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Assistant Secretary for Planning and Evaluation

A SYNTHESIS OF RESEARCH ON CHILD CARE UTILIZATION PATTERNS

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Office of the Assistant Secretary for Planning and Evaluation

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A SYNTHESIS OF RESEARCH ON CHILD CARE UTILIZATION PATTERNS

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Office of the Assistant Secretary for Planning and Evaluation
U.S. Department of Health and Human Services

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PREFACE

The purpose of this paper is to summarize the trends in the patterns of child care use and family expenditures by families where the mother is in the labor force. This paper synthesizes the data and research findings of:

1. Child Care Arrangements of Working Mothers in the United States, Low and Spindler. 1968. (Data: 1965 Current Population Surveys). Hereafter cited as "Low and Spindler, 1968.

2. Trends in Child Care Arrangements of Working Mothers (P-23, #117), Lueck, Orr, and O'Connell. 1982. (Data: Current Population Surveys of 1958, 1965, and 1977). Hereafter cited as Lueck, Orr, and O'Connell, 1982.

3. Child Care Arrangements of Working Mothers: June 1982 (P-23, #129), O'Connell and Rogers. 1983. (Data: Current Population Surveys of 1977 and 1982). Hereafter cited as O'Connell and Rogers, 1983.

4. Who's Minding the Kids? Child Care Arrangement: Winter 1984-1985 (P-70, #9), Bachu and O'Connell. 1987. (Data: Survey of Income and Program Participation). Hereafter cited as Bachu and O'Connell, 1987.

5. "Child Care in the United States," testimony before the Select Committee on Children, Youth, and Families, Hofferth. July 1, 1987. Hereafter cited as Hofferth 1987.

6. Child Care in the United States, 1970-1995, Hofferth and Phillips. August 1987. Hereafter cited as Hofferth and Phillips, 1987.

7. Usage of Different Kinds of Child Care: An Analysis of the SIPP Data Base, Brush. October, 1987. Hereafter cited as Brush 1987. [http://aspe.hhs.gov/daltcp/reports/ccusage.htm]

This paper is organized into three major sections:

I. Demand for Child Care and Conceptual Model
II. Child Care Arrangements
III. Costs of Child Care

The author would like to thank Ruth Fu for computer programming of the SIPP data, Ann Segal, Lorie Brush, Walt Francis, and Sandra Hofferth for their helpful comments and suggestions, and Bill Prosser for his insight and overall guidance with this synthesis.

I. DEMAND FOR CHILD CARE AND CONCEPTUAL MODEL

A. The Demographics of Labor Force-Related Child Care[1]

Numbers of Children

The demand for child care is influenced by many factors. Demographically, the post-World War II baby boom resulted in record numbers of births between 1946 and 1964. And although the birth rate and fertility rate of women have decreased since 1960, these baby boomers are now having children of their own. As a result, the number of preschool children (less than six years old)--previously declining from the mid 1960s to the late 1970s--is increasing once again and expected to reach 23 million by 1990 (only slightly lower than the number of preschoolers at the height of the baby boom).[2] In addition, the number of school-age children declined until 1985, after which the numbers are expected to increase to almost 45 million into the 1990s (see Figure I-1 and Figure I-2).

Numbers of Working Mothers

While the numbers of preschool and school-age children declined during the seventies, the rate at which the -mothers of these children have entered the labor force has consistently increased since 1970 (see Table I-1).

TABLE I-1. Labor Force Participation Rates or Married Women, by Age of Youngest Child (<6, 6+): 1970-1985[a]

	1970	1975	1980	1985	Percent Change 70-85
No kids <18	42	44	46	48	14
Kids <18	40	45	54	61	53
<6	30	37	45	54	77
6-17	49	52	62	68	38

a. Robins, Table 1. p.4.

Robins attributes this increase to social factors, including the development and increased use of the contraceptive Pill, which may have led to delayed childbearing and

[1] All of the studies reviewed here interviewed only families where the mother was in the labor force. Only the 1977 CPS surveys asked nonemployed mothers about "regular child care arrangements"; only 9.6 percent of nonemployed mothers with children under five had regular child care arrangements in 1977 (Presser, Harriet B., PhD. "Working Women and Child Care" in P.W. Berman and E.R. Ramsey (eds.) Women: A Developmental Perspective, U.S. Department of Health and Human Services, NIH Publication No. 82-2298, April 1982).

[2] Hofferth, 1987. p.2.

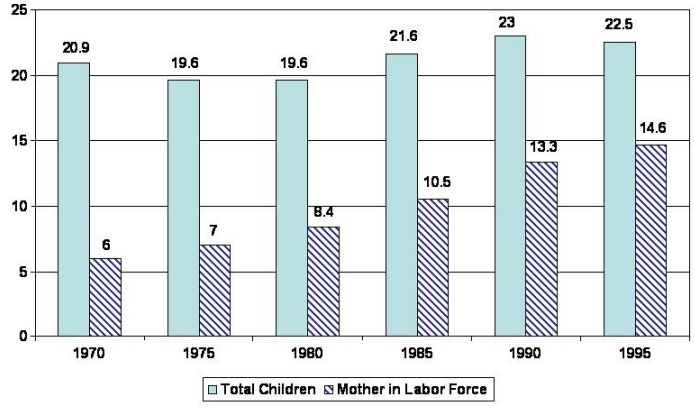
reduced fertility. There has also been a reduced stigma in leaving young children in the care of others; most research indicates that it does not have harmful developmental effects on children. Finally, divorce has forced increasing numbers of mothers into the work force.

Robins also notes economic factors influencing a women's decision to enter (or re-enter) the work force. Changes in the job market over the last 10 years, including a rise in women's real wages and increased service jobs with flexible schedules, have made working more desirable. Second, the desire to maintain or obtain a higher standard of living has led many women to enter the labor force. Finally, increased subsidization of child care costs, through tax credits and program expenditures, has helped mothers to work and obtain help with their child care needs.[3]

Children with Employed Mothers

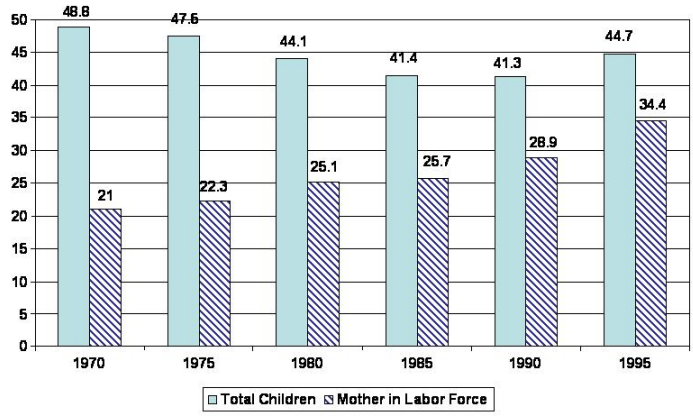
These increased **labor force participation rates of mothers** have more than compensated for the decline in the **total number of children**, resulting in consistently increasing numbers of **children with employed mothers**. The number of preschool children with mothers in the labor force has grown by 75 percent over the past 15 years (from 6 million in 1970 to 10.5 million in 1985). In addition, the number of school-age children (6-17) with mothers in the labor force has increased 22.4 percent over the same period. The most recent projections show that these numbers will continue to rise into the next decade, as trends in total numbers of children *and* labor force participation rates begin to reinforce each other, accelerating the number of children with employed mothers (see Figure I-1 and Figure I-2).

FIGURE I-1: Preschool Children with Mothers in the Labor Force, 1970-1995



[3] ibid., pp. 3-7.

FIGURE I-2: School-Age Children 6-17 with Mothers in the Labor Force, 1970-1995



These statistics elicit concern about the care of the children of these working mothers. Since mothers have traditionally been primary caregivers, researchers have always been concerned about the impact their absence has on children.[4]

B. Understanding Determinants of Child Care Choice

If we can understand why certain families choose different types of care, we can better estimate future trends in the patterns of care used by all families, which would prove useful to child care program planners, private providers of care, and public agencies concerned with child care issues.

The overall observed demand for care is simply the aggregate of individual families' choices of care. Approaching the demand for child care at this micro-level requires asking: "What characteristics of the family, mother, and child influence their choice of care arrangements?" This section incorporates the implicit and explicit theories of the reviewed researchers and presents a conceptual model outlining the variables affecting the demand for child care.

The choice of child care arrangements is the result of a decision-making process involving:

[4] Hofferth and Phillips, 1987, p. 568-569. Although, among all dual-earner families, fathers provide child care in a small proportion of the cases; among shift workers, the father often serves as the major source of child care while the mother works outside the home. Ibid.

1. assessing the preferences for child care (considering type of care and hours of care desired), and
2. reviewing the obtainable set of options, as determined by the family's budget constraints.

Generally the type of child care demanded is determined by the **type of care preferred**, and the **hours the care is desired** (both total amount and which hours). The **type of care preferred** is often related to the age of the child: there appear to be stages of care that differ for infants, toddlers, and older preschoolers. Parents may prefer to have their younger children (especially infants and toddlers) in nurturing, family-like environments. Parents of older preschoolers (3 5 years old) may wish to have their children exposed to other children to begin to develop their social skills. Also, the number of children of each age helps determine the preferred type of care.

One factor that helps determine the **hours of care desired** is the age of the child: preschoolers require more continuous care while school-age children are likely to require care only when they are not in school (their primary arrangement), to "wrap-around" the hours the parents are unable to care for them.

These required hours of care consist of time the parent can care for the child and time that other "outside" arrangements must be made. The search for potentially available caregivers presumably begins in the home, with the parents. Consequently, the presence of another adult in the household may result in his or her being used to provide care rather than arrangements outside the home.

Finally, the extent to which the parent(s) or other close relatives work and the shifts of those work hours constrain the hours they are able to care for their child(ren) themselves, and outside arrangements are more likely to be pursued.[5]

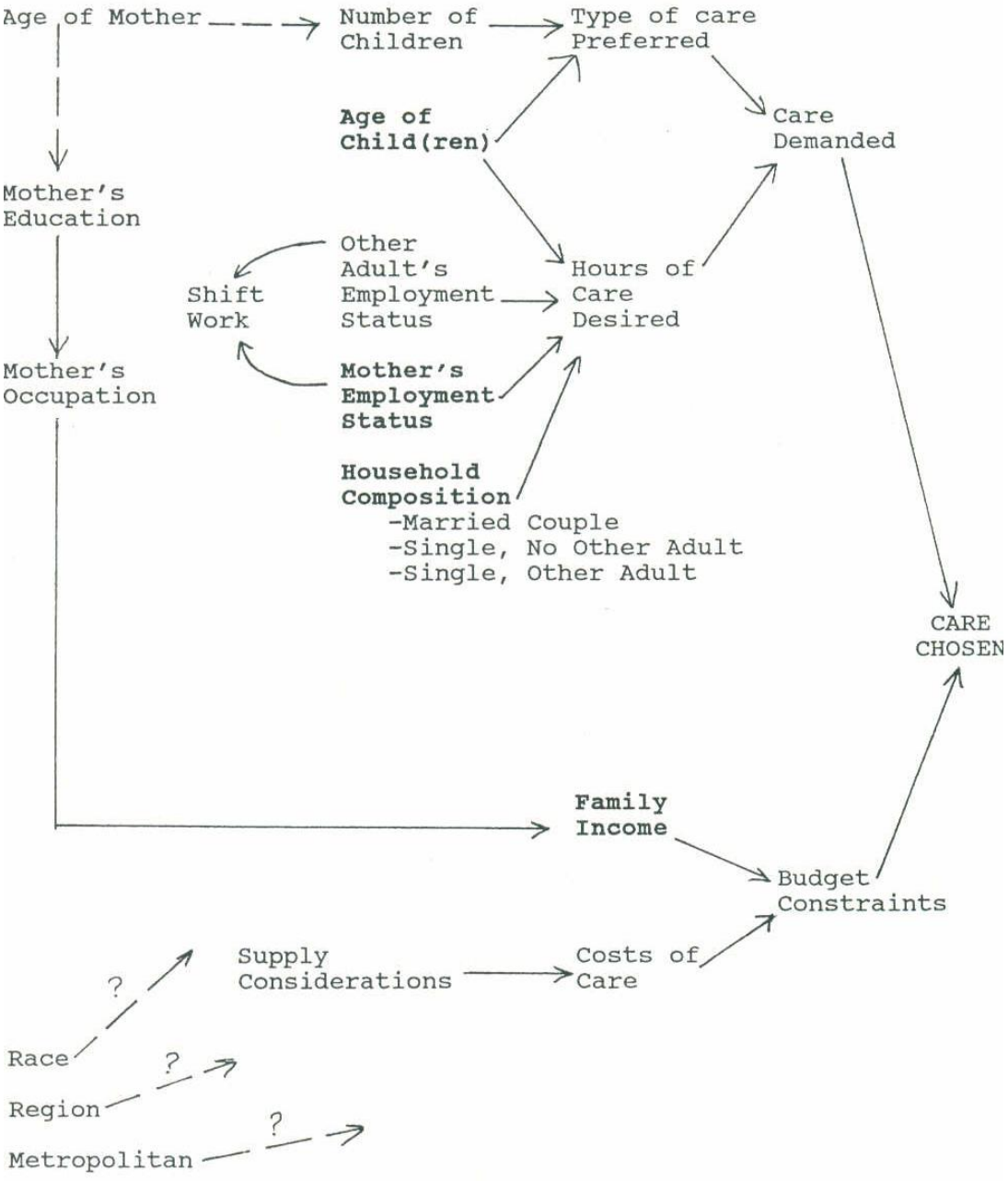
The family's budget constraints are defined by the **costs of available care** (influenced by the current supply of different types of care) and the **family's ability to pay** for alternative forms of care. Therefore, the type of care ultimately chosen is determined by the family's unconstrained demand for certain arrangements, tempered by the financial realities affecting their ability to achieve these preferences.

All the researchers reviewed in this paper have either implicitly (by reporting child care usage rates by different social and economic variables) or explicitly (through multi-

[5] When young couple families (19-26 in 1984) with children less than five years old have both parents working, 34.3 percent of dual-earner couples use joint (both parents) care when the respondent (either father or mother) is employed **full-time** on a fixed, non-day shift. Almost 60 percent of couples both care for their preschooler when the respondent works **part-time** on a fixed, non-day shift (Presser, 1988. p.9). It seems logical that shift work is more prevalent (because more feasible) among part-time workers. (For the data reviewed in this paper, the father--if present--most often is the full-time worker while the mother is either full- or part-time.

variate analyses) determined the age of the child, the mother's employment[6] and marital statuses[7] and family income to be the most influential factors in a family's child care arrangement decisions.[8] The schematic on the following page highlights these as the primary determinants of care choice (see Figure I-3).

FIGURE I-3: Conceptual Model of Determinants of Child Care Choice



[6] While the first section of this paper emphasizes rates of mothers' employment (versus nonemployment), the remainder of this paper refers to the child care arrangements used only by **employed** mothers. Subsequent discussion of "employment status" refers to whether the mother works **part-time** or **full-time**.

[7] O'Connell, et al. (1977) and Brush (1987) use household composition in combination with marital status to determine the presence of any other adult, not just the presence of a husband.

[8] Brush (1987) and Hofferth (1987) also include the number of children as a primary determinant.

This figure also includes the mother's education and occupation, her age, race, and location (region and whether a metropolitan area) as tertiary variables having more indirect or questionable effects on these decisions. When excluded from the analyses, these "indirect" factors probably express their influence through these other more "direct" variables.

C. Summary

- The number of preschool children with employed mothers increased from 6 million in 1970 to 10.5 million in 1985 and is expected to accelerate to 14.6 million by 1995.

- The number of school-age children (6-17) with employed mothers increased from 21 million in 1970 to 25.7 million in 1985 and is expected to increase to 34.4 million by 1995.

- Primary determinants of child care arrangement choice include: the number and age of child(ren), mother's employment status, mother's marital status, and family income. Secondary variables include: mother's educational attainment, occupation, age, race, and place of residence.

In the sections on arrangements and costs that follow, we first will discuss the trends from 1965 to 1982 and then discuss the most recent 1985 Survey of Income Program Participants (SIPP) results.

II. CHILD CARE ARRANGEMENTS

In the past, when people discussed "child care," they most likely were referring to child care in centers. They perceived child care in terms of formal arrangements, perhaps defining it by whether or not payment was required. Yet some forms of care are less "formal" (like relative and sitter care) and often require no form of payment (like relative care). Since these are inarguably forms of child care--indeed, often very prevalent forms--this paper reviews patterns of both formal and informal arrangements.

This paper presents patterns of **primary care arrangements**, that is, arrangements used most by the respondent during the survey reference period. These arrangements have been categorized as: parental care (care by either the father or mother, including if she works at home or cares for the child at work), relative care (care by any of the child's relatives, either in or out of the child's home, excluding sibling care), sitter or nanny care (care by a nonrelative in the child's home), family day care (care by a nonrelative in their home), and center or nursery school care (formal programs at a designated child care center or school).

A. Trends in Child Care Arrangements

The past twenty years brought a growth in the number of children with mothers in the labor force. Simultaneously, it has brought a change in the patterns of care for the children of these employed mothers. "Between 1965 and 1982, there was a gradual decline in care by a relative (including parents), a large decline in care by a non-relative in the child's home (sitter), modest increase in care by a non-relative in their home (family day care home), and an enormous increase in care in a day care center or nursery school."[9]

As presented in the conceptual model, the demand for these types of primary care varies considerably with the age of the child for whom the care is needed. It is not useful (and indeed, may be misleading) to discuss collectively the care arrangements for a two-year-old and a ten-year-old, for instance. Researchers recognize this and usually report separate analyses on the child care arrangements used for preschoolers[10] from those used for school-age children. Since most parents report that school-age children are in elementary school as their "primary" arrangement, those data do not support very insightful analysis. This paper focuses on the primary care arrangements for preschoolers only.[11]

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[9] Data from the 1982 National Survey of Family Growth, reported by Hofferth and Phillips, 1987.

[10] "Preschoolers" most often refers to children under age five, though earlier reports sometimes used "under 6" to describe preschoolers. When important to the discussion, this paper will be clear about which age group is being referred to.

[11] The needs of school-age children are by no means dismissed as irrelevant. For a comprehensive discussion of the care arrangements of school-age children, see "Parental Choice of Self-Care for School-Age Children," Cain and Hofferth, April, 1987.

The way the data were presented by the researchers precluded determining trends in the prevalence of each type of care for each employment and marital status of the mother, income level, race, etc. However, comparisons were possible for preschool children of mothers working part-time with those working full-time. Reviewing these trends are useful.

In 1965, the largest share of **preschoolers, with full-time (FT) employed mothers** were in relative care (36.0 percent), either in or out of the child's home. The fewest could be found in center care (8 percent). By 1985, relative care slipped to be the third most frequently-used type of care for preschoolers with FT-employed mothers (24.0 percent). Most of these children were in center care (30 percent) and family day care (27 percent) in 1985 (see Table II-1). Thus, for the first time since these data have been collected, the "formal" arrangements of family day care and center/nursery school care became the most frequently used type of care for these children by 1985 (see Figure II-1).

TABLE II-1. Care Arrangements for Preschool* Children, by Employment Status of Mother

	1958		1965		1977		1982		1985		Percent Change 1965-1985	
	PT	FT	PT	FT	PT	FT	PT	FT	PT	FT	PT	FT
Parent	NA	26%	55%	17%	42%	19%	36%	17%	36%	15%	-35%	-9%
Other Relative	NA	42%	25%	36%	24%	32%	30%	32%	27%	24%	8%	-33%
Sitter/Nanny	NA	14%	9%	19%	8%	7%	7%	5%	7%	5%	-24%	-75%
Family Day Care	NA	13%	8%	20%	16%	27%	19%	25%	14%	27%	82%	37%
Center	NA	5%	3%	8%	9%	15%	8%	20%	17%	30%	515%	263%
All Care	NA	100%	99%	99%	99%	99%	100%	100%	100%	101%		

* 1958 and 1965 data are for all children under 6 years of age. 1977 data are only for two youngest children under 5 years old (total includes children for whose age is not known). 1982 and 1985 data for youngest child under 5. Self-care is excluded. Percents may not add to 100 due to rounding.

SOURCES: 1958, 1965, and 1977 CPS data from Lueck, Orr, and O'Connell, Table A-3, pp.42-43. 1982 CPS and 1984 SIPP data from "Who's Minding the Kids?" Table 3, p.15.

In 1965, among **preschoolers with part-time (PT) employed mothers**, over half (55 percent) were cared for by their parents, and 25 percent were cared for by other relatives (both in and out of the child's home). These arrangements continued to be the two most prevalent over time: in 1985, 36 percent of the children of PT-employed mothers were cared for by parents and 27 percent were cared for by other relatives. The interesting trends occurred among the remaining types of care. Sitters (nonrelatives in the child's home), who were after parental and relative care in usage in 1965, were the least used form of care as early as 1977. At that time, family day care became the next most heavily used care (after parental and other relative care) and remained such until 1985, when center care ranked third (see Table II-1). As with FT-employed

mothers, child care arrangements among PT-employed mothers with preschool children are becoming more formal and less "family-based." However, informal, family-type arrangements still constituted about 70 percent of all care used by PT-employed mothers in 1985 (see Figure II-2).

FIGURE II-1: Care Arrangements for Children <5 with Full-Time Employed Mothers

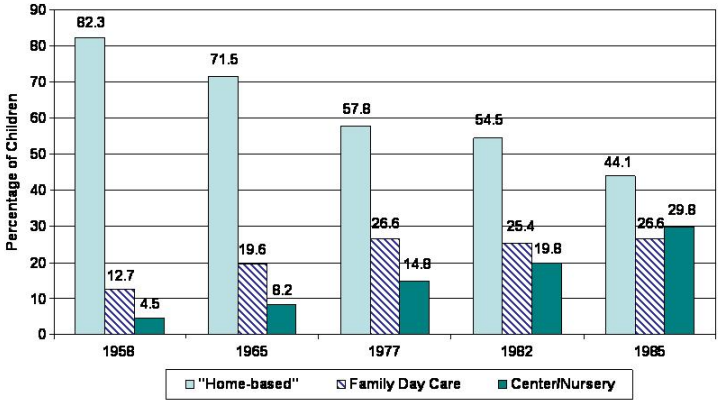
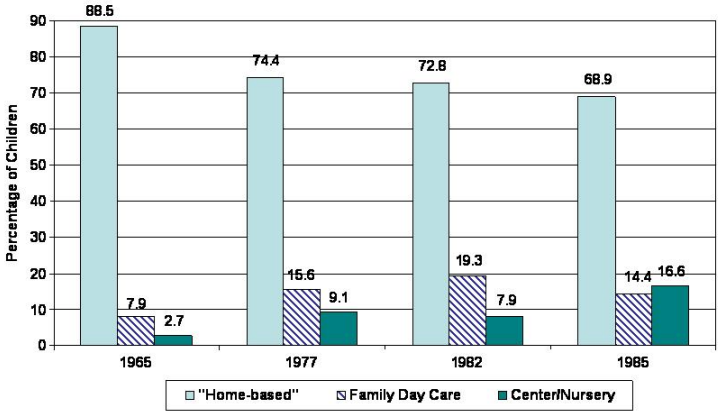


FIGURE II-2: Care Arrangements for Children <5 with Part-Time Employed Mothers



Hofferth and Phillips (1987) investigated patterns of *nonparental* child care use among mothers working part- and full-time for preschoolers less than three and 3-4 years old. This age distinction allows investigation of each group's different usage patterns and determination of which age population is driving this growth in formal care.

Center/Nursery School Care

Hofferth and Phillips found that among *all* employed mothers, older preschoolers (3-4 years old) were consistently more likely than younger preschoolers (<3 years old) to be found in center care. Full-time-employed mothers were also more likely than part-time-employed mothers to use center care--regardless of the age of their preschooler. There was phenomenal growth in the use of centers by mothers of both employment statuses and both groups of preschoolers between 1965 and 1982, with **full-time-employed mothers of 3-4-year-olds** and **part-time-employed mothers of infants and toddlers (<3)** accounting for most of it (+345 percent and +209 percent, respectively. See Table II-2).

Family Day Care

Findings also showed that family day care has, consistently over time, been used more often for children less than three than for older preschoolers. It has also been used slightly more often for children of FT-employed mothers than of PT-employed mothers, with one exception: in 1982, **PT-employed mothers with older preschoolers** used family day care slightly more often than FT-employed mothers with older preschoolers (26.5 percent versus 21.8 percent, respectively). Indeed, this former group is responsible for the largest increase in the use of family day care by all families (+73 percent from 1965 to 1982), while family day care use among **FT-employed mothers with 3-4-year-olds** actually declined somewhat during this period (from 24 percent to 22 percent. See Table II-2).

TABLE II-2. Care Arrangements for Preschool Children, by Employment Status and Age of Child				
	1965	1977	1982	Percent Change 1965-1982
CARE BY RELATIVES				
Full-Time				
<3	49%	43%	41%	-16%
3-4	40%	38%	34%	-17%
Part-Time				
<3	56%	47%	49%	-13%
3-4	56%	37%	44%	-21%
SITTER CARE				
Full-Time				
<3	22%	8%	8%	-65%
3-4	22%	8%	5%	-80%
Part-Time				
<3	19%	15%	12%	-40%
3-4	20%	13%	8%	-59%
FAMILY DAY CARE HOME				
Full-Time				
<3	24%	38%	36%	49%
3-4	24%	28%	22%	-9%
Part-Time				
<3	23%	28%	33%	45%
3-4	15%	26%	27%	74%
CENTER/NURSERY CARE				
Full-Time				
<3	6%	11%	16%	171%
3-4	13%	27%	40%	209%
Part-Time				
<3	2%	9%	9%	345%
3-4	9%	25%	21%	126%
SOURCE: Hofferth and Phillips, 1987. Table 3, p.563.				

B. Current Child Care Arrangements[12]

Table II-3 provides the distribution of types of primary care arrangements by age of child for 1985.[13] Unlike Hofferth and Phillips (1987), this table includes parental care as a primary care arrangement, as well as breaking out infants from toddlers in the <3 category, but it does not provide a breakdown by mother's employment status.

Most **infants (less than a year old)** had relatives other than their parents as their primary caregivers in 1985 (28.1 percent). Parents were the next most frequently

[12] Hofferth's (1987) analysis discusses choice of care for preschoolers (less than 5 years old) by mother's employment status only. She did not report any multi-variate analyses of care arrangements.
[13] Source: "Who's Minding the Kids?" Table D, p. 5.

used (26.3 percent). Centers were used for only 14.1 percent of infants. **Toddlers (ages one and two years old)** were found in similar proportions in family day care (26.9 percent), other relative care (25.9 percent), and parental care (24.3 percent). Centers were more often used for toddlers (17.2 percent) than for infants. Finally, **older preschoolers (3 and 4 years old)** were most often found in centers (32.7 percent), with parental and other relative care the next most often used (22.8 and 21.3, respectively). These data appear to support the conceptual model which postulates that parents prefer to have their youngest children in more family-like arrangements and their older preschoolers in the more social setting of centers.

TABLE II-3: Primary Child Care Arrangements Used by Employed Mothers for Their Children Under Five, by Age: 1985

	Total Under 5		Under 1 Year		1 and 2 Years		3 and 4 Years	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of Children	8107	100.0%	1386	100.0%	3266	100.0%	3455	100.0%
Parental	1946	24.0%	364	26.3%	795	24.3%	787	22.8%
Other relative	1973	24.3%	390	28.1%	846	25.9%	737	21.3%
Sitter	479	5.9%	118	8.5%	185	5.7%	176	5.1%
Family Day Care	1820	22.4%	319	23.0%	877	26.9%	624	18.1%
Center	1889	23.3%	195	14.1%	563	17.2%	1131	32.7%

Brush (1987) attempted to determine systematically which demographic and financial variables affect child care arrangement decisions. She ran probit regressions of each individual type of care used on these variables.[14] The degree to which the variables determined the likelihood of using the type of care varied--not surprisingly--with the type of care being analyzed. In summary, Brush (1987) found:

Father Care

- Fathers are much more often used when mothers work part- rather than full-time.
- Not surprisingly, single mothers, whether or not they live with another adult, are less likely to use father care than are married couples.
- The greater the number of children under ten, the more likely the family is to use father care.
- Mothers with coursework beyond college were less likely to use father care than **less** educated mothers.

[14] Brush, 1987. Brush analyzes probabilities of using father care, grandmother care, sibling care, family day care, and center care. Due to insufficient sample size for a multi-variate analysis, she could not investigate the likelihood of using sitters/nannies. Because of its relatively infrequent use and in keeping with the previously categorized types of care for continuity, sibling care results will not be reviewed here.

- Father care is **least** prevalent in the South than in the remaining regions.

These results suggest father care is most frequently used in families where the father is present, where the hours a mother works have less overlap with the hours a father works, and in regions of the country where center care is either less readily available or more costly.

Interestingly, family earnings was not a significant predictor of use of father care. This does not mean there is no income effect; rather, the effect may be completely picked up by the education and occupation variables. For instance, higher educated-educated mothers and those commanding a relatively higher salary (in technical and sales occupations) tend to be married to fathers with similar characteristics, rendering father care a financially unwise or infeasible option.[15] Reviewing patterns of care by family earnings, **without** education and occupation to confound results, a clear income effect is evident: those with higher incomes use consistently less parental care (see Figure II-3).

Grandmother Care

The patterns of variables that predict grandmother care are not as consistent across the age of children as some of the models predicting the use of other care. Given this inconsistency, some patterns that emerge are:

- Single mothers with another adult present in the household (probably the grandmother?) are more likely to use grandmothers than are married couples.

- Families with lower earnings and children 1-10 years old use grandmothers more often than families with higher earnings; somewhat surprisingly, families with higher earnings and infants (<1 year old) use grandmothers more frequently than families (with infants) with lower earnings.

- Grandmothers are used more frequently the fewer the number of children there are between 0 and 6.

- Mothers under age 35 are more likely to use grandmother care than are mothers over age 35.

- Mothers in labor or craft occupations are more likely to use grandmothers than mothers in technical and sales occupations.

- Among school-age children, there is more frequent grandmother care in nonwhite than white families.

[15] ibid., p. 18.

These results seem to imply that where grandmothers are available, they are often used, particularly by families whose finances constrain them to such free or low cost care. In families with infants and in nonwhite families, grandmother care may be the unconstrained preference.[16]

Figure II-3 shows that in single parent families there appears to be a distinct substitution of other relatives for the father (in two-parent families), particularly in low-income families. An income effect is especially likely for two-parent families when the mother is working full-time.

Family Day Care (care in a nonrelative's home)

- Single mothers with no other adult in the household use family day care more frequently than do married couples.

- Full-time working mothers use family day care more often than part-time working mothers.

- Families with higher earnings use family day care more often.

- Families in the North Central states use family day care more frequently than families in the South.

Complementing the results found about users of father care, when full-time care is required, it is more likely for parents to find sources outside the family. This is especially the case for the single, full-time employed mother with no other adults in the household. Also, since most nonrelatives require payment for care, families more able to pay for care use nonrelatives more often than families who cannot afford it.[17]

Figure II-3 reveals family day care is used more often by FT- than PT-employed mothers, except among the very poorest FT mothers of two-parent families, who rely on fathers and relatives 70 percent of the time.

Center Care/Nursery School

- Full-time working mothers use centers/nursery schools more frequently than part-time working mothers.

- Families with higher earnings use centers/nursery schools more often than lower earnings families.

- Families in the South use more centers/nursery schools than families in any other region of the country.

[16] ibid., p. 22.
[17] ibid., pp. 25-26.

- Centers/nursery schools are more frequently used in metropolitan than non-metropolitan areas.

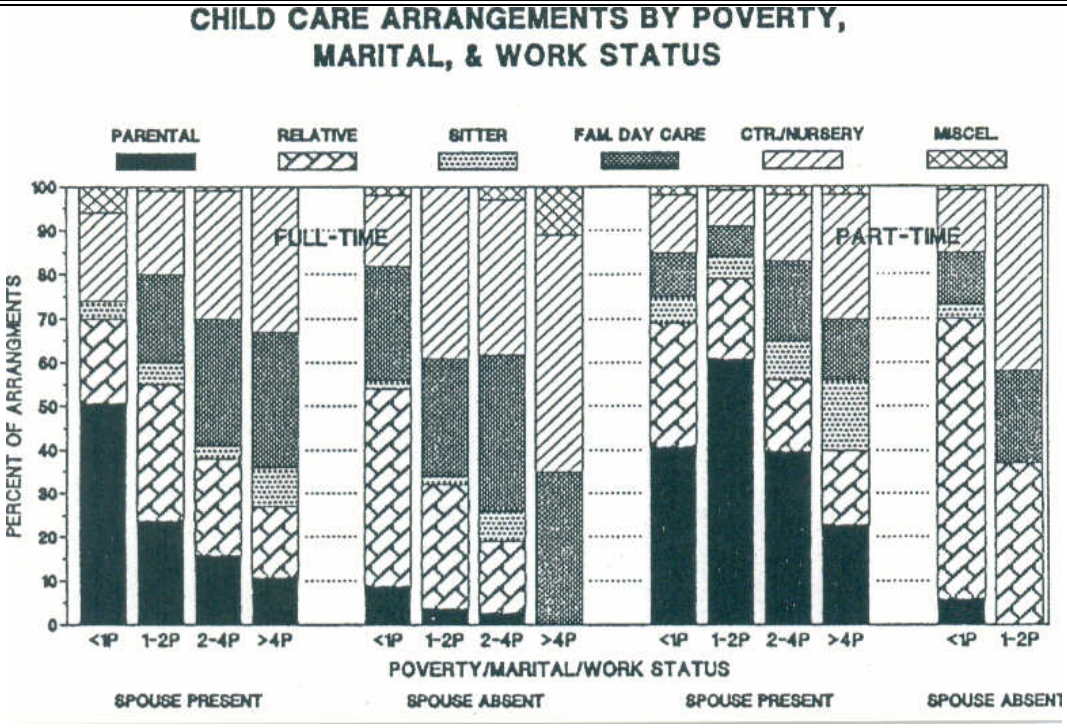
- Families with fewer children use centers/nursery schools more often than families with more children.

- Mothers in service occupations use centers/nursery schools **less** frequently than mothers in every other category of occupation.

- Nonwhite mothers use centers/nursery schools more frequently than white mothers.

In terms of employment status and family earnings, the profiles of family day care users and center/nursery school users are very similar. Family day care is used more often by full-time employed mothers without other relatives immediately available than by full-time employed couples. Centers/nursery schools are used more frequently by families with fewer children and in metropolitan areas, especially in the South.[18]

[18] ibid., p. 27.



Arrangement	Spouse Present				Spouse Absent			
	<1P	1-2P	2-4P	>4P	<1P	1-2P	2-4P	>4P
FULL-TIME								
Parental	51%	24%	16%	11%	9%	4%	3%	0%
Relative	19%	31%	22%	16%	45%	28%	16%	0%
Sitter	4%	5%	3%	9%	2%	2%	7%	0%
Family Day Care	0%	20%	29%	31%	26%	27%	36%	35%
Center/ Nursery	20%	19%	28%	33%	16%	39%	35%	54%
Miscel.	6%	4%	4%	0%	2%	0%	3%	11%
All Care	100%	100%	100%	100%	100%	100%	100%	100%
PART-TIME								
Parental	41%	60%	40%	24%	6%	0%	*	*
Relative	28%	18%	16%	17%	65%	37%	*	*
Sitter	6%	5%	9%	16%	3%	0%	*	*
Family Day Care	10%	7%	18%	14%	12%	20%	*	*
Center/ Nursery	13%	8%	15%	28%	14%	42%	*	*
Miscel.	2%	1%	2%	2%	1%	0%	*	*
All Care	100%	100%	100%	100%	100%	100%	*	*

* Sample size too small to calculate.

Secondary Care Arrangements

People concerned about child care policy sometimes express concern about families who must make multiple arrangements for particular children. This paper will only briefly discuss this issue here.

In 1985, 17 percent of families used a secondary care arrangement for their child, up from about 11 percent in 1965. Reviewing these arrangements by type shows that, in 1985, 16.2 percent of secondary arrangements were with sitters or nannies, **down** from 20 percent in 1965. Also, in 1985, center care comprised 20.2 percent of these secondary arrangements, also **down** from 26.9 percent in 1965. Use of family day care as a secondary arrangement stayed about the same (17.7 percent in 1965; 17.9 in 1985.[19] It would appear from these data that while the use of secondary arrangements has increased form 1965 to 1985, these secondary arrangements are occurring more frequently in "family-like" environments (relative care and family day care).

Future Directions in Arrangement Types

The trends of increasing numbers of mothers with children entering the labor force is likely to continue--indeed, accelerate--into the 1990s. Hofferth observes that "infants (less than 1 year old) and toddlers (1-2) are experiencing the most rapid growth in the need for child care" and concludes "parents' choices of care for these age groups will greatly determine the future demand for child care."[20] Hofferth acknowledges the impact of the mother's employment status and predicts "because full-time employed mothers constitute over two-thirds of mothers in the labor force with children under 3, this shift toward the use of group programs suggests that there will continue to be a rapid growth in demand for centers. On the other hand, among part-time employed mothers with infants and toddlers, family day care homes--and to a lesser extent relatives--are showing the greatest increase in use. Family day care is thus also likely to grow, though probably at a lower rate than center care (Hofferth and Phillips, 1987)."[21]

We will see in the next section that while the number of children in center care has grown tremendously, the cost for such care has remained relatively constant over time (adjusting for inflation). This indicates that the increased demand has been sufficiently compensated for by increased supply of centers, resulting in no net increase in (real) cost over time.

C. Summary

- Relative care was most often used among low-income families: fathers were used in two-parent households, and grandmothers were used in single parent households with other adults present (most likely, the grandmother). Family

[19] Low and Spindler, Table A-7, p.73, and Bachu and O'Connell, 1987, Table 7, p. 25.
[20] Hofferth, 1987, p. 4.
[21] Ibid.

caregivers seemed most often used when available and when budget constraints encouraged free or low-cost care.

- Family day care and center care were used most frequently by families with higher incomes and with mothers employed full-time. Therefore, families in which the mother's ability to care for her child(ren) was constrained by her work hours, and who could pay for more "formal", consistent care, opted for family day care and center care.

- To the extent that greater numbers of mothers with preschool children enter the labor force full-time, the use of centers is likely to continue to grow.

- Part-time employed mothers are likely to continue to use family day care (and relatives, to a lesser extent) for their preschoolers.

III. COSTS OF CHILD CARE[22]

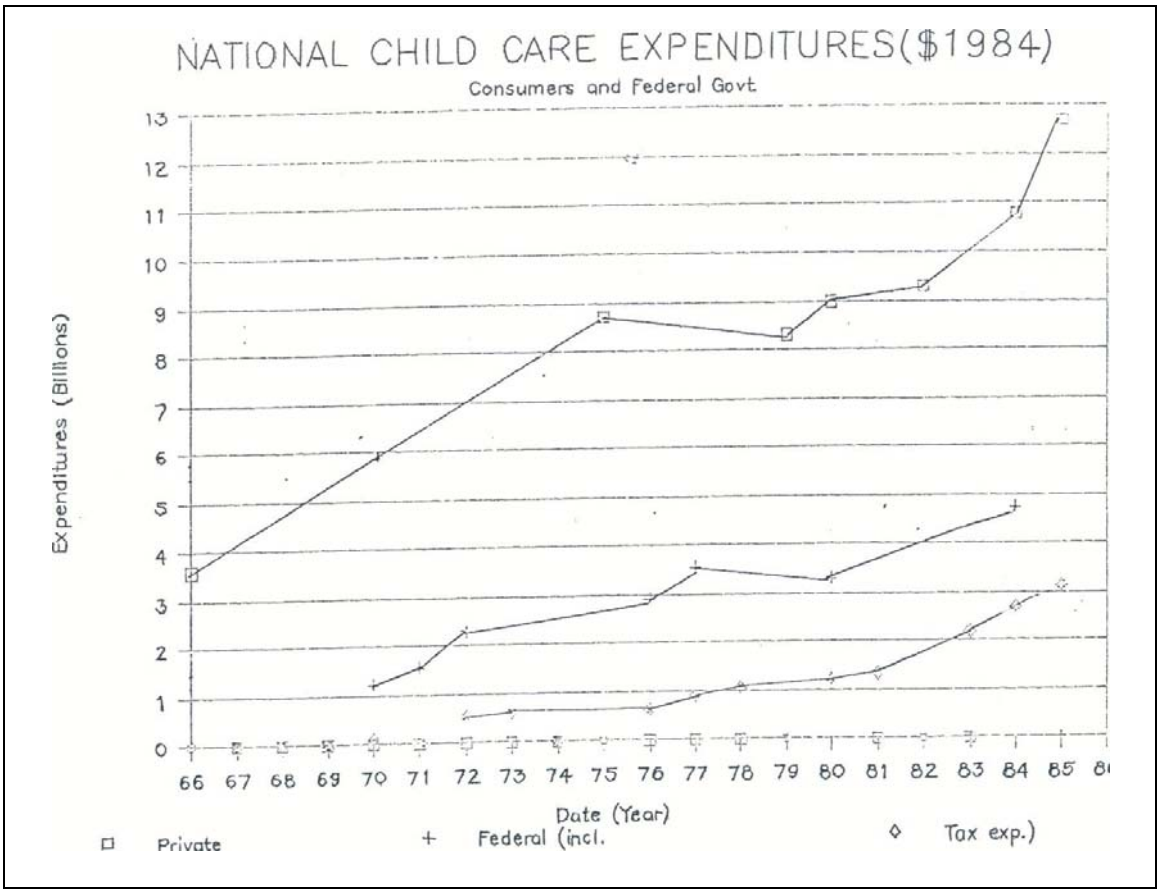
Federal expenditures on child care consist of child care tax credits and deductions, and the financing of child care programs (primarily through the social services program grants to states). These Federal expenditures have almost quadrupled in real terms from 1970 to 1984 (from about $1.25 billion to $4.75 billion).

Tax expenditures have been the major source of increase in Federal expenditures on child care. Increasing consistently (from $500 million in 1972 to $2.7 billion in 1984), these tax expenditures have also represented an increasingly larger share of all Federal expenditures on child care: from 22 percent of Federal expenditures in 1972 to 57 percent in 1984.

Personal expenditures on child care have more than doubled in real terms from 1970 to 1984: from $5.8 billion to $12.75 billion, respectively. These private expenditures represented about 76 percent of all expenditures during the early 1970s. By 1979, they represented about 71 percent, and this share has remained relatively constant throughout the early 1980s (see Figure III-1).

In previous sections, we discussed the kinds of care for which these private expenditures were made. Which families pay for care? What is the average weekly payment made by families for this care, and what proportion of their income does this represent? This section reviews the characteristics of those families who pay for care, their average total weekly expenditures, as well as the proportion of their income ("budget share") spent on child care arrangements.

[22] All dollar figures are in December 1984 dollars, unless otherwise noted.



A. Trends in Payment for Care

Who Pays?

Not all families with an employed mother pay for their child care arrangements. In 1965, payment was made for 83 percent of the **children** under six and for 62 percent of the children over six.[23] By 1985, 77 percent of **families** paid for care for their youngest child under 5 and 57 paid for care for their youngest over 5 years old. Therefore, payment for care was slightly less prevalent in 1985 than it was in 1965, with preschoolers still requiring payment quite a bit more often than school-age children.[24]

Full-time employed mothers are more likely to pay for care than part-time employed mothers, regardless of the type of care. In 1965, 76 percent of **children** with full-time employed mothers required payment; 64 percent of children with part-time

[23] Low and Spindler, Table A-46, p. 105.

[24] Hofferth, 1987, Table 1. Hofferth's costs analyses are based on the National Longitudinal Survey (NLS) of mothers, **age 20-27 in 1985**. While 1985 data allow a breakdown of these frequencies by type of arrangement, the 1965 data do not. Thus, we are unable to determine which types of care have been more likely to require payment and, hence, what may be driving this overall trend away from payment.

employed mothers required payment.[25] By 1985, 72 percent of full-time employed **mothers** paid (cash) for care, while 60 percent of part-time employed mothers made some (cash) payment. Again, frequency of payment has declined for both full- and part-time employed mothers, with the former consistently paying more often.[26]

Hofferth (1987) predicted the probability of paying for care as a function of the age of the child(ren) for whom the care was required, the type of care bought, and other socioeconomic variables. She estimated that in 1985, 80 percent of all surveyed mothers paid for care. The most influential factor for who paid was the type of care chosen. Children in family day care, sitter care, or day care centers paid for care about equally as often, and all of which were paid for more often than relative care.

The next significant variable, number of children, was positively related to the probability of paying for care. Also highly significant, the number of nonparental adults in the household was negatively related to the probability of paying for care, indicating their likelihood of being used before costly alternatives. Interestingly, the age of the youngest child and mother's employment status were quite a bit less important (and less statistically significant) in determining who paid for care than these other variables. Most surprisingly, weekly family income had virtually no effect on the likelihood of paying for care. Perhaps after controlling for the type of care bought (**itself** determined by age of child, employment status, and income, as we have seen), age of child, mother's employment status, and weekly family income have little or no additional effect.

How Much?[27]

Average total weekly expenditures depend on the amount of hours per week the care is used as well as the unit cost of care. Reviewing costs of child care arrangements should concentrate on costs per hour of care, ie. controlling for the hours used. One way to control for the hours of care used is to review only full-time mothers' payment patterns. Presumably, this sufficiently limits the analysis to families using about the same amount of care per week, making total weekly cost estimates comparable.

In 1965, full-time mothers spent, on average, about $54 per week on child care.[28] By 1975, their average cost was $46.[29] In 1985, average weekly expenditures on care

[25] Low and Spindler, Table A-46, p. 105.
[26] Results from SIPP (winter 1984-1985) computer runs. These cost data are for mothers of **all ages**, as opposed to the NLS used by Hofferth, which includes mothers **only 20-27 in 1985**.
[27] Good data on payment for care are difficult to obtain at the national level, mainly due to the fact that, until very recently, no national surveys have asked for payments made by the type of arrangement. Consequently, the following estimates are obtained from various sources and pertain to different children and mothers, as noted.
[28] Calculated using data in Low and Spindler, 1965, Table A-48, p. 107.
[29] Reported in UNCO, 1975, Table VIII-7, p. 8-14.

for full-time employed mothers was approximately $47. Average cost seems to have remained constant, at least from 1975 to 1985.[30]

Hofferth (1987) reports that the most influential factor affecting total weekly expenditures was the type of care. Hofferth calculated an **average hourly payment** for each type of care to control for the number of hours of care used per week. She found:

- Relative care has remained the least expensive form of child care (averaging $.68 per hour in 1975 and $1.14 in 1985). This 67 percent increase in average hourly payments coincided with a decrease in the average hours used, resulting in an increase in average weekly expenditures over the period (from $24 to $30).

- Sitters--the second least expensive form in 1975 ($.99 per hour)--became the most costly form of care in 1985, at $1.59 per hour. Interestingly, despite this 61 percent increase in sitter hourly payments, sitters became more heavily used--from an average of 15 hours per week in 1975 to 26.5 hours per week in 1985. As a result, average weekly expenditures for sitters rose from almost $15 in 1975 to $42 in 1985.

- Hourly payments for family day care experienced the least growth from 1975 to 1985 ($1.05 per hour to $1.17 per hour). A slightly increased usage resulted in a 20 percent increase in average weekly expenditures for family day care (from $30 to $37).

- Finally, while (private) hourly payments made for center and nursery care increased 20 percent during this period, its use actually declined sufficiently to result in very little change in the average weekly expenditures on center/nursery care between 1975 and 1985 (about $37 each reference year).[31]

B. Current (1985)

Current research investigates the "strength" of many demographic and socioeconomic variables in determining who pays for care and how much they pay, both in absolute dollar amounts and as a proportion of total income ("budget share").

[30] The 1965 estimates are less precise than those in subsequent years. Cost data was reported as "percent of people paying between $0 and $5, $5 and $10, (etc.)." Average cost calculations are therefore rough; even a slight variance from the true average cost would be magnified when converting to constant dollars. Therefore, the average cost in 1965 may not be as high as $54, but probably is at least as high as $45-$47.

[31] Hofferth, 1987, Tables 2 and 3. It should be emphasized that these estimates are **family** expenditures on child care arrangements. Center care, for instance, is subsidized by the government, making **total** expenditures on center care (government and personal) higher than these estimates.

Who Pays?

Brush (1987) modeled the probability of paying for care similarly to Hofferth, except she did not control for the **type of care** being used, as did Hofferth. Since the probability of paying depends heavily on the type of care used, and to the extent that Brush's included variables determine the type of care used (as presented in the first section), these same variables are likely to show significance in determining **who pays** for care.

In Brush (1987), the number of young children (0 to 6 years old) turned out to be the most statistically significant factor influencing the likelihood of paying for care. The next significant variable was the number of children 11-14: the more older children, the less likely were the mothers to pay for care. Other variables, in order of their predictive significance, were:

- Full-time mothers were more likely to pay for care than part-time mothers.
- Family earnings: the higher the earnings, the more likely to pay.
- Single mothers with no other adult in the household are more likely to pay for care than are married mothers.
- Mothers under 35 are more likely than older mothers to pay.
- Mothers in the service industry were significantly less likely to pay for care than mothers in professional, craft/labor, and sales occupations.[32]

In comparison, Hofferth (1987) also found number and age of children, and mother's employment status as significant predictors of who pays, while both Brush and Hofferth determined race to be an insignificant predictor. By contrast, Hofferth (1987) found the number of nonparental adults in the household affected likelihood of paying, though marital status per se did not. Unlike Brush, Hofferth excluded mother's age, education, occupation, and location from her analysis and included type of arrangement, which turned out to be the most significant predictor of who pays. (See Table A-1 in the Appendix for a comparison of the variables used by Brush and Hofferth in predicting who pays for care and how much is paid.)

How Much?

Dollar Amount

Brush (1987) found that among families who paid for care, they paid a **weekly average** of $39.34.[33] Once again, the number of children under six was the most significant predictor of how much a mother paid for care: the more preschoolers, the

[32] Brush 1987, Table 7, p 32.
[33] In constant 1984 dollars. ibid., p. 34.

more was paid. The next most significant variable was employment status: full-time mothers paid significantly more than part-time mothers. The remaining significant variables, in order of importance, were:

- Mothers living in metropolitan areas paid more than mothers in non-metropolitan areas.

- Young mothers (<26) paid more than did mothers over 26.

- Mothers with education beyond college paid more than mothers with less advanced (or no) degrees.

- Whites paid more than nonwhites.

- Families earnings were positively related to the amount paid for care.[34]

Hofferth (1987) agrees that the number of children, mother's employment status, household composition, family income, and race significantly affect the average weekly expenditures on child care. However, Hofferth's introduction of the type of care into the model predicting how much is paid for care relegated the age of the child as an insignificant determinant (most likely due to the high degree of correlation between these two variables).

As with likelihood of paying for care, Hofferth found type of care to be the most influential predictor of weekly expenditures. She reports that in 1985, average total weekly expenditures on child care by **all** employed mothers was $34.61.[35] This ranged from about $30 per week for relative care to $42 per week for sitter care, with family day care homes and center/nursery school care at about $37 per week. In terms of **average hourly payments** in 1985, relative and family day care payments were smallest (about $1.14 and $1.17, respectively), sitter care the most expensive (almost $1.60 per hour), and payments for center and nursery school care were in between at about $1.40 per hour.[36]

Proportion of Income

On average, those who paid for care of their children of all ages in 1985 spent **9 percent of their income** on this care.[37] Brush (1987) determined the most significant variable affecting the proportion of income spent on care was, not surprisingly, the family's earnings, which was negatively related to the budget share spent on child care. Low-income families (less than $5,000 per year) spent over 25 percent of their income

[34] ibid., Table 8, p. 36.
[35] Cost of care for all children, youngest under five, among all surveyed women, 20-27 in 1985, in 1985 dollars (with two extremely high values dropped). Hofferth 1987, Table 2.
[36] Hofferth 1987, Tables 2 and 3.
[37] ibid., p. 34.

on child care, comparable to the budget share spent on housing. Higher income families ($40,000) spent less than 5 percent of their income on child care.[38]

The next most influential variable was marital status: single mothers, with or without another adult present, spent a significantly bigger chunk of their income on child care than do married couples. The remaining significant variables, in order of importance, were:

- The number of children 0-6 was positively related to the budget share spent on care.

- Full-time employed mothers spent a greater share of their income on care than do part-time employed mothers.[39]

Hofferth (1987) reports that in 1985, families with a youngest child under five spent 11 percent of their income on child care. Those with the youngest child 5 or older spent 9 percent of their income on child care.[40] She identifies the most important factors associated with the proportion of income spent on child care of all children to be:

- Partner status (married or cohabitating couples spent a **smaller** share of their income on child care than did single mothers, with no other adult present),

- Those using centers, sitters, and family day care homes spent a larger share on child care than did those using relative care,

- Mothers employed full-time spent proportionately more than did mothers working part-time,

- Income (lower-income families spent proportionately more than higher-income families),

Hofferth did not find the age of child significantly affecting the budget shares spent on child care.

C. Summary

- Federal expenditures on child care have increased continuously over the last fifteen years (from less than $1 billion in 1972 to $5.75 billion in 1986).

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[38] ibid., Table 10, p.42. Brush used the natural log of family earnings as a predictor of average weekly expenditures. Simply using family earnings--thereby implicitly assuming a linear rather than exponential relationship between earnings and weekly expenditures on child care--yielded family earnings as the most significant determinant of weekly child care expenditures, followed by age of child.

[39] ibid., Table 9, p. 40.

[40] Hofferth, 1987, p. 8.

- Tax expenditures have increased from $500 million in 1972 to $2.7 billion in 1984. These tax expenditures represented 22 percent of Federal expenditures in 1972 to 57 percent in 1984.

- Personal expenditures on child care have increased more rapidly than Federal expenditures between 1966 to 1986 (from $3.5 billion to $12.75 billion). Almost half of that growth occurred between 1980 and 1986 alone.

- Families' payment for their preschoolers' child care was slightly less prevalent in 1985 than in 1965 (77 percent of families compared to 83 percent, respectively).

- Families **most** likely to pay for child care are those with:
  - Full-time (as opposed to part-time) employed mothers,
  - The more children under six years old,
  - Higher incomes,
  - Single, with no other adult present in the household,
  - Mothers less than 35 years old,
  - Mothers not in service occupations.

- In terms of **types of care**:
  - Families **most likely to pay** for care are families using family day care (nonrelative care in their home), sitter/nanny care (nonrelative in child's home), or center care,
  - Families using relative care are **least likely to pay**.

- Families with the **highest weekly expenditures** on child care are those:
  - With many children under six years old,
  - With full-time (as opposed to part-time) employed mothers,
  - With higher earnings,
  - With younger (less than 26 years old) mothers,
  - With higher-educated mothers,
  - Who are White.

- In terms of the **types of care**:
  - Families with the **highest weekly expenditures** are those using sitter care, center care, or family day care,
  - Families using relative care have the **lowest weekly expenditures**.

- Families with the **largest budget shares** spent on child care are those with:
  - With lower earnings,
  - With a single mother, with no other adult in the household,
  - With many children under six years old,
  - With a full-time (as opposed to part-time) employed mothers,
  - Using care in centers, family day care homes, and sitters.

- In terms of the **types of care**:
  - Families with the **largest budget shares** are those using sitter care, center care, or family day care,
  - Families using relative care have the **smallest budget shares**.

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APPENDIX A. Comparison of Brush and Hofferth's Models: Variables' Influences on Payment for Care[41]

TABLE A-1. Who Pays For Care?				
	Significance		Direction	
	Hofferth	Brush	Hofferth	Brush
Age of child	*		(+)	
Number of children	***		(+)	
Number of children:				
0-6		***		(+)
7-10		**		(+)
11-14		***		(-)
Mother's employment status	*	**	(+)	(+)
Mother's marital status:				
Single, no adult		***		(+)
Single, other adult		+		(+)
Married couple	NS	a	NS	
Household composition:				
Number of nonparental adults	***	1	(-)	1
Family income	NS			
Family earnings (logged)		***		(+)
Race:				
White	a			
Black	NS			
Hispanic	NS			
Nonwhite		NS		NS
Mother's age		***		(-)
Mother's education		NS		NS
Mother's occupation:				
Service		***		(-)
Craft/Labor		NS		NS
Sales		a		a

[41] Hofferth used the National Longitudinal Survey of Children; her data represent the payment patterns by the sampled 20-27 year old (in 1985) working mothers for their youngest child under 5. Brush used Wave 5 of the 1984 Panel of the Survey of Income and Program Participation (SIPP), which reports payment patterns of working mothers for their three youngest children.

TABLE A-1 (*continued*)				
	Significance		**Direction**	
	Hofferth	**Brush**	**Hofferth**	**Brush**
Type of arrangements:				
Center	***		(+)	
Sitter care	**		(+)	
Family day care	***		(+)	
Relative care	a		a	
Region:				
Northeast		**NS**		**NS**
North Central		**NS**		**NS**
West		*****		**(-)**
South		**a**		
Metropolitan		**NS**		**NS**

*** p<.001, ** p<.01, * p<.05, + p<.10
NS = not statistically significant
a = omitted category
1 = see marital status

TABLE A-2. How Much? (Weekly Expenditures)				
	Significance		Direction	
	Hofferth	Brush	Hofferth	Brush
Age of child	NS			
Number of children	*		(+)	
Number of children:				
0-6		***		(+)
7-10		NS		
11-14		*		(-)
Mother's employment status	***	***	(+)	(+)
Mother's marital status:				
Single, no adult	NS	NS		
Single, other adult	NS	*		(+)
Married couple	NS	a		
Household composition:				
Number of nonparental adults	*	1	(-)	1
Family income	***		(+)	
Family earnings (logged)		**		(+)
Race:				
White	a			
Black	*		(-)	
Hispanic	NS			
Nonwhite		**		(-)
Mother's age:				
Under 26		***		(-)
Over 35		NS		
Mother's education:				
Less than high school		NS		
College		NS		
Advanced		**		(+)
Mother's occupation:				
Service		NS		
Labor		*		(-)
Craft		NS		
Sales		a		
Type of arrangements:				
Center	***		(+)	
Sitter care	**		(+)	
Family day care	***		(+)	
Relative care	a			

TABLE A-2. (*continued*)				
	Significance		Direction	
	Hofferth	Brush	Hofferth	Brush
Region:				
Northeast		NS		
North Central		NS		
West		*		(+)
South		a		
Metropolitan/Nonmetro.		***		(+)

*** p<.001, ** p<.01, * p<.05, + p<.10
NS = not statistically significant
a = omitted category
1 = see marital status

TABLE A-3. How Much? (Budget Share)				
	Significance		Direction	
	Hofferth	Brush	Hofferth	Brush
Age of child	NS			
Number of children	NS			
Number of children:				
0-6		***		(+)
7-10		NS		
11-14		NS		
Mother's employment status	*	**	(+)	(+)
Mother's marital status:				
Single, no adult	***	**	(-)	
Single, other adult		***		(+)
Married couple		a		(+)
Household composition:				
Number of nonparental adults	NS	1		
Family income	***		(-)	
Family earnings (logged)		**		(-)
Race:				
White	a			
Black	NS			
Hispanic	NS			
Nonwhite		*		(-)
Mother's age:				
Under 26		NS		
Over 35		NS		
Mother's education:				
Less than high school		NS		
College		NS		
Advanced		NS		
Mother's occupation:				
Service		NS		
Labor		NS		
Craft		NS		
Sales		a		
Type of arrangements:				
Center	*		(+)	
Sitter care	*		(+)	
Family day care	*		(+)	
Relative care	a			

Region:				
Northeast		**NS**		
North Central		**NS**		
West		**NS**		
South		**a**		
Metropolitan/Nonmetro.		**NS**		

*** p<.001, ** p<.01, * p<.05, + p<.10
NS = not statistically significant
a = omitted category
1 = see marital status