This research employs the household economics approach to study the effects of maternal employment and substitute child care on the social behavior of a national sample of 4- and 5-year-old children. Mothers from the National Longitudinal Survey's youth cohort were asked to rate their child's social behavior using items from the Behavioral Problems Index. The household economics approach predicts that behavioral outcomes for children of employed mothers will differ from those of children whose mothers were not employed to the extent that the substitution of market goods and services for nonmarket goods and services is imperfect. The study tests three hypotheses analyzing the interactions of family income and emotional support level with indicators of maternal employment and use of substitute child care. In general, the findings do not support the contention that maternal employment is associated with negative behavioral outcomes for young children. The findings of this and related studies suggest redirecting the research agenda on maternal employment and families to include analyses of the beneficial aspects of maternal employment for child well-being and to develop policies designed to promote the well-being of children with employed parents.

Maternal Employment and Child Behavioral Outcomes

A Household Economics Analysis*

THEODORE N. GREENSTEIN
North Carolina State University

The past two decades have seen a phenomenal rise in the number of two-earner and single-parent households in the United States, with corresponding increases in the labor force participation rates of women with infants and young children. As recently as 1975 most married-couple families with children were characterized by an employed father and a

This research was funded in part by the Faculty Research and Professional Development Fund of North Carolina State University. The data for the National Longitudinal Surveys of Labor Market Experience of Youth were originally collected by the U.S. Bureau of the Census and the Center for Human Resource Research, Ohio State University. Maxine P. Atkinson, Barbara J. Risman, Donald Tomaskovic-Devey, and Catherine Zimmer all made valuable suggestions concerning earlier drafts of this manuscript. The analyses and interpretations presented here are those of the author. A preliminary version of this manuscript was presented at the 1991 meetings of the American Sociological Association. Correspondence concerning this manuscript should be addressed to Theodore N. Greenstein, Department of Sociology and Anthropology, North Carolina State University, Raleigh, NC 27695-8107.

JOURNAL OF FAMILY ISSUES, Vol. 14 No. 3, September 1993 323-354

full-time homemaking mother. By 1990, fewer than one third of such households fit the definition of the so-called traditional family (U.S. Bureau of the Census, 1991a). Until the passage of the Family and Medical Leave Act of 1993, the United States was the only major industrialized nation without a national policy on parental leave (Stipek & McCroskey, 1989). As a result, most new mothers have returned to the labor force relatively quickly; in 1988 over one half of all women with infants were in the paid labor force.

Psychologists, sociologists, economists, and other behavioral scientists have stormed into this politically charged arena with dozens of studies evaluating the potential effects of maternal employment and substitute child care on child well-being. Reviews of this burgeoning body of literature (e.g., Belsky, 1988; Clarke-Stewart, 1989; Hoffman, 1989; Scarr, Phillips, & McCartney, 1989; Thompson, 1991) suggest that there is a considerable amount of disagreement among scholars. For example, some (most notably Belsky, 1988) have suggested that full-time nonparental care places infants at considerable risk. Others (Clarke-Stewart, 1988, 1989; Phillips, McCartney, Scarr, & Howes, 1987; Scarr et al., 1989)—often reviewing the same studies—do not reach such a conclusion.

Although ideology undoubtedly clouds one's interpretations of this literature, I would like to agree with Silverstein (1991) when she suggests that "two decades of exhaustive research . . . has failed to document consistent (i.e., replicable across several studies) meaningful negative findings" (p. 1025) of the effects of maternal employment and substitute child care on child well-being. Unfortunately, the reality probably lies somewhere between the two extremes: Although maternal employment and substitute child care certainly are not uniformly detrimental to child well-being, neither is it likely that they are uniformly beneficial. If there *are* negative effects of maternal employment and substitute child care on child well-being, knowledge of the conditions under which such effects occur can be a crucial first step in the development of programs and policies (for example, programs to promote high-quality, affordable child care, parental leave programs, flexible work scheduling, and telecommuting, to name a few possibilities) designed to ameliorate the problem. Similarly, persuasive evidence of positive effects of maternal employment and substitute care would help policymakers to focus on those aspects of maternal employment and substitute child care that promote child well-being. As scientists, we have the obligation to thoroughly investigate the full scope of the phenomenon. Premature closure on the debate is not

likely to produce a complete or systematic understanding of the factors that affect child outcomes.

The present study focuses on the social behavior of 1,657 children 4 and 5 years of age. The sample is provided by the children born to a national probability sample of 5,828 American women who were 14 to 21 years of age when first interviewed in 1979 for the National Longitudinal Survey of Work Experience of Youth (Baker & Mott, 1989).

RELEVANT LITERATURE

There have been recent and extensive reviews of the literature on the effects of maternal employment and of substitute child care during infancy on the social development of the child (Clarke-Stewart, 1989; Hoffman, 1989; Scarr et al., 1989; Thompson, 1991), so they will not be reviewed here in detail. There have also been several large-scale secondary analyses of the effects of maternal employment on cognitive skills (Desai, Chase-Lansdale, & Michael, 1989), on the child's home environment (Menaghan & Parcel, 1991), of maternal working conditions on child behavior problems (Rogers, Parcel, & Menaghan, 1991), on children's adjustment (Belsky & Eggebeen, 1991), and on both cognitive and behavioral outcomes (Baydar & Brooks-Gunn, 1991; Mott, 1991) using the NLSY data set employed in the present research. These last three studies are most similar to the present research and are discussed at length below.

Mott (1991) examined effects of nonmaternal care on a sample of 1 to 4 year olds from the NLSY. Summarizing his analyses of effects on the Memory for Location and Motor and Social Development instruments, Mott concluded that "extensive use of infant nonmaternal care did not either substantially enhance nor negatively influence subsequent scores on these child development measures" (p. 147). His analyses of effects on the Peabody Picture Vocabulary Test, however, suggested that children cared for outside the home or by nonrelatives had significantly higher scores—that is, that more formal child-care arrangements during infancy may enhance cognitive abilities, especially among healthy female infants. Male infants, on the other hand, did not exhibit effects of care arrangement on this cognitive dimension.

Baydar and Brooks-Gunn (1991) studied cognitive and behavioral outcomes for children who were 3 to 4 years of age at the 1986 child assessment of the NLSY using the same dependent variable (Behavioral

Problems Index score) used here. Although they interpret their results to suggest that maternal employment during infancy (operationalized as being employed for 1 hour or more during the child's first year) had detrimental effects of behavioral outcomes, their analyses do not show a significant effect of maternal employment during infancy when subsequent employment is entered into the model. Further, their analyses show no significant effects of intensity of employment during infancy on behavioral outcomes. A major problem with Baydar and Brooks-Gunn's analyses of behavioral outcomes is that their samples are relatively small; their data on children of employed and nonemployed mothers analyze a sample of 283 four-year-old children, and their analysis of children of employed mothers includes only 125 children.

Belsky and Eggebeen (1991) studied 1,248 two- to six-year-old children from the NLSY. Their findings suggest that children whose mothers were employed during infancy had significantly lower compliance scores than did other children. Several writers have been highly critical of Belsky and Eggebeen's conclusions, however. Scarr (1991), for example, noted that the maternal employment groups studied by Belsky and Eggebeen (1991) were not comparable and that, consequently, the differences in child outcomes may be attributable to preexisting differences between the mothers. Vandell (1991) noted four serious methodological problems in Belsky and Eggebeen's (1991) analysis, including a lack of control for concurrent maternal employment, interpretation of regression effects from models in which the overall R^2 is not significant, and inadequate tests of interaction effects. And McCartney and Rosenthal (1991) pointed out that, in any case, Belsky and Eggebeen's (1991) observed effects of maternal employment on child outcomes were relatively weak.

The current study addresses these and other methodological problems through a variety of techniques. First, by pooling the 4- and 5-year-old children from both the 1986 and 1988 NLSY Child Supplements, the sample size is effectively doubled over comparable samples from Belsky and Eggebeen (1991), Baydar and Brooks-Gunn (1991), or Mott (1991). Second, the creation of arbitrary groups of children based on maternal employment characteristics has been avoided; in this analysis, all children are included, and the maternal employment characteristics are treated as explanatory variables. Third, a measure of concurrent maternal employment is included in the models. Fourth, the interpretations of effects are based on models in which the model R^2 are significantly greater than zero. Fifth, extensive tests were conducted for the hypothesized interaction effects. Finally, attention is given not only to the level of statistical significance of the effects but also to the strengths of those effects.

CONCEPTUAL RATIONALE

If maternal employment has effects on a child's social behavior, how might these effects be mediated? To understand the processes involved, a framework that has come to be known as "household economics" (sometimes referred to as the "new home economics"; see Berk & Berk, 1983) has been adopted for this study. Based on neoclassical microeconomics, this framework assumes that families and households attempt to maximize utility—that is, they attempt to seek the highest possible level of well-being. The major constraints on this maximization of utility are (a) the financial resources (principally wages) available to the family and (b) the amount of time available. From the standpoint of household economics, the analysis of household production is centered on problems of allocation: allocation of household members' financial resources and allocation of household members' time.

Decisions involving the employment of mothers invariably implicate these two constraints. Many sources of family well-being cannot be directly purchased in the market: They must be produced (the production of "household commodities") by combining family members' time with goods purchased in the market with financial resources obtained through the market labor of family members. For example, although parents can decide to purchase a computer (i.e., an allocation of financial resources) to enhance their child's cognitive development, they must also allocate their time to helping the child learn to use the computer. A major decision faced by parents debating the issue of the mother's employment revolves around these allocation issues: Is the family's well-being maximized by increasing financial resources available to the family (i.e., with the mother's entering the paid labor force and using the increased financial resources to purchase market goods and services through which the well-being of the family might be enhanced) or by the mother's remaining out of the labor force and investing her time directly in the production of nonmarket goods and services for family consumption?

The use of market child care is a good example of this phenomenon. As the earnings of the mother increase, it will be increasingly advantageous for the family to purchase goods and services in the market, rather than depend on the mother to allocate her time (which otherwise might be invested in the workplace, earning wages) to their production. Thus the family may decide that their well-being is enhanced if the mother enters the paid labor force and they purchase market child care with the increased financial resources provided by the mother's wages; the cost of the mother's allocating her time has increased to the point where the family can

maximize their utility by allocating the mother's time in the market rather than in the production of household commodities—in this case, child-care services. It is also reasonable to expect that family members will generally attempt to shift away from labor-intensive to goods-intensive techniques of household production and from nonmarket to market goods and services: for example, more meals consumed outside the home, more ready-to-serve meals, greater consumption of market laundry, housecleaning, yard care services, and so on.

Within the framework of household economics, there are at least three mechanisms through which maternal employment might produce variations in the social development of young children. Perhaps the most obvious are the possible effects of *substitute forms of child care* during the first year of life (for reviews of this literature see Belsky, 1990; Clarke-Stewart, 1989; Scarr et al., 1989; Thompson, 1991). When mothers enter the paid labor force, a substitution of market services (for example, market child care) for household services (parental—usually maternal—child care) typically takes place. It has been suggested that alternate forms of care—particularly when these alternate forms are of low quality (Howes, 1990; Phillips, McCartney, Scarr, & Howes, 1987)—may be responsible for impairing social development or creating undesirable behavior such as aggression and noncompliance. In other words, the substitution of market care for home care may produce undesirable child outcomes when that substitution is imperfect.

Second, it has also been suggested that the *amount of time the mother is away from the child* may be a crucial factor affecting social development and the quality of the child's family environment in at least two ways. Belsky (1988) for example, has argued that "some nonmaternal care arrangements in the first year for more than 20 hours per week may be a risk factor in the emergence of developmental difficulties" (p. 235). Research has also found that parents "working long hours are likely to have higher levels of work/family conflict and strain" (Voydanoff, 1987, p. 62).

The research by developmental psychologists and others in this area has centered on effects on emotional insecurity and on sociability and aggression. The literature on the emotional insecurity of children cared for in nonmaternal settings has been the focus of a hotly contested debate. Many researchers using Ainsworth's Strange Situation (Ainsworth, Blehar, Waters, & Wall, 1978) have found that infants of full-time employed mothers are more likely to be classified as insecurely attached than are infants of nonemployed mothers or mothers working part-time (see Belsky, 1988, Thompson, 1991, for reviews; see Clarke-Stewart, 1989 for

a critique and meta-analysis). In this context, the issue of insecure attachment is seen as problematic because attachment theory (Ainsworth, 1973; Bowlby, 1969, 1973) suggests that

> children with insecure-avoidant attachments to their primary caregivers could be expected to be at heightened risk for experiencing difficulties in social relations with others, and these difficulties might well take the form of heightened aggressiveness and lessened compliance and cooperation, particularly with adults. (Belsky, 1988, p. 237)

Many clinical studies do indicate that children who had nonmaternal care experiences as infants tend to be less compliant with their parents and more aggressive with their peers (e.g., Haskins, 1985; Vaughn, Deane, & Waters, 1985). Clarke-Stewart (1989), however, suggests that these findings may simply reflect the fact that children in substitute care arrangements

> think for themselves and that they want their own way. They are not willing to comply with adults' arbitrary rules . . . . children who have spent time in day care, then, may be more demanding and independent, more disobedient and more aggressive, more bossy and bratty than children who stay at home because they want their own way and do not have the skills to achieve it smoothly, rather than because they are maladjusted. (p. 269)

Regardless of how one chooses to interpret their findings, it is important to note that the majority of these studies are of relatively small, nonprobability samples. This is often necessitated by the clinical nature of the research, but it nonetheless makes it difficult to generalize the findings of these studies to broader populations. In such studies, control of exogenous variables that probably affect child outcomes (or interact with other variables that do) is difficult to accomplish. In particular, studies by developmental psychologists have often ignored the effects of structural factors (e.g., household income) on child outcomes, focusing primarily on middle-class families (for a review of some of these issues, see Zaslow, Rabinovich, & Suwalsky, 1991).

Although these first two mechanisms may produce negative outcomes, a third possible mechanism whereby maternal employment might have positive effects on the well-being of children are the *economic consequences* of such employment in terms of making increased consumption of market goods and services possible. One could reasonably expect that, all things being equal, mothers with higher incomes would be more likely to be able to find high-quality alternative care for their children as well as better provide market goods and services to enhance the child's environment. On the other hand, research has found that low-quality child care

(Phillips, McCartney, & Scarr, 1987) or poor economic conditions (e.g., job instability or unemployment; see Piotrkowski, Rapoport, & Rapoport, 1987; Voydanoff, 1987) can adversely affect the child's environment and social development.

To summarize these possible effects of maternal employment on the social behavior and development on young children, it is likely that some effects (if in fact they exist) are clearly detrimental: negative aspects of child care, particularly of low-quality care; maternal absence from the home; and consequences of job instability or unemployment. On the other hand, it is reasonable to expect that there may be positive effects as well: enhancing effects of quality day-care experiences and economic advantages of the additional income gained from the mother's employment being used to create an enhanced resource base for the child's development. To further complicate the issue, it is likely that many of these processes interact with each other and with other factors. The effects of maternal employment are probably different for boys than for girls (e.g., Bronfenbrenner & Crouter, 1982; Desai et al., 1989; Zaslow et al., 1991), and effects are probably different for families of differing socioeconomic-status levels (cf. Desai et al., 1989; see Zaslow et al., 1991, for a review).

HYPOTHESES

The present research adopts a view of the household as an economic unit similar to that suggested by England and Farkas (1986) and Desai et al. (1989). Within each household, some system of resource allocation is established to provide for both necessities and luxuries. In family households a sizable portion of resources is typically allocated toward the well-being and cognitive and social development of children. Maternal employment is undoubtedly one means of increasing the amount of financial resources available to the household, but although maternal employment increases the amount of market goods the household can accumulate, it may decrease the opportunity for the mother to provide nonmarket commodities—especially in the form of attention, affection, emotional support, and companionship—for her children. Some who oppose the employment of women with young children suggest that as the production of these nonmarket commodities declines, social behavioral problems among young children—for example anxiety, depression, antisocial tendencies, depression, hyperactivity, peer conflict, and so on—would probably increase. Within this context, a crucial question is whether

the decline in the production of *nonmarket* goods and services that usually accompanies the employment of mothers is offset by the additional *market* goods and services that the household's increased financial resources permit. Can the household counter the (presumed) effects of the mother's absence from the home (and the resulting decline in the production of nonmarket goods and services) on the well-being of their children with increased consumption of market goods and services, such as market child care? Fundamentally, the model suggests that outcomes for children of employed mothers will differ from those of children whose mothers are not employed to the extent that the substitution of nonmarket for market goods and services is imperfect.

From the perspective of this study, the main effect of household income on child behavioral outcomes is less substantively interesting than are its interactions with maternal employment and use of substitute child care. A naive household economics model might expect household financial resources (primarily in the form of wages) to be related to positive behavioral outcomes among young children, because increased income allows the purchase of additional market goods and services to enhance the well-being of the family in general and the children in particular. When these financial resources are obtained (wholly or in part) through maternal employment, however, there are two opposite yet plausible effects. First, as maternal employment increases, household production of nonmarket goods and services decreases, with the possibility of negative effects on child outcomes. On the other hand, the additional market goods and services made available through the mother's wages should have positive effects on child well-being and may serve to offset these effects. It is expected that the latter effect is more powerful than the former.

Hypothesis 1: There will be a stronger negative effect of family income on frequency of reported behavioral problems for children whose mothers have been employed (either continuously or intermittently) since birth than for children whose mothers were not employed since birth.

This argument is consistent with Desai et al.'s (1989) "net of resources" hypothesis. Studying maternal employment effects on cognitive development, Desai et al. hypothesized that "there may be a stronger negative net effect of maternal employment on the child in high SES families" (p. 547). Their findings confirm this hypothesis.

The second hypothesis deals with the interaction between family income and use of substitute child care used during infancy. Specifically,

I predict that the use of substitute child care may result in less positive behavioral outcomes for children from high-income households than for children from low-income households. This hypothesis is based on the assumption that when high-income households choose market child care they are not likely to obtain an environment for their children that is significantly better than that which they have at home (unless they choose care of very high quality and, probably, high cost as well); that is, the substitution of market care for home care is imperfect. On the other hand, the additional experiences provided by the formal child-care arrangement to children from low-income households may well significantly expand the developmental opportunities available to such children.

Hypothesis 2: There will be a stronger negative effect of family income on frequency of reported behavioral problems for children cared for at home by their mothers than for children receiving substitute care.

The third hypothesis is concerned with the level of emotional support in the home (a nonmarket household-produced commodity) and maternal employment. In general, it is expected that the effects of emotional support level are different for children with employed mothers compared to children with mothers who are not employed.

Hypothesis 3: There will be a stronger negative effect of emotional support level on frequency of reported behavioral problems for children whose mothers have not been employed since birth than for children whose mothers have been employed (either continuously or intermittently).

For children in highly supportive homes, the mother's absence due to employment clearly reduces the total amount of supportive behavior that is likely to take place. Although high-quality substitute care may fill this gap it is more likely that the child from a highly supportive home will not see this gap bridged by market goods and services. On the other hand, children from less-supportive homes would not, in relative terms, be as strongly affected by the mother's absence.

Finally, attention is given to the level of emotional support in the home and its interaction with the type of substitute child care used during the child's infancy. In homes where children receive high levels of emotional support, it is expected that the substitute care (unless it was of extremely high quality) would probably not adequately substitute for the affective process lost by the mother's absence from the home. In homes where children receive relatively low levels of emotional support, on the other

hand, the substitute care arrangement may have positive effects on social behavior, because it provides a higher level of emotional support than the child would receive if cared for at home. A meaningful test of this hypothesis, however, would require a measure of the level of emotional support provided by the substitute-care arrangement (not available in the NLSY data set). Consequently, hypotheses relevant to this issue cannot be tested in the current study.[1]

METHOD

DATA SET AND SAMPLE

The base sample for this study is the set of children born to a sample of 5,828 women between the ages of 14 and 21 years when first interviewed for the NLSY in 1979. Of the 5,299 women who were still being interviewed in 1988, 3,336 women were known to have had at least one child, for a total of 6,540 children. Of these children, 6,225 were administered a battery of cognitive, socioemotional, and physiological assessments in 1986 and/or 1988. The focus of the analysis is on the 2,209 children who were between 48 and 72 months of age at either the 1986 or 1988 interview; of these, 1,657 had codable responses to all of the variables under study. The data from the earlier (i.e., younger) observation was used for children who were interviewed at both dates.

The NLSY is actually composed of four samples, because oversampling of Black, Hispanic, and economically disadvantaged White women was done to ensure sufficiently large samples of these groups to permit detailed subgroup analyses. The analyses reported here used the child sampling weights to provide for accurate tests of significance and to make the sample reasonably representative of all children born to mothers who were between the ages of 14 and 21 years in 1979.

It is important to note that the children under study are not, themselves, the results of a probability sampling procedure. Rather, "they are approximately typical of children who have been born to a nationally representative sample of American women who were 21 to 28 years of age on January 1, 1986. As a result, they over-represent children who have been born to younger mothers, less educated mothers, and minority mothers" (Baker & Mott, 1989). This limitation is particularly important when studying older children from this data set; the oldest children under study here are just under 6 years of age, and the average age of the mothers at the time of their child's birth is approximately 22 years.

PROCEDURE

The mothers and children were interviewed in their own homes; the main interview took approximately 1 hour, and the child assessments added about 30 minutes. Spanish language versions of the interviews and assessments were provided as required.

MEASUREMENT

Dependent Variable

The dependent variable in this study is a summated scale composed of 26 items from the Behavioral Problems Index (Baker & Mott, 1989). The BPI was created by Nicholas Zill and James Peterson to measure the frequency, range, and types of childhood behavior problems. Items were drawn from the Child Behavior Checklist (Achenbach & Edelbrock, 1981) and other scales (Graham & Rutter, 1968; Kellam, Branch, Agrawal, & Ensminger, 1975; Peterson & Zill, 1986; Rutter, Tizard, & Whitmore, 1970).

The child's mother was asked to indicate whether each of the 26 items in the BPI scale was *often true*, *sometimes true*, or *not true* of her child during the preceding 3 months. Responses were dichotomized into 1 = *often true* or *sometimes true*, and 0 = *not true* and then summed to produce an index score for each child. Responses were then standardized to National Center for Health Statistics national sample data with a mean of 100 and standard deviation of 15. Baker and Mott (1989) note that the internal reliability of this scale is relatively high ($\alpha = .89$). Schreiner (1983) reports test-retest reliability of a four-item hyperactivity subscale of .63 over a 2-week period. Using the Spearman-Brown formula to estimate the reliability of the full BPI yields a test-retest reliability value of .92.

Because the BPI items represent maternal perceptions of the child's behavior, it is possible that differences in maternal characteristics may influence the mother's reports of her child's behavior as well as introduce differential biases in the reports. However, Rogers et al. (1991) point out that the mother's "perceptions, whether or not they are accurate, determine her actions toward the child" (p. 151); even if the validity of the BPI was questionable, the mother's perceptions would be important to study in their own right. However, there is much to suggest that the BPI responses are valid measures of child behavioral problems. Indirect evidence supporting the validity of the BPI comes from Achenbach,

McConaughy, and Howell (1987) who conducted a meta-analysis of research on behavior problems in children. Their results suggest that parent's perceptions of children's behavior problems are generally consistent with those of teachers and mental health professionals. Thus, given the high internal reliabilities, the high estimated test-retest reliability, the wide range of construct validity data available, and Achenbach et al.'s (1987) observations concerning interrater reliabilities of parent's reports, it seems prudent to accept the BPI scores as meaningful and valid measures of child behavior problems.

Variables in the Model

The first set of independent variables in these analyses reflect different aspects of maternal employment. Each of the NLSY mothers was asked a series of questions concerning her labor force status during each of the first 20 quarters following the birth of her child. From these items, variables were constructed indicating the continuity of the mother's employment since reentry into the labor force, extent of maternal employment during the child's first 3 years of life, and use of substitute-care arrangements.

Continuity of mother's employment. Over the first 4 years of the child's life, continuity of mother's employment was determined by tracking the mother's employment history starting from the 1st quarter after the child's birth in which the mother was employed until the end of the child's 4th year. Mothers who worked any amount of time during a quarter were considered to have been employed during that quarter. If the mother was employed in all quarters from the time of reentry into the labor force following the child's birth until the end of the child's 4th year, she was considered to have been "continuously employed." If she was employed at any time following the child's birth but was not employed in *all* quarters following that point, she was considered to have been "intermittently employed." The third category of this variable ("not employed") represents those women who were not employed at any time from the child's birth until the end of the child's 4th year.

There are many possible definitions of "continuous" and "intermittent" employment. One could also study the number of entrances into and exits from the paid labor force as well as the timing of these transitions. Such analyses are beyond the scope of the present research, although they are certainly promising avenues for investigation.

Mother's hours of employment. Mother's hours of employment (from the child's birth until the third birthday) was computed by taking the average number of hours worked per week; weeks in which the mother did not work were included in the calculations as zeros. Three such variables were constructed, one for each of the first 3 years of the child's life.

Use of substitute child care. Initially, this variable was initially coded into four categories: no substitute care during infancy (child was cared for at home), familial child care (child was cared for by some family member while the mother was at work; this includes children who were cared for by the mother at the mother's workplace); nonfamilial child care (child was cared for by a nonfamily member but not in a group setting while the mother was at work; this category is primarily family day homes but also includes nonrelatives who provided care in the child's own home), and group centers, nurseries, and preschools. Analyses of the NLSY data, however, show that sizable numbers of employed mothers responded "no" to the question, "In the first year of (your child's) life, was [he or she] cared for in any *regular* child-care arrangement like the ones listed on this card while you worked or participated in some regular activity?" (Center for Human Resource Research, 1988, p. 10-140; emphasis in original). Noting that 30% of their mothers fell into this category, Belsky and Eggebeen (1991) were sufficiently concerned about the validity of responses to this item that they did not include it in their analysis. I have chosen instead to create a fifth category of child care use; mother employed but answered "no" to the question on "regular" child-care arrangements.

Measures of use of substitute child care for each of the first 3 years of life (even though the hypotheses implicate only substitute care during infancy) have been included for two reasons. First, it is possible that the effects of substitute care are *age specific*, and if this is the case, omitting controls for substitute care after infancy might produce misleading results. Second, changes in care type may be a factor in child outcomes.

In addition to these independent variables, a series of factors in the model that are likely to be related to the frequency of behavioral problems among young children are included.

Child characteristics. These included the child's age, ethnicity, birth order, and whether the child had a low (less than 5.5 pounds) birthweight. The controls for age are particularly important for meaningful interpretation of the results; Baker and Mott (1989) recommend "that an age control be included in all multivariate analyses even when using age-normed

outcomes since in some instances, the normed score distributions may lack complete comparability across ages because of assessment 'floor' or 'ceiling' effects" (p. 50).

Maternal characteristics. These included mother's age at child's birth, mother's years of formal education, and mother's current annual income (in thousands of dollars). This last measure is the indicator of concurrent maternal employment.

Maternal marital status and stability. The study controlled for the effects of mother's marital status at the time of the child's birth, mothers current marital status, and whether the mother's marriage had ever been disrupted.

Home environment. There are a number of factors in the home environment that the literature suggests may affect the social and emotional development of young children: family income, emotional support level, and father's presence in the household at the time of the assessment (1 = father present).

Family income. Family income over the first 4 years of the child's life was operationalized by totaling the mother's income and the incomes of all persons related to the mother in her household over the 4-year period, standardizing into 1987 dollars using the Consumer Price Index coefficients (U.S. Bureau of the Census, 1991b) and annualizing the figure.

Level of emotional support. This was measured by the Home Observation for Measurement of the Environment-Short Form (HOME-SF; Baker & Mott, 1989) to obtain an indicator of the level of emotional support provided to the child by the child's family. The HOME-SF is based partly on interviewer observations and partly on maternal self-reports, with slightly different versions dependent on the child's age. Baker and Mott (1989) present extensive data attesting to the relatively high internal and test-retest reliability and construct validity of the instrument; their analyses indicate $\alpha = .7$. Ramey, Yeates, and Short (1984) report 2-year test-retest reliabilities for the entire HOME scale of .56 and .57. Elardo and Bradley (1981) found that the HOME was a good predictor of such conditions as failure to thrive, language delay, developmental delay, and poor academic achievement. The raw scores were standardized to a mean of 100 and a standard deviation of 15.

ANALYSES

DESCRIPTIVE RESULTS

Descriptive statistics for all of the variables in the models are reported in Table 1. It is important to note that *higher* scores on the BPI measure indicate that *more* behavioral problems were identified by the child's mother. The reader should also note that nearly all (83%) of the cases that were eliminated from the analyses due to missing data were missing responses to one or more of the items in either the BPI scale or in the HOME-SF, and it was not considered appropriate to impute values for these key variables through means substitution or other procedures.

About one fifth of the mothers were employed continuously from the time they reentered the paid labor force following their child's birth; two thirds worked intermittently. Only about 14% of the mothers were not employed at any time following the child's birth. Mean hours worked per week rose from 10.4 in the 1st year of life to nearly 17 in the 3rd year. Patterns of use of substitute child care are similar to those reported in other studies (e.g., Hofferth, Brayfield, Deich, & Holcomb, 1991); use of group care rose from only 3% in Year 1 to 15% in Year 3, and the percentage of children that were not receiving any form of substitute care fell from about 40% in Year 1 to about 29% in Year 3.

Ordinary least squares multiple regression analyses were performed using the BPI scale score as the dependent variable. The unstandardized (b_i) coefficients for each of the effects and the adjusted model R^2 for each analysis are presented in Table 2.

Table 2 presents four separate regression models. Model 1 estimates coefficients for a model that excludes factors related to maternal employment. Model 2 adds factors relating to maternal employment and use of substitute child care (mother's employment continuity; hours worked; and use of substitute child care during child's 1st, 2nd, and 3rd years of life). Model 3 adds interaction effects relevant to the hypotheses under test (interactions between family income and employment continuity, hours worked during infancy, and substitute child care during infancy; interactions between emotional support level and employment continuity, hours worked during infancy, and substitute child care during infancy). Model 4 presents a trimmed model that includes only significant and near-significant effects (as well as nonsignificant main effects that are included in one or more interaction terms) and is the model that best fits these data, given the constraints of the hypotheses: It excludes estimates for the effect of being Hispanic, for mother's marital status and current income, for

TABLE 1
Descriptive Statistics for Variables in Analyses

Variable	*Mean*	SD
Dependent variable		
Behavioral Problems Index score	107.44	14.03
Child's characteristics		
Sex (1 = Male)	.49	
Black (1 = Black)	.17	
Hispanic (1 = Hispanic)	.08	
Birth order (1 = first born)	.58	
Low birthweight (1 = yes)	.05	
Age of child (in months) at assessment	58.99	6.89
Mother's characteristics		
Mother's age at child's birth	22.05	2.49
Mother's years of education	11.89	1.87
Mother's current income (thousands, in 1987 dollars)	4.65	6.92
Mother's marital status and stability		
Mother married at time of child's birth (1 = yes)	.73	
Mother currently married (1 = yes)	.66	
Mother's marriage disrupted (1 = yes)	.31	
Family environment		
Early family income (thousands, in 1987 dollars)	20.16	14.52
Father currently in household (1 = yes)	.64	
Current HOME-SF[a] emotional support level	100.01	14.95
Maternal employment factors		
Mean number of hours worked per week during infancy	10.44	13.87
Mean number of hours worked per week during 2nd year	14.33	16.44
Mean number of hours worked per week during 3rd year	15.96	16.69
Mother continuously employed since reentry (1 = yes)	.19	
Mother intermittently employed since reentry (1 = yes)	.67	
Substitute-care arrangements during infancy		
Group care during infancy (1 = yes)	.03	
Nonfamilial child care during infancy (1 = yes)	.13	
Familial child care during infancy (1 = yes)	.19	
Employed but no "regular" care arrangement (1 = yes)	.25	
Substitute care arrangements during 2nd year		
Group care during infancy (1 = yes)	.08	
Nonfamilial child care during infancy (1 = yes)	.15	
Familial child care during infancy (1 = yes)	.20	
Employed but no "regular" care arrangement	.25	
Substitute-care arrangements during 3rd year		
Group care during infancy (1 = yes)	.15	
Nonfamilial child care during infancy (1 = yes)	.13	
Familial child care during infancy (1 = yes)	.21	
Employed but no "regular" care arrangements (1 = yes)	.22	

NOTE: $N = 1{,}657$. Standard deviations omitted for dummy variables.
a. HOME-SF = Home Observation for Measurement of the Environment-Short Form.

TABLE 2
Unstandardized Regression Coefficients for Main Effects and Interactions on the Behavioral Problems Index

	Model 1	*Model 2*	*Model 3*	*Model 4*
Child's characteristics				
Male (1 = yes)	1.29	1.21	1.09	1.09
Black (1 = yes)	−1.42	−1.51	−1.58	−1.13
Hispanic (1 = yes)	.02	.18	.13	
Birth order (1 = first born)	−.17	−.30	−.64	−.64
Low birthweight (1 = yes)	3.84[a]	3.46[a]	3.31[a]	3.37[a]
Child's age (in months)	−.06	−.03	−.06	−.06
Mother's characteristics				
Mother's age at child's birth (in years)	−.37[a]	−.38[a]	−.39[a]	−.42[a]
Education (in years)	−.47[a]	−.42	−.38	−.39
Current income (thousands, in 1987 dollars)	.02	.06	−.08	
Mother's marital history and stability				
Marital status at child's birth (1 = married)	−.99	−.94	−.81	
Current marital status (1 = married)	−1.19	−.81	−.86	
Marriage disrupted (1 = disrupted)	2.49[a]	2.56[a]	2.36[a]	2.52[a]
Family environment				
Early family income (thousands, in 1987 dollars)	−.05	−.05	.08	.07
Father currently in household? (1 = yes)	1.09	.83	.82	
Current emotional support level	−.16[a]	−.16[a]	−.24[a]	−.24[a]
Maternal employment factors				
Mother continuously employed? (1 = yes)		−2.99[a]	−15.33[a]	−19.98[a]
Mother intermittently employed? (1 = yes)		−1.16	.85	−3.03
Hours employed during child's 1st year		−.01	−.26	−.02
Hours employed during child's 2nd year		.12[a]	.12[a]	.12[a]
Hours employed during child's 3rd year		−.07[a]	−.07[a]	−.06
Child care use during child's 1st year				
Use of group care		−5.21[a]	−24.62	−8.06[a]
Use of nonfamilial care		−2.86	2.63	−5.33[a]
Use of familial care		−2.26	−10.61	−7.16[a]
Employed, but no care specified		.63	−3.43	−1.97
Child care use during child's 3rd year				
Use of group care		5.03[a]	4.87[a]	5.11[a]
Use of nonfamilial care		3.76[a]	3.40[a]	3.59[a]
Use of familial care		2.73[a]	2.82[a]	3.01[a]
Employed, but no care indicated		1.28	1.00	1.09
Early family income interaction effects				
Early Family Income × Continuous Employment			−.24[a]	−.23[a]
Early Family Income × Intermittent Employment			−.27[a]	−.26[a]
Early Family Income × Hours Employed During Infancy			.00	
Early Family Income × Group Care During Infancy			.09	.15

TABLE 2 Continued

	Model 1	*Model 2*	*Model 3*	*Model 4*
Early Family Income × Nonfamilial Care During Infancy			.11	.13
Early Family Income × Familial Care During Infancy			.22[a]	.25[a]
Early Family Income × Employed But No Care Indicated			.14	.14[a]
Current level of emotional support interaction effects				
Emotional Support × Continuous Employment			.16	.21[a]
Emotional Support × Intermittent Employment			.03	.07
Emotional Support × Hours Employed During Infancy			.00	
Emotional Support × Group Care During Infancy			.19	
Emotional Support × Nonfamilial Care During Infancy			–.02	
Emotional Support × Familial Care During Infancy			.04	
Emotional Support × Employed But No Care Indicated			.02	
Constant	140.61	139.28	146.90	147.28
Adjusted model R^2	.074	.091	.098	.101

a. Coefficient more than twice its standard error.

father's presence in the child's household, and for the nonsignificant interaction terms.

Two anonymous *JFI* reviewers suggested that there might be multicollinearity problems between the multiple measures of substitute child care, between the multiple measures of hours worked, or between current marital status and father's presence in the child's household. Additional analyses (not reported here), including estimation of variance inflation factors, do not indicate that multicollinearity is a problem in these data. For example, the effects of the various forms of substitute child care do not change substantially when the models are estimated with only 1 years' worth of child-care data at a time. Similarly, the effects of mother's current marital status and of father's presence in the household are similar, regardless of whether the other variable is included in the model. Finally, the effect of hours worked in a given year does not change substantially when the measures for other years are deleted from the model.

Effects of Control Variables

Child's background characteristics. In general, boys have higher BPI scores (more behavioral problems) than do girls. Blacks have somewhat lower scores. Low birthweight children have significantly higher scores.

Maternal characteristics. Mother's age at child's birth has a significant negative effect on BPI score; children whose mothers were somewhat older when they were born tend to have lower BPI scores. Mother's education and current income do not have significant effects on the dependent variable.

Mother's marital status and stability. Mother's marital status at time of child's birth and current marital status do not have significant effects on the dependent variable. Children whose mother's marriage has been disrupted by separation or divorce have significantly more behavioral problems than do children whose mother's marriage has not been disrupted.

Main Effects Tests

Early family income. In Models 1 and 2, family income has a nonsignificant negative effect on BPI score. When the interaction terms involving family income are included (Models 3 and 4) this main effect becomes slightly positive, although still not statistically significant.

Father's current presence in child's household. In general, children whose fathers are present in their household have slightly higher BPI scores (although this effect is not statistically significant).

Current emotional support level. This is negatively related to BPI score; the effect is statistically significant in all four models. Children who receive high levels of emotional support at home tend to have fewer reported behavioral problems.

Maternal employment factors. Children of mothers who were continuously employed since reentering the labor force have significantly lower BPI scores than do children whose mothers had not been employed since the child's birth. Children whose mothers had been in the labor force intermittently tended to have lower scores, although this effect is not

statistically significant in any of the models. Number of hours employed during the child's 1st year did not have a statistically significant effect in any of the models; number of hours employed during the child's 2nd year was significantly and positively associated with frequency of reported behavioral problems in Models 2, 3, and 4. Number of hours employed during the child's 3rd year was negatively associated with BPI score in all three models, although this effect reaches significance only in Models 2 and 3. The three measures of usual hours worked contribute .008 to the model R^2.

Effects of substitute care arrangements. In general, the use of substitute care during the child's 1st year of life is negatively associated with frequency of reported behavioral problems. For the 2nd year of life, there is a consistent negative effect of use of nonfamilial care on BPI score; other effects do not reach statistical significance. In the 3rd year of life, the pattern changes: Use of substitute care is significantly and positively associated with behavioral problems in all three models. The three groups of care variables contribute .008, .003, and .008 to the model R^2, respectively.

Effects of Interaction Tests

Interactions with family income. In both Models 3 and 4, there is a significant interaction between family income and employment continuity since birth (Hypothesis 1). As family income increases, frequency of reported behavioral problems decreases for children whose mothers had been employed (either continuously or intermittently) since their birth, as compared to children whose mothers had not been employed. The increase in model R^2 attributable to this interaction effect is .0043. There was no interaction between family income and hours worked during the child's 1st year of life. This interaction effect is depicted graphically in Figure 1, which shows predicted values of BPI scores based on Model 4 (in this and in Figures 2 and 3, predicted values for the dependent variable were estimated for the mean of the continuous independent variable and for one standard deviation above and one standard deviation below the mean).

There is also a statistically significant interaction between family income and use of substitute care during infancy (Hypothesis 2). For all care types, the frequency of reported behavioral problems increases as family income increases, as compared to children not in substitute care during infancy. This effect increased the model R^2 by .0072. The predicted values

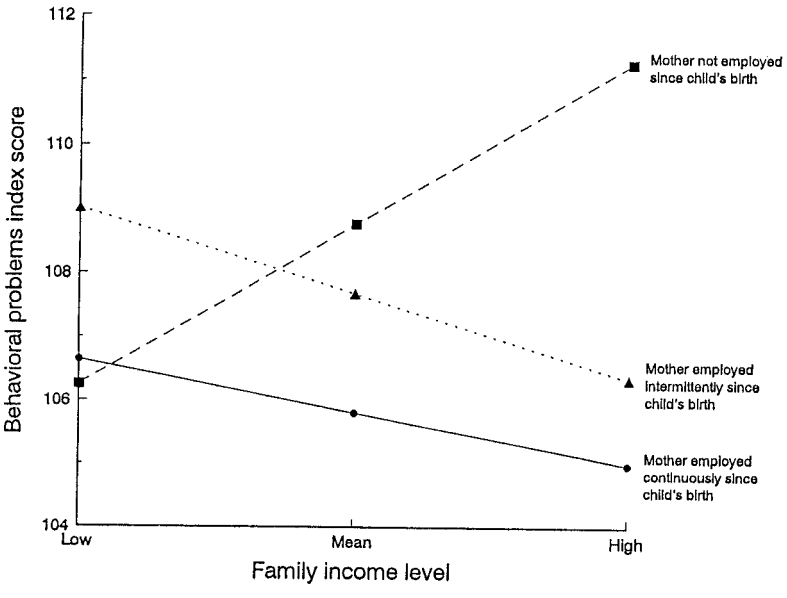

Figure 1: Interactive Effects of Early Family Income and Maternal Employment on Behavioral Problem Index Scores

relevant to this interaction effect for BPI scores based on Model 4 are presented in Figure 2.

Interactions with emotional support level. There is a statistically significant interaction between emotional support level and employment continuity since birth; for children whose mothers were continuously employed, there is almost no net effect of emotional support level; for children whose mothers were employed intermittently or not at all, as emotional support level increases, frequency of reported behavioral problems decreases (Hypothesis 3). This effect increased the model R^2 by .0040. The nature of this interaction is presented Figure 3, which depicts predicted values of BPI score based on Model 4.

DISCUSSION

Using the household economics model as a heuristic tool, three hypotheses concerning the effects of maternal employment on the social behavior of young children were developed and tested. These hypotheses are

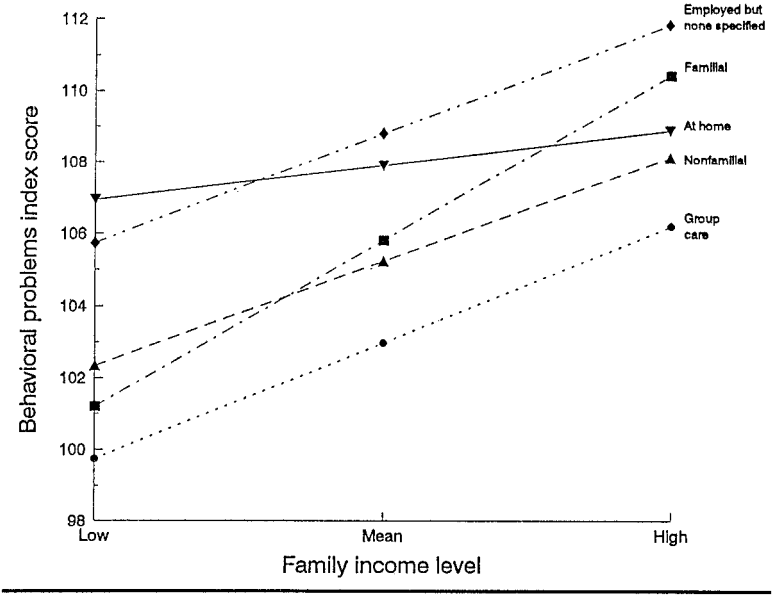

Figure 2: Interactive Effects of Early Family Income and Substitute Care Type on Behavioral Problem Index Scores

supported by the data. As the first hypothesis predicted, it was found that family income interacted with indicators of maternal employment, net of child's characteristics, mother's characteristics, mother's marital history and stability, and family environment. The findings suggest that there is a modest but statistically significant interaction between family income and continuity of postnatal employment. The reported frequency of behavioral problems decreased as family income increased for children of mothers who worked either continuously or intermittently since reentering the labor force compared to mothers who had not been in the paid labor force since the child's birth.

The household economics model suggests two possible mechanisms through which family income might affect child behavioral outcomes. First, it might be expected that increases in family income allow for the acquisition of additional market goods and services that may be used to improve family well-being in general and child behavioral outcomes in particular. On the other hand, if family income is increased through maternal employment, it may be that the decreased household production of nonmarket goods and services necessitated by the mother's absence

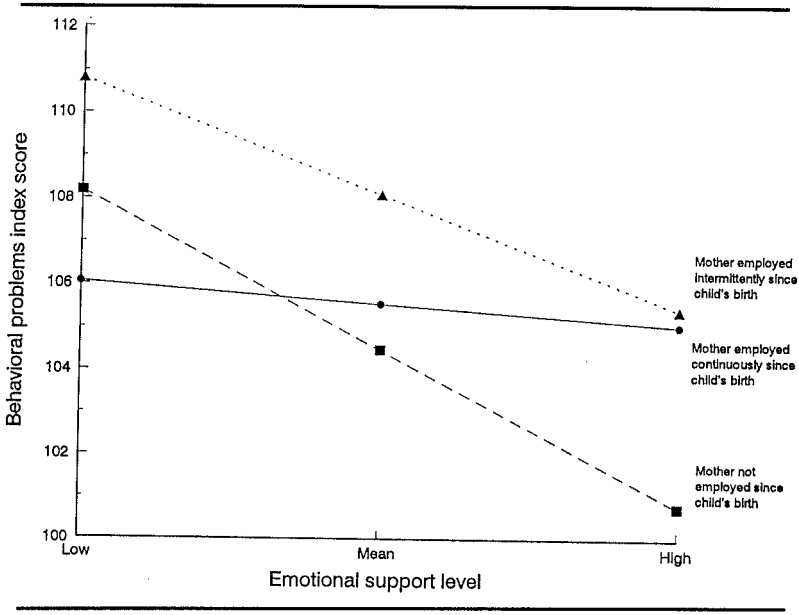

Figure 3: Interactive Effects of Current Emotional Support Level and Maternal Employment on Behavioral Problem Index Scores

from the home might act to reduce family well-being and create negative child behavioral outcomes. The fact that increasing family income decreases reported frequency of behavioral problems for children of employed mothers (but not for children of mothers who were not employed) suggests that households with employed mothers are somehow more efficient at converting salaries into market goods and services with which to improve child outcomes.

Consistent with the second hypothesis, it was found that children from higher-income households who received substitute care during infancy were perceived to have *more* behavioral problems than children from lower-income households in comparable forms of care. This outcome would be more interpretable in the presence of a control for quality of the substitute care, and certainly one methodological shortcoming in this study is the lack of such a control. However, in a study of children's social development using similar (but not identical) dependent measures, Phillips, McCartney, and Scarr (1987) found significant effects of overall program quality on only one of eight parent-rated dimensions of their child's social behavior. When Phillips, McCartney, and Scarr's overall

measure was broken down into its four components—director experience, child-staff ratio, amount of verbal interaction between caregivers and children, and amount of verbal interaction between peers—only 2 of the 32 possible effects on parent's ratings were statistically significant. Thus it may be the case that lack of control for day-care program quality is not a serious impediment to the interpretation of the data in this study; alternatively, it may be that the selection of a quality day-care provider is inextricably linked to family characteristics, as suggested by Phillips, McCartney and Scarr (1987). If this second premise is true, including the HOME-SF indicator of emotional support in the model may have served to decrease the (unmeasured) effect of center quality. Another possibility is that, although the quality of child care certainly ranges from excellent to dismal, the vast majority of child-care arrangements are clustered around the middle-range of quality, neither particularly bad nor particularly outstanding.

This finding is also consistent with Desai et al.'s (1989) findings concerning maternal employment effects on cognitive development of young boys. They found an interaction between family income and maternal employment factors such that maternal employment had increasingly negative effects on cognitive development as family income increased. In interpreting these findings, Chase-Lansdale, Michael, and Desai (1991) suggested that among middle- and upper-income families, maternal employment implies a significant loss of resources for their children that are not replaced or compensated for by the child-care setting. On the other hand, the additional market goods and services made possible by maternal employment in low-income families may have a far more beneficial effect on child outcomes than the negative effect of maternal absence from the home. Interpretation of the Desai et al. (1989) findings is complicated by the fact that their measure of family socioeconomic status is family income net of maternal earnings.

Yet another possible interpretation of this result is a much simpler one: that when households substitute market care for parental care, the substitution is rarely perfect, and that the substitution becomes increasingly imperfect as family income rises.

In regard to the third hypothesis, it was found that emotional support level has a stronger negative effect on frequency of reported behavioral problems for children whose mothers were employed intermittently or not employed at all than on those children whose mothers had been employed continuously since the child's birth. In other words, the effect of emotional support in the home is weakest for those children whose mothers had been

employed continuously since the child's birth. The theory argues that this result is obtained because the substitution of market commodities (market child care) for nonmarket commodities (parental child care) is imperfect.

One alternative interpretation of this outcome is that children from highly supportive home environments who receive substitute care during their early years may suffer from what we might characterize as a relative deprivation process. That is, in absolute terms, these children may not receive a particularly low level of emotional support in their substitute-care arrangement; in relative terms, however, the support level is low compared to that which they would receive at home if their mothers were not in the labor force. Consequently, they react to this perceived inequity by manifesting more behavioral problems than do children of mothers who were not employed continuously.

Another interpretation implicates the amount of time the child spends with the mother. It would be expected that a child with a highly supportive mother will benefit more if the child is spending the entire day with the mother than if the child is in a substitute-care arrangement much of the day.

One concern with the design of this study is that, due to the nature of the sampling procedure and the timing of the child assessments, only children of relatively young mothers were studied (the mean age of the mothers at their child's birth was just over 22 years). Given the fact that age at first marital birth has been increasing in recent years, it is likely that the sample omits many professional and career-oriented women who are more likely to delay their first birth. However, the findings are still readily generalizable to children of relatively young mothers.

It can be argued that there are selection problems that cloud the interpretation of these data. Most notably, it is likely that differences in maternal employment behavior may actually reflect preexisting differences between mothers. Mother's intellectual aptitudes, sense of mastery and self-esteem, and premarital employment history all probably have effects on maternal employment behavior, thus making it difficult to determine whether the effects of maternal employment on child outcomes are real or spurious. However, there still seem to be direct effects of maternal employment on child behavioral outcomes. For example, Rogers et al. (1991) found that there were significant effects of maternal working conditions on child behavioral outcomes even when measures of maternal mastery (a four-item version of Rotter's locus of control scale) were included in the model. Rogers et al.'s measure of mastery was included in Models 3 and 4 to evaluate this effect (results not reported here); mas-

tery does have a significant negative effect on BPI, but the effects of other key variables (hours employed, employment continuity, and the interaction effects) are essentially unchanged.

One curious finding in the present analyses is the changing effects of substitute child care over the first 3 years of life. Table 2 shows that the effects of substitute child care are generally statistically significant and beneficial during the 1st year of life (i.e., children in substitute care during infancy generally have fewer reported behavioral problems), weaken during the 2nd year, then become statistically significant but detrimental in the 3rd year (i.e., use of substitute child care in the 3rd year of life is associated with more reported behavioral problems). The household economics model does not directly address this unanticipated finding, but it certainly is a problem worthy of further investigation.

In an applied sense, a key finding from this research is that early and extensive maternal employment does not seem to have generally adverse effects on the social behavior of 4- and 5-year-old children. The present data do not support the contentions of some that full-time maternal employment during infancy is a significant risk factor for social development, at least for children in this age group. Two factors that increase our confidence in the generalizability of the present findings are the inclusion of household characteristics in the model as well as the relatively large, very diverse and representative sample of young children under study.

How shall the findings of the present study be reconciled with those of other studies using this same data set? Although not the primary focus of the present research, the findings presented here suggest that child behavioral outcomes are *not* affected by maternal employment during infancy, net of other factors in the model. This is the same conclusion reached by Mott (1991) in an analysis of Motor and Social Development Scale scores of 1- to 3-year-olds. On the other hand, both Baydar and Brooks-Gunn (1991) and Belsky and Eggebeen (1991) concluded that there *are* negative consequences of maternal employment during infancy for child behavioral outcomes.

Baydar and Brooks-Gunn (1991) used the same dependent variable—Behavioral Problems Index scale score—used in the present study, obtaining mixed results concerning the effects of maternal employment during infancy. They found a significant effect for maternal employment during the 1st year of life in their Model 1, but this effect disappeared when interactions with gender and poverty status (their Model 2) or any employment during the 2nd and 3rd years of life (their Model 3) were introduced. Additionally, although Baydar and Brooks-Gunn assert that

their data "indicate that maternal employment during infancy had significant negative effects" on "behavioral outcomes in White children of age 3 to 4 years" (p. 941), both their analyses and those of the present study show no effects of *intensity* of maternal employment during infancy on BPI scores. Thus their claim that employment during infancy had "detrimental effects" on the "behavioral development of all children regardless of gender or poverty status" (p. 932) is open to question.

Belsky and Eggebeen (1991) created composite indices of adjustment and compliance based on the BPI items. Three critical comments on their work (McCartney & Rosenthal, 1991; Scarr, 1991; Vandell, 1991) appeared at the time of publication, along with Belsky and Eggebeen's (1991) response to those criticisms. Among the more serious criticisms of Belsky and Eggebeen's analyses are that (a) they failed to include controls for use of substitute child care, (b) they did not provide controls for concurrent maternal employment, and (c) they interpreted effects from multiple regression models with nonsignificant R^2s. Belsky and Eggebeen's conclusion that "children with early and extensive maternal employment experience were significantly more noncompliant than agemates without such experience" (p. 1083) is apparently based on results of a multiple regression model (Model 3 in their Table 4) with R^2 of .027 in a sample of 564. Again, despite the conclusions of the authors, we are left with less than overwhelming evidence of a detrimental effect of maternal employment on child behavioral outcomes.

The present research adds to a growing and important body of literature produced by sociologists, psychologists, demographers, and economists (e.g., Blau & Robins, 1991; Desai et al., 1989; Parcel & Menaghan, 1990; Rogers et al., 1991) on the effects of maternal employment on family well-being that explores the significance of household and structural factors. Much of the earlier research on maternal employment and child-care effects tended to study child outcomes as if they were independent of factors such as social class. I agree with researchers such as McCartney and Rosenthal (1991) who have argued that the effects of maternal employment must be studied within the social ecology in which it takes place. A thorough understanding of child behavioral and cognitive outcomes will require an integration of individual-level factors (e.g., personality characteristics of the child), interpersonal dynamics factors (e.g., interaction between parents and children, and between caregivers and children) and structural factors (e.g., family socioeconomic status, characteristics of mother's work, etc.).

These and other findings also suggest that the time may have come to reevaluate the basic thrust of research on maternal employment, substitute-care arrangements, and child outcomes. Asking whether maternal employment is a "good" or "bad" idea is no longer a meaningful exercise; for most mothers today, staying out of the paid labor force is not a viable option. Although I agree with Silverstein's (1991) call for research that can explore the consequences of not providing high-quality affordable child care, I cannot accept her argument that research on the effects of maternal employment and substitute care on child well-being should be abandoned. Indeed, researchers need to continue studying the overall ecology within which maternal employment and substitute child care affect child outcomes. Policymakers would be well-advised to move away from concerns over the possible negative effects of maternal employment —which, when observed empirically have tended to be relatively weak, if they exist at all—and toward programs and policies that will make it easier for both parents and children to deal with the realities of contemporary families with employed parents.

NOTE

1. I am indebted to an anonymous *JFI* reviewer for this insight.

REFERENCES

Achenbach, T. S., & Edelbrock, C. (1981). Behavioral problems and competencies reported by parents of normal and disturbed children aged four through sixteen. *Monographs of the Society for Research in Child Development, 46* (1, Serial No. 188).

Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin, 101*, 213-232.

Ainsworth, M. (1973). The development of infant-mother attachment. In B. M. Caldwell & H. Ricciuti (Eds.), *Review of child development research* (Vol. 3, pp. 1-84). Chicago: University of Chicago Press.

Ainsworth, M., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment: Observations in the Strange Situation and at home*. Hillsdale, NJ: Lawrence Erlbaum.

Baker, P. C., & Mott, F. L. (1989). *NLSY child handbook, 1989: A guide and resource document for the National Longitudinal Survey of Youth, 1986 Child Data*. Columbus, OH: Center for Human Resource Research.

Baydar, N., & Brooks-Gunn, J. (1991). Effects of maternal employment and child-care arrangements on preschoolers' cognitive and behavioral outcomes: Evidence from the

children of the National Longitudinal Survey of Youth. *Developmental Psychology, 27*, 932-945.

Belsky, J. (1988). The "effects" of infant day care reconsidered. *Early Childhood Research Quarterly, 3*, 235-272.

Belsky, J. (1990). Developmental risks associated with infant day care: Attachment insecurity, noncompliance, and aggression? In S. S. Chehrazi (Ed.), *Psychosocial issues in day care* (pp. 37-68). Washington, DC: American Psychiatric Press.

Belsky, J., & Eggebeen, D. (1991). Early and extensive maternal employment and young children's socioemotional development: Children of the National Longitudinal Survey of Youth. *Journal of Marriage and the Family, 53*, 1083-1110.

Berk, R. A., & Berk, S. F. (1983). Supply-side sociology of the family: The challenge of the new home economics. *Annual Review of Sociology, 9*, 375-395.

Blau, D. M., & Robins, P. K. (1991). Child care demand and labor supply of young mothers over time. *Demography, 28*, 333-351.

Bowlby, J. (1969). *Attachment and loss: Vol 1. Attachment.* New York: Basic Books.

Bowlby, J. (1973). *Attachment and loss: Vol 2. Separation.* New York: Basic Books.

Bronfenbrenner, U., & Crouter, A. (1982). Work and family through time and space.In S. B. Kamerman & C. Hayes (Eds.), *Families that work: Children in a changing world* (pp. 39-83). Washington, DC: National Academy Press.

Center for Human Resource Research. (1988). *National longitudinal survey of labor market experience: Round ten, youth survey, 1988.* Unpublished survey instrument, Ohio State University, Center for Human Resource Research, Columbus.

Chase-Lansdale, P. L., Michael, R. T., & Desai, S. (1991). Maternal employment during infancy: An analysis of "Children of the National Longitudinal Survey of Youth" (NLSY). In J. V. Lerner & N. L. Galambos (Eds.), *Employed mothers and their children* (pp. 37-62). New York: Garland.

Clarke-Stewart, K. A. (1988). "The 'Effects' of Infant Day Care Reconsidered" reconsidered: Risks for parents, children, and researchers. *Early Childhood Research Quarterly, 3*, 293-318.

Clarke-Stewart, K. A. (1989). Infant day care: Maligned or malignant? *American Psychologist, 44*, 266-273.

Desai, S., Chase-Lansdale, P. L., & Michael, R. T. (1989). Mother or market? Effects of maternal employment on the intellectual ability of 4-year-old children. *Demography, 26*, 545-561.

Elardo, R. D., & Bradley, R. H. (1981). The home observation for measurement of the environment (HOME) scale: A review of research. *Developmental Review, 1*, 113-145.

England, P., & Farkas, G. (1986). *Households, employment, and gender: A social, economic and demographic view.* New York: Aldine.

Graham, P. J., & Rutter, M. L. (1968). The reliability and validity of the psychiatric assessment of the child: II. Interview with the parent. *British Journal of Psychiatry, 114*, 581-592.

Haskins, R. (1985). Public school aggression among children with varying day-care experience. *Child Development, 56*, 689-703.

Hofferth, S. L., Brayfield, A., Deich, S., & Holcomb, P. (1991). *National child care survey, 1990.* Washington, DC: Urban Institute.

Hoffman, L. W. (1989). Effects of maternal employment in the two-parent family. *American Psychologist, 44*, 283-292.

Howes, C. (1990). Can the age of entry and the quality of infant child care predict behaviors in kindergarten? *Developmental Psychology, 26*, 292-303.

Kellam, S. K., Branch, J. D., Agrawal, K. C., & Ensminger, M. E. (1975). *Mental health and going to school: The Woodlawn Program of Assessment, Early Intervention, and Evaluation*. Chicago: University of Chicago Press.

McCartney, K., & Rosenthal, S. (1991). Maternal employment should be studied within social ecologies. *Journal of Marriage and the Family, 53*, 1103-1107.

Menaghan, E. G., & Parcel, T. L. (1991). Determining children's home environments: The impact of maternal characteristics and current occupational and family conditions. *Journal of Marriage and the Family, 53*, 417-431.

Mott, F. L. (1991). Developmental effects of infant care: The mediating role of gender and health. *Journal of Social Issues, 47*, 139-158.

Parcel, T. L., & Menaghan, E. G. (1990). Maternal working conditions and child verbal facility: Studying the intergenerational transmission of inequality from mothers to young children. *Social Psychology Quarterly, 53*, 132-147.

Peterson, J. L., & Zill, N. (1986). Marital disruption, parent-child relationships, and behavioral problems in children. *Journal of Marriage and the Family, 48*, 295-307.

Phillips, D., McCartney, K., & Scarr, S. (1987). Child-care quality and children's social development. *Developmental Psychology, 23*, 537-543.

Phillips, D., McCartney, K., Scarr, S., & Howes, C. (1987). Selective review of infant day care research: A cause for concern! *Zero to Three, 7*, 18-21.

Piotrkowski, C. S., Rapoport, R. N., & Rapoport, R. (1987). Families and work. In M. B. Sussman & S. K. Steinmetz (Eds.), *Handbook of marriage and the family* (pp. 251-283). New York: Plenum.

Ramey, C., Yeates, K., & Short, E. (1984). The plasticity of intellectual development: Insights from preventive intervention. *Child Development, 55*, 1080-1083.

Rogers, S. J., Parcel, T. L., & Menaghan, E. G. (1991). The effects of maternal working conditions and mastery on child behavior problems: Studying the intergenerational transmission of social control. *Journal of Health and Social Behavior, 32*, 145-164.

Rutter, M. L., Tizard, J., & Whitmore, K. (1970). *Education, health, and behavior*. London: Longman.

Scarr, S. (1991). On comparing apples and oranges and making inferences about bananas. *Journal of Marriage and the Family, 53*, 1099-1100.

Scarr, S. S., Phillips, D., & McCartney, K. (1989). Working mothers and their families. *American Psychologist, 44*, 1402-1409.

Schreiner, L. (1983). *Analysis of the reinterview data from the 1981 Child Health Supplement to the National Health Interview Survey* (Statistical Methods Division memorandum). Washington, DC: U.S. Bureau of the Census.

Silverstein, L. B. (1991). Transforming the debate about child care and maternal employment. *American Psychologist, 46*, 1025-1032.

Stipek, D., & McCroskey, J. (1989). Investing in children: Government and workplace policies for parents. *American Psychologist, 44*, 416-423.

Thompson, R. A. (1991). Infant day care: Concerns, controversies, choices. In J. V. Lerner & N. L. Galambos (Eds.), *Employed mothers and their children* (pp. 9-36). New York: Garland.

U.S. Bureau of the Census. (1991a). *Household and family characteristics: March, 1990 and 1989* (Series P-20, No. 389). Washington, DC: U.S. Government Printing Office.

U.S. Bureau of the Census. (1991b). *Statistical Abstract of the United States: 1991* (111th ed.). Washington, DC: U.S. Government Printing Office.

Vandell, D. L. (1991). Belsky and Eggebeen's analysis of the NLSY: Meaningful results or statistical illusions? *Journal of Marriage and the Family, 53*, 1100-1103.

Vaughn, B., Deane, K., & Waters, E. (1985). The impact of out-of-home care on child-mother attachment quality: Another look at some enduring questions. *Monographs of the Society for Research in Child Development, 50* (1, Serial No. 209).

Voydanoff, P. (1987). *Work and family life*. Beverly Hills, CA: Sage.

Zaslow, M. J., Rabinovich, B. A., & Suwalsky, J.T.D. (1991). From maternal employment to child outcomes: Preexisting group differences and moderating variables. In J. V. Lerner & N. L. Galambos (Eds.), *Employed mothers and their children* (pp. 237-282). New York: Garland.