

**MATERNAL EMPLOYMENT IN LOW INCOME FAMILIES:
IMPLICATIONS FOR CHILDREN'S DEVELOPMENT**

**Kristin A. Moore, Martha J. Zaslow, and Anne Driscoll
Child Trends, Inc.**

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INTRODUCTION

Our paper focuses on the implications for children of maternal employment among low income families. This focus grows out of concern with how welfare policies that encourage or requires mothers to leave welfare for employment may affect children. Whether or not the current policy debate, with all of its surprising twists and turns, results in devolution to the states, it is clear that states will have greater say in welfare policies. Further, many states will be considering such options as time-limited welfare, and policies that require a transition off of welfare and to maternal employment, in some instances without further education, job training, or support for child care.

Unfortunately, this set of policy decisions will be made before results are available for the full set of studies in a cohort of carefully-executed experimental program evaluations with a focus on child outcomes, each involving random assignment of welfare families to differing programmatic approaches. For example, while child outcomes results have recently become available for the evaluation of the Teenage Parent Demonstration (Aber, Brooks-Gunn and Maynard, 1995), data on child effects are still being collected or analyzed for the JOBS Child Outcomes Study (which examines child impacts of the Job Opportunities and Basic Skills Training Program, the welfare-to-work program legislated by the 1988 Family Support Act; Moore, Zaslow, Coiro, Miller and Magenheim, 1996; Zaslow, Moore, Morrison and Coiro, 1995), as well as for the New Chance Demonstration, which focuses on teenage welfare mothers with limited education (Quint, Fink and Rowser, 1991; Quint Polit, Bos and Cave, 1994).

As we await these results, however, we can begin to shed light on the critical issue of how low-income maternal employment affects children by examining the developmental outcomes of children in low-income families whose mothers spontaneously do and do not make transitions to employment. A small body of research on employment among low income mothers already exists, and carefully formulated new studies can also be informative. While we can learn a great deal from this set of studies, we will constantly need to keep in mind the distinctions between this research approach and experimental studies.

Low-income mothers who spontaneously make a transition to employment differ in numerous ways from those who do not, at their own volition, become employed. For example, low income mothers who become employed, on average, have higher educational attainment and cognitive scores than

mothers who do not become employed. These particular maternal characteristics are not only predictive of employment patterns in mothers, but are also predictive of child outcomes. Indeed, maternal educational attainment and cognitive attainment are among the strongest predictors of the developmental status of children (D'Amico, Haurin and Mott, 1983; Duncan, Brooks-Gunn and Klebanov, 1994; Moore and Snyder, 1991). Such important pre-existing differences that predispose some low-income mothers towards employment, rather than the fact of employment, may be the source of differences in child outcomes (Vandell and Ramanan, 1992).

By contrast, in experimental studies of welfare-to-work programs that involve random assignment of families to differing programmatic approaches, these initial differences between families are not an issue. Because of random assignment, differing research groups begin with highly similar background characteristics. While after having been randomly assigned to research groups, families may self-select into higher or lower levels of program participation (see, for example, findings on the correlates of participation in the New Chance Program, Quint, Polit, Bos and Cave, 1994), this process of self-selection after having been randomly assigned more closely parallels what happens when families are required by policies to participate in employment or educational activities. When we use the studies of mothers' spontaneous employment transitions, rather than evaluation studies, to inform policy, we must pay particular attention to how our findings for child outcomes may reflect maternal characteristics that predispose them to employment.

The heart of our paper will be a set of analyses that looks at developmental outcomes for children of 5 to 14 years using data from the National Longitudinal Survey of Youth Child Supplement (Baker and Mott, 1989). First, we define a five-year period (1986-1990) during which the mother must have been single at some point. We also require that families have been recipients of AFDC at some point during this five-year period. We then examine developmental outcomes for children whose mothers have and have not been employed during 1991. Because of research pointing to the importance of maternal hourly wages as a predictor of child outcomes (Parcel and Menaghan, 1990), we will also distinguish between maternal employment in 1991 that does and does not involve very low wages. To address self-selection, we seek to document and control for pre-existing maternal and family characteristics that predispose low income mothers towards employment. We also control for child characteristics that may be helping to shape either maternal behavior or child outcomes, and consider the implications of varying marital status and employment circumstances during our five-year initial period for child outcomes as they vary by maternal employment patterns in 1991.

We will highlight a particular set of contrasts within our analyses, specifically variation in outcomes for children of mothers with some history of AFDC receipt: (1) who are not employed in 1991; (2) who are employed but in lower wage jobs, (3) who are employed in jobs that involve moderate wage levels; and (4) who are employed in jobs involving somewhat higher wages (defining low, moderate and higher wages relatively, according to the range of wages for employed mothers in this particular sample). We consider this set of contrasts (with and without an extensive set of control variables) to be crucial because policy-makers will need to know, especially for mothers with some history of AFDC receipt, whether the implications of maternal employment for children depend upon maternal wages.

The analyses that we have carried out seek to build on the existing literature on maternal employment. Before providing the details of our analytic approach and our results, we provide a brief overview of previous research on maternal employment. This review first identifies major issues that

have recurred in the literature as a whole, and then turns to a review of research focusing specifically on low-income maternal employment.

Key Issues in the Research on Maternal Employment and Children

The literature on the effects of maternal employment on children shares key features and problems with other research, such as the studies of the implications for children of parental divorce, and the implications for children of being born to a teenage mother. Each of these literatures faces the problem of family members selecting themselves into the important contrast groups (employed and non-employed mothers; divorced and intact families; older and younger mothers), rather than family groupings having been assigned experimentally. Further, the starting point for each of these literatures has been alarm over a sociodemographic event: maternal employment, divorce, or birth to an unwed teenage mother.

Because of the "alarm" origins of each of these literatures, the starting hypothesis in each has been a negative one: does the newly prevalent family circumstance harm children? An initial wave of research (often involving small samples of convenience and without any coordination across studies as to measures or methodologies) has been used to construct a picture to address the first issue common across these literatures on family circumstances:

Issue #1: Does the accumulating evidence from individual studies indicate that the family circumstance of interest (here maternal employment) has negative implications for children? Are the implications consistent across cognitive and social domains of child development? Are findings consistent across key population subgroups?

Historically, as each of these literatures has matured, child outcome findings begin to be questioned. Are families in contrasting groups really comparable? Are any differences in child outcomes genuinely attributable to the family circumstance? Or are differences instead a reflection of the factors that lead to divorce, employment, or teenage motherhood? The second issue that these literatures invariably must confront, then, is that of selectivity:

Issue #2: To what extent do any child impact findings grow out of pre-existing differences between families rather than the family circumstance variable itself?

As these literatures evolve, a further hurdle that must be confronted is the tendency to cast the family circumstance as a static rather than a dynamic variable. Thus, for example, families that divorce very often go on to experience remarriage, and for some, redi-orce. Yet findings on children may characterize families simply as divorced or intact. Researchers increasingly recognize the importance of viewing family circumstances as changing and cumulating over time, and of considering the importance of the timing of family events for children's development. Thus, *Issue #3* that recurs across these literatures is that of:

Issue #3: To what extent must we view the family circumstance variable of interest (here maternal employment) as evolving rather than fixed? How important to child well-being is change over time in the family circumstance?

The literature on the children of teenage mothers is illustrative of this evolution. Studies have documented that from about the preschool years on, children of teenage mothers show less positive developmental outcomes than children of older mothers, particularly in the area of behavioral adjustment (Brooks-Gunn and Furstenberg, 1986; Furstenberg, Brooks-Gunn and Chase-Lansdale, 1989; Hayes, 1987; Leadbeater and Bishop, 1994; Moore, 1986). However researchers have increasingly questioned the extent to which the documented differences between children of teenage and older mothers are actually attributable to young maternal age, or instead grow out of the circumstances that predict teenage childbearing, especially poverty and low educational attainment. Recent studies that attempt to take selection factors into account have concluded that negative effects on children of birth to a teenage mother are largely, though not entirely, attributable to these other factors that predispose women to early childbearing (Maynard, 1996; Moore, Morrison and Greene, 1995). Thus, selectivity is a critical issue to address carefully. Research also documents the occurrence of a pattern of recovery in key life outcomes for the young mothers themselves, especially as their children enter elementary school, and points to the importance of studying child outcomes in light of this long term recovery process, rather than only in the first years of life as has been the tendency (Chase-Lansdale, Brooks-Gunn and Paikoff, 1991; Moore, 1986).

By contrast, the research on maternal employment, as portrayed in a series of landmark reviews (e.g., Hoffman, 1974; 1979; 1984; 1989; Kamerman and Hayes, 1982), has not yielded a clear or consistent picture of negative effects across all children. Negative effects have been found, but only for specified subgroups. For example, a pattern of negative effects has been documented on varying outcomes for middle class boys (reviewed by Bronfenbrenner and Crouter, 1982; Zaslow, 1987). Yet effects for some children have been documented to be positive. For example, there is evidence of a broadening of sex role concepts and higher personal and occupational aspirations in daughters of employed mothers (Almquist and Angrist, 1971; Bacon and Lerner, 1975; Baruch, 1972, 1974; Jones and McBride, 1980). Findings point to positive effects of maternal employment when mothers are satisfied with their employment role (Gold and Anders, 1978; Lerner and Galambos, 1985; Williamson, 1970; Woods, 1972). Of particular importance in the present context, there are indications that maternal employment is associated with positive development among children in low income families (Cherry and Eaton, 1977; Woods, 1972; Vandell and Ramanan, 1992).

In general, findings have pointed to the need to be quite specific about which population subgroups and child outcome are under consideration (Zaslow, 1991). The implications of maternal employment have been found to vary by child characteristics (such as age and gender), by maternal characteristics (such as role satisfaction), by family characteristics (such as family economic status and culture), and by mother's work circumstances (such as part versus full time hours, job complexity, wages). In the words of Lois Hoffman, who has watched over this literature and its development steadily: "The distance between an antecedent condition like maternal employment and a child characteristic is too great to be covered in a single leap" (1974, p. 128).

What of *issue #2* (selectivity) in the maternal employment literature? Increasing efforts to document background factors that are predictive of employment among mothers have identified variables that go well beyond basic demographic variables to maternal psychological and attitudinal variables and child characteristics.

The work of Hock and colleagues, (Hock, Gnezda and McBride, 1984; Hock, Christman and Hock), for example, indicates that mothers of infants planning and actually resuming employment after

childbirth differ from other mothers in terms of the priority they place on their own careers and on exclusive maternal care for the child, in feelings about separation from the child, and in tolerance for baby fussiness. Baydar and Brooks-Gunn (1991) found both child and mother characteristics to be predictive of the resumption of employment in the first year of a child's life. Boys and later-born children were less likely to have mothers who resumed employment early; mothers were less likely to resume employment early when they had given birth as adolescents, were poor, were less educated, and had lower cognitive scores. In a particularly thorough consideration of selection factors, Vandell and Ramanan (1992) identified psychological and attitudinal variables in addition to education and cognitive variables to be predictive of employment during the child's preschool or early elementary school years. Mothers with less traditional attitudes about roles for women and with higher self-esteem were more likely to become employed. Parcel and Menaghan (1990) document a more internal locus of control (sense of control over events) to be predictive of maternal employment, extending the list of psychological variables associated with mothers' employment status.

Many studies of maternal employment, particularly more recent ones, make use of statistical controls for such basic background variables predictive of maternal employment as maternal education, as well as such further demographic variables as family size and family income where differences may accompany or grow out of, rather than antedate, maternal employment. As yet, few studies of maternal employment have controlled for maternal cognitive attainment and attitudinal variables. In many instances, this is because longitudinal data (permitting the documentation of the predictor variables at an earlier point in time than employment or child outcome variables are derived) are not available. Studies relying on data from the National Longitudinal Survey of Youth-Child Supplement (for example, Baydar and Brooks-Gunn, 1991; Belsky and Eggebeen, 1991; Desai, Chase-Lansdale and Michael, 1989; Menaghan and Parcel, 1995; Parcel and Menaghan, 1994; Vandell and Ramanan, 1992) are a noteworthy exception, and have proven an important resource to the literature.

Because of concern that early resumption of maternal employment, that is resumption during the first year or several years of a child's life, may threaten the development of secure infant-mother attachment and thereby subsequent child development, substantial research has focused on *Issue #3*; the issue of timing of maternal employment. Researchers have also noted the great complexity of mothers' employment patterns over time, and underscored the importance of studying child outcomes in light of stability and change in extent of employment over a period of years (Baydar and Brooks-Gunn, 1991; Bogenschneider and Steinberg, 1994; Heyns and Catsambis, 1986).

Attention to the issue of early resumption of maternal employment was sparked by a series of studies documenting that when mothers resume employment more than part-time within the infant's first year of life, these infants show higher rates of a pattern of attachment termed "anxious-avoidant" (Barglow, Vaughn and Molitor, 1987; Belsky, 1988; Belsky and Rovine, 1988; Schwartz, 1983). Anxious-avoidant attachment, in turn, has been found to be predictive of less positive developmental outcomes for children especially in the realm of social relations. Yet subsequent research looking directly at developmental outcomes for children in light of their mothers' early employment has not consistently documented negative effects of an early resumption of maternal employment (see summary of relevant findings in Parcel and Menaghan, 1994). While some studies document negative effects of early maternal employment (e.g., Baydar and Brooks-Gunn, 1991; Belsky and Eggebeen, 1991), other studies document positive implications for development when mothers are employed early (e.g., Vandell and Ramanan, 1992). Findings from the NICHD Study of Early Child Care, just beginning to report

results, will be extremely important in clarifying this issue because this study encompasses both attachment and child outcome findings from infancy across the preschool years (Friedman, 1995).

In sum, the findings on maternal employment do not show a consistent pattern of negative effects, but rather of effects that vary across subgroups. Mothers who resume employment differ from those who do not on psychological as well as demographic variables, but integration of this information into data analyses on child outcome studies has been incomplete. There have been multiple attempts to grapple with the issue of the timing of maternal employment because of widespread concern with the possible implications of an early resumption of employment by mothers, and because mothers' employment trajectories over time are quite complex.

Theory and Evidence on Maternal Employment in Low Income Families

One of the striking features of the research on maternal employment is its disproportionate focus on middle class families. There is a very limited set of studies providing either theoretical perspectives or data on the implications for children of maternal employment among low income families. From this limited set of studies, we can nevertheless begin to extract theoretical perspectives and a pattern of empirical results. As we will see, however, there are reasons to exercise caution in generalizing from the available studies to the specific instance of transition to employment among welfare families.

1. Contrasting Theoretical Perspectives

Benefits outweigh detrimental effects of maternal employment in low-income samples.

Several researchers (e.g., Belsky and Eggebeen, 1991; Bronfenbrenner and Crouter, 1983; Desai, Chase-Lansdale and Michael, 1989) have proposed that maternal employment has differing implications for children of different socioeconomic (SES) groups. For each SES group, the implications of maternal employment reflect the balance of specific positive and negative effects. Benefits are hypothesized to outweigh negative effects for children in low income families.

For example, according to Desai and colleagues (1989), maternal employment has differential implications for three sets of resources: parental time and attention, material resources available to the child, and the quality of substitute care relative to the quality of parental care. In low income groups, earnings from maternal employment may have substantial implications for family economic wellbeing, perhaps permitting the family to escape poverty. Children at all SES levels lose time with the mother when she is employed. Yet at lower SES levels the education level of parents and substitute caregivers is hypothesized to be comparable, and therefore care in the home and in child care fairly similar. By contrast, for children from middle class families, the income from maternal employment does not result in "an equally proportionate increase in the material resources for the child" (p. 547). Further, the substitute care is more likely to be provided by a caregiver less well educated than the mother, and therefore perhaps less stimulating. On balance, children from low income families are felt to gain more, and lose less, from their mothers' employment than children from higher income families.

Maternal employment contributes to cumulative risk in the lives of low income children.

Vandell and Ramanan (1992) suggest as an alternative to the "net benefits" perspective the view that maternal employment perhaps should be seen in terms of the cumulative risks in the lives of low income children. There is ample evidence that the likelihood of poor developmental outcomes grows with an increase in the number of risk factors that children experience (Rutter, 1979; Sameroff, Seifer, Barocas,

Zax and Greenspan, 1987; Werner and Smith, 1982). Further, children in poverty are particularly likely to face an accumulation of risk factors because of the greater likelihood that they will experience such discrete risks as poor health, a greater number of siblings who are born closer together, low maternal education, growing up in a single parent family, lower levels of cognitive stimulation and emotional support in the home, and dangerous neighborhood conditions (Smith and Zaslow, 1995). Because of difficult working conditions, limited job satisfaction, low wages, unusual or varying work hours, the possibility exists that maternal employment in low income families may act as a stressor, perhaps particularly so in single-mother families (Alessandri, 1992). If this is the case, then maternal employment must be viewed as a possible addition to the cumulative burden of risk for poor children.

The implications of maternal employment in low income families will vary with maternal working conditions. The work of Parcel and Menaghan (Menaghan and Parcel, 1995; Parcel and Menaghan, 1990, 1994; Rogers, Parcel and Menaghan, 1991) serves as a basis for hypothesizing that the implications of maternal employment for children will not be consistent among low income families, but rather will vary according to mothers' employment circumstances. This research highlights the importance of maternal as well as paternal working conditions. Building on the work of Kohn and colleagues (e.g., Kohn and Schooler, 1982), these researchers note that specific features of parents' jobs influence the behaviors that parents value and encourage in their children. For example, jobs that are repetitive, unstimulating, and offer little opportunity for self-direction may be associated with child rearing values that emphasize obedience to adults. Such jobs do not provide cognitive stimulation to the parent, which in turn may influence the quality of parent-child cognitive interaction. By contrast, when jobs involve greater variety, stimulation, and self-direction, parents may be more likely to use strategies of reasoning in disciplining their children, and to expect self-direction from their children in their behavior through the internalization of adult norms. More cognitive stimulation of the parent on the job may result in more varied and interesting parent-child interactions at home.

Looking at changes in the quality of the home environment over time, Menaghan and Parcel (1995) found declines in the home environment particularly when mothers remained unmarried and began employment low in both complexity and wages. Further research by this team documents that among children of employed mothers, lower maternal wages and sporadic or overtime employment hours are associated with lower scores in their young children on a measures of verbal facility (Parcel and Menaghan, 1990). The work of this team suggests the importance of examining variation in developmental outcomes among the children of employed mothers in light of working conditions that we note may be particularly relevant to low income samples: maternal employment may have "its strongest benefits for mothers with better jobs and less benign implications for mothers restricted to routine, monotonous labor at low wages" (Parcel and Menaghan, 1994).

In sum, we have contrasting theoretical perspectives at present for how maternal employment may affect children in low-income families. On the one hand, some researchers predict neutral or positive effects on the grounds that benefits may equal or outweigh the negative effects of mother-child separation in low income samples. On the other hand, other researchers caution that low income maternal employment is more likely to involve such job conditions as low wages, difficult hours, and limited job satisfaction. There may be negative impacts of maternal employment in low income samples overall if such employment acts as a stressor and adds to an already long list of risk factors for low income children. Alternately, implications of maternal employment for children in low income families may vary in light of the mothers' employment circumstances. These contrasting theoretical perspectives

suggest that we may need to look beyond whether low-income mothers are or are not employed, to consideration of the specific circumstances of employment.

2. Evidence on the Implications for Children

Early Studies. Early studies of maternal employment in low income samples tended to show positive effects for children. Following the evolution of the maternal employment literature as a whole, as researchers have become increasingly aware of the critical issue of self-selection, we have seen more studies of the effects of maternal employment for low income children that seek to control for self selection factors. Some but not all of these studies continue to report better outcomes for children of employed mothers.

Early "within group" studies (studies restricted to children of employed mothers, looking at variation in child outcomes in light of employment circumstances) documented that more extensive maternal employment, and employment in better jobs, predicted more optimal child outcomes. Thus, for example, Woods (1972), studying fifth graders from a black ghetto in North Philadelphia, found better adjustment, higher IQ, and a perception of the mother as a more consistent disciplinarian when she was employed full as opposed to less than full time. Piotrkowski and Katz (1982) found associations between specific behaviors of 10-17 year old black inner city youth in a summer educational program and characteristics of their mothers' jobs. For example, when mothers reported greater job demands, their preadolescent and adolescent children fulfilled a higher proportion of homework assignments. When the mother's skills were more fully utilized in their jobs, their children had higher math achievement scores.

Early "between group" studies (studies contrasting outcomes for children when their mothers were or were not employed) reported better cognitive as well as socioemotional outcomes for low-income children of employed mothers. Rieber and Womack (1968) found that among Head Start children of differing racial/ethnic backgrounds, those with the lowest and highest scores on a measure of receptive vocabulary differed in terms of mother's employment. Children with scores in the highest quartile within this sample were significantly more likely to have mothers who were employed outside of the home.

In a study unusual for its inclusion of child health as well as cognitive outcomes, Cherry and Eaton (1977) contrasted the development of children of employed and non-employed mothers in families with specific background characteristics (e.g., father present or absent; mothers with higher and lower parity; families with greater or lesser overcrowding). Maternal employment was found to be associated mostly with positive effects. For example, in employed mother families with the father present, in addition to showing more advanced language development at 8 years, children weighed more at 1, 4, and 7 years; were taller at 1 year, and had larger head circumferences at 7 years. In keeping with the "net resources" perspective suggested by Desai and colleagues, this study suggests that the additional income available through maternal employment in low income families may have implications for such basic material resources as food.¹

¹ A study by Milne, Myers, Rosenthal and Ginsburg (1986) which is often cited as a study of low-income maternal employment, considered single parent status but not family socioeconomic status. Subsequent work with the same data set (Heyns and Catsambis, 1986) called attention to the need for consideration of further socioeconomic variables. The work of Gold and Andres (e.g., Gold and Andres, 1977) is not considered in our review of early studies despite its careful consideration and discussion of social class issues because this work

More Recent Research. The more recent research focusing only on low-income samples continues to document positive effects of maternal employment for children. Alessandri (1992) studied outcomes for 10- to 12-year-old children, mostly from African-American families, all being raised by single-mothers and attending urban, inner city public schools. Mothers were categorized as having been employed full-time, part-time, or not employed since the child entered school. The non-employed mothers in the sample received AFDC, and described themselves as preferring to stay at home. Although household income was higher for families with employed mothers, groups did not differ significantly in terms of maternal education or family size.

Children of mothers employed full- and part-time, compared to those in families with a mother who was not employed, had higher self-esteem and perceived their families as showing greater cohesion and organization. Employed mothers showed greater agreement with their children in characterizing the child. Agreement was particularly high for mothers and daughters in families with mothers employed full time. For children's grade point average for the previous four marking periods, findings indicated a significant interaction of mothers' work status and child gender. Daughters of mothers employed full time had significantly higher grade point averages than other children. Daughters of mothers employed full time also perceived themselves as scholastically more competent than other children and described their families as placing a higher priority on independence and achievement.

While this important study by Allessandri suggests positive effects of maternal employment particularly for daughters, this study did not seek to equate groups on family income, nor, as the author notes, take into account psychological differences between employed and non-employed mothers. An important recent study by Vandell and Ramanan (1992) also focusing specifically on low-income families, carefully takes into account the role played by self-selection factors as well as current family circumstances (e.g., poverty status, marital status, quality of the home environment).

Relying on data from the NLSY-CS, this study examines extent of employment during the child's first three years as well extent of employment in the most recent three years for second graders' cognitive as well as behavioral outcomes. Within this sample, early maternal employment was associated with higher math achievement in second graders, even with controls for child and family background characteristics, factors predictive of maternal employment, and current family circumstances. Again with the full set of control variables, maternal employment during the most recent three years predicted higher reading achievement and receptive vocabulary. No effects of maternal employment were found for child behavior problems. Thus, "it appeared that children from low-income families benefitted from maternal employment," (p. 946), particularly with regard to cognitive development.

McLoyd and colleagues (McLoyd, Jayaratne, Ceballo and Borquez, 1994) provide a detailed examination of how maternal employment variables are linked with adolescent socioemotional outcomes among low-income African American families headed by single mothers. This research focuses on work interruptions in the years immediately prior to interviews with mothers and their adolescents, as well as on current employment status. In a departure from other research in the maternal employment area, this study describes the 63% of the mothers in the sample who were not currently employed as "unemployed," thereby suggesting that it is employment that is normative. Descriptive analyses within

extended to working-class but not lower-income families.

this sample (not controlling for associations of current maternal employment and family income, maternal age or education) indicate that mothers who are currently employed full or part-time show less depression, perceive less financial strain, and have a perception of greater instrumental social support. Seventh and eight graders with employed mothers have a more positive perception of their relations with their mothers, lower anxiety levels, and a perception that their families are experiencing less economic hardship.

The higher level of depressive symptomatology among mothers currently unemployed was associated with increased maternal punishment of adolescents, which in turn predicted greater cognitive distress (e.g., difficulty concentrating) and depression among the adolescents. Both current unemployment and work interruption in recent years predicted greater perceived financial strain among mothers. Adolescents of mothers who perceived greater financial strain themselves saw their families as experiencing more financial hardship. Those adolescents who saw their families as experiencing greater hardship reported more anxiety and cognitive distress as well as lower self-esteem. It is important to note that the mothers and adolescents in this sample portray non-employment and work interruption, rather than maternal employment, as stressors. Further, economic distress associated with unemployment (rather than stress associated with employment) was part of a chain of relations leading to negative socioemotional outcomes for adolescents.

Yet the pattern of positive results is not sustained when we go beyond studies restricted to low income samples. Several studies relying on data from the National Longitudinal Survey of Youth-Child Supplement (NLSY-CS) use the strategy of documenting findings for children of employed and non-employed mothers in the sample as a whole, and then asking whether a documented pattern holds for children in poverty as well as for those above the poverty line. As we have noted, these studies stand out for their careful examination of child and family variables associated with maternal employment, and their use in analyses of controls for such factors. In this set of studies, in which low-income children are approached as a subgroup of a larger sample, findings do not always point to positive effects of maternal employment.

In one such study, Desai and colleagues (1989) examined the implications of maternal employment during the first year of life for children's verbal ability. Their results point to significant negative sequelae of maternal employment during the first year of life, but only for boys from higher income families. There were no negative implications of maternal employment on the measure of receptive vocabulary (the Peabody Picture Vocabulary Test-Revised) for boys from low income families.²

While this study found no implications of maternal employment for low-income children, other studies using the NLSY-CS have documented less positive development for children of employed mothers with differences sustained irrespective of family poverty status. For example, Baydar and Brooks-Gunn (1991) found maternal employment during the first year of a child's life to be associated with less positive child outcomes in a sample of white preschoolers. There were no significant interactions of mother's employment and family poverty status for these outcomes, indicating that the pattern was consistent for families above and below the poverty line. Similarly, Belsky and Eggebeen

²In subsequent work the possibility was raised that the negative findings for middle class boys were attributable to outlier cases.

(1991) found that 4- to 6-year-olds in the NLSY-CS whose mothers were employed full time beginning the first or second year of the child's life were significantly more noncompliant. Again, the pattern held irrespective of family poverty status.

Work with the NLSY-CS reveals that the selection factors for maternal employment differ for very specific subsamples. For example, Baydar and Brooks-Gunn (1991) even note that "the predictors of maternal entry into the labor force during the first year were different from the predictors of entry during the second or third years of life" (p. 936). Perhaps studies focusing only on low-income samples yield somewhat different results from studies with broader samples because they do or do not control for the factors associated with maternal employment specifically in a low-income sample. The sample in the NLSY-CS is also not a representative sample of children in the United States. Rather, as has been noted repeatedly, it is comprised of children born to mothers who have begun childbearing early or "on time," rather than later. When child outcome data are derived for children from more recent data waves (e.g., 1992 as opposed to 1986), the children of older mothers are increasingly represented, and this sample bias is less marked. In future analyses seeking to examine the issue of low-income maternal employment using NLSY-CS data, it would appear important to identify control variables appropriate specifically for low-income subsamples, and to use the most recent available wave of child outcome data.

With this important exception of studies using diverse (as opposed to low-income) samples from the NLSY-CS, findings to date are nevertheless fairly consistent in pointing to beneficial effects, or an absence of deleterious effects, for children of employed mothers in low income families. Findings tend to support the hypothesis that on balance, maternal employment benefits children, and simultaneously that more favorable working conditions among employed low-income mothers have positive implications for children. We emphasize that the body of studies on low-income maternal employment is far from substantial. Further work in this area is clearly needed. Such work should seek to go beyond existing studies in several respects.

First, the studies to date have not defined their samples in light of receipt of welfare. Even samples carefully defined as low-income show heterogeneity in terms of total family income, and families that receive welfare differ from the working poor (Zill, Moore, Nord and Stief, 1991). Thus, the implications for children of maternal employment may differ even among low-income families according to whether or not the mother has a history of welfare receipt. In order to have the greatest relevance to the current policy debate, it appears important that analyses specify a sample with a history of welfare receipt.

In a similar manner, the mothers in studies of low income families to date have varied in terms of marital status. Given that child outcomes appear to differ according to family characteristics in the maternal employment literature, if we are seeking to learn about employment in the lives of AFDC families, it would appear important for us to be specific about family structure. Given our interest in families that have received welfare, we choose to examine children whose mothers were at some time single mothers.

Further, as we have noted, the work of Parcel and Menaghan suggests the need to go beyond the simple distinction of whether or not a mother is employed to consideration of her employment circumstances. For welfare mothers, the possibility exists that mandatory transitions to employment may result in work that pays low wages, is sporadic or involves nontraditional hours, and is repetitive and unstimulating. In examining the implications of maternal employment in low income families, it seems

particularly important to give separate consideration to employment in better and worse circumstances. Of the three variables considered by Parcel and Menaghan (wages, hours and complexity), wages appears most amenable to policy initiatives (e.g., through permitting mothers to complement earnings with AFDC benefits, or through the Earned Income Tax Credit). Thus it appears particularly important to give consideration to the implications for children of differing wage levels for low income employed mothers.

In order to build on the literature on maternal employment, it is also clear that we need to consider whether any differences found on child outcomes persist when we control not only for child and family background characteristics, but also for maternal variables that are predictive of the assumption of employment, and for current family circumstances. Finally, out of concern with the nature of the NLSY-CS child sample, we turn to child outcomes data from a more recent wave of data than in most published reports from this dataset.

We turn now to the description of new analyses that seek to build on the existing literature by incorporating these features.

DATA AND METHODS

Approach

The focal relationship we examine is that between mother's work status in 1991 and her child's cognitive abilities and behavioral problems, as measured in 1992. We test the effects of mothers' employment status in 1991 by contrasting not employed versus very low, low and relatively higher level wages. In this way, we can test the effects of employment at very low wages compared to low and medium wages, a distinction that is crucial to the examination of the effects of work on children with a history of AFDC receipt. The implications for children of maternal employment have been shown to depend on factors such as family income and structure, mother's working conditions, the child's sex and age, and the mother's background characteristics. Our model, therefore, incorporates these variables as well as the pattern of welfare receipt.

Data

The data for this study are from the National Longitudinal Survey of Youth-Child Supplement (NLSY-CS). The NLSY is an annual, nationwide survey of youths who were 14 to 21 when the study began in 1979. In 1986, data collection was expanded to include a Child Supplement that consists of a battery of assessments of the children of the women in the original sample. Our outcome variables come from the 1992 wave of data. We also use data from 1986 to 1991 on marriage, employment, and welfare receipt from the main surveys as well as data from 1979 on background characteristics of the mothers. Our sample consists of 1,154 children aged 5 to 14 years old in 1992 whose mothers were single at least one year from 1986 to 1990 and who experienced AFDC receipt at some point during this period.

Variables

We examine three cognitive measures and a measure of mother-reported behavior problems as outcome variables. The cognitive measures are the Peabody Individual Achievement Test (PIAT)

reading recognition and reading comprehension assessments and the PIAT mathematics assessment. The PIAT measures academic achievement of children ages five and above. The reading recognition assessment measures word recognition and pronunciation ability. The PIAT reading comprehension test measures a child's ability to derive meaning from sentences that are read silently. The mathematics assessment begins with recognizing numerals and progresses to advanced concepts in geometry and trigonometry (Baker et al., 1993). The PIAT was standardized on a national sample of children in the late 1960s. This sample had a mean standardized score (by definition) of 100, with a standard deviation of 15.

The fourth outcome measure is the Behavior Problems Index (BPI) which is comprised of 28 mother-report items concerning children's behaviors. The items have been used to define six behavioral subscales: antisocial, anxious/depressed, headstrong, hyperactive, immature dependency and peer conflict/social withdrawal. A total score is also provided (Baker et al., 1993). As with the PIAT, normed scores have been constructed with a national mean of 100 and standard deviation of 15. The normed scores are based on data from the 1981 National Health Interview Survey. We rely here on the BPI total scores. Tests were administered to the children of women in the NLSY, and maternal report child outcomes were collected, biannually, beginning in 1986. We use 1992 measures as our outcome variables.

We divided our predictor variables into several categories. The first category consists of the mother's background variables, specifically those which are fixed: her race, whether she lived with her own parents at age fourteen, and the number of siblings she has. The second category contains child demographic variables: age, sex, birth order, whether the child was a low birth weight baby, and whether the child was in poor health in 1992. The third set of variables we term malleable background characteristics of the mother. These are her years of education, her score on the Armed Forces Qualifying Test (AFQT) administered in 1979, her attitudes towards men's and women's roles, and her attitude towards receiving welfare. We next chose three variables to characterize the child's situation during the period from 1986-1990: mother's employment status during these years, whether the child's father was absent from the household during this time, and number of months the family received AFDC. Last, we added variables measured in 1991, the year before our outcomes of interest. These measures are the family's income (minus the mother's earnings), the mother's marital status, whether she received AFDC that year, and her employment status at the time of the interview. Employment status was defined as not employed, the reference category, employed at very low wages (\$5.00/hour or less), employed at low wages (\$5.00 - \$7.50/hour) or employed at medium wages (\$7.50 - \$12.00/hour). There are too few women with higher hourly wages to create a high wage category, therefore the fifteen women with wages above \$12.00/hour were dropped.

Characteristics of the Sample

The sample consists of 1,154 children, aged 5 to 14 in 1992, whose mothers reported receiving AFDC assistance for at least one month during the years 1986 to 1990. These mothers were unmarried for one or more years during this period.

Slightly over half of this sample is black, and approximately 20 percent is of Hispanic origin (see Appendix Table 1). Just under 50 percent of the children are male and the mean age is almost ten years old. One in eight children weighed 5.5 pounds or less at birth, the accepted cut-off for low birth weight. Just under one in seven children were described by their mothers as in poor health in 1992,

the year in which the outcome variables were measured. About four in ten of these children were only or first-born children. They averaged just over two siblings, with a range from zero to seven.

Less than half of the mothers of the children in this sample had lived with both of their biological/adoptive parents when they were 14 years of age. They came from large families, averaging more than five siblings. The mothers in this sample averaged 11 years of education. When first interviewed in 1979, 44 percent of these women said that they would probably "go on welfare if they were unable to support their family".

During the period 1986 to 1990, these women worked an average of 2.3 years out of five. Altogether, three-fourths of the women worked at least one year during this period. On average, they were married for less than a year. Also, during this period, half of the children never lived with their biological fathers. Almost half of the children in this sample spent more than 36 months on AFDC during this time; the mean number of months on AFDC between 1986 and 1990 was 34 months.

Turning to 1991 data, we see that this is a low-income sample. During 1991, the mean household income was just over \$14,000. More than half of the mothers of the children in this sample were employed during 1991; almost half of these women earned \$5.00 per hour or less. Only 20 percent of women who worked (ten percent of all of the mothers) earned more than \$7.50 per hour. Six in ten children lived in households that received AFDC assistance sometime during 1991, while less than 20 percent lived in households in which their mothers were married.

RESULTS

Bivariate Associations

Bivariate associations between each of the predictor variables (including mother's employment status in 1991) and the child outcomes are summarized in Appendix Table 2. Several characteristics of the mothers are significantly associated with their behavior and cognitive attainment scores as measured by the Behavior Problem Index (BPI) and Peabody Individual Assessment Tests (PIATs). Children of mothers with more traditional attitudes towards the roles of men and women within the family score lower on the measures of cognitive attainment than do children whose mothers endorsed more modern viewpoints in this area. Also, children whose mothers said that they would go on welfare if necessary had lower mean reading scores than children whose mothers rejected this idea.

Mothers' academic and intellectual achievement, as measured by years of education and scores on the AFQT respectively, are also related to children's outcomes at the bivariate level. Mothers' AFQT score is positively correlated with all three PIAT outcomes, as is educational attainment. In addition, education is negatively associated with level of problem behaviors and positively related to children's reading scores.

Males in this sample score significantly higher on the Behavior Problems Index than do girls, meaning that boys are reported by their mothers to have a higher number of problem behaviors than girls. Similarly, boys score lower on the tests of cognitive attainment, particularly the PIAT reading measures; however, on the PIAT math measure this difference between the sexes is significant only at the $p < 0.1$ level.

Older children score significantly worse on the PIAT measures than younger children; this reflects the nature of the NLSY sample in which older children were all born to younger mothers. There is a negative, linear relationship between birth order and scores on these cognitive outcomes. For neither age nor birth order does a significant correlation exist for BPI scores.

For each PIAT score, post-hoc tests showed that whites differ from the other two groups but there are no statistically significant differences in the scores of African Americans and Hispanics. However, there is no difference in behavioral problems between blacks, whites and Hispanics.

Children who were low birth weight babies scored significantly lower on two PIAT measures, suggesting that this measure of a precarious start in life has long-term consequences on children's lives. The comparison of scores on the outcomes for children who were in poor health at the time they were assessed in 1992 shows that although children in poor health scored lower on all three cognitive measures than children in good health, none of the differences were significant. However, children in poor health in 1992 had significantly more behavioral problems than their healthier counterparts.

Children who never lived in the same household as their natural/adoptive father during the 1986-1990 period showed no significant difference in outcomes from children whose fathers were present at least one of the years during this period.

Length of AFDC receipt from 1986 to 1990, measured in months, is significantly related to the cognitive outcomes but not to behavioral problems. Children in families that were long-term recipients, that is, they received AFDC for more than three years out of the five, scored significantly lower on all three cognitive measures than children who were shorter-term welfare recipients. (A linear relationship between months on AFDC from 1986 to 1990 and all three PIAT outcomes also exists. In each case, an increase in the number of months on AFDC is correlated with a decrease in PIAT scores.)

A similar pattern was found for the correlation between mother's employment status during the 1986-1990 period and child outcomes. Children whose mothers worked at least one year out of the five scored significantly higher on the cognitive attainment measures. Mother's work status in this five-year period had no correlation however, with children's 1992 BPI scores. (Also, similar to the effect of AFDC receipt during these years, there is a linear relationship between number of years children's mothers worked and PIAT math and reading scores although here the relationship is positive rather than negative.)

In contrast to the lack of correlation between mother's employment status from 1986 to 1990 and the BPI, children of mothers who worked in 1991 had significantly better BPI scores than those of children whose mothers were not employed in the year before they were assessed. Having a mother in the work force in 1991 was positively correlated with children's cognitive outcomes as well.

When employment status is more precisely categorized, it is possible to compare children's outcomes over different levels of maternal employment, as measured by wages, to each other and to the outcomes of children of non-employed mothers in this year prior to the year in which the children were assessed. Post-hoc Bonferroni tests of significant differences were used. There is no difference in the behavior scores of children of non-employed mothers and children whose mothers fall into the very low and low wage categories. Children whose mothers earned medium wages, (i.e., \$7.50-12.00/hour)

scored significantly lower (better) on the BPI than children of non-employed mothers or those with mothers in the lowest wage category.

The PIAT reading recognition scores of children of non-employed mothers do not differ from those of women earning very low wages. Children in both of these categories score significantly lower than children whose mothers earn low or medium wages. The situation for the PIAT reading comprehension scores is somewhat similar. Children of women who earn very low wages do not score any better or any worse than children of non-employed mothers. Children in both these groups have significantly lower scores than children of women with medium wages.

The math scores of children whose mothers were not employed in 1991 are virtually identical to those of children of mothers working for very low wages. Both groups scored significantly lower than children of mothers in the low and medium wage categories. These results suggest that, at the bivariate level, maternal employment is related to better child outcomes only if their mothers are employed at wages above a certain level.

The mean math and reading PIAT scores of children who lived in households that received AFDC assistance in 1991 were significantly lower than those of children who did not receive welfare during that period; BPI scores were not associated with 1991 AFDC receipt. Mother's marital status in 1991 was not a significant correlate of any of the outcomes measured. Household income during 1991 was strongly and positively related to all three PIAT outcomes and negatively related to BPI scores.

Multivariate Analyses

From simple bivariate associations, we would conclude that maternal employment is associated with more positive child outcomes, but only when wages exceed our "very low" category, or for some outcomes, our "low" category. However, we know from previous research that it is crucial to control for further variables that predict, or co-occur with, maternal employment and may, in part, account for these positive associations of maternal employment at higher wage levels. Therefore, OLS regression models were run for each of the four outcomes. Separate regressions were run for each set of predictor variables. Hierarchical models were also estimated in which each set of variables was added to the regression in the order they were discussed above. All of the models are weighted, using the 1992 child sample weights provided by the NLSY. In the interest of space, only the final models are presented and discussed here. The effects of 1991 employment status and wages are our primary interest in this analysis.

In examining wage levels, we truncated the highest wage category to include only women whose hourly wages were no higher than two standard deviations from the sample mean hourly wage. This was done to ensure that the outliers in this category do not bias our results.

In addition, we looked at the effects of gender more closely by carrying out models that included interaction terms with gender, with girls being the reference group. To more closely analyze the effects of race/ethnicity, we estimated two sets of interaction models for each outcome. In these models the reference category is whites. The first model includes interaction terms that allow for the comparison of African Americans to whites; the second compares Hispanics to whites.

Main Effects Models

BPI. Mother's employment status in 1991 and several demographic variables are significantly related to BPI scores in the final model. Hispanic children have lower (better) scores than white children, but the difference between African American and white children is not significant. Boys scored significantly higher than girls in the final model, while children in poor health in 1992 had higher scores than children with no health problems.

Most interesting for this study is the significant relationship of mother's 1991 job status to BPI. Children whose mothers were employed at wages ranging from \$7.50/hour to \$12.00/hour during this year had significantly lower scores (and thus, fewer behavioral problems) than children whose mothers were not employed in 1991 (the reference category). Moreover, children of non-working women have marginally higher scores than children of women working for very low wages. These results suggest that, even with controls for household income, maternal employment is associated with fewer behavior problems, particularly for children whose mothers earn \$7.50 - \$12.00/hour.

PIAT-Reading Recognition. Child and mother demographic variables are the strongest predictors of PIAT reading recognition scores. Race, sex, age and child's birth order are all significant in the complete model. Children of color averaged higher scores. The difference between the scores of Hispanic children and white children is significant, while the difference between African American and white children approaches significance. Boys scored significantly lower than girls and the magnitude of the difference is substantial. Older children and higher parity children had lower scores than younger children and lower parity children, respectively. Children who were low birth-weight babies score lower than those who were not.

Mother's AFQT score is also a strong predictor of children's scores for this outcome. Children of women who came from larger families performed better on the PIAT reading recognition assessment than children whose mothers had fewer siblings.

Unlike the results observed for the BPI, mother's employment status and wages in 1991 did not play a role in the final model.

PIAT-Reading Comprehension. Child demographic variables, along with mother's AFQT score, play the strongest role in the complete model for this outcome. Being male lowers a child's score, as does having been a low birth weight baby. Higher parity children score lower than lower parity children, and older children score lower than younger children. Once again, mother's AFQT score plays a strong and positive role.

The maternal employment and wage variables are not related to the child's reading comprehension score. Children of low wage employed mothers tend to have somewhat lower scores, but the difference in reading comprehension scores of children whose mothers worked for very low wages in 1991 and children whose mothers did not work only approaches significance.

PIAT-Math. As is true for the PIAT reading recognition and reading comprehension final models, child demographic variables and mother's AFQT score are significantly related to PIAT math scores. Age and birth order play similar roles to those of age and birth order for the reading outcomes. As is true for both reading scores, having weighed 5.5 pounds or less at birth is correlated with lower math scores. Interestingly, in this sample of children who have experienced welfare receipt, having a mother who endorsed welfare as a way of supporting her family is associated with higher math scores.

The 1991 wage variables are not associated with children's math scores.

Gender Interactions

BPI. In the main effects model, the coefficient for boys was positive implying that boys experience more behavior problems than girls. When interaction terms for gender were entered (see Table 2), slight differences were seen for the relationship between recent maternal employment and BPI scores for boys and girls. The results suggest that, for girls, maternal employment at any wage is associated with better BPI scores than non-employment. This pattern appears to be linear: the coefficient decreases for each wage category. For boys, the pattern is similar except that boys whose mothers earn low wages (the middle wage category) have more behavioral problems than boys whose mothers were not working during 1991.

PIAT-Reading Recognition. The gender interaction model suggests that recent maternal employment does not play a role in the PIAT-reading recognition scores of either boys or girls.

PIAT-Reading Comprehension. Entering gender interaction variables does not affect the lack of relationship between maternal employment and PIAT reading comprehension scores.

PIAT-Math. Recent maternal employment plays very different roles in determining the PIAT math scores of boys and girls. Girls with a working mother do not differ from those who have a non-working mother, unless the mother's salary places her in the highest wage category. Girls of these women do significantly better than girls in the other maternal employment categories. On the other hand, recent maternal employment tends to be associated with somewhat lower math scores for boys. Even boys whose mothers earn enough to put them in the medium wage category perform slightly more poorly than boys with mothers who earn less.

Race/Ethnicity Interactions

BPI. When race/ethnicity is examined using interaction terms, the most noticeable difference on the BPI is seen between blacks and whites (shown in Table 2). Recent maternal employment is not related to the scores of white children unless their mothers earn wages that place them in the medium wage category. At this point, having a working mother is correlated with significantly better scores. This pattern differs for African American children in that the relationship between BPI scores and maternal employment becomes significant at somewhat lower maternal wages. Black children whose mothers earn between \$5.00/hour and \$12.00/hour have lower BPI scores than children of unemployed mothers. The comparison between whites and Hispanics suggests that the pattern between recent maternal employment and BPI for Hispanic children is similar to that of white children.

PIAT-Reading Recognition. There continue to be no significant correlations between recent maternal employment PIAT reading recognition scores when interaction terms were included for race.

PIAT-Reading Comprehension. For the children in this sample, the relationship between reading comprehension and recent maternal employment is distinct for whites and for minority children. White children who have experienced welfare receipt have higher reading comprehension scores if their mothers are not employed than if they have very low-wage jobs. For children of white working mothers, higher earnings serve to ameliorate the negative associations of maternal employment with the

outcome, but children of employed mothers do not perform better in this area, on average, than their counterparts. At best, children of mothers in the medium wage category do no worse, but also no better, than children of non-working mothers.

The picture for African American and Hispanic children is more difficult to interpret. For both groups, and particularly for Hispanics, recent very low-wage maternal employment is correlated with higher reading comprehension. However, higher wage maternal employment does not appear to be advantageous; in fact, children with mothers in the low-wage category tend to do worse than the reference group, while scores of children in the medium wage maternal employment category tend not to differ from those in the reference category.

PIAT-Math. When interaction terms for blacks and Hispanics are entered into the main model, no relationships of recent maternal employment to the outcome are found.

SUMMARY OF MATERNAL EMPLOYMENT FINDINGS

In our sample of low income families with some history of single parenthood and AFDC receipt, we see differing patterns regarding maternal employment for the child outcomes of interest. We see no indication that mothers' employment status affects children's reading recognition scores. *For PIAT reading recognition there were no main effects of employment, and no interactions with child gender or race.*

By contrast, recent maternal employment was associated with fewer behavior problems. In particular, higher wages were correlated with fewer behavior problems for girls. Thus, daughters of women employed in the medium wage category (\$7.50 - 12/hour) had lower (better) scores than girls whose mothers earned less. Among African Americans, maternal employment is positively associated with lower (better) BPI scores when mothers earn more than \$5.00/hour. The pattern is less consistent for boys and for children from white and Hispanic families. For boys there was one exception to the favorable effects of maternal employment, such that boys of employed mothers in the middle wage category showed slightly more rather than fewer behavior problems than boys with non-employed mothers. For children from white and Hispanic families, maternal employment was associated with significantly better behavior only when the mother's wages were \$7.50-\$12.00. *In general, for behavior problems, maternal employment was associated with fewer behaviors problems especially with higher wages, with some variation by subgroup.*

For PIAT reading comprehension we see markedly different patterns by family race/ethnicity, with differences noted particularly with regard to mothers earning the lowest wages. Maternal employment at the lowest wages is related to better scores for minority children, especially those from Hispanic families, while maternal employment in the two higher wage categories did not have positive effects. By contrast, children from white families showed substantially lower scores when their mothers were employed at the lowest wages than when they were. *In sum, effects for PIAT reading comprehension occurred only at the lowest wages, and here effects were in different directions for minority and nonminority children: low wage maternal employment was deleterious for white children but positive for minority and especially Hispanic children.*

For PIAT math, child gender played a key role. For boys, recent maternal employment was associated with generally negative effects, particularly if the mother had a low wage job. In contrast,

maternal employment was positively related to girls' scores, but only if their mothers fell into the medium wage category. *For the math outcomes the pattern was quite different for boys and girls. While maternal employment is related to lower scores for boys, especially at the lowest wage levels, girls with mothers in the highest wage category benefitted from their mothers' employment.*

DISCUSSION

Our results can be viewed from two perspectives, that of policy makers and researchers. For policy makers, the key issues are employment status and wage levels. From a policy perspective, it is important to note that among the mothers in our sample who were employed in 1991, approximately half were employed at wages of less than \$5.00 per hour. It is also important to note that when we set aside the more complex patterns that emerge according to child gender and family race/ethnicity, we see virtually no indication that maternal employment is associated with negative outcomes for children, even at very low wages.

The pattern of differences that does emerge from the main effects analyses is that behavior problems diminish as maternal wages increase. This finding can be interpreted in several ways. First, since it is a mother-report scale, it can be seen as a reflection of more positive maternal outlook overall. If employment reflects an improvement in life circumstances, perception of the child may be brighter. Another interpretation is that behavior problems per se, are lower for children in employed mother families. Our previous work suggests that changes in BPI occur more quickly than changes in cognitive outcomes when family circumstances change (Moore et al., 1995). Thus, such a difference may be a harbinger of more positive impacts at later points on further outcomes.

Irrespective of interpretation, these findings do not support a view that maternal employment acts as a stressor in low-income families. The finding is more concordant with results of McLoyd and colleagues (1994) pointing to less perceived stress among employed mothers and their children in low-income families.

From the perspective of the researcher, our findings manifest the pattern in previous research of great complexity of child outcomes for specific subgroups. For example, even for the BPI, where results were most consistent, we saw differences both by gender and ethnicity. For the cognitive outcomes, the lack of overall employment group differences masked specific patterns by gender and ethnicity. However, only three of the comparisons (3 of 45) yielded significant negative associations between employment and children's cognitive outcomes.

In sum, these findings are cautiously optimistic with regard to employment among single mothers who have received welfare. Bivariate associations between work and higher wages and children's outcomes are generally quite positive. These positive relationships are tempered when variables predicting selection into maternal employment are controlled; but the results continue to show a picture of positive to no effects. While several negative correlations are found for boys (3 of 12), the overall conclusion seems to be that maternal employment is not harmful to children compared with non-employment under conditions of self-selection into employment. We caution that these results cannot be extrapolated to circumstances in which maternal employment is mandated by law. Understanding child development under these circumstances must await the results of experimental studies of welfare policies and programs now beginning to be reported on, in the field or in the planning stage.

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Table 1. OLS Regressions: Main Effects Models (weighted)

	<u>BPI</u>	<u>PIAT-RR^a</u>	<u>PIAT-RC^b</u>	<u>PIAT-Math</u>
<i>Group I: Mother Demographics</i>				
Black (/White)	-1.80	2.20	0.95	-2.22*
Hispanic (/White)	-4.58*	3.93*	1.92	0.38
Number of siblings	0.06	0.42*	0.16	-0.13
Living w/2 biol. parents at age 14 (/No)	-0.04	-0.02	0.05	-0.00
<i>Group II: Child Demographics</i>				
Male (/Female)	4.36***	-6.07***	-4.25***	-2.32**
Age	0.27	-0.71***	-1.62***	-0.80***
Birth order	-0.10	-2.23***	-1.89***	-1.78***
Low birth weight (/No)	2.87 ⁺	-3.50*	-5.24**	-3.92**
Poor health in 1992 (/No)	5.14***	0.39	0.38	0.81
<i>Group III: Attitudes & Attainment</i>				
Mother's education	-0.72*	-0.27	0.47	0.21
AFQT	0.002	0.03***	0.02***	0.01***
Gender role scale (High = trad.)	-0.79	-0.51	0.76	-0.57
Yes, would go on welfare (/No)	-1.48	0.40	-0.27	2.35*
<i>Group IV: 1986-1990 Variables</i>				
Years working	0.13	0.38	0.06	0.01
Father always absent (/No)	-1.28	-0.22	-0.29	0.51
Months on AFDC	-0.07 ⁺	0.02	-0.00	-0.01
<i>Group V: 1991 Variables</i>				
Family income - mother's salary	-0.00	-0.00	-0.00	0.00
Received AFDC (/No)	0.11	0.00	-1.20	-0.94
Married (/No)	0.95	0.64	-0.70	-2.40 ⁺
Very low-wage job, <\$5/hr (/No job)	-2.70 ⁺	-1.59	-2.52 ⁺	-1.13
Low-wage job, \$5-7.50/hr (/No job)	-1.83	0.38	-2.42	1.24
Medium-wage job, \$7.50-12/hr (/No job)	-8.20***	2.09	2.32	1.36
Intercept	121.04***	98.19***	101.20***	100.48***
<i>adj R²</i>	0.07	0.18	0.25	0.14

*p < 0.1 *p < .05 **p < .01 ***p < .001

^aRR = Reading Recognition, ^bRC = Reading Comprehension

Table 2. Interaction Terms for 1991 Employment Status^a

	<u>BPI</u>	<u>PIAT-RR^a</u>	<u>PIAT-RC^b</u>	<u>PIAT-Math</u>
A. Gender Interactions:				
<i>Females</i>				
Very low-wage job	-3.79*	0.45	-2.28	1.06
Low-wage job	-6.00**	1.95	-2.38	1.62
Medium-wage job	-8.66**	2.64	2.61	4.89*
<i>Males</i>				
Very low-wage job	-2.07	-3.69	-2.30	-4.44*
Low-wage job	1.98*	-0.76	-1.80	1.44
Medium-wage job	-8.07	1.34	1.84	-2.39*
B. Race/Ethnicity Interactions				
<i>Whites</i>				
Very low-wage job	-3.80	-1.87	-6.96**	-2.54
Low-wage job	3.37	2.21	-3.99*	0.19
Medium-wage job	-6.09*	2.55	0.12	-1.00
<i>Blacks</i>				
Very low-wage job	-1.35	-1.16	1.05**	0.34
Low-wage job	-7.68**	-1.33	-1.01	4.01
Medium-wage job	-6.75	1.57	5.08	6.11 ⁺
<i>Hispanics</i>				
Very low-wage job	0.43	10.60 ⁺	7.98*	4.32
Low-wage job	-0.50	-1.03	-0.16	-4.05
Medium-wage job	-9.78	2.58	5.20	-0.26

^aRR = Reading Recognition, ^bRC = Reading Comprehension

^aall control variables from main effects model included; all comparisons are to children whose mothers are not employed

⁺p<0.1 *p<0.05 **p<0.01

Appendix Table 1. Sample Characteristics

	<u>Percent</u>	<u>Mean (S.D.)</u>
<i>Mother Demographics</i>		
Black	57.5%	
Hispanic	21.8%	
Live w/ both parents at age 14	47.2%	
Number of siblings		5.14 (3.14)
<i>Child Demographics</i>		
Male	48.4%	
Low birth weight	12.7%	
Poor health 1992	13.9%	
Age (5-14)		9.84 (2.66)
First born	42.6%	
Number of siblings		2.14 (1.45)
<i>Attitudes and Attainment</i>		
Mother's education (1-18)		11.18 (1.97)
AFQT (30-1030), 1980		460.76 (173.82)
Gender role attitude (1-4), 1979		2.26 (0.60)
Positive welfare attitude, 1979	44.5%	
<i>1986-1990 Variables</i>		
Years working (1-5)		2.30 (1.85)
Ever worked	75.6%	
Father always absent	49.7%	
Months on AFDC (1-60)		34.48 (19.74)
Long-term AFDC (36+ months)	46.1%	
<i>1991 Variables</i>		
Household income (\$0-78K)		14.24 (11.87)
Household income - mother's salary (\$0-65K)		10.17 (9.53)
Employed	55.1%	
Very low-wage job (< \$5/hr)	23.9%	
Low-wage job (\$5-7.50/hr)	16.0%	
Higher wage job (> \$7.50/hr)	9.4%	
Received AFDC	60.4%	
Married	18.6%	
<i>1992 Outcome Variables</i>		
Behavior Problems Index		111.24 (15.08)
PIAT-reading recognition		97.44 (14.23)
PIAT-reading comprehension		95.91 (13.64)
PIAT-math		93.80 (12.82)

Appendix Table 2. Bivariate Associations

<u>Variable</u>	<u>BPI</u>	<u>PIAT-RR^a</u>	<u>PIAT-RC^b</u>	<u>PIAT-Math</u>
Sex				
Male	113.31 (14.84)***	94.76 (14.42)***	93.44 (13.93)***	93.07 (13.13) ⁺
Female	109.30 (15.05)	99.97 (13.57)	98.44 (13.01)	94.49 (12.50)
Race				
White	110.03 (15.07)	100.00 (15.03)**	99.57 (13.87)***	97.96 (12.60)***
Black	110.88 (15.35)	97.10 (14.06)	95.36 (13.17)	92.40 (12.67)
Hispanic	110.48 (14.28)	95.86 (13.59)	93.90 (14.11)	93.49 (12.62)
Low birth weight				
Yes	113.50 (17.12) ⁺	95.44 (15.43)	92.13 (14.42)**	91.46 (12.98)*
No	110.85 (14.72)	97.62 (14.07)	96.28 (13.50)	94.07 (12.84)
Poor health in 1992				
Yes	116.31 (16.19)***	96.00 (15.45)	93.59 (15.78) ⁺	92.07 (15.38)
No	110.41 (14.73)	97.65 (14.03)	96.26 (13.28)	94.06 (12.38)
Welfare attitude				
Positive	110.62 (14.66)	96.01 (14.42)**	93.82 (13.66)***	93.24 (13.58)
Negative	111.74 (15.39)	98.54 (13.98)	97.58 (13.41)	94.25 (13.00)
Length of AFDC receipt 86-90				
Short-term (1-36 mos)	111.56 (14.79)	98.35 (14.22)*	97.14 (13.60)**	94.83 (12.75)**
Long-term (37-60 mos)	110.88 (14.41)	96.38 (14.17)	94.52 (13.57)	92.62 (12.81)
Father absent 86-90				
Yes	110.67 (14.80)	97.04 (14.98)	95.16 (13.73) ⁺	93.64 (12.74)
No	111.81 (15.33)	97.83 (13.44)	96.85 (13.50)	93.96 (12.91)
Ever worked 86-90				
Yes	111.10 (15.18)	98.11 (14.17)**	96.92 (13.28)***	94.78 (12.58)***
No	111.69 (14.78)	95.26 (14.22)	92.60 (14.31)	90.69 (13.10)
Mother worked in 1991				
Yes	110.13 (15.18)**	98.66 (14.02)**	97.27 (12.97)***	95.07 (12.40)***
No	112.58 (14.85)	95.88 (14.35)	94.12 (14.30)	92.21 (13.17)

<u>Variable</u>	<u>BPI</u>	<u>PIAT-RR</u>	<u>PIAT-RC</u>	<u>PIAT-Math</u>
Job categories in 1991				
Not working	112.58 (14.85)***	95.88 (14.35)***	94.12 (14.30)***	92.21 (13.17)***
Very low-wage job	111.52 (16.49)	96.36 (14.37)	95.34 (12.78)	92.66 (12.45)
Low-wage job	109.81 (14.52)	100.02 (12.81)	97.57 (12.58)	96.69 (12.71)
Higher wage job	105.85 (13.40)	100.98 (13.94)	101.09 (12.93)	97.67 (10.46)
Received AFDC in 1991				
Yes	111.42 (14.78)	96.49 (14.07)**	94.74 (13.63)**	93.16 (13.06)*
No	110.97 (15.57)	98.88 (14.35)	97.68 (13.48)	94.78 (12.43)
Married in 1991				
Yes	110.73 (13.71)	98.58 (15.36)	96.82 (14.59)	94.44 (12.85)
No	111.36 (15.38)	97.18 (13.95)	95.72 (13.44)	93.66 (12.82)
<u>Linear Correlations</u>				
Household income 1991	-0.089**	0.115***	0.120***	0.126***
Months on AFDC 1986-1990	0.003	-0.094**	-0.132***	-0.096**
Child's age (yrs)	0.008	-0.083**	-0.150***	-0.129***
Birth order	-0.003	-0.140***	-0.117***	-0.132***
Mother's education	-0.090**	0.213***	0.275***	0.198***
Mother's AFQT score	-0.037	0.327***	0.335***	0.302***
Gender attitude score	-0.003	-0.113***	-0.126***	-0.116***
Years working 1986-1990	-0.020	0.132***	0.154***	0.128***

*p < 0.1 *p < .05 **p < .01 ***p < .001
^aRR = Reading Recognition, ^bRC = Reading Comprehension