

**Child Care, Subsidy Receipt and State of Residence: Comparisons by Age and Parent
Work Schedule**

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Abstract

We address the extent to which differences in child care arrangements are associated with the receipt of child care subsidies, costs of care, and state of residence among children in families eligible for child care subsidies. These differences are examined separately by child's age and by parent work schedules. We use data on a sample of children under the age of 13 from the 1997 National Survey of America's Families. We find the choice of different modes of care for young children is strongly associated with the receipt of child care subsidies. For older children choices of modes of care are more strongly associated with parent work schedule. In general, we do not find a consistent pattern in state differences. However, we do find that the state of residence is a significant determinant of the mode of care used for older children; but this is not the case for younger children.

Objective

The objective of this paper is to examine the difference in child care arrangements for children in working families eligible for child care subsidies. We address several questions. Why are children in families eligible and receiving child care subsidies more likely to use center care or family child care than similar children in families eligible for but who are not receiving child care subsidies? How are the sources of observed differences in child care choices associated with the state of residence of the family? How does the association between child care choices, receipt of child care subsidies, and state of residence differ by the child's age and the parent work schedules?

Rationale and Contribution

There has been an infusion of low-income families with young children in the labor force, and researchers have begun to examine working families who are eligible to receive child care subsidies and the ways in which their employment and the receipt of such subsidies influence their use of child care (Burstein, Layzer, and Cahill, 2001). Even with this emerging body of research on employment, receipt of subsidies and child care choices, there are still several gaps that are relevant for policy decisions and policy implementations, which this research begins to fill.

One such gap exists because previous research tends to emphasize the use of paid versus non-paid care, or the use of formal versus informal care. Researchers have defined paid care as any mode of care for which the family reported a payment to the provider. This definition usually includes centers, family child care as well as relatives to whom the parents made a payment for the care provided. This aggregation of different modes of care is also sometimes referred to as formal or market care. As a result of this aggregation we know little about the

differences of the use of specific types of care such as center care, family child care, care by a relative, and care from a non-working parent. We examine the determinants of centers, family child care, and relative care separately for children under the age of 13.

Children of different ages require different levels of attention and supervision. Parents may prefer a more nurturing environment for their infants and toddlers. As children grow older parents may prefer more cognitive stimulation and academic preparation activities that occur in group settings. Therefore, parents may base their selection of a type of care on the child's age. The existing research tends not to differentiate the child care choices for children of different ages. In order to account for these differences we estimate models for children under the age of 6 and between the ages of 6 and 13 separately.

Work schedules may constrain use of certain types of care. Parents that work traditional hours may have greater flexibility to use child care centers. Some studies suggest that working non-traditional hours amplifies the difficulty of finding affordable and high quality care (Kimmel and Powell, 2001) as the parent work schedules shift. In this paper we examine the differences in the use of child care for children with a parent working traditional and non-traditional.

Previous research also emphasizes variations in use of care by family economic and demographic characteristics, and tax-related child care subsidies. Little attention has been paid to state differences. State differences are relevant given the context in which the availability of child care subsidies is operating, state policy and practice as to which families are eligible for child care subsidies may act as a constraint as well (Collins, Layzer, Kreader, et al., 2000). State may also differ in regulatory requirements for child care providers that may affect the price and the availability of various types of care. We incorporate state of residence as a control variable to account for the impact of these differences across states.

Review of Previous Studies

Our analysis draws on both the economic and sociological perspectives that examine the determinants of child care arrangements. Economists tend to focus on market forces, such as the price effect of child care and the expected impact of child care subsidies through tax expenditures such as deductions to taxable income and credits against taxes. Sociologists tend to focus on the social, economic and demographic background characteristics of families to describe differences in the use of child care.

The common strand in both of these perspectives is that much of the studies to date have been based on data collected before 1996 and prior to the greater investments by state and federal governments in providing child care subsidies primarily through vouchers for low-income working parents. These studies estimate the demand for different modes of child care arrangements using national or county-level samples that do not accurately reflect state-level policy variations, however they do provide insights into the determinants of child care arrangements among working parents eligible for child care subsidies.

Receipt of Child Care Subsidies and Price Effects

The economic model of child care choice is based on the assumption that parents maximize their utility or satisfaction from consuming a mode of child care subject to a family's budget and time constraints. The derived demand function from the maximization problem for mode of child care is a function of the family's characteristics, the cost and quality of the mode of care chosen. Estimation of child care demand reveals a negative price elasticity (Blau and Robins, 1988; Hofferth and Wissoker, 1992; Michalopoulos, Robins, and Garfinkel, 1992; Ribar, 1992 and 1995; Chaplin, Hofferth and Wissoker, 1996; Johansen, Leibowitz, and Waite, 1996). Given this negative association, some of these studies consider the impact of hypothetical

changes in tax-related child care subsidy – the monetary amount that a family is eligible to deduct from taxes – for an average family. The typical finding from these studies is that parents' choice of child care seems very responsive to tax-related child care subsidy policies.

Blau and Robins (1988) evaluate changes in the choice of child care based on different assumptions of cost using a national sample of working mothers in the 1980 Employment Opportunity Pilot Projects. Using a multinomial logit model of the joint labor supply decision and use of paid child care, they estimate that in a fully subsidized system (private child care cost equals zero), 81 percent of the working mothers with the average characteristics of those included in the sample would use such care. If child care cost were positive, but not fully subsidized, they estimate that at least 21 percent of working mothers would use such care.

Michalopoulos, Robins, and Garfinkel (1992) use a sample of working mothers in the 1984 Survey of Income and Program Participation (SIPP). The estimated parameters from their structural nonlinear least squares model incorporate income tax to adjust mothers' wages and tax-related child care subsidies that adjust the net cost of child care. They estimate that more than 50 percent of single mothers, and 20 percent of married mothers that are currently using non-market child care would switch to market child care – any mode of care for which there is a payment – after the implementation of the tax-related child care subsidies. Ribar (1995) conducts policy simulations on married women's employment and use of care. Generally, the simulations suggest that tax-related child care subsidies would increase the use of paid care among married mothers working part-time; but such programs have few effects on married mothers' employment decision.

Other studies suggest that child care tax credit – an imputed amount that reflects the maximum amount of child care tax credit that the family is eligible to deduct based on total

family income – did not significantly affect the choice of non-relative care (care received at a center, a preschool and other non-relative) among first time mothers (Leibowitz, Klerman, and Waite, 1992). Or, at least, other studies suggest that child care tax credit has a marginally negative effect on choice of non-relative care (Blau and Robins, 1991).

There are some shortcomings to these simulation models. These models aggregate various modes of care into a crude measure which can not differentiate a change between care received at a center or from a relative. These models assume a uniform policy regarding the implementation and the use of tax-related child care subsidies; and differences in behavioral responses of mothers with children of different ages are typically not considered. Moreover, these simulations estimate the impact of tax-related child care subsidy programs, which are different from the child care subsidy programs currently in effect across states. In addition, working families who are eligible for child care subsidies and are subject to actual policy interventions may not necessarily mirror the average family in these national samples. Therefore, working families may not have the same behavioral responses as those predicted by the simulated models.

Indeed, there is some evidence as to who among eligible families is most likely to have prior knowledge of such subsidies and to be a recipient of such subsidies. For example, using county-level data of mothers with preschoolers residing in San Francisco, San Jose, and Tampa, Fuller, Kagan, McCarthy et al. (1999) find that mothers who receive child care subsidies are more likely to have prior knowledgeable of child care subsidy rules and to already be integrated into publicly financed programs such as a job search program. In a national survey of low-income families in 25 communities, Burstein, Layzer and Cahill (2001) find that families who are recent TANF recipients are significantly more likely to receive subsidies.

Work Schedule

Besides the price of child care and the availability of tax-related subsidy programs, work schedule may be a significant correlate of type of child care arrangements, as well as a correlate of receipt of child care subsidies. Mothers that work traditional hours are more likely to use center care or family child care. Conversely mothers that work non-traditional hours have a greater propensity to choose informal or relative care (Casper, 1996; Capizzano, Tout, and Adams, 2000b; Kimmel and Powell, 2001). However, there are important differences by children's age. Irrespective of parental work schedules, young children tend to use relative care. These young children differ in that those where a parent works traditional hours are more likely to use centers; and those where a parent works non-traditional hours tend to receive care from a non-working parent (Capizzano et al., 2000b). In contrast, parents' work schedules do not seem to influence the choice of care for older children (Capizzano et al, 2000b).

There is also some evidence to suggest that the receipt of child care subsidies differ among parents of different work schedules, and of different work-related activities. In a bivariate analysis of low-income mothers, Burstein and co-authors (2001) find that mothers who work regular hours are more likely to receive child care subsidies than those who work irregular hours. In a separate multivariate analysis, Burstein and co-authors estimate the determinants of child care subsidy receipt, controlling for a host of economic and demographic characteristics. In their sample of low-income mothers, they find that there is no statistical difference in the receipt of child care subsidies between mothers who work fulltime those who work fewer hours or those who engage in education or job training, all else equal. The authors did not consider differences based on regular or irregular hours in their multivariate analysis.

Regional and State Specific Differences

Few studies have been able to differentiate the family from the state level factors that may constrain the process of finding and selecting child care. Some researchers attempt to control for confounding community differences by including region and urban indicators as control variables in their models (Ribar, 1995; Singer, Fuller, Keiley, and Wolf, 1998); while other studies examine states separately (Capizzano et al., 2000a; Capizzano et al., 2000b) or use small samples from targeted counties in a particular state (Fuller, Kagan, McCarthy, et al., 1999).

State-level analyses indicate that there is variation in patterns of use of care, which may be influenced not just by family's economic situations and demographic characteristics but also potentially by the variation in the available supply. Analysis based on the NSAF data indicates that different patterns of child care use exist across states that are hidden in national analyses. Capizzano, Adams, and Sonenstein (2000a) show that nationally 32 percent of children under the age of 5 are in center-based care while their mothers work. One would not expect on the basis of national estimates that employed mothers primarily in the southern states of Alabama, Florida, Texas, and Mississippi as well as Minnesota are more likely to choose center care for young children. Estimates range from 35 percent to 39 percent of young children in centers within these states. However, mothers in California, Massachusetts, and Washington are more likely to use parental or relative care for children under the age of 5.

The patterns across states for children age 6 and over are somewhat different than those for younger children. Most notably, there is not as large a concentration of center-based care for older children residing in southern states. For example, Capizzano et al. (2000b) report that one out of 4 of California, Alabama, Minnesota, Mississippi, and Texas 6-to-9 year olds are in a center while their mothers work. In contrast, the authors report that approximately one out of 6

children of Massachusetts and in Washington 6-to-9 year olds use center-based care. Less than 15 percent of children age 10 to 12, in any state, use center care. However, there is a greater percentage of children in this age group receiving care from a relative. Approximately one in six children age 10 to 12 tend to be cared for by a relative; but this percentage is as low as 8 percent in Minnesota.

Meyers and Heintze (1999) suggest that the high cost of center-based care in California combined with the low level of child care subsidy receipt among eligible families may partially account for the more frequent use of parental or relative care in that state. Fuller and co-authors (1999) also indicate in their study of low-income mothers in Tampa, San Francisco, and San Jose that differences in choice of center care or family child care homes tend to be affected by the receipt of child care subsidies, which lowers the relative cost of child care. State administrative data does show that almost 80 percent of children receiving child care subsidies in Texas use center care; and fewer than 30 percent of children receiving child care subsidies in Alabama, Massachusetts, and Washington use family child care (Collins, Layzer, Kreader, et al., 2000; Meyers, Peck, Collins, et al., 2001).

Although families may, by law, have access to all types of care, each state's child care subsidy policies may, in part, be a reflection of their local child care market (Collins, Layzer, Kreader, et al., 2000), which can either ease or limit the use of specific types of care for families receiving subsidies. For example, in Texas, Collins and co-authors report low levels of regulation to ease the use of center care due to the greater availability of such care in low-income neighborhoods in that state. Moreover, Alabama, Massachusetts, and Washington have more stringent requirements for family child care which limits the availability and use of such for families receiving subsidies (Collins, Layzer, Kreader, et al., 2000).

Using Subsidies to Alter Incentives for Working Parents

Since the devolution of government transfer programs under the Personal Responsibility and Work Reconciliation Act (PRWORA) in 1996, states have expanded their child care subsidy programs to working parents. Subsidies are used to lower the private costs, and to improve accessibility to child care for parents transitioning off welfare to work, and for other low-income working parents. As required by law, states administer child care subsidies through vouchers, which allow parents to purchase any type of child care while they are at work or at work-related activities mandated by PRWORA provided that the provider meets the state's certification requirements (Collins et al, 2000). In addition to child care vouchers some states have a system of contracted care whereby individual child care providers enter into an agreement with the state or county for a specified number of slots to which eligible parents may access child care (Collins et al, 2000).

Eligible families may obtain a subsidy that covers part of their total cost of care. The maximum payment to the provider by the state is based on a market rate survey; also the amount that a state pays is most often calculated taking into account gross family income and family size (Loprest, Smith, and Witte, 1999; Collins et al, 2000). Thus, an average family that receives a subsidy more often than not must also cover part of their cost of care, or what is referred to as a co-payment. An eligible family's co-payment, depending on the state, is based on family income and size and may also vary by the cost of care or the type of care used (Collins et al, 2000).

The state contribution, in effect, lowers the price of all types of child care for subsidized families. Assuming that child care is a normal good, then families that receive a subsidy might purchase more hours of child care, and they might also purchase higher cost child care compared to similar families who do not receive a subsidy. As an illustration, the impact of this subsidy is

depicted in Figure 1. Let Z represent the available types of care, p is child care cost in the absence of subsidy for each hour the parent works, p' is child care cost to the parent who receives a subsidy or the co-payment, α' is the subsidy payment to the provider by the state. Budget lines a, b, and c represent the possible set of combination of child care and other goods that the family can consume without subsidy, with subsidy, with tax-related credit respectively. Line b, for example, is the introduction of a subsidy grant program, which lowers child care cost and provides a reimbursement, changes the slope and shifts the budget line. If the cost to the family after subsidy is sufficiently small and if the total amount of the subsidy is sufficiently large, then the demand for child care will increase from Z_A to Z_C . How much more child care is purchased, or whether these families switch to different types of child care depends on the price elasticity of demand for child care.

Hypotheses

Two main hypotheses will be tested:

Hypothesis 1: Because child care subsidies reduce the private cost of care, we expect that children in families eligible and who receive child care subsidies will be more likely to use center care or family child care than will similar children in families eligible but who are not receiving child care subsidies.

Hypothesis 2: The supply of different types of child care varies across states, which may lead to different state subsidy policies that steer families to use different types of care. We expect that child care arrangements will differ across states.

Research Design

Model Specification

We examine whether differences in the use of child care arrangements for children in working families eligible for child care subsidies are affected by receipt of subsidies, state of residence, economic and social characteristics. We estimate a multinomial logit choice model. The basic formulation of the model for the selection of child care type j for child i is given by

$$\text{Pr ob}[careuse = j] = \frac{\exp(\beta'_{Xj}X_{ij} + \beta'_{Wj}W_{ij} + \beta'_{Cj}C_{ij} + \beta'_{\alpha j}\alpha_j)}{\sum_{j=0}^J \exp(\beta'_{Xj}X_{ij} + \beta'_{Wj}W_{ij} + \beta'_{Cj}C_{ij} + \beta'_{\alpha j}\alpha_j)}, \quad j = 0, \dots, J; \text{ where } X \text{ is a vector}$$

that reflects state of residence and the economic and social characteristics of the parent and of other household members, W is the parent's earnings, C is the estimated total family expenditure for child care, α indicates whether the parent receives child care subsidy. The parent will use mode of care j if $\text{Pr ob}[U_{ji} > U_{ki}]$ for all $k \neq j$.

Child Care Expenditures

The observed locations along the budget set in Figure 1 are not generated randomly and are dependent on preferences as well as on the relative prices of alternative modes of care that the family faces. Thus, our estimation must account for the possibility of self-selection in the marginal costs of care and the endogeneity of paid care selection. Moreover, we are further constrain in that our data only observe total expenditures on child care at the family level. We use parameter estimates from selectivity- and endogeneity-corrected child care expenditure equations to predict total family hourly expenditures for each of the non-parental type of primary care arrangements. Family expenditures are estimated separately for children under age 6 and for children between the ages of 6 and 12. We assume that care provided by parents has a market price of zero.

The specification for estimating the hourly price of child care expenditure when mode of care j is used for child i by the family is given by: $P_{ij} = \gamma_j D_{ij} + n_{ij}$; where D is a set of observed family characteristics such as age, ethnicity, family structure, and unearned income of the parent, age of the child, presence of other children and other adults in the household, child care regulations, county median household income, and state of residence; n is unobserved variations in price of care.

Following the estimation procedure detailed by Lee (1983), the corrected price of care regression when selection is based on choice j for child i is given by:

$$P_{ij} = \gamma_j D_{ij} - \rho_j \sigma_j \frac{\phi(H_j(\beta_{X_j} X_i))}{\Phi(H_j(\beta_{X_j} X_i))} + n_{ij} .$$

To estimate the equation specified above we use a two-stage procedure. First, we estimate the reduced form multinomial logit by maximum likelihood methods to obtain an estimate of $(\beta_{X_j} X_i)$. For the observations in each sample, we estimate

$$H_j(\beta_{X_j} X_i) \text{ and the sample-selection correction lambda terms, } \lambda_j = \frac{\phi(H_j(\beta_{X_j} X_i))}{\Phi(H_j(\beta_{X_j} X_i))} \text{ when a}$$

particular mode of care j is used in each age group. In the second stage, we estimate the coefficients for each price equation for each mode of care in each age group using OLS including the appropriate correction lambda term. To carry out the estimation procedures we use a sample of children from each age group whose parents were not receiving child care subsidies. For children under the age of 6 the sample size is 5,123; and for children age 6 and over the sample size is 3,669. County's median household income is use in the child care expenditure regression as the identification variable.

Sources of Data

Data are drawn from the first wave of the National Survey of America's Families (NSAF) that was conducted in 1997. The NSAF is a nationally representative cross-sectional survey of the economic, health, and social characteristics of the non-institutionalized population under the age of 65. Unlike other nationally representative surveys, the NSAF is representative of 13 states as well as the nation as a whole, making it possible to reliably measure differences within and between states. The NSAF also over-sampled households with income below 200 percent of the federal poverty line and included extensive questions on child care arrangements for at least one focal child under the age of 13 in the household. The first wave of the NSAF conducted interviews in over 44,000 households containing over 33,000 children under the age of 18 (Brick, Kenney, McCullough-Harlin, et. al., 1997). Information about employment, earnings, and the demographic characteristics of the respondent's spouse or partner and other family members in the household was also collected.

We supplemented the NSAF data with information from other sources on state child care policies and regulations and median income for each state and county within each state. Information on each state's child care subsidy eligibility requirements were obtained from the Child Care Bureau and from the State Policy Demonstration Project web sites. State child care regulations on child staff ratios in child care centers, child abuse and criminal record checks were obtained from the Urban Institute's New Federalism Database. We obtained 1997 median household income and 1997 estimates of total population by state and county from the U.S. Census Bureau, which were used to estimate a weighted average of each county's median household income.

Sample

We restrict the sample to children whose families are eligible for child care subsidies based on their state eligibility criteria. We further restrict the sample to 12 of the representative states in the NSAF data file.¹ Federal law allows states to set eligibility for child care subsidies up to 85 percent of the state median income for a family of the same size. In 1997, eligibility criteria for a family of three ranged from 45 to 75 percent of state median in 11 of the 12 states included in the sample (Administration for Children and Families, 2000).² Children under the age of 13 who reside with a family where both family heads are working and whose total income does not exceed the state's annual income eligibility level for that family size are eligible for child care subsidies under their state rules. Furthermore, some states allow children who reside with a family where the family head is attending a job training or educational program and who meet the income eligibility criteria to receive child care subsidies. These work-related activities are taken into account in determining eligibility in each of the 12 states.

We begin with a sample that includes 7,032 children in families that are eligible for child care subsidies under the federal rules, of which 4,954 are children in families that are eligible for child care subsidies under their state's rules. We analyze each of the age groups separately by parent work schedule. This stratification gives us a final sample of 4,481 state eligible children with a working parent for whom a work schedule could be determined. The final sample includes 2,117 children under the age of 6 in state eligible families, and 2,364 children age 6 and over in state eligible families.³

Variables

The primary care arrangement is defined as the mode of care in which the focal child spends the most number of hours each week. We classify the primary mode of care arrangements

for the focal child into four categories. For children under the age 6 the modes of care are: center care, family child care which reflects care provided by a non-relative in or out of the child's home, care provided by a relative (in or out of the child's home), and parent care. For children age 6 and over the different modes of care are: center care, family child care which reflects care provided by a non-relative in or out of the child's home, care provided by a relative (in or out of the child's home), and parent care or self care.⁴ We define two groups of employed parents⁵, those for which the work is performed during traditional hours of 6AM to 6PM during business days, and those whose work is performed outside of those traditional hours. The latter group is likely to include parents that work weekends, evenings, split shifts, or irregular daily or weekly schedules. The NSAF data do not distinguish between these various types of non-traditional hours.

Our measure of receipt of child care subsidies is based on the NSAF question "Does anyone else pay for all or part of the cost of the care for (focal child/any of your children under age 13)?" Those families that indicate they receive assistance with child care payments from the welfare or social services are coded as receiving child care subsidies. Otherwise, this variable is coded as zero. In examining the patterns of answers in the data it is probable that some respondents may not have quite understood the question and may have misreported their receipt of government or social services child care subsidies. Moreover, we find that in 46 percent of the sample the family does not report any child care expenditures and does not report any source of assistance paying for child care, including no assistance from the government or social services.

The estimate of the proportion of eligible families receiving child care subsidies may be underestimated due to this incomplete information from some respondents. We find that nationally, 12 percent of children under the age of 13 who are in families eligible for child care

subsidies did receive such subsidies. Other estimates, using different data, from the Administration for Children and Families, show that in 1998 the subsidy coverage rate to be at 10 percent, and at 12 percent in 1999. The National Study of Child Care for Low-Income Families estimate that in 1999 the subsidy coverage rate to be at 15 percent. Thus, we find that a 12 percent estimate from the NSAF to be quite plausible for this early period in 1997. However, the incomplete information, due to nonresponse, increases the variability of the estimate, which reduces the efficiency of the value of the estimate. We expect, however, the estimated coefficient of this variable is unbiased and consistent.

Control Variables

Gross earnings of the spouse or the partner of the parent or other workers in the household are included as control variables. We also include the parent's gross earnings and total household gross unearned income. In cases where the spouse or the partner of the parent is present in the household, we include a variable to indicate whether this person is employed. The state's annual income eligibility level for that family size is also included as a control variable to account for differences in state policy decisions as to which working families are likely to be eligible for child care subsidies.

We include two control variables to reflect whether the parent or anyone else in the family has previously received public assistance. We include dummy variables to reflect the presence of children and other adults in the household. Family structure is coded into four categories: single parents without a partner present; single parents who are cohabitating; children not residing with any parents; and two-parent including step-parent families, which constitutes the reference category. Demographic variables include the age of the parent, the parent and the spouse's or the partner's educational attainment, the ethnicity and immigration status of the

parent. The state of residence is also included in the model. We also include two dummy variables in cases where a spouse or partner was present but for whom education or employment status was not reported.

Sample Characteristics

Children Under Age 6

Table 1A presents the sample characteristics for children under the age of 6 whose parents are eligible for child care subsidies under their state rules. It also presents characteristics conditional on receipt of child care subsidies and the parents' work schedule. Among eligible young children approximately 10 percent have parents that report receiving child care subsidies. About 8 percent of young children whose parents work traditional hours also receive child care subsidies, compared to a 4 percent subsidy coverage rate among young children with a parent who works non-traditional hours.

The majority of young children in families that receive child care subsidies are in center care. Fifty-six percent of young children whose eligible parents report that they receive child care subsidies are in center care, whereas only 22 percent of the young children in eligible families but who are not receiving child care subsidies are in centers. Among this group, the majority of the children tend to receive care from a relative or from a parent. Twenty-nine percent of subsidy-eligible young children in families that are not receiving child care subsidies are cared for by a parent. On the other hand, it is not surprising that only 3 percent of young children in families reporting receipt of child care subsidies receive care from a parent since the law stipulates that subsidies are only to be provided for non-parental care.

Children are far more likely to be in families that receive child care subsidies if their parents receive AFDC (Table 1A). Among young children in families that receive child care

subsidies, more than half have a parent who currently receive AFDC, and 10 percent have parents who previously received child care subsidies. A smaller proportion (14 percent) of young children whose parents are not receiving child care subsidies have previously received AFDC or have previously received child care subsidies (2 percent).

Among subsidy-eligible young children in families that report receiving child care subsidies, 66 percent have a parent who is employed. Among young children with a working parent, 55 percent have a parent with traditional work schedules, and 11 percent have a parent who works non-traditional schedule. Subsidy-eligible young children but in families who are not receiving child care subsidies are more likely to have a parent with non-traditional work schedules. Sixty-nine percent of young children in families who are not receiving child care subsidies reside with a parent working traditional schedules, and 28 percent of these young children reside with a parent working non-traditional schedules.

We examine the child care patterns by parent work schedules. Young children whose parents work non-traditional schedules tend to receive care from a parent or a relative. On the other hand, the pattern of care use is somewhat more evenly distributed across center care, family child care, and care by a relative among young children in families with a parent working traditional schedules, with only a slightly higher proportion of these young children receiving care from a relative while one of their parents work.

Table 1A also shows the distribution of young children in subsidy-eligible families in the 12 states. Although 35 percent of eligible young children reside in California, this state comprises just 30 percent of young children in families that report receiving child care subsidies. Similarly, Texas, with 18 percent of children in all eligible families in the 12 states, has less than its share of young children in families that report receiving child care subsidies. Massachusetts,

Michigan, New York, and Washington have a greater proportion of young children in families that report receiving child care subsidies than their overall average of young children in subsidy-eligible families would dictate.

Children Age 6 and Over

Table 1B presents the sample characteristics for children between the ages of 6 and 12 in families eligible for child care subsidies under their state's rules. The table also presents the characteristics for this group of older children conditional on parents receiving child care subsidies and parental work schedule. The estimated subsidy coverage rate is lower for older children, 8 percent of subsidy-eligible older children are in families receiving child care subsidies. Children age 6 and over with a parent working traditional schedules are more likely to report receiving child care subsidies (7 percent) when compared to older children with a parent working non-traditional schedules (1.4 percent).

As is the case among younger children, older children in families receiving child care subsidies are more likely to be in center-based care. Specifically, 37 percent of older children in families receiving child care subsidies are in centers compared to 13 percent of older children in families who are not receiving child care subsidies. An additional 16 percent of older children whose parents report that they receive child care subsidies are cared for by a relative, and 12 percent are in family child care. On the other hand, 26 percent of older children whose parents are not receiving child care subsidies receive care from a relative; and an additional 41 percent of these children receive care from one of their parents.

While subsidies may increase access to more expensive types of care for low-income families, the greater inflexibility of these modes of care may act as a deterrent for parents with non-traditional work schedules to apply and to access child care subsidies, if the subsidies can

not be easily used to support care by relatives, babysitters and license-exempt family child care. We find that, conditional on a parent working traditional schedules, older children are less likely to be in center care or in family child care. In contrast, a greater proportion of older children with a parent working non-traditional schedules are more likely to receive care from the parent while the parent is not at work or to care for themselves while the parent is at work.

As is the case for young children, children age 6 and over in families receiving child care subsidies are also more likely to have families who previously received child care subsidies, and to have parents who receive AFDC or other forms of government assistance (Table 1B). Among older children in families receiving child care subsidies, 67 percent reside with a parent who is employed, of whom 63 percent have a parent working traditional schedules and 4 percent have a parent working non-traditional schedules. The remaining 33 percent of these children have parents that are not employed but are engaged in work-related activities. In contrast, children age 6 and over in families who are not receiving child care subsidies are much more likely to have a parent working non-traditional schedules – 25 percent of these older children have a parent working non-traditional schedules. Approximately 2 percent of older children whose parents are not receiving child care subsidies are engaged in work related activities (Table 1B).

Table 1B shows the distribution of older children in subsidy-eligible families in the 12 states. Unlike the case for young children, California accounts for a slightly higher proportion of older eligible children in families receiving child care subsidies than the state's overall share of subsidy-eligible older children. Florida and Texas account for a lower proportion of eligible older children in families receiving child care subsidies than these states' share of subsidy-eligible older children. Michigan, which accounts for only 6 percent of subsidy-eligible older children, comprises 12 percent of eligible older children in families that do receive child care

subsidies. New York, which accounts for 13 percent of older children in subsidy-eligible families, has 14 percent of the older children in families receiving child care subsidies.

Determinants of Child Care Choices by Parent Work Schedule

Based on the children's characteristics in the previous section, we find that children in families who receive child care subsidies, irrespective of age, are more likely to use center care than children in families who do not receive child care subsidies. In the multivariate analysis, we evaluate, after controlling for various economic, social and demographic characteristics, whether these differences in modes of care remain. We also examine whether the differences in child care choices persist between children residing in different states. The analysis is conducted separately by child's age, and for each group we examine the coefficients by parental work schedules.

Children Under Age 6

Receipt of Child Care Subsidies and Price Effects

Consistent with our hypothesis and the findings of Blau and Robins (1988), Michalopoulos, Robins, and Garfinkel (1992), and Ribar (1995), we find that the receipt of child care subsidies significantly increases the use of non-parental care (see Table 2A). Among types of non-parental care, the receipt of subsidies has the strongest positive impact on the use of center care. The likelihood of using center care or family child care for young children might be primarily conditional on the child having a parent working traditional schedules. Although our finding conforms to the theory and the results of other studies, part of the increase in use of non-parental care reflects the fact that federal law requires that all parents in the household be employed in order to receive subsidies.

The coefficients for younger children with a parent working non-traditional schedules could not be estimated due to the low rate of child care subsidy receipt among young children.

The low subsidy coverage rate for young children with parents who work non-traditional schedules might suggest that the relationship between child care subsidies and the selection of more formal modes of care is highly dependent on parental work schedules. Thus, our results imply that simulation models that neglect the effects of parental work schedules will overestimate the effects that subsidies may have on the type of care selected by low-income families.

As family expenditures on care for all children increase, the rate of use of center care for young children decreases. Higher family expenditures on care appear to be related to higher rate of use of family child care and relative care for young children when the parent works traditional hours. On average, costs for center care are higher than family child care or care provided by a relative, the additional expenditures for an additional young child may not be feasible if a center is used as the primary care for all young children in the household while the parent works. Also, there is pre-existing evidence that the financial burden for child care is high for low-income parents. Child care expenditures are estimated to account for 16 percent of low-income parents earnings (Giannarelli and Barsimantov, 2000). Other estimates indicate that child care expenditures account for 23 to 35 percent of the earnings of families with income below the poverty level (Smith, 2000; Giannarelli and Barsimantov, 2000).

State Differences

State of residence does not appear to be the most distinguishing factor in explaining variations in child care choices for young children. Few significant differences between states emerge after controlling for the receipt of child care subsidies, family child care expenditures, and other economic and demographic characteristics. This suggests that the state variation in patterns of care found in previous descriptive studies (Capizzano, Adams, and Sonenstein, 2000)

might at least partially reflect state demographics. The differences between states that remain might also reflect the inter-connection of state policy and the child care market in the state.

Conditional on a parent working traditional schedule, the results in Table 2A indicate that children in families receiving child care subsidies are significantly more likely to use center care or family child care. However, children in subsidy-eligible families in Texas are significantly less likely to use centers or family child care, all else being equal. This negative association seems to hold for young children in Texas irrespective of their parent work schedules (see Table 2A). The Texas' case is particularly interesting given that the state's administrative records show that close to 80 percent of children receiving child care subsidies use center care. Given that to be the case we might have expected that there would be a greater likelihood of observing the use of centers among all subsidy-eligible children, irrespective of whether or not the families receive the subsidies. Rather, the finding suggests that children in subsidy-eligible families are less likely to use center care. One possible explanation for this finding is that it may reflect the policy of steering families who receive child care subsidies toward the most readily available types of care which is center care in the state of Texas (Collins et al., 2000).

There still seems to be no consistent patterns of use of any particular mode of care based on the region or the state the child resides, given that a parent works non-traditional schedules. For young subsidy-eligible children with a parent working a non-traditional schedule the likelihood of using a family child care increases in Florida, but decreases for those in Texas. Young children in Mississippi and in New York have a significantly greater likelihood of being with a relative; and young children in Minnesota, Washington and Massachusetts have a significantly higher likelihood of being in a center, given that a parent works non-traditional schedules. It seems rather intriguing that even with the strain of working a non-traditional

schedule parents in Minnesota, Washington and Massachusetts do still make use of centers as their primary care arrangement for young children.

Children Age 6 and Over

Receipt of Child Care Subsidies and Price Effects

Among older children we only find partial support for the hypothesis that receipt of child care subsidies increases the use of center care or family child care. The receipt of child care subsidies has a positive and significant association with the use of center care, but it does not show any statistical association with the use of family child care or a relative among eligible older children, given that a parent works traditional schedules. However, we find a positive but marginally significant increase in the likelihood of using family child care for older children given that a parent works non-traditional schedules. There is no significant association between using relative care and the receipt of child care subsidies for older children given that a parent works non-traditional schedules.

The positive association between the receipt of child care subsidies and the use of center care among older children with a parent with traditional work schedules might be because these parents require the use of a more formal mode of care while they or other adult relatives are at work when school is out. Given that center care and family child care are more expensive compared to care provided by a relative, parents who may have already decided to use centers or a family child care may be more inclined to apply for child care subsidies. Moreover, it appears from our results that parent's choice of care for older children may be less responsive to the receipt of child care subsidies and less connected to subsidy policy than is the case with younger children. These results highlight the importance of studying the effects of subsidies on parental selection of care separately for children of different ages.

The results indicate that, for eligible older children with a parent who works traditional schedules, expenditures on care is negatively associated with the use of any given mode of care. However, these coefficients are not necessarily statistically significant. The exception is that as expenditure on relative care increases the likelihood of using relative care increases for older children given that a parent works traditional schedules. We also find significant positive association between family expenditures on care and the modes that are used among older children when a parent works non-traditional schedules. In particular, the results for this group of older children show that as family expenditures on family child care and on relative care increase, the use of these types of care increases. These results seem counterintuitive. However, it is possible that the use of relative and family child care for older children might be a nonlinear function.

State Differences

After controlling for receipt of child care subsidies, family child care expenditures, and other demographic characteristics we find that there are minor differences between states in mode of child care used among subsidy-eligible children age 6 and over. Subsidy-eligible children age 6 and over with a parent working traditional schedules and residing in Texas have a significantly lower likelihood of using family child care. On the other hand, subsidy-eligible children age 6 and over with a parent working traditional schedules and residing in California, Massachusetts and Minnesota have a significantly higher likelihood of using relative care as the primary caretaker given that a parent works traditional schedules. Moreover, all else being equal, only in California do we observe a significant increase in the likelihood that an older child will be in center care given that a parent works traditional schedules.

We find that among subsidy-eligible children with a parent working non-traditional schedules, the state in which these children reside is significantly more relevant in distinguishing the mode of care used. For example, given that a parent has a non-traditional work schedule, older children residing in Alabama, California, Minnesota, Mississippi and Washington have a significantly greater likelihood of using relative care, while the use of relative care is significantly lower for those in New York and in Texas. Moreover, subsidy-eligible children with a parent working non-traditional schedules and residing in Alabama, California, Michigan, and Minnesota are significantly more likely to use center care. Based on the pattern of these results, we do not observe that older children in southern states are significantly more likely to use more formal types of care, all else being equal.

Summary and Policy Implications

We use data from the 1997 National Survey of America's Families to examine why children in families receiving child care subsidies tend to use center care or family child care; and how the observed differences in child care choices are associated with state of residence. We examine these differences by child's age and by parent work schedules. We set out to test two main hypotheses. We find support for the hypothesis that receipt of child care subsidies increases the use of center care due to the lower cost of care to the family. There are mixed findings for our second hypothesis that state difference in the use of child care arise due to differences in supply which lead to different state subsidy policies.

Other studies have examined the impact of parent work schedule on broadly defined measures of mode of care (Hofferth and Wissoker, 1992; Casper, 1996; Fuller, Holloway, and Liang, 1996; Capizzano et al., 2000b; Kimmel and Powell, 2001). However, this study

demonstrates the importance of examining the impact of child care subsidies on the type of child care chosen in the context of the child's age as well as the parents' work schedules.

Our findings are consistent with theory and other studies (Blau and Robins, 1988; Michalopoulos, Robins, and Garfinkel, 1992; Ribar, 1995; Burstein, Layzer, and Cahill, 2001) that receipt of child care subsidies enables working parents to purchase more expensive modes of care than they would otherwise be able to purchase without the receipt of child care subsidies. However, our findings also differ in some important aspects. We find that the impact of child care subsidies on mode of care is most evident for children when a parent works traditional schedules. The receipt of child care subsidies seems to have a positive and significant impact on the use of all modes of non-parental care, particularly the use of center care. There is also a statistically significant association between receipt of child care subsidies and use of center care among older children, conditional on a parent having traditional work schedules. In contrast, all being equal among older children there seems to be no association between the use of family child care, relative care and receipt of child care subsidies when a parent works traditional schedule. However, we do find that among older children with a parent with non-traditional schedules, there is significantly greater use of family child care.

Part of the explanation why we might observe a weak or no association between receipt of child care subsidies and use of center or relative when a parent works non-traditional schedule may be due to sample size. Children in families receiving child care subsidies are far more likely to have a parent who works traditional hours. Moreover, on average, older children are less likely to have families receiving child care subsidies, and this group of children are more likely to have a parent who works non-traditional work schedules. Although this study reveals an association between receipt of child care subsidies, parental work schedules and choice of care for children

of different ages, it does suggest that further insights need to be gained regarding the constraints faced in accessing and applying for child care subsidies when parents have non-traditional work schedules.

In this study we also find geographic differences across states that are not evident in analyses that do not differentiate choice in mode of care based on parents' work schedule. Unlike previous studies, which find regional, or urban differences in choice of mode of care (Singer, Fuller, Keiley, and Wolf, 1998; Capizanno et al., 2000a; Capizanno et al., 2000b; Burstein et al., 2001), this study reveals a more dynamic picture in geographic differences. Mode of care seems to vary more with the parent's characteristics and with the parent work schedules in a state than the region in which the state is located.

Subsidy-eligible children in Texas are less likely to use non-parental modes of care irrespective of their age or their parent work schedules, all else being equal. However, older subsidy-eligible children in New York with a parent with traditional schedules are less likely to use relative care. On the other hand, we find that young subsidy-eligible children residing in Minnesota with a parent working non-traditional schedules are more likely to use family child care. Moreover, our results did not seem to suggest, after controlling for receipt of child care subsidies and other demographic characteristics, that the use of centers is heavily concentrated in southern states. Our findings do indicate that the state of residence is a more relevant determinant factor in choice of care for older children than it is for younger children. These state variations are not only related to the parent work schedule and the child's age, as we have found in this study, they might also be related to the available supply of regulated child care and the flexibility of center-based care, family child care, and the availability and proximity of relatives that accommodates parents with different work schedule, both of which may vary by state. Moreover,

further analyses should explore how these variations might be related to the state child care policy and practice environment as far as providing the right incentives to make accessible the type of care that meet parents' work schedule constraints.

NOTES

1. The representative states are: Alabama, California, Florida, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New York, Texas, Washington, and Wisconsin. Colorado, also a representative state, is excluded from the analysis because the state was a late addition to the NSAF. Therefore, most of the respondents were able to provide information on child care arrangements for the summer months only.
2. In Florida, income eligibility level is based on the federal poverty line, which was set at 150% for the federal poverty line for a family of size 3 in 1997.
3. Although there might be policy relevant reasons for examining infants and toddlers, we did not estimate separate models for this group due to small sample size. We incorporate a dummy variable to differentiate the effects of age with each of the groups of children.
4. Children under the age of 6 whose primary care arrangement was in a Head Start program are not included in the analysis. There are 190 children in Head Start program among eligible families under federal rules in the 12 representative states.
5. In the NSAF, the respondent is referred to as the Most Knowledgeable Adult (MKA). Throughout the analysis we refer to the MKA as the parent. Only in 7.21 percent of the final sample is the MKA an individual whose is not the parent of the focal child. Of the 7.21 percent, 3.7 percent are grandparents, and 2.3 percent are an aunt or an uncle to the focal child.

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Figure 1: Impact of Subsidies on Use of Child Care

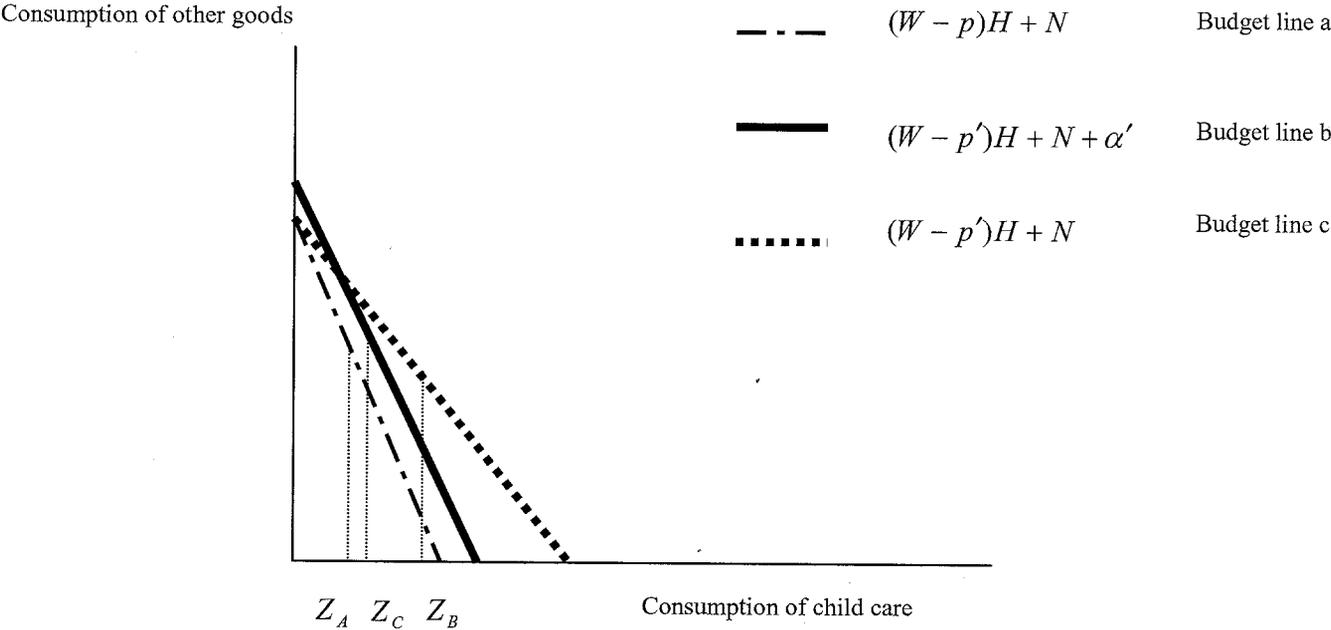


Table 1A: Sample Characteristics by Receipt of Subsidy and by Parent Work Schedules
All Subsidy-Eligible Children Under Age 6

Variable	All Eligible Children	Not Receiving Subsidy	Receiving Subsidy	Parent Works Traditional Schedules	Parent Works Non-Traditional Schedules	Parent Not Employed
	Mean	Mean	Mean	Mean	Mean	Mean
Primary Child Care Arrangements						
Center Care	0.259	0.224	0.561	0.266	0.197	0.434
Family Child Care	0.180	0.180	0.181	0.193	0.162	0.115
Relative Care	0.300	0.309	0.223	0.292	0.325	0.292
Parental Care	0.261	0.287	0.034	0.250	0.316	0.159
Child Care Subsidy Receipt						
Receive Child Care Subsidies	0.102	NA	1.000	0.083	0.043	0.547
Parent Previously Received Child Care Subsidies	0.025	0.016	0.102	0.024	0.023	0.038
State						
Alabama	0.022	0.021	0.027	0.020	0.022	0.042
California	0.345	0.350	0.298	0.332	0.336	0.520
Florida	0.089	0.091	0.071	0.092	0.101	0.011
Massachusetts	0.041	0.039	0.063	0.037	0.043	0.077
Michigan	0.059	0.054	0.103	0.062	0.064	0.005
Minnesota	0.034	0.033	0.043	0.029	0.043	0.052
Mississippi	0.020	0.021	0.011	0.021	0.017	0.024
New Jersey	0.033	0.033	0.030	0.036	0.029	0.019
New York	0.128	0.126	0.151	0.128	0.138	0.096
Texas	0.177	0.184	0.116	0.196	0.154	0.065
Washington	0.028	0.025	0.056	0.026	0.022	0.070
Wisconsin	0.024	0.023	0.030	0.021	0.031	0.019
Income and Earnings						
Parent Earnings	10130.99	10471.75	7122.03	11246.61	9303.63	1551.47
Earnings of Other Workers in the Household	10480.14	10440.21	10832.74	10178.25	10921.72	11913.38
Household Unearned Income	113.04	92.95	290.38	80.15	205.57	87.79
County Weighted Median Income	38291.69	38384.80	37469.55	38259.03	38978.85	35837.23

Table 1A Continued

Variable	All Eligible Children	Not Receiving Subsidy	Receiving Subsidy	Parent Works Traditional	Parent Works Non-Traditional Hours	Parent Not Employed
	Mean	Mean	Mean	Mean	Mean	Mean
Employment						
Parent - Employed	0.937	0.968	0.660	1.000	1.000	NA
Parent - Employed, Work Traditional Schedules	0.678	0.693	0.551	1.000	NA	NA
Parent - Employed, Work Non-Traditional Schedules	0.258	0.275	0.109	NA	1.000	NA
Parent - Not Employed	0.063	0.032	0.340	NA	NA	1.000
Demographic						
Age of Focal Child	2.576	2.543	2.868	2.619	2.363	2.984
Focal Child is 0-2	0.476	0.483	0.415	0.461	0.527	0.431
African American	0.191	0.174	0.338	0.183	0.180	0.316
White, not Hispanic	0.379	0.379	0.384	0.378	0.390	0.351
Hispanic	0.357	0.370	0.240	0.369	0.341	0.290
All Other Ethnicity, not Hispanic	0.073	0.077	0.038	0.070	0.089	0.042
Parent is Foreign Born	0.123	0.131	0.054	0.131	0.112	0.083
Single Parent	0.372	0.341	0.654	0.380	0.290	0.631
Single Mother - No Partner	0.350	0.318	0.638	0.357	0.270	0.605
Single Parent - No Partner	0.022	0.023	0.016	0.023	0.020	0.026
Two Parents	0.557	0.600	0.183	0.556	0.628	0.282
Other Type of Living Arrangement	0.070	0.060	0.162	0.064	0.082	0.086
Cohabiting	0.032	0.028	0.074	0.032	0.032	0.037
No Parent Present	0.038	0.032	0.088	0.032	0.051	0.049
Spouse or Partner Present in the Household	0.602	0.637	0.295	0.598	0.683	0.318
Presence of Children 0-5	0.486	0.479	0.552	0.469	0.516	0.555
Presence of Other Children and Teens 6-17	0.504	0.501	0.528	0.515	0.480	0.486
Presence of Adults 18-34	0.532	0.563	0.264	0.518	0.606	0.387
Presence of Adults 35 and Older	0.264	0.265	0.257	0.267	0.277	0.179
Female Member is present in the household	0.844	0.841	0.871	0.842	0.846	0.863
Parent is 16-25 years old	0.291	0.282	0.370	0.257	0.348	0.415
Parent is 26-35 years old	0.495	0.498	0.472	0.512	0.469	0.420
Parent is 36 year old or older	0.214	0.221	0.158	0.231	0.183	0.165
Family Size	4.245	4.249	4.213	4.251	4.273	4.065

Table 1A Continued

Variable	All Eligible Children	Not Receiving Subsidy	Receiving Subsidy	Parent Works Traditional	Parent Works Non-Traditional Hours	Parent Not Employed
	Mean	Mean	Mean	Mean	Mean	Mean
Education of Parent and the Spouse or Partner						
Parent - No High School Diploma or GED	0.185	0.186	0.179	0.164	0.218	0.271
Parent - High School Diploma or GED	0.374	0.370	0.412	0.373	0.391	0.317
Parent - Some College but no Degree	0.254	0.245	0.332	0.269	0.203	0.300
Parent - At Least a 2-Year College Degree	0.187	0.200	0.077	0.194	0.188	0.113
Spouse/Partner - No High School Diploma or GED	0.143	0.151	0.072	0.141	0.164	0.078
Spouse/Partner - High School Diploma or GED	0.262	0.277	0.128	0.246	0.325	0.178
Spouse/Partner -Some College but no Degree	0.095	0.100	0.048	0.104	0.084	0.048
Spouse/Partner - At Least a 2-year College Degree	0.102	0.109	0.047	0.108	0.110	0.014
Use of Government Assistance						
Household Member Receives Public Assistance	0.544	0.507	0.870	0.527	0.509	0.860
Parent Receives AFDC	0.176	0.137	0.517	0.143	0.152	0.628
Child Health Barriers						
Current Health Status - Good	0.931	0.931	0.936	0.939	0.917	0.908
Current Health Status - Poor	0.069	0.069	0.064	0.061	0.083	0.092
Has a Health Condition that Limits Normal Activities	0.055	0.048	0.118	0.056	0.058	0.043
State Child Care Regulation						
State Requires Child Abuse Clearance for Child Care Centers Staff	0.579	0.578	0.589	0.557	0.587	0.781
State Requires Criminal Record Background for Child Care Center Staff	0.817	0.820	0.792	0.817	0.812	0.843
State Regulated Child Staff Ratio for Children under 27 Months in Centers < 4:1	0.958	0.958	0.963	0.959	0.961	0.934
State Regulated Child Staff Ratio for Children 3 to 5 in Centers < 10:1	0.347	0.332	0.477	0.339	0.370	0.339
State Regulated Child Staff Ratio for Children 6 & Older in Centers < 15:1	0.576	0.572	0.611	0.552	0.582	0.815
Missing Data - Spouse or Partner						
Employment Data Missing	0.046	0.044	0.064	0.048	0.050	0.002
Education Missing	0.128	0.129	0.117	0.115	0.163	0.123
Sample size	2278	1979	299	1527	590	161

Table 1B: Sample Characteristics by Receipt of Subsidy and by Parent Work Schedules
All Subsidy-Eligible Children Age 6 and Over

Variable	All Eligible Children Mean	Not Receiving Subsidy Mean	Receiving Subsidy Mean	Parent Works Traditional Schedules Mean	Parent Works Non-Traditional Schedules Mean	Parent Not Employed Mean
Primary Child Care Arrangements						
Center Care	0.148	0.129	0.370	0.171	0.065	0.208
Family Child Care	0.111	0.110	0.123	0.110	0.110	0.142
Relative Care	0.249	0.257	0.159	0.255	0.249	0.169
Parental Care	0.395	0.411	0.206	0.373	0.453	0.449
Self Care	0.096	0.092	0.142	0.092	0.123	0.033
Child Care Subsidy Receipt						
Receive Child Care Subsidies	0.078	NA	1.000	0.068	0.014	0.582
Parent Previously Received Child Care Subsidies	0.015	0.006	0.114	0.014	0.005	0.072
State						
Alabama	0.019	0.019	0.016	0.017	0.024	0.023
California	0.351	0.350	0.362	0.358	0.307	0.466
Florida	0.097	0.098	0.081	0.089	0.135	0.028
Massachusetts	0.035	0.035	0.030	0.035	0.032	0.046
Michigan	0.064	0.059	0.117	0.068	0.061	0.006
Minnesota	0.040	0.039	0.048	0.041	0.033	0.064
Mississippi	0.024	0.025	0.017	0.022	0.023	0.061
New Jersey	0.034	0.034	0.033	0.034	0.031	0.033
New York	0.129	0.127	0.144	0.118	0.167	0.100
Texas	0.155	0.160	0.095	0.166	0.139	0.065
Washington	0.028	0.027	0.031	0.026	0.022	0.093
Wisconsin	0.026	0.026	0.024	0.026	0.027	0.015
Income and Earnings						
Parent Earnings	10881.33	11041.03	9000.13	11653.49	10323.92	1279.70
Earnings of Other Workers in the Household	10878.57	10515.87	15151.02	11072.91	9783.56	13451.46
Household Unearned Income	107.11	87.70	335.74	122.87	50.09	149.69
County Weighted Median Income	38405.67	38489.44	37418.94	38625.47	37922.67	37367.47

Table 1B Continued

Variable	All Eligible Children Mean	Not Receiving Subsidy Mean	Receiving Subsidy Mean	Parent Works Traditional Mean	Parent Works Non-Traditional Hours Mean	Parent Not Employed Mean
Employment						
Parent - Employed	0.955	0.980	0.668	1.000	1.000	NA
Parent - Employed, Work Traditional Schedules	0.722	0.731	0.625	1.000	NA	NA
Parent - Employed, Work Non-Traditional Schedules	0.233	0.249	0.043	NA	1.000	NA
Parent - Not Employed	0.045	0.020	0.332	NA	NA	1.000
Demographic						
Age of Focal Child	9.007	9.030	8.733	9.055	8.902	8.775
Focal Child is 6-9	0.573	0.571	0.597	0.577	0.555	0.598
African American	0.210	0.204	0.279	0.194	0.248	0.275
White, not Hispanic	0.395	0.398	0.355	0.403	0.374	0.358
Hispanic	0.326	0.325	0.343	0.329	0.313	0.346
All Other Ethnicity, not Hispanic	0.069	0.073	0.023	0.073	0.065	0.020
Parent is Foreign Born	0.215	0.230	0.039	0.212	0.241	0.136
Single Parent	0.432	0.410	0.693	0.443	0.346	0.705
Single Mother - No Partner	0.409	0.386	0.686	0.420	0.322	0.701
Single Parent - No Partner	0.023	0.024	0.007	0.024	0.025	0.003
Two Parents	0.481	0.502	0.233	0.465	0.576	0.244
Other Type of Living Arrangement	0.086	0.087	0.074	0.091	0.078	0.051
Cohabiting	0.054	0.055	0.046	0.063	0.031	0.026
No Parent Present	0.032	0.033	0.029	0.028	0.047	0.025
Spouse or Partner Present in the Household	0.550	0.571	0.298	0.538	0.640	0.270
Presence of Children 0-5	0.441	0.425	0.625	0.423	0.474	0.558
Presence of Other Children and Teens 6-17	0.747	0.745	0.778	0.743	0.745	0.835
Presence of Adults 18-34	0.347	0.370	0.086	0.343	0.390	0.199
Presence of Adults 35 and Older	0.368	0.370	0.343	0.367	0.386	0.278
Female Member is present in the household	0.855	0.851	0.901	0.844	0.889	0.858
Parent is 16-25 years old	0.038	0.034	0.087	0.034	0.039	0.095
Parent is 26-35 years old	0.483	0.474	0.581	0.454	0.530	0.692
Parent is 36 year old or older	0.479	0.492	0.332	0.511	0.431	0.213
Family Size	4.564	4.535	4.907	4.429	4.930	4.848

Table 1B Continued

Variable	All Eligible Children Mean	Not Receiving Subsidy Mean	Receiving Subsidy Mean	Parent Works Traditional Mean	Parent Works Non-Traditional Hours Mean	Parent Not Employed Mean
Education of Parent and the Spouse or Partner						
Parent - No High School Diploma or GED	0.196	0.196	0.194	0.168	0.261	0.295
Parent - High School Diploma or GED	0.332	0.335	0.297	0.346	0.317	0.191
Parent - Some College but no Degree	0.254	0.257	0.221	0.272	0.195	0.278
Parent - At Least a 2-Year College Degree	0.218	0.212	0.288	0.214	0.227	0.236
Spouse/Partner - No High School Diploma or GED	0.155	0.160	0.096	0.132	0.233	0.131
Spouse/Partner - High School Diploma or GED	0.192	0.204	0.054	0.198	0.197	0.073
Spouse/Partner - Some College but no Degree	0.088	0.093	0.030	0.094	0.079	0.040
Spouse/Partner - At Least a 2-year College Degree	0.114	0.114	0.118	0.114	0.131	0.027
Use of Government Assistance						
Household Member Receives Public Assistance	0.460	0.421	0.913	0.423	0.488	0.899
Parent Receives AFDC	0.162	0.121	0.639	0.122	0.172	0.749
Child Health Barriers						
Current Health Status - Good	0.925	0.924	0.926	0.926	0.916	0.939
Current Health Status - Poor	0.075	0.076	0.074	0.074	0.084	0.061
Has a Health Condition that Limits Normal Activities	0.128	0.122	0.195	0.129	0.103	0.238
State Child Care Regulation						
State Requires Child Abuse Clearance for Child Care Centers Staff	0.597	0.594	0.627	0.590	0.578	0.799
State Requires Criminal Record Background for Child Care Center Staff	0.818	0.819	0.806	0.830	0.777	0.843
State Regulates Child Staff Ratio for Children under 27 Months in Centers < 4:1	0.957	0.956	0.967	0.961	0.953	0.916
State Regulates Child Staff Ratio for Children 3 to 5 in Centers < 10:1	0.354	0.348	0.428	0.348	0.373	0.357
State Regulates Child Staff Ratio for Children 6 & Older in Centers < 15:1	0.582	0.579	0.616	0.577	0.561	0.769
Missing Data - Spouse or Partner						
Employment Data Missing	0.059	0.055	0.110	0.065	0.052	0.003
Education Missing	0.112	0.112	0.120	0.104	0.139	0.101
Sample Size	2494	2259	235	1823	541	130

Table 2A: Multinomial Results by Paren Work Schedules
All Subsidy-Eligible Children Under Age 6

	Work Traditional Schedules						Work Non-Traditional Schedules					
	Family Child Care		Relative Care		Center Care		Family Child Care		Relative Care		Center Care	
	Coeff.	t-ratio	Coeff.	t-ratio	Coeff.	t-ratio	Coeff.	t-ratio	Coeff.	t-ratio	Coeff.	t-ratio
Child Care Subsidy Receipt and Effects of Price												
Receive Child Care Subsidies	2.71	2.84**	2.01	2.12*	3.63	3.92**	--	--	--	--	--	--
Parent Previously Received Child Care Subsidies	-0.21	-0.17	0.78	0.85	2.27	2.55**	--	--	--	--	--	--
Predicted Expenditure of Family Child Care	7.15	2.55*	-4.18	-2.09*	14.17	4.46**	10.39	2.17*	-1.97	-0.51	16.08	1.83
Predicted Expenditure of Relative Care	-6.83	-2.22*	6.09	2.51**	-11.92	-3.68**	-13.44	-2.56**	-6.15	-1.45	-20.58	-2.70**
Predicted Expenditure of Center Care	-3.19	-1.78	0.33	0.23	-6.03	-3.19**	7.71	2.16*	9.91	3.28**	1.84	0.37
State Effects												
Alabama	-1.62	-1.42	0.99	1.06	-1.83	-1.72	1.01	0.62	2.36	1.70	-2.02	-0.92
California	-0.74	-0.73	-0.07	-0.08	-1.53	-1.60	-2.38	-1.49	1.89	1.43	1.32	0.65
Florida	0.68	0.42	-1.60	-1.16	2.38	1.61	8.03	2.97**	1.81	0.77	0.65	0.22
Massachusetts	-0.21	-0.18	-0.91	-0.85	0.09	0.08	-3.42	-1.72	2.03	1.27	4.31	2.19*
Michigan	1.11	1.13	-0.98	-1.17	1.95	2.02*	-0.42	-0.30	0.91	0.77	3.21	1.58
Minnesota	1.18	1.03	0.07	0.07	1.44	1.35	-1.53	-0.91	2.03	1.56	4.63	2.68**
Mississippi	-1.61	-1.26	1.50	1.41	-1.58	-1.31	-1.39	-0.45	3.90	2.29*	1.24	0.50
New Jersey	-0.08	-0.09	0.08	0.09	-0.23	-0.26	-2.43	-1.45	1.23	0.92	0.54	0.30
New York	-0.22	-0.23	-0.44	-0.52	-1.49	-1.58	0.22	0.14	3.70	2.67**	2.80	1.40
Texas	-2.83	-2.52**	1.14	1.26	-3.62	-3.15**	-4.36	-2.50**	0.74	0.51	-1.50	-0.56
Washington	0.64	0.60	-1.81	-1.90	1.08	1.03	-0.11	-0.05	2.73	1.78	5.43	2.65**
Constant	-7.19	-2.11*	3.43	1.34	-14.59	-3.88**	-14.92	-2.48**	1.58	0.32	-13.44	-1.34
Number of Observations	1527						590					
Log Likelihood Function	-1567.33						-493.86					
Chi-Square	1066.02						598.16					

** p < 0.01 ; * p < 0.05

Coefficients are not shown for these control variables:

parent earning, earnings of other workers in the household, unearned income of all adult household members, whether the spouse/partner is employed, parent race/ethnicity, parent immigration status, presence of children under age 5, presence of adults over age 35, whether a female member is present in the household, age of focal child, age of parent, family size, education of the parent and that of the spouse/partner, whether the parent receives AFDC, whether any household member receives any form of government assistance, health barriers of the child. Dummy variables are included to indicate that spouse/partner is missing data on education or employment.

Table 2B: Multinomial Results by Parent Work Schedule
All Subsidy-Eligible Children Age 6 and Over

	Work Traditional Schedules						Work Non-Traditional Schedules					
	Family Child Care		Relative Care		Center Care		Family Child Care		Relative Care		Center Care	
	Coeff.	t-ratio	Coeff.	t-ratio	Coeff.	t-ratio	Coeff.	t-ratio	Coeff.	t-ratio	Coeff.	t-ratio
Child Care Subsidy Receipt and Effects of Price												
Receive Child Care Subsidies	0.18	0.47	-0.59	-1.67	1.25	4.15**	3.14	2.39*	1.52	1.19	--	--
Parent Previously Received Child Care Subsidies	2.66	2.72**	2.41	2.70**	2.09	2.33*	--	--	--	--	--	--
Predicted Expenditure of Family Child Care	-3.76	-1.74	-0.61	-0.51	-2.17	-1.16	10.91	3.20**	-9.04	-2.78**	-10.16	-1.20
Predicted Expenditure of Relative Care	2.94	1.65	2.93	2.35	2.61	1.66	-2.36	-0.64	10.96	3.98**	12.09	2.07*
Predicted Expenditure of Center Care	-5.21	-2.26*	-4.85	-2.93*	-3.60	-1.78	4.98	1.06	-15.61	-4.09**	-8.98	-1.26
State Effects												
Alabama	-0.01	-0.01	1.33	1.55	1.68	1.58	-0.67	-0.26	5.83	3.27**	9.88	2.17*
California	1.53	1.15	2.15	2.38*	2.50	2.18*	-4.96	-1.99	5.87	3.00**	12.10	2.48**
Florida	2.19	1.37	-0.26	-0.23	1.22	0.89	3.70	1.32	4.17	1.91	6.20	1.08
Massachusetts	-0.27	-0.25	1.61	2.21*	1.56	1.73	-3.21	-1.71	1.72	1.15	6.78	1.76
Michigan	-0.68	-0.85	1.07	1.90	0.26	0.37	0.22	0.13	2.04	1.80	8.99	2.73**
Minnesota	2.05	0.85	4.15	2.47**	2.96	1.39	-2.07	-0.42	11.54	3.18**	18.87	2.26*
Mississippi	-0.21	-0.17	1.13	1.46	1.08	1.08	-3.76	-1.38	4.31	2.73**	8.16	1.64
New Jersey	0.24	0.33	0.13	0.23	0.57	0.84	-0.41	-0.31	0.23	0.21	1.22	0.31
New York	-1.65	-1.94	-0.62	-1.01	-0.48	-0.64	2.71	1.76	-3.50	-2.95**	-0.32	-0.10
Texas	-2.97	-3.08**	-1.31	-1.90	-0.77	-0.91	0.10	0.05	-4.82	-3.21**	-1.60	-0.43
Washington	0.20	0.25	0.68	1.09	0.89	1.19	-3.19	-1.01	2.50	2.02*	6.64	1.95
Constant	16.60	1.95	10.63	1.85	13.02	1.76	-30.84	-1.85	51.95	3.93	50.25	1.81
Number of Observations	1823						541					
Log Likelihood Function	-1905.26						-394.08					
Chi-Square	744.04						384.00					

** p < 0.01 ; * p < 0.05

Coefficients are not shown for these control variables:

parent earning, earnings of other workers in the household, unearned income of all adult household members, whether the spouse/partner is employed, parent race/ethnicity, parent immigration status, presence of older children age 6 to 17, presence of adults over age 35, whether a female member is present in the household, age of focal child, age of parent, family size, education of the parent and that of the spouse/partner, whether the parent receives AFDC, whether any household member receives any form of government assistance, health barriers of the child. Dummy variables are included to indicate that spouse/partner is missing data on education or employment.