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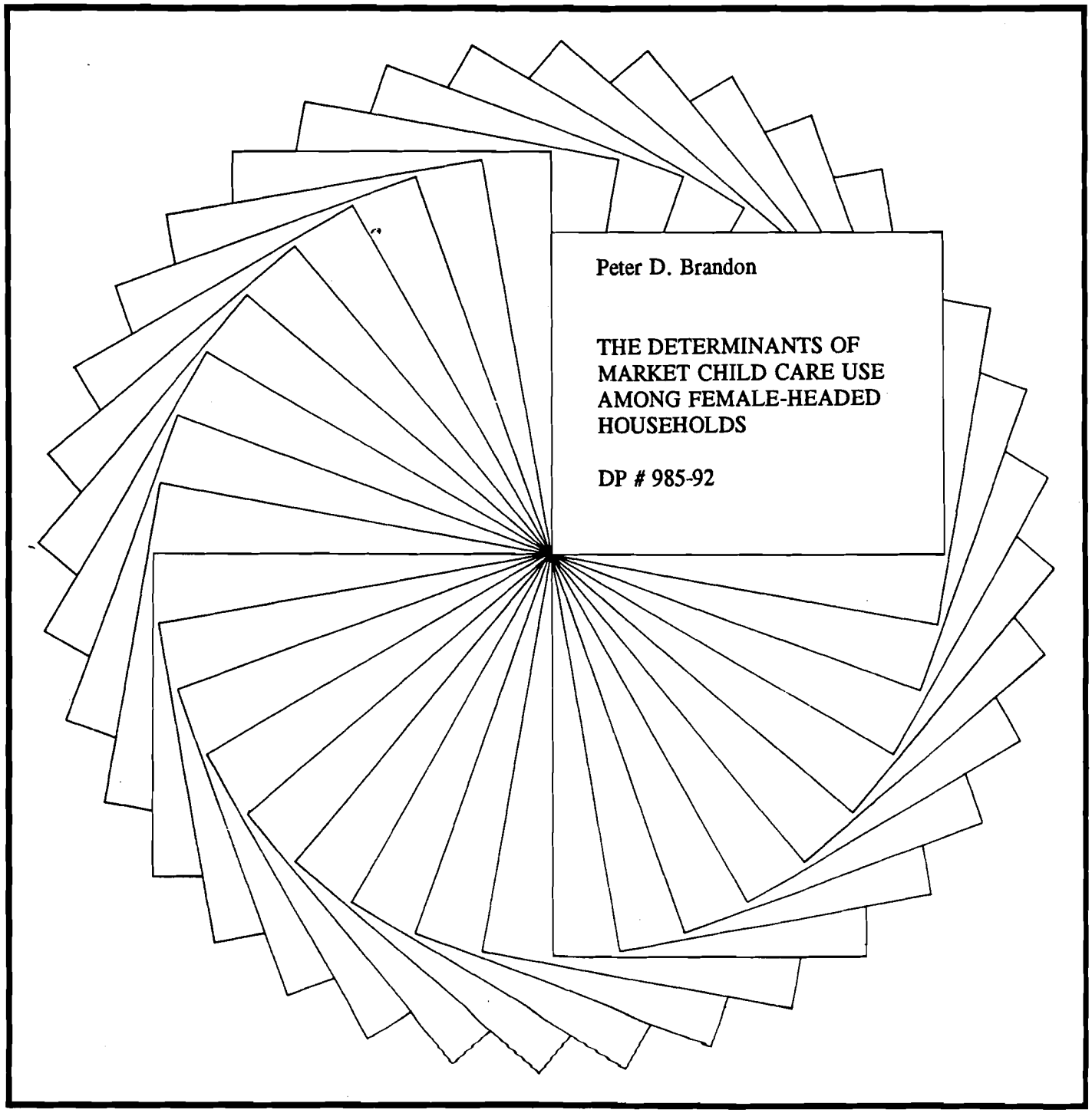

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# The Determinants of Market Child Care Use among Female-Headed Households

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## Abstract

This study tests whether female-headed households' child care choices differ because the mechanisms leading to female-headship status are distinct, thereby differentially conditioning the set of child care choices and mothers' abilities to pay. Differences are found among divorced, separated, and never-married mothers' child care arrangements. Differences in child care demand are generated by variations in each type of female-headed household's economic constraints, kin networks, and by each type of unmarried mother's work history. It is concluded that the stated policy aim of economic self-sufficiency for female-headed families will remain elusive unless public policies for these families assess potential transfers of income from noncustodial fathers and coresident kin.

# The Determinants of Market Child Care Use among Female-Headed Households

## I. INTRODUCTION

Few social phenomena have provoked as much interest among policymakers and academics as the rapid increase in families headed by women. In 1960, only 9 percent of American families with children were headed by women, but by 1985 the percentage had increased to 20 (McLanahan and Booth, 1989). Bumpass (1984) has estimated that if present trends continue, nearly half of all children born after 1975 will live in mother-only families at some point before they reach age eighteen. In addition, whereas 45 percent of white children will spend part of their lives only with their mothers, 86 percent of black children will do so (Garfinkel and McLanahan, 1986). National anxiety grows about these recent changes in family structure, especially since children in mother-only families are more likely to face impoverishment, have inadequate child care, and perform poorly at school.[1]

In response, policymakers have debated which policies could best redress the economic insecurity and disenfranchisement that these female-headed families confront. And, most agree that among the policies that could bolster the well-being of female-headed families, those that encourage maternal employment or training are essential (Ellwood, 1986; Garfinkel and McLanahan, 1986). In fact, this viewpoint had a strong impact on how the Family Support Act (FSA) of 1988 was fashioned.

Paradoxically, however, policies aimed at enhancing female-headed families' economic security are designed without fully understanding how these families arrange for child care. This knowledge gap is puzzling because most researchers agree that mothers' labor force participation decisions are linked to child care choices (Blau and Robins, 1988). Not only, therefore, is more research needed about unmarried mothers' child care choices, but additional research is also needed

about how child care choices differ across different types of female-headed families. As yet, no evidence has established how child care choices may differ according to the type of female-headed family. For example, choices for divorced mothers may differ from choices for never-married mothers because marriage expands the child care choice set to include spouses' kin. Presently, child care policies assume that all types of female-headed families demand more or less the same type of care; this research tests this assumption.

The aim of this study, therefore, is to investigate whether child care choices differ across female-headed families. Special focus is given to estimating the effects of kin, child support, prices, and earnings on female-headed families' demand for market child care. By examining the impact of these factors on different female-headed families' child care choices, a central part of the child care policy debate can become more informed.

First, the relevant child care literature is reviewed in section 2. Then, section 3 presents a model of maternal child care choice. Section 4 describes the data and details the methods. Section 5 reports results and section 6 draws some conclusions.

## II. BACKGROUND

Knowledge about unmarried women's child care demand has grown slower than knowledge about married women's child care demand. This disparity between the two bodies of knowledge is especially stark with respect to understanding how income and prices affect unmarried mothers' child care choices. Indeed, few studies report the effects of prices and income for unmarried mothers.

The first study to report child care price effects on single mothers' child care decisions was Munson et al.'s (1980). They reported results for the effects of child care subsidies on the labor supply of single mothers who were participating in the Seattle-Denver Income Maintenance Experiments (SIME-DIME). Although their findings were statistically insignificant, Munson et al.

reported that increases in child care subsidies were positively associated with increased use of market child care.[2]

Since the SIME-DIME experiments, few studies have analyzed the effects of income and prices on unmarried mothers' child care choices. However, in 1990, Berger and Black (1990) evaluated outcomes for participants of two Kentucky child care programs. Their evaluation study of low-income families found that single mothers receiving subsidized day care were more likely to be employed and were more satisfied with the care their children received.

Berger and Black's study produced two other findings related to low-income mothers' labor supply and child care mode choices. First, child care subsidies positively affected the labor supply of single mothers who worked part-time. Second, a sizable minority of those low-income mothers who received subsidies wanted to substitute informal child care for day care center provision.[3]

Alongside a lack of knowledge on the effects of child care prices is scant information on the importance of maternal income and sources of non-wage income to unmarried mothers' child care decisions. Yet, for policy purposes, understanding how a mother's ability to pay for child care services affects her child care choice is important.

Berger and Black found that maternal income did not affect single mothers' demand for child care. However, Henriques and Vaillancourt's study (1988), as well as Duncan and Hill's (1974), Robins and Spiegelman's (1978), and Yaeger's (1978) works, refutes this finding of Berger and Black (1990). When Henriques and Vaillancourt analyzed the child care choices of high- and low-income families, whether married or unmarried, they found that income was a significant factor in child care choice. Employing a probit analysis to examine choice between two categories of child care, they found that low-income families (who were eligible for child care subsidies) and high-income families were more likely to use day care centers than were middle-income families.[4]

Not only does this study possess data to test effects of maternal income, (like past studies have done), it also has sufficient data to test effects of non-wage income on the use of market child care. Few past studies have had this additional data that permits exploring how non-wage income affects unmarried mothers' child care choices. The studies that have been able to examine the effects of non-wage income--a pure income effect--have usually only focused on the effects of public transfers on mothers' child care choices.

This study's data, however, allow testing for effects of private and public sources of non-wage income on unmarried mothers' child care choices. Analyses explore whether receipt of child support and receipt of AFDC--sources of non-wage income--influence divorced and never-married mothers' child care choices, respectively. Present child support works analyze the determinants of child support payments (Garfinkel and McLanahan, 1986; Weiss and Willis, 1986), but hitherto, few studies have tested whether regular receipt of child support--a cash transfer--also changes the child care choices of divorced mothers.

Moreover, drawbacks in other data have prevented scholars from studying how the contribution of income from other household members affects unmarried mothers' demand for child care services. Angel and Tienda (1982) and Tienda and Glass (1985) at least examined how extended household structure alters the labor force participation of single mothers and the economic well-being of mother-only families. Their findings show that extended living arrangements affected the economic well-being of individuals in mother-only households. Because of data constraints, however, they could only conjecture about the extent of income pooling in single-mother families, and they could only theorize that income pooling in single-mother families should affect single mothers' child care decisions. This study, in contrast, tests whether income-pooling arrangements--which give mothers access to extra sources of private income--increase their demand for market child care.

Alongside the limited knowledge of unmarried mothers' demand for child care are few works examining the relationship between proximity of child care providers and mother-only families' child care demand and labor supply. Yet, many child care policies are predicated on issues of equity--like access to, and availability of, child care providers.

For married mothers, Leibowitz et al.'s (1988) results suggested that the availability of an unpaid caretaker permits women who have low earnings to participate in the labor force. Their findings parallel Floge's (1989) finding that unmarried mothers' employment and school attendance were affected by the availability of child care providers within the household. Further, Robins (1988) reported that when the relative size of child care centers within public housing projects was controlled, "conveniently located" child care facilities were significantly associated with increased earnings and with lower chances of labor force nonparticipation or welfare dependency. Brandon (1991) also reports an association between use of market child care and living in public housing projects in inner-city Chicago.[5]

So, despite heightened interest in the child care concerns of female-headed families, knowledge about the influences of prices and income, kin availability, maternal traits, and child support on these mothers' child care decisions is scant. Understanding how these factors affect demand, especially when they are analyzed by type of female-headed family, may translate into more-informed child care policy.

## III. THE MODEL

The analyses draw upon Becker's (1965), Gronau's (1977), and Brandon's (1991) insights into the allocation of time between market and nonmarket activities. Gronau's (1977) model is especially apt because it shows how changes in women's wage rates and changes in non-wage income affect their allocation of time among leisure, home production, and work.[6]

In particular, an economic model of time allocation within the household predicts that an increase in the price of market child care should decrease the demand for market child care.[7] Or, given that child care arrangements are in discrete categories,[8] an increase in the price of market child care will positively affect the odds of choosing market care. Also as the mother's shadow price of time increases, she will devote more time to the labor market. Hence, the odds that market care will be used should increase with increases in her shadow price of time.

Like Gronau's (1977) model, the model here also implies that as non-wage income increases, time in leisure can be substituted for time in either market work or home production. Hence, the model predicts that variations in the opportunity set that are due to changes in non-wage income could also affect child care choices. Hence, with no wage rate changes, the pure income effect leads both nonemployed and working mothers' reallocation of time to occur between leisure and home work. If additional leisure time is time taken away from producing child quality, then the possibility exists for mothers, whether nonemployed or working, to demand extra hours of non-maternal child care services.

Although the model cannot identify which part of non-wage income affects mothers' time allocation, the data can help adjudicate which elements of non-wage income affect mothers' child care use. Because income-pooling households are identified, and non-wage income sources are distinguished, analyses test effects of different sources of non-wage income on mothers' child care choices. The data therefore reveal which parts of non-wage income appear to confirm the economic model's propositions.

The model's predictions about effects of non-wage income are based on the simplifying assumption that sources of a mother's non-wage income--like child support payments--are components of her non-wage income. But if differences in the frequency of child support payments across female-headed households exist, some mothers' non-wage income may really only reflect either public

transfers or other assets; hence, noncustodial fathers' propensities to make regular child support payments may make this source of non-wage income unavailable and unpredictable.

Moreover, coresidents may add income to female-headed households' non-wage cash "kitties." Although this study cannot identify the level of cash contributions made by coresidents, it can identify whether other coresiding adults are pooling their incomes with unmarried mothers. Hence, the analyses test whether child care choices of unmarried mothers are affected by income pooling among household kin members.

An economic model, however, cannot explain all the variation observed in mothers' child care use patterns. For example the economic model's predictions cannot account for an important fact: not all families face the same prices for market child care arrangements. In fact, families face different prices, and demand different types of child care as their children develop, and as they have more children to care for (see Dawson and Cain, 1990). In addition, age structure among siblings will change mothers' demand for market child care services. As school-aged children are a potential source of informal child care, mothers are less likely to seek child care settings for their preschool children when their school-aged children can act as substitute care-givers (Walker, 1990).

Besides children's characteristics and numbers, kin networks may also cause the relative price of market child care to vary. For example, relatives nearby may affect the price of market care. Or coresident kin may lower the price of market care and may therefore increase the likelihood that the mother will choose market care.

Apart from familial characteristics, several maternal attributes are thought to affect child care choice. If mothers spend more hours working, are better educated, live in the South, or are black, then these characteristics should decrease the likelihood that she will use parental care (see Leibowitz et al., 1988).

## IV. DATA AND METHODS

The analyses use data from the National Longitudinal Study of the High School Class of 1972 (NLS'72). The NLS'72 is a national probability sample of over 22,000 people who were high school seniors in 1972. The study has followed the lives of its sample members as they have entered the job market, started college, and formed families. The fifth follow-up survey (1986), which provides the data for this study, was delivered to an unequal probability subsample of 14,489 of the original respondents (see Spencer et al., 1987).

The original sample was conditioned on respondents having attained the senior year of high school. As the survey therefore omitted the population that failed to attain the senior year of high school, the survey is not representative of the national population. This selection bias is a minor issue for white mothers in the sample because data from decennial censuses and Current Population Surveys (CPS) show that few whites fail to reach the senior year of high school (Jaynes and Williams, 1989). But the selection bias is a more serious issue for black mothers in the sample because data indicate that up to 45 percent of blacks can fail to reach the senior year of high school (Fine, 1986; Jaynes and Williams, 1989; Brandon, 1991).

Results reported herein, therefore, pertain only to that subset of the population who reached their senior year in this grade cohort, and the conclusions cannot be generalized to those populations that failed to reach their senior year of high school (Jaynes and Williams, 1989).

Despite their limited generalizability, the fifth follow-up data have several strengths. First, because they contain information on child care use, incidence and costs, kin proximity, and familial income pooling, they are well suited for analyzing the importance of the extended family for the child care choices of unmarried mothers. Second, the data include nonemployed women who use market child care; this allows for increased confidence in estimated effects because child care decisions are not censored by employment status.[9] Past studies of child care demand and female labor supply have

lacked this rarer population of child care users and therefore have had to make sample selection corrections to estimated parameters (Heckman, 1979). Hence, these data obviate the need for correcting for censoring by employment status (see Hotz and Kilburn, 1991). And third, these data identify families' sources of income and pinpoint families' county and zipcode locations up until 1980. Few other surveys permit researchers to append individual-level information to county-level data. With these added features, models of child care choice can identify income sources affecting child care demand and can identify county-level variables that can affect the supply of market care.

The fifth follow-up data contain 6,139 females. Of them, a subsample of 4,281 mothers said they use child care. However, only 4,021 of these mothers (93.9 percent) specified the form of child care used. The other 260 nonrespondents gave no information about their child care use. Further data explorations found that of these 4,021 mothers, 1,458 (36.2 percent) rely only on parental child care. Another 2,563 (63.8 percent) use some form of market child care.

For the purposes here, 736 mothers (18.3 percent of the sample) were either unmarried or not living in a "marriage-like" relationship at the time of the survey. Because of missing data, the size of this subsample is further reduced to 465 unmarried mothers. This final subsample consists of 206 (44 percent) divorced mothers, 110 (24 percent) separated mothers, and 149 (32 percent) never-married mothers.

As the data only contain information on the child care type chosen, ordinary least squares (OLS) were used to predict child care prices for competing types of child care modes. OLS was used instead of taking the modal regional price for each child care mode as a representation of the market price of child care. (Estimates of the market price are available upon request.)

Table 1 defines the variables used in the empirical work. Patterns in the child care data are presented in tables 2, 3, and 4. Table 2 contains the weighted means and standard deviations of the variables that are included in the logistic models of child care choice. As table 2 shows, the

**TABLE 1**

**Definition of Variables Used to Estimate Determinants of Market Child Care Use among Female-Headed Households**

| Variable | Definition |
|---|---|
| Amicable | 1 if divorce considered amicable, 0 otherwise |
| Black | 1 if black, 0 otherwise |
| Blue-collar worker | 1 if works in blue-collar job, 0 otherwise |
| Child support | 1 if regularly receives child support |
| Children both ages | 1 if children preschool-aged and school-aged, 0 otherwise |
| Coresident kin | 1 if lives with kin, 0 otherwise |
| Education | Years of education |
| Hours worked/week | Hours worked in the labor market |
| Joint legal custody | 1 if major child rearing decisions still joint, 0 otherwise |
| Joint physical custody | 1 if child custody agreement includes shared physical custody, 0 otherwise |
| Market care | 1 if only use market care, 0 otherwise |
| Midwest | 1 if lives in Midwest, 0 otherwise |
| Mother close by | 1 if female head's mother is close by, 0 otherwise |
| Northeast | 1 if lives in Northeast, 0 otherwise |
| Not remarried | 1 if father not remarried, 0 otherwise |
| Number of children | Total number of children in household |
| Only preschoolers | 1 if children all less than or 6 years old, 0 otherwise |
| Own income | Respondent's 1985 income ($000) |
| Pay child health costs | 1 if father pays for dental and medical expenses beyond child support, 0 otherwise |
| Pooling | 1 if coresident kin pool their income |
| Price of child care | Predicted hourly price of child care ($) |
| Price of time | Mother's predicted price of time (log) |
| Same state | 1 if children's father lives in same state, 0 otherwise |
| Same town | 1 if children's father lives in same town, 0 otherwise |
| South | 1 if lives in South, 0 otherwise |
| Visit children | 1 if visit as agreed upon or more often, 0 otherwise |
| Welfare | 1 if has received AFDC in last 12 months |
| West | 1 if lives in West, 0 otherwise |
| Work experience | Years of full-time work for pay |

**TABLE 2**
**Means and Standard Deviations of Variables for Modeling Determinants of Market Child Care Use (Full Sample and by Female-Headship Type)**

| | All Female Heads | Divorced Female Heads | Separated Female Heads | Never-Married Female Heads |
|---|---|---|---|---|
| Dependent Variable | | | | |
| Market care | 0.77 | 0.82 | 0.81 | 0.69 |
| | (0.41) | (0.38) | (0.39) | (0.46) |
| Predictor Variables | | | | |
| Coresident kin | 0.29 | 0.18 | 0.24 | 0.48 |
| | (0.45) | (0.38) | (0.43) | (0.50) |
| Mother close by | 0.56 | 0.54 | 0.39 | 0.71 |
| | (0.49) | (0.49) | (0.49) | (0.45) |
| Black | 0.35 | 0.12 | 0.27 | 0.74 |
| | (0.47) | (0.33) | (0.44) | (0.44) |
| Work experience | 6.12 | 6.30 | 5.8 | 6.04 |
| | (3.54) | (3.48) | (3.48) | (3.66) |
| Number of children | 1.68 | 1.70 | 2.06 | 1.39 |
| | (0.83) | (0.79) | (0.92) | (0.71) |
| Children both ages | 0.15 | 0.11 | 0.32 | 0.11 |
| | (0.36) | (0.31) | (0.47) | (0.31) |
| Only preschoolers | 0.19 | 0.12 | 0.20 | 0.29 |
| | (0.39) | (0.33) | (0.40) | (0.45) |
| South | 0.34 | 0.38 | 0.35 | 0.28 |
| | (0.47) | (0.48) | (0.48) | (0.45) |
| West | 0.12 | 0.15 | 0.11 | 0.08 |
| | (0.33) | (0.36) | (0.31) | (0.28) |
| Northeast | 0.17 | 0.16 | 0.25 | 0.13 |
| | (0.33) | (0.37) | (0.43) | (0.34) |
| Blue-collar worker | 0.25 | 0.29 | 0.26 | 0.21 |
| | (0.43) | (0.45) | (0.44) | (0.40) |
| Education | 13.55 | 13.52 | 13.60 | 13.5 |
| | (1.75) | (1.82) | (1.86) | (1.59) |
| Hours worked/week | 31.83 | 34.64 | 27.03 | 30.9 |
| | (17.18) | (15.71) | (19.44) | (16.91) |
| Price of time (log) | 1.86 | 1.91 | 1.78 | 1.84 |
| | (0.62) | (0.67) | (0.62) | (0.52) |
| Price of child care ($) | 5.74 | 4.26 | 6.15 | 7.64 |
| | (3.83) | (3.18) | (3.78) | (3.84) |
| Own income | 11.905 | 13.370 | 10.10 | 10.97 |
| | (8.44) | (8.60) | (9.40) | (7.09) |
| Pooling | 0.11 | 0.03 | 0.02 | 0.28 |
| | (0.31) | (0.17) | (0.13) | (0.45) |
| Child support | 0.20 | 0.31 | 0.18 | 0.05 |
| | (0.40) | (0.46) | (0.39) | (0.22) |
| Welfare | 0.14 | 0.11 | 0.16 | 0.17 |
| | (0.34) | (0.31) | (0.37) | (0.37) |
| N | 465 | 206 | 110 | 149 |

**Source**: National Longitudinal Study of the High School Class of 1972, fifth follow-up survey (1986).

dependent variable is binary. Two types of child care are distinguished: parental care and market care.[10]

## V. RESULTS AND DISCUSSION

The empirical work describing the child care choices among unmarried mothers is still limited. The following set of descriptive statistics, cross-classified by type of female headship, and reduced-form logistic regressions,[11] repeated on the full sample and subsamples of female-headed families, attempts to expand what has been done.

Table 2 demonstrates differences in child care use by female-headship. Never-married mothers are less likely than mothers in other female-headed families to use market child care, to live in the South, and to work in a blue-collar job. But never-married mothers are more likely to have coresident kin, to have their own mothers close by, to be black, to live in income-pooling households, and to pay more for child care. Separate analyses (not reported in table 2) also showed that child care expenditures for divorced and separated mothers consumed a larger proportion of family income (19.6 percent and 19.2 percent, respectively) than did child care expenditures for never-married mothers (14.5 percent).

### Economic Factors and Unmarried Mothers' Child Care Choices

Debate continues over how important child care price effects are for mothers' child care choices. The controversy is partly fueled by the inability of studies to identify local conditions that may affect the local price of child care. Using county-level data, analyses here address this weakness by generating price variation across local child care markets. Hence, the models can examine how prices and income affect unmarried mothers' child care choices.

When the sample is left unstratified by female-headship type, child care price effects are in the expected direction and significant (table 3). But, when the sample is stratified by female-headship type, except for divorced mothers, child care price effects are insignificant (table 4). These results in table 4 suggest that insignificant price effects on separated and never-married mothers' demand for child care are due to smaller sample sizes, or from measurement error (i.e., the predicted child care prices still fail to capture local child care market conditions). Nevertheless, from table 3 the computed price elasticity is -0.128. It shows that for a 10 percent increase in the price of child care, the predicted probability of unmarried mothers using market child care decreases by about 1.3 percent.[12]

In contrast to the significant child care price effects for the full sample, tables 3 and 4 show that in the full sample and in the subsamples of divorced and separated mothers, increases in the values of mothers' time do not influence the use of market child care. The analyses do reveal, however, price of time effects for never-married mothers; as the value of a never-married mother's time decreases, the odds that she will use market child care increase. These price of time results fail to support Becker's (1965), Gronau's (1977), and Brandon's (1991) models, which claim that as the opportunity cost of child care increases, mothers are more likely to choose market child care. So, while these data cannot show how variations in unmarried mothers' own opportunity costs affect their child care choice, they do indicate that variation in the price of market child care affects divorced mothers' demand for market child care.

Because maternal price of time also varies across occupations, analyses also test whether occupational characteristics independently influence female-headed families' child care choices. Tables 3 and 4 show the results of this investigation. Mothers' occupational characteristics are indeed important predictors of child care choice. In both the full sample and the subsample of divorced mothers, mothers in blue-collar jobs are more likely to rely exclusively upon parental care. Features

**TABLE 3**

**Determinants of Market Child Care Use: Full Sample of Female Heads**

| | Coefficient | Standard Error |
|---|---|---|
| Intercept | -0.26 | 0.34 |
| Coresident kin | -0.39 | 0.33 |
| Black | 1.00* | 0.58 |
| Work experience | 0.11*** | 0.05 |
| Number of children | 0.17 | 0.20 |
| Children both ages | 0.71* | 0.43 |
| Only preschoolers | 0.68* | 0.42 |
| South | 0.77** | 0.36 |
| West | 1.24*** | 0.51 |
| Northeast | 0.77* | 0.42 |
| Blue-collar worker | -0.69** | 0.32 |
| Education | -0.006 | 0.09 |
| Hours worked/week | 0.04*** | 0.01 |
| Price of time (log) | 0.10 | 0.27 |
| Price of child care ($) | -0.194*** | 0.07 |
| Own income | 0.04 | 0.03 |
| Pooling | -0.91* | 0.52 |
| Child support | 0.51 | 0.42 |
| Welfare | -0.74* | 0.41 |
| Mother close by | -0.25 | 0.34 |
| N | 465 | |
| Log likelihood | -172.64 | |

**Source**: Author's calculations based on National Longitudinal Study of the High School Class of 1972, fifth follow-up survey (1986).

**TABLE 4**
**Determinants of Market Child Care Use by Type of Female Headship**

| | Divorced Female Heads | Separated Female Heads | Never-Married Female Heads |
|---|---|---|---|
| Intercept | 1.84 | 0.65 | -4.53 |
| | (2.86) | (3.53) | (3.81) |
| Coresident kin | -0.40 | 0.18 | -1.12 |
| | (0.61) | (0.72) | (0.93) |
| Black | 2.64** | 1.36 | -0.61 |
| | (1.25) | (1.49) | (1.41) |
| Work experience | -0.03 | 0.05 | 0.25** |
| | (0.09) | (0.10) | (0.11) |
| Number of children | 0.08 | -0.44 | 0.32 |
| | (0.34) | (0.37) | (0.52) |
| Children both ages | 0.32 | 0.38 | 2.04 |
| | (0.77) | (0.85) | (1.27) |
| Only preschoolers | -0.83 | 0.45 | 1.31 |
| | (0.73) | (1.09) | (0.98) |
| South | 0.94 | 0.25 | 0.92 |
| | (0.63) | (0.87) | (0.79) |
| West | 1.28 | 1.75 | 1.58 |
| | (0.82) | (1.51) | (1.20) |
| Northeast | 0.18 | -0.61 | 3.00** |
| | (0.64) | (1.02) | (1.45) |
| Blue-collar worker | -1.04** | -1.01 | -0.25 |
| | (0.53) | (0.76) | (0.78) |
| Education | -0.19 | -0.04 | 0.45* |
| | (0.16) | (0.21) | (0.25) |
| Hours worked/week | 0.05*** | 0.03 | 0.05*** |
| | (0.01) | (0.02) | (0.02) |
| Price of time (log) | 0.35 | 1.12 | -1.11* |
| | (0.51) | (0.72) | (0.68) |
| Price of child care ($) | -0.32*** | -0.09 | -0.19 |
| | (0.12) | (0.16) | (0.13) |
| Own income | 0.09** | 0.05 | 0.05 |
| | (0.04) | (0.06) | (0.07) |
| Pooling | -1.08 | -0.34 | -0.02 |
| | (1.31) | (2.40) | (1.01) |
| Child support | 1.04* | -0.54 | N/A |
| | (0.62) | (0.96) | |
| Welfare | 0.12 | -0.006 | -2.61*** |
| | (0.71) | (1.06) | (1.02) |
| Mother close by | -0.02 | -1.37 | -0.42 |
| | (0.55) | (0.74) | (0.93) |
| N | 206 | 110 | 149 |
| Log likelihood | -64.51 | -38.29 | -41.12 |

**Source:** Author's calculations based on National Longitudinal Study of the High School Class of 1972, fifth follow-up survey (1986).

associated with blue-collar jobs, like shift work or staggered hours, may enable unmarried working mothers to care for their children. Presser (1986) has documented that shift-working mothers are usually blue-collar workers and that they share child care with their kin.

Besides reporting time and child care price effects, the results in tables 3 and 4 indicate that only the incomes of divorced mothers significantly affect child care choices. When their own incomes increase, the odds increase that market child care services are chosen over parental care. For divorced mothers, a 10 percent increase in their own incomes increases the predicted probability of using market child care by about 0.61 percent. Given results suggesting that separated and never-married mothers' own ability to pay for child care--measured by their earnings--is not critical to their child care use, the models sought to identify whether other sources of income are important.

The significant "own income" coefficient for the subsample of divorced mothers supports past studies that found that mothers' own abilities to pay are crucial to child care choice. But some of those studies, which focused upon mothers' abilities to pay, also left untested whether other sources of income affect mothers' child care use (Duncan and Hill, 1974; Lave and Angrist, 1975; Robins and Spiegelman, 1978; Leibowitz et al., 1988; Blau and Robins, 1988).

These studies had either insufficient data or data that did not permit distinguishing mothers' earnings from other sources of income. Such other sources of income include child support, income that coresident kin pool with mothers, and public transfers. But, the fifth follow-up survey did distinguish additional sources of income. This feature of the survey is exploited so that effects of regular child support payments on divorced and separated mothers' choices can be tested; so that effects of welfare payments on never-married mothers' choices can be examined; and so that effects of the pooling of incomes among coresidents on unmarried mothers' child care choices can be explored.

Table 3 shows the results of these investigations. Income pooling among mothers and coresident kin and receipt of welfare--two of the three additional sources of non-maternal income--are found to significantly affect child care choice. Child support payments, however, do not have a significant effect on the full sample of unmarried mothers. But, when the full sample is stratified by female-headship type, results then show that divorced mothers' child care use is sensitive to regular payments of child support. If regular child support is received, the predicted probability of using market child care increases by about 8 percentage points.

Subsequent cross-tabulations (see table 5) show that noncustodial fathers' payments of regular child support are strongly associated with their proximity, the nature of the divorce, and their other involvement with their children. Those noncustodial fathers who pay regular child support are more likely to live closer to their children, share physical custody, uphold visitation agreements, contribute additional monies to their children's upkeep, and still be single. (Their children are much less likely to live in the South, have a black mother, live with kin, and receive only parental child care.) These findings comport with Weiss and Willis's (1986) and Lazear and Michael's (1988) arguments that the payment of child support is tied to fathers' abilities to monitor how mothers spend these fungible cash transfers.

Furthermore, receipt of welfare for never-married mothers indicates that they are less likely to use market child care. So, whereas child support is an additional source of income that divorced mothers can use for the purchase of market child care, welfare receipt does not appear to be an additional source of income that never-married mothers can use for the purchase of market child care but an indicator of their weak labor force attachment.

The other important result in table 3 relates to the correlation between intrafamily income pooling and child care choice. Analyses suggest that income pooling among mothers and coresident kin has an impact on child care choice. This result supports the argument that child care is a

## TABLE 5

**Characteristics of Divorced Female-Headed Households and Noncustodial Fathers, by Regularity of Child Support Payment**

| | Noncustodial Father Pays Child Support Regularly | Noncustodial Father Does Not Pay Child Support Regularly |
|---|---|---|
| Characteristics of Divorced Female-Headed Households | | |
| Coresident kin | 0.151 | 0.192 |
| Mother close by | 0.514 | 0.552 |
| Black | 0.091 | 0.138 |
| Work experience | 6.05 | 6.42 |
| Number of children | 1.73 | 1.69 |
| Children both ages | 0.112 | 0.107 |
| Only preschoolers | 0.161 | 0.113 |
| South | 0.285 | 0.423 |
| West | 0.126 | 0.173 |
| Northeast | 0.254 | 0.128 |
| Blue-collar worker | 0.257 | 0.310 |
| Education | 14.43 | 13.10 |
| Hours worked/week | 37.23 | 33.45 |
| Price of time (log) | 2.05 | 1.84 |
| Price of child care ($) | 4.37 | 4.21 |
| Own income | 13.82 | 13.16 |
| Market care | 0.888 | 0.788 |
| Characteristics of Noncustodial Fathers | | |
| Same town | 0.471 | .301 |
| Same state | 0.783 | .510 |
| Amicable | 0.175 | .317 |
| Not remarried | 0.475 | .555 |
| Joint physical custody | 0.059 | .035 |
| Visit children | 0.744 | .351 |
| Joint legal custody | 0.194 | .761 |
| Pay child health costs | 0.794 | .429 |
| N | 75 | 131 |

**Source**: National Longitudinal Study of the High School Class of 1972, fifth follow-up survey (1986).

collective good within families (Brandon, 1991).[13] Unmarried mothers may be the sole demanders of child care, particularly when they are the only household members employed, but live-in kin also seem to contribute to the provision of child care either through money, time, or combinations of both.

From these analyses,[14] the availability of coresident kin, who could provide child care and thereby lower the effective price, appears less important to unmarried mothers' child care choices than is their willingness to pool income; these income-pooling, live-in kin make additional funds accessible to unmarried mothers to buy household consumption goods--like market child care. If these older mothers substitute their earnings for time spent in child care, recently stated concerns that the reentry of older mothers into the labor force leaves female-headed families with fewer child care options could be exaggerated.

The results suggest that care giving is a collective consumption good within female-headed households. Whether supplemental, non-maternal income is available for its consumption depends upon two things: (1) the underlying household financial arrangements among mothers and coresident kin and (2) the nature of child support agreements among mothers and noncustodial fathers. Compliance with these implicit and explicit contracts funnels additional sources of income into household cash "kitties," thereby making extra resources available for purchasing child care services. Unless studies control for the financial structures that underlie household consumption decisions and the allocation of resources, present models of child care choice may be misspecified and the estimated effects of mothers' income on child care choices may be biased.

Tables 3 and 4 contain other findings that complete the portrayal of factors affecting unmarried mothers' child care use. Divorced and never-married mothers' levels of attachment to the labor force (i.e., hours worked) are important to child care choice. Further, parameter estimates for never-married mothers' educational levels further support the finding of Leibowitz et al. (1988) that increases in educational levels lead mothers to choose market child care services. Moreover this

study found, again like Leibowitz et al. (1988), that if mothers have only preschool-aged children, they are more likely to choose market care. Unmarried mothers in this sample, like their married peers, appear to choose age-appropriate child care.

Finally, results show that the southern regional effect significantly increases mothers' use of market child care in the full sample. This effect reflects the belief that the South has more low-cost, center-based child care (Leibowitz et al., 1988). This strong effect dissipates in the subsamples, however.

## VI. SUMMARY

Little is known about the child care needs of female-headed families. Policymakers know that these families need child care assistance, but building a coherent set of policies requires knowledge of their demand for market child care and an understanding of how this demand differs by type of female headship.

Although sample sizes limit conclusions, the demand for market child care does differ by type of female headship. Divorced mothers' demand for market care, compared to separated and never-married mothers' demands for market care, is sensitive to variations in child care price and income. Receiving child support also matters to divorced mothers.

Moreover, to fully understand the impact of kin on mothers' demand for market child care requires more than just controlling for their presence. What is needed is more research that investigates this study's notion that child care within female-headed families is a collective consumption good. Depending upon their relative opportunities, members contribute the optimal quantities of time and money to its provision.

Because this is a cross-sectional snapshot of female-headed families' child care choices, little can be said about the child care arrangements of separated mothers who now head their own families.

Possibly, separated mothers making the transition from marriage to unmarried motherhood are still having to reorder family ties, revise work schedules, and review child care arrangements. (The latter may require updating information about the existing child care market.) Analyses cannot pick up these dynamic states which divorced mothers have already experienced and, by definition, never-married mothers have experienced differently.

## Notes

[1]See Garfinkel and McLanahan (1986), Smith (1989), and Bane and Ellwood (1986).

[2]Imprecise price measures and contaminated control groups were factors that compromised reported results.

[3]Berger and Black's study suggests that child care costs affect single mothers' child care choices. But because their sample was not a random sample of the entire population the results are not generalizable. However, other surveys of low-income working women buttress Berger and Black's second result. The Survey of Income and Program Participation (SIPP), for instance, has found that women on AFDC are more likely to use care by relatives than are women who have never been on AFDC and are much less likely to use day care centers.

[4]These researchers found that sociodemographic factors influenced child care choice, too. Older women or more-educated women were likely to use day care centers. As well, mothers' hours of work, age of children, family size, and regional variables were determinants of market child care arrangements.

[5]Both Brandon's (1991) and Robins's (1988) studies suggest that child care availability impacts upon low-income mothers' child care choices and labor market entry costs, respectively. However, if child care centers in housing projects are systematically related to features of families residing in those projects, then estimated "convenience" effects for child care centers are upwardly biased.

[6]Several assumptions strengthen the model, including mothers are the primary child care givers; prices are exogenously determined; and the number of children is exogenous to the production of child quality. (See Brandon [1991] for a discussion of time allocation models and child care choices.)

[7]Assuming child care goods are substitutes--which the empirical literature suggests they are.

[8]As child care is a heterogeneous good, mothers are assumed to choose a child care type that has the mix of attributes that yields the greatest welfare.

[9]Other comparable child care data (e.g., SIPP and NLSY) ask child care questions only of working women.

[10]Multiple child care arrangements are observed in the data. But analyses are restricted to parental versus market child care arrangements. Parental child care is an arrangement where mothers use themselves or spouses for child care.

[11]The coefficients are interpreted as the effects of the predictor variables on the odds of using market child care relative to parental child care.

[12]The predicted probabilities and income and price elasticities are calculated at the sample means of all variables. I use sample means because they represent the typical family in my sample (Blau and Robins, 1988; Maddala, 1983). The predicted probabilities of using market child care services were 94 percent, 90 percent, and 84 percent for divorced, separated, and never-married mothers, respectively.

[13]Lazear and Michael (1988) show that intrafamily resource-allocation schemes affect the level of income available for goods and services that are jointly consumed by family members. Because past studies of the demand for child care did not have the benefit of Lazear and Michael's (1988) illustrations of the differences in intrafamily resource allocation, they could not consider how such financial structures affected unmarried mothers' child care choices.

[14]See the coefficients in tables 3 and 4 for "Coresident kin" and "Mother close by."

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