngest child younger than age 13.

Households that reported the care of other children in the screener were administered a telephone interview concerning the nature of that care. A subsample of households reporting use of centers or family day care homes was selected and asked for the telephone number of their caregiver. This subsample was screened against the list of sample caregivers prepared for the PCS. An interview was attempted with those not on the PCS list.

Response Rates

The NCCS completed screeners with 39,331 households, of which 6,333 contained at least one child younger than age 13. The response rate for the screener was 83%. The completion rate for the basic child care interview was 69% of the eligible households screened. Thus, the overall response rate for the basic interview was 57% (the product of the screener response rate and the interview completion rate). While lower than expected, the response rate does not appear to have affected the resulting estimates. Preliminary analyses of the 1991 National Household Education Survey—with high response rates—conducted by the National Center for Education Statistics (West et al., 1991) regarding the participation of preschool children in early education and care programs indicate similar estimates for center enrollments for 3- through 5-year-olds, the comparable samples of comparison. NCCS item nonresponse (the failure to complete some items in an otherwise completed interview) was acceptably low.

ESTIMATES OF ENROLLMENT IN CENTERS

The NCCS estimate of the number of preschool children in centers is 5,142,664 with a confidence interval of ± 537,040 at the .05 level. This means that in 95% of samples drawn, the actual value should lie between 4,605,624 and 5,679,704.

The PCS estimate of the number of preschool children in centers is 3,940,000 with a confidence interval of ± 225,000 at the .05 level. In other words, the actual value should lie between 3,174,000 and 4,165,000 in 95% of the samples drawn. The difference between the NCCS and PCS estimates is statistically significant.

Why do the values differ? Are the NCCS estimates too high or the PCS estimates too low? There are several reasons that may contribute to the differences in the estimates, based on the nature of each survey, its methodology, and potential sources of error. While any or all of these factors may have contributed to the differences in the estimates of center enrollment, there is no way to exactly gauge to what extent they may have operated. Following are several potential factors that may have contributed to either over-estimation (in the case of the NCCS) or under-estimation (in the case of the PCS).

REASONS WHY THE NCCS ESTIMATE MAY BE HIGH

1. Bias due to interviewing only households with telephones.

The NCCS was based on a telephone survey, excluding households without telephones. Census data indicate that 90% of all children younger than age 13 live in households with telephones. Households without telephones are more likely to have low incomes. Therefore, statistical weighting adjustments were applied to compensate for the undercount of low-income families. However, if low-income families with telephones are more likely to use centers than those without telephones, estimates of the number of families using centers and center enrollments may have inadvertently been inflated. This may have contributed in a minor way to the difference between the two estimates.

2. Misclassification of family day care as center care

Parents may report some arrangements as center care which are not, a tendency which may be more pronounced in the NCCS since respondents were first asked about enrollments in centers. There were a few parents who said that they used a center (but no family day care) but when the caregiver was contacted, the setting was in fact a family day care home. The converse also occurred, with families reporting the use of family day care homes which were in fact centers. Such discrepancies were found in only about 2 to 3% of the subsample in which caregivers were contacted, not enough to explain the difference between the estimates.

A comparison of the NCCS estimates with several other household surveys indicates that telephone surveys of child care arrangements may be more subject to *respondent error* than in-person interviews. The Health Interview Survey (HIS) and the Survey of Income and Program Participation (SIPP), both conducted by the Census Bureau, used in-person interviews with large sample sizes to identify child care arrangements. The NCCS, the Centers for Disease Control (CDC) survey of child care, and the National Household Education Survey (NHES) all used random digit dialing in telephone surveys to identify child care arrangements. Of particular

note is the fact that the HIS and SIPP (in-person interviews) both show a higher proportion of children in family day care and a lower proportion of children in centers when compared to the NCCS, CDC survey, and NHES. There appears to be a clear difference among the studies based on the type of survey conducted. One hypothesis is that there is less respondent misreporting of the type of arrangement in an in-person survey where it is easier for the interviewer to clarify and probe if the respondent seems unsure of the definitions.

3. Wording of specific questions

The wording of the question regarding child care usage may have elicited casual usage. Interviewers asked whether the respondent used each of a long list of arrangements, rather than simply eliciting a "primary" and "secondary" arrangement. While these arrangements were to have occurred on a regular basis (defined as at least once a week for the last two weeks), some respondents may not have fully understood this definition which may have led to the potential inclusion of irregular or occasional usage.

4. Possible response error due to undercoverage of families with children younger than age 13.

The NCCS telephone survey produced fewer households with children younger than age 13 than expected, based on Census data from the Current Population Survey (CPS). It was expected that 30% of households would have a child younger than age 13, but only 16.1% of contacted households were so identified. This resulted in an average adjustment of about 2.16 in order to adjust the telephone interview data to the number of children younger than age 13 reported by the CPS. This adjustment also accounts for the households without telephones mentioned earlier.

It appears that some households with children responded negatively to the screening question, "Do you have any children under 13 years of age?" If those families with children using center care are more willing to admit that they have children and agree to an interview than those not using center care, then the estimates of the use of centers will be biased upwards. There is no way to know if something like this in fact occurred, or to what extent. However, preliminary data from the National Household Education Survey, with no known coverage problems and with high response rates, show estimates of the use of center care for 3- to 5-year-olds, the comparable age group across the two studies, that are similar to those of the NCCS. This indicates that there is little, if any, bias introduced into the NCCS estimates as a result of the undercoverage of families with children under age 13.

REASONS WHY THE PCS ESTIMATES MAY BE LOW

1. Exclusion of programs covered in the NCCS from the PCS sample frame.

The PCS sample frame includes all child care centers and early education programs that are licensed. Because the coverage of licensing regulations varies among states, the basic sample frame was augmented with unlicensed church-based and part-day programs in states where they are not required to be licensed. The basic sample frame was also supplemented to include public school programs, which rarely fall under the jurisdiction of child care licensing and are usually regulated by state departments of education. However, two types of programs which may have been mentioned by parents in the NCCS—unlicensed programs serving only school-age children and unlicensed programs serving children exclusively on a drop-in basis—were specifically excluded from the PCS sample frame.

Despite efforts to include exempt part-day programs in the PCS sample frame (e.g., by obtaining lists of programs applying for exemptions and lists from health departments and resource and referral agencies), it is likely that a small number of part-day programs were not included in the sample frame, since 7.6% of centers in states that exempt part-day centers, compared to 10.6% of centers in other states, reported operating for 4 hours per day or less, the most common threshold for exemption. Given the fact that the average enrollment in a center is 62 children, estimates of enrollment are sensitive to the omission of even a small number of programs.

2. Exclusion of newly formed programs from the PCS sample frame.

The lists of programs obtained for the PCS sample frame were collected during the summer of 1989, 3 to 5 months prior to the survey field period. The lists varied in length of time since they had been updated but were usually 1 to 3 months old upon receipt. All centers that came into existence after the lists were compiled are not included in the PCS sample frame.

3. Undercount of Head Start programs.

The PCS estimates of the number of Head Start programs and their enrollments are lower than figures compiled by the Administration on Children, Youth and Families (ACYF), the administrating agency for the Head Start program. There are several possible reasons for the differences. The ACYF figures are based on management information system data compiled using a different methodology than that used in the PCS. Given the small number of Head Start programs in the PCS sample, sampling error also may be a contributing factor. In addition, the PCS may

have excluded home-based Head Start programs which are included in ACYF counts. Children enrolled in home-based programs constitute 5 to 10% of all children (as many as 45,000) enrolled in Head Start.

ESTIMATE OF THE NUMBER OF NONREGULATFD FAMILY DAY CARE HOMES

The PCS estimates that in 1989-90 there were approximately 118,000 licensed or regulated family day care homes operating in the United States. However, the vast majority of family day care homes are not licensed or regulated. This appears to be due to two factors:

- More than two-thirds of the states (36) exempt homes serving fewer than four unrelated children from mandatory regulation.[3]
- Providers who are subject to state regulation either knowingly or unknowingly operate illegally.

Nonregulated providers are seldom found on any formal lists. Gauging their exact number and the number of children in their care is virtually impossible. However, data from the PCS and NCCS can be used to construct various estimates.

The NCCS survey screener asked if anyone in the household provided care to children from another household, resulting in a small sample of family day care providers identified directly from the survey. This sample can be used to project a direct estimate of the total number of family day care providers. However, such estimates must be viewed with considerable caution. The sample size was quite small, and it appears that many nonregulated family day care providers may have misrepresented their status in responding to the screening question. There are a number of potential reasons for this. Providers may not have wanted to bother with the survey; they may be operating illegally, providing care for more children than their state allows; or they may not be reporting their child care income for tax

[3]*The Children's Defense Fund reports that a total of 22 states exempt family day care homes serving fewer than 6 unrelated children and an additional 14 states exempt homes serving fewer than 5 children from regulation (*Who Knows How Safe? *by Gina Adams, published by the Children's Defense Fund, Washington, DC, 1990).*

purposes. Therefore, indirect measures of the number of providers were also computed. The indirect measures were based on the total number of children reported to be in family day care by parents in the NCCS, the total number of regulated providers estimated by the PCS, and the average number of children enrolled per home reported by the PCS for regulated family day care providers and by the NCCS for nonregulated providers.

DIRECT ESTIMATES BASED ON THE POSITIVE RESPONSE TO TELEPHONE SCREENER

Based on the number of individuals responding positively to the NCCS screener, an initial estimate of 435,000 family day care providers (regulated and nonregulated) was derived. Subtracting the estimated 118,000 regulated homes estimated by the PCS provides an estimate of 317,000 nonregulated homes. One of the factors that calls this estimate into question is the resulting number of children that must be cared for on average per home, based on parents' reported use of family day care. The NCCS estimates that a total of 4 million children younger than age 13 attend family day care on a regular basis as either their primary or secondary arrangement. According to the PCS, an estimated 701,000 children are enrolled in regulated family day care homes, leaving an estimated 3.3 million children in nonregulated homes. This implies that, on average, each nonregulated family day care provider cares for 10 children. Ten children could include several children attending part-time, such as school-agers or others attending only one or two days a week, and would not have to be 10 children enrolled full-time.

While some nonregulated family day care homes may provide care for this many children, it seems high as the *average* number. When specifically asked how many children were in their care, regulated providers said that they cared for 6 children on average and nonregulated providers responding to the survey said that they cared for 3 children on average.

INDIRECT ESTIMATES

Indirect estimates of the number of nonregulated homes may be obtained by dividing the estimated number of children attending such homes by an estimate of the average enrollment per home. This indirect estimate is outlined in Table A-1

Total family day care enrollment is projected at 4 million children. Two different estimates of the average number of children per home are used. Three is based on the average number of children per home reported by nonregulated providers responding to the survey. This estimate may be low, if those who agreed to respond to the survey care for fewer children on average than those who did not agree to participate. Six is based on the average number of children per home reported by regulated providers. This estimate may be high since small family day care providers are exempt from regulation in many states. A study of family day care in Vermont (Nelson, 1990) reported an average of 4 nonresident children per home in 1986, comparable to the 3 to 4 nonresident children per provider reported by the 1976–77 National Day Care Home Study, 1981). These findings further suggest that the true number of children per family day care home probably lies between 3 and 6.

The indirect estimates range from 668,000 to 1.2 million providers. Based on the PCS estimate of 118,000 regulated family day care providers, this suggests that anywhere from 10% to 18% of all family day care providers are regulated.

Table A-1. Indirect Estimates of the Number of Family Day Care Providers

Note: Estimates based on a total of 3.3 million children enrolled in nonregulated family day care, based on a total of 4 million children reported to be enrolled in family day care less 701,000 children reported to be enrolled in regulated family day care.

	If average of 3 children/home	If average of 6 children/home
Number of Nonregulated Providers	1.1 million	550,000
Plus Number Regulated Providers	118,000	118,000
Total Number of Providers	1.2 million	668,000
% Regulated	10%	18%

Sources: National Child Care Survey 1990; A Profile of Child Care Settings

INFORMATION ABOUT NAEYC

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. . .a membership-supported organization of people committed to fostering the growth and development of children from birth through age eight. Membership is open to all who share a desire to serve and act on behalf of the needs and rights of young children.

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The Demand and Supply of Child Care in 1990 presents summary findings of two studies, *The National Child Care Survey 1990* and *A Profile of Child Care Settings*, to describe characteristics of families with preschool and school-age children, the extent to which these families use education and care programs, the nature of the programs they use, and the relationships between demand and supply in the child care market.

The result of a unique collaborative effort by the National Association for the Education of Young Children (NAEYC), the Administration on Children, Youth and Families (ACYF) of the U.S. Department of Health and Human Services, and the Office of Policy and Planning of the U.S. Department of Education, together the studies are the most comprehensive examination to date of the national market for early education and care programs.

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