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in Welfare-leaving Families**

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## Maternal Working Conditions and Child Well-Being in Welfare-leaving Families

### Abstract

In the wake of welfare reform, thousands of low-income single mothers have transitioned into the labor market. This paper examines how the work conditions of mothers leaving welfare for employment are associated with the emotional well-being of 372 children ages 5 to 15. We examine the cumulative incidence, over a five-year period, of maternal non - “family - friendly” work conditions including long work hours, erratic work schedules, non-day shifts, and lengthy commute times in association with children’s internalizing and externalizing behavior problems and levels of positive behavior. We find that mothers’ lengthy commute times are associated with higher levels of internalizing problem behaviors and lower levels of positive behaviors.

## Introduction

The booming economy of the mid-to-late 1990's helped low-income single mothers reach unprecedented employment levels. In addition to the forces of economic growth, single mothers' employment rates rose in response to policy levers including expansion of the Earned Income Tax Credit and state and federal welfare program changes (Blank, 2002). As a result, the employment of single mothers increased dramatically, dwarfing the increase in employment that occurred at the same time for the economy as a whole. These trends have sparked interest in the association between single mothers' employment experiences and child well-being. Indeed, the study of welfare-to-work transitions and child development has burgeoned in recent years. Most of this work has examined how children fare when their mothers exit welfare and begin work in the low-wage labor market. Findings suggest neutral or slightly positive effects of low-income and welfare-reliant single mothers' transitions into work on the well-being of younger children (Chase-Lansdale et al., 2003; Gennetian & Miller, 2002; Huston et al., 2001), although some studies have identified more negative effects for some subgroups of adolescents (Gennetian et al., 2004).

However, largely unaddressed in this literature is how the working conditions of former welfare recipients are associated with child well-being. Researchers studying the labor market experiences of single mothers have been concerned with the high prevalence of working non-standard hours and non-fixed schedules among less educated mothers. These work characteristics are increasingly prevalent in the "24/7" economy and especially likely to characterize low-wage work (Presser & Cox, 1997; Presser, 1999).

As increasing numbers of mothers leave the welfare rolls for work in the low-wage labor market, it is important that research in this area enter the next phase; that is, asking not only how transitions off of welfare or into employment *per se* affect family life, but also how the working conditions of welfare leavers might be associated with parental and child well-being.

In this paper, we use longitudinal data from a large, representative sample of mothers who were randomly drawn from the welfare rolls in 1997 in one Michigan county. We draw on five years' worth of data to examine the cumulative incidence of working conditions and school-age children's emotional well-being. We focus in particular on non-standard work conditions and other dimensions of employment that may pose problems for mothers' ability to effectively balance work and family, including working long hours, irregular hours, non-daytime shifts, or having a lengthy commute. These questions are examined with a particular interest in identifying different patterns of effects for boys versus girls, younger versus older school-age children, and families with and without another adult caregiver present.

### Background

The economy of the 1990's was characterized as having persistently low unemployment, with rapid wage and income growth occurring for both middle- and lower-income families. The tight labor markets of the latter half of the 1990's were most beneficial to those with the fewest labor-market advantages -- younger families, minority families, and families headed by single mothers (Mishel, Berstein, & Boushey, 2003). In addition to the increased work participation brought about by the requirements of the 1996 welfare reforms, dramatic increases in employment among single mothers in the

1990's can be attributed to expansions of the Earned Income Tax Credit, Medicaid expansions, and increases in child care and job training, all of which increased the incentives for single mothers to work (Blank, 2002; Meyer & Rosenbaum, 2000).

Psychologists and sociologists studying single mothers' (and also, more recently, welfare recipients') employment have been concerned with how women's work experiences affect child well-being. In general, maternal employment is associated with better maternal mental health (Hoffman & Youngblade, 1999) and can benefit children in low-income families through additional income and the social and cognitive stimulation it provides the mother, which may lead to more positive interactions with children (Klebanov, Brooks-Gunn, & Duncan, 1994). Others have argued that parental work can benefit low-income children through the provision of positive role models and the stabilization of family routines (Wilson, 1996).

New non-experimental evidence shows neutral or small positive effects on children when low-income mothers transition off of welfare and into employment. For example, results from the *Three-Cities Study*, whose sample represented low-income married and single mothers, indicate that for preschool children, mothers' transitions into employment over a two-year period had no effect on changes in child behavior problems. Moreover, mothers' transitions into work were associated with improvements in adolescents' mental health, and stability in employment was related to declines in adolescents' externalizing behavior problems (Chase-Lansdale et al., 2003). Kalil, Dunifon, and Danziger (2001) similarly found that the intensity of maternal work—months worked per year and hours worked per week—has little effect on school-aged children's behavior problems in welfare-leaving families. Recent experimental

evaluations have also identified positive impacts on children when welfare programs mandate work. Young children of single-parent, long-term welfare recipients who were required to work and benefited from financial incentives to do so had positive outcomes on measures of school performance and behavior problems compared to a control group who participated in the traditional welfare program (Gennetian & Miller, 2002; see also Huston et al., 2001).

At the same time, however, there is evidence of negative effects of maternal employment in low-income families, especially when job quality is considered. Researchers drawing on national data collected in the 1990's report that parents employed in low-wage, low complexity jobs provide less nurturing home environments than do parents with jobs that pay more or offer more complexity and autonomy; this effect is particularly pronounced for single mothers (Menaghan & Parcel, 1995). Similarly, children of parents employed in low-wage and lower quality jobs show less favorable outcomes than their counterparts in families with higher-paying, higher quality jobs (Moore & Driscoll, 1997; Parcel & Menaghan, 1990). This raises some concerns about how characteristics of the jobs into which many less-educated single mothers will transition influence children.

Another defining feature of the low-wage labor market is the high prevalence of non-standard work hours. The "24/7" economy means that many workers will not regularly work a fixed, Monday through Friday, daytime schedule. This is particularly true in the service sector, and thus disproportionately affects women and those with less education because such individuals are over-represented in service-sector jobs such as cashiers, orderlies, retail salespersons, and home health aides (Presser, 1999; 2004).

Indeed, over 40% of mothers ages 18-43 who lack post-secondary education work non-standard schedules (Presser & Cox, 1997).

Working the evening or night shift or on weekends may be preferable for some mothers to the extent that they can rely on “split-shift” parenting with another caregiver. Presser (1989), drawing on national data from the 1980’s, reported that young, unmarried, employed mothers with children under 5 rely heavily on grandmothers for the care of their children, and that over one-quarter of such mothers work the evening shift, thus facilitating the sharing of child care. However, Presser & Cox (1997) report that in a national sample of young, low-educated unmarried mothers surveyed in the early 1990’s, by far the most commonly-cited reason for working a non-standard shift is that it is a requirement of the job. This reason was given by 44% of such respondents. Another common reason, cited by 8% of the sample, is that they “could not get another job.” In contrast, only 19% of the sample reported that they worked a non-standard shift for “better child care arrangements.” Thus, we expect that for most welfare leavers, working a non-standard shift is not likely to reflect a personal preference.

Work at non-standard times may make it difficult for women to secure child care, may stress family relationships, and could interfere with parental supervision of and involvement with children. With a few exceptions, however, researchers have not examined the consequences of non-standard work for family life and child well-being. Presser (2000) found that among dual-earner married couples with children, husbands’ or wives’ working the night or rotating shift increased the likelihood of separation or divorce. Presser suggested that among couples with children, non-standard schedules pose particular complications for family life, in part due to the physiological and social

stresses of working very late hours or the instability of working a rotating shift. One can easily imagine that such work schedules could perturb parent-child relationships and influence child well-being as well. An emerging literature has begun to relate non-standard work to parenting behavior and child outcomes. Bogen and Joshi (2001) and Han (2005) show that maternal non-standard work is associated with increases in children's behavior problems and decreases in test scores, respectively. Other work suggests that this may be due to increases in parenting stress (Bogen & Cherlin, 2004) or decreases in child care quality (Han, 2004).

It is possible that non-daytime work and other stressful maternal work conditions might particularly influence school-age children and adolescents. Whereas non-standard work among parents of very young children may still allow for spending the day together, older children who are in school during the day time may spend quite limited time with a parent who works the evening shift. Heymann and Earle (2001), using data from a national sample, report negative effects of parental evening work schedules on the quality of the home environment parents provide for children. Heymann's (2000) qualitative research with low-income working families also describes children being left in the care of other children, or alone, even during the evening, because of parental work schedules. Such situations potentially can be stressful and risky for children.

The low-wage labor market is also characterized by instability in the number of hours that employees have the opportunity to work or are expected to work, even if their employment "status" remains constant. For example, Henly and Lambert's (2005) qualitative study of the low-wage retail sector revealed that many employers lower or even eliminate hours when business dips. Employers in this sector commonly practice

“just-in-time” scheduling, which refers to policies that determine staffing levels based on the previous week’s sales. In these jobs, workers are given only two days’ advance notice of their schedules. Henly and Lambert’s study also revealed that when employers adjust hours to fluctuating demand, the number of hours can increase or decrease, week to week or even day to day. Workers in their study were routinely expected to work overtime during busy weeks but were sent home during slow periods. One illuminating example of instability described by Henly and Lambert is that of a lock-box job at a bank. In this position, workers were required to process all daily transactions before a shift ended; thus, the length of the day varied dramatically depending on how much mail was received. Working a non-fixed number of hours could interfere with establishing family routines and make it difficult to arrange regular care for children. To date, no study we know of has related the instability of hours to child well-being.

Although even less-studied than the issue of non-standard work hours, there is reason to suspect that long hours and lengthy commute times also characterize the employment experiences of the working poor. For example, as noted above, the low-wage service economy often requires workers to work long hours during times of peak business (Henly & Lambert, 2005). Low-wage workers, who typically have little autonomy at work, may risk losing their jobs if they refuse demands for extra work. Also, low-income workers may find it necessary to work long hours in order to make ends meet. Working long hours can interfere with parental involvement and supervision, even if it brings more material resources to the household (Heymann, 2000).

Finally, in an era of mandated work, women may be forced to take jobs that require lengthy commutes; this could also tax parental resources and adversely affect

child well-being. Recent research has shown that jobs for less-educated workers are concentrated in white, middle-class suburbs that are often far from workers' homes and not easily accessible by public transportation (Johnson, 2003). We know of no study that has examined the relationship between commute time and child well-being.

Based on this evidence, we identify four key characteristics of the low wage labor market—non-daytime work, irregular hours, long hours, and lengthy commute times—and hypothesize that these characteristics will adversely affect child well-being.

Moreover, we predict that ill effects might be particularly pronounced in three specific subgroups: older children, girls, and households that lack a secondary caregiver (either a grandparent or a male partner of the mother). The basis for these predictions is elaborated below.

First, our expectation of differences based on child age is based on evidence from experimental studies showing that adolescents in families where mothers are leaving welfare and increasing their employment under mandatory as well as voluntary conditions are at some increased risk of school difficulties, in contrast to the positive effects of mandated work identified for younger children (Gennetian et al., 2004). In these studies, negative effects for older children seem to be concentrated among those who have a younger sibling at home, suggesting that some adolescents might take on increased (and possibly stressful) household responsibilities in the face of their mothers' transitions into work. This idea has also been suggested in qualitative work (Heymann, 2000). These adult-like activities could conflict with schooling pursuits or could be psychologically draining (Dodson & Dickert, 2004; Gennetian, 2004). Older children may be even more likely to take on such roles when mothers work non-standard

schedules, work long hours, or have a lengthy commute. Thus, older children may be particularly influenced by maternal working conditions.

Maternal employment at non-standard times could also reduce the opportunity that parents have to monitor or supervise their adolescents, and mothers in low-wage jobs may have little flexibility to attend to supervisory needs at home. This might create more opportunities for children to engage in risky behaviors; unsupervised time in low-quality, resource-poor neighborhoods may be especially problematic for older children's well-being (Furstenberg et al., 1999).

Second, if one of the pathways linking adverse maternal working conditions and poorer child development outcomes is the child's increased responsibilities at home, then we might also expect to see particularly negative effects for girls. Family labor in low-income households, which includes caring for younger siblings, household management, and domestic chores, most often falls upon girls, in part because of gendered expectations regarding girls' versus boys' roles in domestic work (Dodson & Dickert, 2004). Time-use studies have also shown that high-school age girls devote more time to household tasks than boys (Gager, Cooney, & Call, 1999). Thus, if mothers' employment outside the home produces a need for greater child contributions to household work, girls may be more affected than boys.

Finally, to the extent that negative effects of maternal working conditions derive from a lack of adult supervision or involvement, then we predict that these effects will be particularly acute in families in which single mothers are the only resident adult.

Although of course the mere presence of a grandparent, father, or father-figure does not guarantee adult involvement, it is likely that children have higher rates of monitoring and

involvement from another adult caretaker if he or she lives in the same household, particularly when parental non-standard work is considered.

### Data

We use data from four waves, covering a five-year period, of the Women's Employment Study (WES), a longitudinal study of a sample of women drawn from the cash assistance rolls in an urban Michigan county in February 1997. The WES is being conducted at the University of Michigan's Poverty Research and Training Center. Michigan's Family Independence Agency (FIA) provided names and addresses of all single-parent cases in the county, and a stratified random sample of women between the ages of 18 and 54 was drawn. The first wave of WES interviews was completed between August and December 1997, with a sample of 753 single mothers (an 86% response rate) who were welfare recipients in February 1997. Of these 753 mothers, 575 who had a child between the ages of 2-10 at wave 1 were selected to be part of the "target child sample" and were administered additional questions assessing parenting and child well-being in each survey wave. The analyses presented here use data from questions asked about these target children. A second wave of data was collected in 1998. The third wave was completed in late 1999 and wave 4 was completed in early 2002. At wave 4, 415 mothers in the "target child sample" remained (or 72% of the original sample of such mothers). No other post-1996 welfare reform study has followed a panel of respondents for this length of time, making the WES a uniquely important data set for examining the work experiences of welfare leavers.

The WES staff has examined the nature of attrition in the WES sample (Pape, 2004). Using administrative data, bivariate analyses compared the characteristics of the

full universe of women (women receiving welfare in a specific Michigan county in February, 1997) with those who remain in the WES through wave 4. Results indicate that the remaining WES sample does not differ from the WES universe in terms of race, age, education, earnings and number of people in the household, while also indicating that the WES slightly over-represents women who remain on welfare (as opposed to leaving it). However, trends over time in welfare receipt are nearly identical in the two groups. As another way of examining attrition bias, a multivariate regression model was used to predict whether a woman remained in the sample at each wave, using characteristics measured at the prior wave. Results indicated that, of a set of 20 variables capturing demographic characteristics, mental health, physical health, and human capital measures, only one (a measure of depression) was associated with attrition by wave 4, such that women with symptoms of depression were more likely to leave the sample. Taken together, this evidence suggests that problems from non-random attrition are not severe.

Over time, women in the WES sample have transitioned off of welfare and into the labor market such that, by wave 4, 62% of the women were employed and no longer receiving welfare (Michigan Program on Poverty and Social Welfare Policy, 2004). The median hourly wage for employed women at wave 4 was \$8.32 per hour, and 43% of employed women were working in the service industry. Despite the high rates of employment, though, the WES remains a relatively disadvantaged sample; at wave 4, 43.5% of the sample had incomes below the Federal Poverty Line.

The analyses presented here take advantage of all four waves of data to relate maternal job characteristics experienced over the four-wave period to child well-being

measured at wave 4. The present study therefore uses the sample of 415 mothers with target children who were present at wave 4. Because we are examining maternal work conditions, the sample is further restricted to those mothers who were employed in at least one of the four waves ( $N = 372$ ). At wave 4, the target children were between the ages of 5 and 15, with an average age of 8.64 years ( $SD = 2.41$  years).

## Measures

### *Dependent variables*

Our dependent variables capture aspects of children's emotional well-being with three measures of child behavior: externalizing behavior problems, internalizing behavior problems, and positive behavior. Each of these scales relies on maternal reports of children's behavior. In our regression models, we predict the level of each of these behaviors at wave 4, controlling for the initial level of each behavior measured at wave 1.

The survey contained a subset of items from the Behavioral Problems Index (BPI) described in Chase-Lansdale et al., (1991). Unfortunately, due to space constraints, the WES did not include the entire 28-item BPI at each wave. In the WES, items are available from the externalizing and internalizing behavior problems subscales.

Externalizing behavior (3 items) includes items such as "bullies or is cruel or mean to others" and "breaks things deliberately." Mothers respond whether these behaviors are not true (1), often true (2), or sometimes true (3) for their child. This variable ranges from 3 to 9. Alphas at the first and fourth waves, respectively, are .48 and .64.

Internalizing behavior (5 items) focuses on sadness ("unhappy, sad"), being withdrawn, and feelings ("feels worthless"). Values range from 5 to 15, and the alphas are .66 and .77 for waves 1 and 4, respectively. These alphas are consistent with those found in the

National Longitudinal Survey of Youth (Baker et al., 1993), which also administered the BPI. Higher scores on each of these measures indicate higher levels of behavior problems.

The measure of positive behavior contains eight items (wave 1 alpha .74, wave 4 alpha .81) tapping the child's compliance (examples include "cooperates with others" and "follows family rules"). Mothers respond whether the child rarely (1), sometimes (2), or almost always (3) exhibits these behaviors. The responses are summed and the scale ranges from 8 to 24, with higher scores indicating more positive behavior. The items from this scale are drawn from the compliance subscale of the Adaptive Social Behavior Inventory (Hogan, Bauer, & Scott, 1992), which measures adaptive or prosocial behavior for high-risk three-year-olds and was originally developed for the Infant Health and Development Project (IHDP).

Despite the relative brevity of these measures of child well-being compared to studies that have been able to administer the complete Behavior Problems Index, previous analyses with earlier waves of these data, using the same measures, have indicated that they are reliably related in theoretically-predicted ways to indicators of maternal work and welfare patterns, maternal mental health problems, parenting behaviors, and family economic well-being (Dunifon, Kalil, & Danziger, 2003; Kalil et al., 2001).

#### *Maternal working conditions*

Several measures of the nature of women's jobs are used to predict child well-being. These measures are taken from each of the four waves of the WES. The total number of times that a woman experienced a given work condition over the four waves is

summed, and used to create a series of variables indicating whether a woman has either (a) never experienced a given work condition (the omitted group in the regression equations), (b) experienced a given condition at one wave only or (c) experienced a given condition at more than one wave over the four-wave period. The variables reflect the working conditions of mothers who were employed at the time the survey was administered; therefore, mothers who are not employed at a given survey wave have fewer data points to draw from in creating these summary measures of working conditions. However, among our 372 mothers, most were employed most of the time. For example, 41% mothers were employed in all 4 waves, 27% were employed in 3 out of the 4 waves, and 18% were employed in 2 out of 4 waves.

The following work conditions are measured at each wave. A variable that equals one if the mother works more than 40 hours a week and zero otherwise is used to measure whether the mother works long hours. To measure irregular hours a variable is created that indicates whether the mother responds “a lot” or “a fair amount” to the following question: “Does the number of hours you work from week to week change a lot, a fair amount, a little, or hardly at all?” To measure whether the mother works the non-day shift we create a variable indicating that the mother mostly works “evening” or “mixed day and evening” hours at her job (versus mostly working “days”). Finally, a measure of long commute time equals one if the mother reports a one-way commute time of 25 minutes or more from her home to her job (this cut-off represents the top quartile of the original distribution on this measure).

#### *Control variables*

All analyses control for characteristics of the mother and the household, measured

at wave 1, that may be associated with the conditions of her work and the well-being of her child. One key advantage of the WES is that it contains an unusually rich set of psychological and other characteristics of the children's mothers, allowing us to control for factors that are commonly unmeasured, and therefore may cause bias, in other studies.

The demographic controls included in the analyses are: number of children under 18 in the household, maternal age in years, whether the mother lives with her mother, whether the mother is married or cohabiting, mothers' educational level (coded with a variable that equals zero if she did not complete high school, one if she completed high school, and two if she completed post-high school education), mothers' race (coded 1 if African American and 0 otherwise), and child age in years and sex (coded 1 if male).

Analyses also control for a range of other measures that could be correlated both with maternal employment and child outcomes. These are: whether the mother has poor or fair health; parental stress (a seven-item index ranging from 7 to 35 that measures the degree of stress or irritation mothers' perceives in relation to their interactions with their children, taken from Abidin's Parenting Stress Index [Abidin, 1990] and from the New Chance Study [Morrison et al. 1998]); domestic violence (measured by the Conflict Tactics Scale, a widely used measure of family violence [Strauss and Gelles 1986, 1990]); and learning disability (the measure of maternal learning disability was taken from wave 4, the first time that it was measured in the survey). We also control for a wide range of measures of mothers' mental health, including depression, anxiety disorder, alcohol dependence, drug dependence, and post-traumatic stress disorder (PTSD). The mental health variables are based on criteria specified in the revised edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental

Disorders (DSM-IV) (APA, 1994). The WES uses the Composite International Diagnostic Interview screening batteries for the 12-month prevalence of these psychiatric disorders (for measurement details, see Danziger, et al., 2000; Kessler et al., 1994). A respondent was coded as 1, having a mental health problem, if she met the screening criteria for any of these five psychiatric disorders at wave 1, and 0 if she was not.

We also control for mothers' hourly wage averaged over the waves in which she was employed. Hourly wage was bottom-coded at \$2 and top-coded at \$25. Family income is not included because of its high collinearity with the wage measure. Finally, because the number of waves a mother worked could be associated with the number of times she experienced a given work condition, we control for the number of waves (out of four) that the mother was employed.

#### Method

When relating maternal employment characteristics to child outcomes, the potential for reverse-causality exists. That is, children's characteristics may influence women's employment behavior. For example, mothers of children who have high levels of behavior problems may alter their work hours to better monitor their children. Other studies in this area have lacked repeated measures of child outcomes and are therefore unable to address this issue (Han, 2005; Bogen & Joshi, 2001). We control for measures of child well-being taken at wave 1 when using maternal employment conditions spanning all four waves to predict child outcomes at wave 4. Including the measure of prior child behavior in each regression also controls for any time-invariant omitted characteristics of the mother or child that influenced past child well-being and may also be correlated with mothers' employment characteristics. This method is shown below:

$$Y_{i4} = \alpha_{i4} + Y_{i1} + \beta_1 \text{condition\_once}_{i1-4} + \beta_2 \text{condition\_2plus}_{i1-4} + \gamma \text{controls}_{i1} + \varepsilon_{i4} \quad (1)$$

Here, the outcome for child  $i$  at wave 4 is regressed on the same outcome measured at wave 1, as well as a vector of maternal job characteristics indicating whether a mother experienced a specific job condition once over the four waves ( $\text{condition\_once}_{i1-4}$ ), or more than once ( $\text{condition\_2plus}_{i1-4}$ ). The omitted category is never experiencing a given job condition. We also control for the series of wave 1 variables ( $\text{controls}_{i1}$ ) described above.

This model tests the assumption that the frequency with which a mother experienced various work conditions between waves 1 and 4 is associated with changes in children's behavior over this period of time. In other words, these analyses test whether children whose mothers experience various working conditions are on a different trajectory in terms of their behavioral outcomes than are other children. This model assumes that the association between maternal work conditions and child outcomes persists over time. However, this model does not allow for an estimation of the concurrent association between maternal work conditions and child behavior, nor does it consider the effects of how recently a child's mother experienced a given work condition. Ordinary least squares regression is used for all analyses.

## Results

Table 1 presents means and standard deviations for all variables. At wave 4 the average internalizing scale score is 6.34, the average externalizing score is 4.55, and the average positive behavior score is 20.03. With respect to working conditions, many women report experiencing job conditions that could make it difficult to balance work and family: 26% worked long hours at one wave, and 17% worked long hours at two or

more waves; 30% worked varying hours at one wave, while 16% did so at two or more waves. The most common “non-family-friendly” working condition is not working the day shift: 33% did not work the day shift at one wave, and 38% did not work the day shift at two or more of the four waves. Finally, 32% had a long commute at one wave, while 22% had a long commute at two or more waves.

Looking at demographic characteristics, the average household contains 2.5 children. The average age of the mothers at wave 1 is 29 years while the average target child is 4.6 years old. More than a quarter of the children live in a household with either a grandmother (7%) or the mother’s spouse or male partner (23%). Of the psychological problems assessed, the most common is depression, which is indicated among 24% of the mothers. Additionally, 18% of mothers reported domestic violence in the year preceding the wave 1 interview, and 16% of the mothers had symptoms of post-traumatic stress disorder.

Table 2 presents results of analyses regressing wave 4 child behavior on maternal working conditions (waves 1 through 4), controlling for wave 1 child behavior. As noted above, we hypothesized differences by child sex and age and by the presence of other adults in the household. We used Chow tests to examine these hypotheses. The results indicated that, contrary to our hypotheses, the associations between maternal working conditions and child behavior do not differ by child age or sex or by the number of adults in the household (results available upon request). Therefore, we present results for the full sample of children.

In the first column of Table 2, maternal work conditions are used to predict internalizing behavior. Here, we find a significant positive association between having a

lengthy commute at two or more waves (relative to never having a lengthy commute) and children's internalizing behavior problems (effect size of 25% of a standard deviation in internalizing behavior). Results from analyses predicting externalizing behavior are shown in column two, but here there are no significant predictors among the measures of maternal work conditions. Finally, the last column shows results predicting positive behavior. Here, children's positive behavior decreases when mothers have one long commute (coefficient of -0.95) and when mothers have two or more long commutes (coefficient of -1.13) over the four-wave period. These effect sizes are 30% and 35% of a standard deviation in positive behavior, respectively.

#### Extensions

The analyses presented here take advantage of the four waves of WES data, covering a five-year period, to relate the frequency with which mothers experienced various work conditions over the four-wave period to child outcomes measured at wave 4. However, there are alternative ways to measure the associations between maternal working conditions and child well-being. We have tested models that use maternal and child controls from wave 4, rather than wave 1, as well as models that examined the concurrent associations between maternal work conditions at wave 4 and child outcomes measured in the same wave, controlling for child outcomes measured at wave 3. The results from these alternative models did not differ from those presented in Table 2 (available upon request).

Because our data contain repeated measures of maternal work conditions and child outcomes, another modeling strategy would be to use a fixed-effects regression model, in which within-child changes in the number of maternal work conditions

experienced are used to predict within-child changes in behavior. The benefit of such an approach is that it allows for an examination of the concurrent association between maternal work conditions and child outcomes while at the same time controlling for all time-invariant variables, including those that we cannot directly measure. In addition, the fixed-effects model controls for any time-invariant factors that may be related to attrition from the sample (Foster & Bickman, 1996). The drawback of the fixed-effects model is that its power is derived only from variation that occurs between waves; thus any stable aspects of important variables are removed from the analysis.

We performed fixed-effects analyses of the relationship between maternal work conditions and child outcomes. Like the OLS results, the fixed-effects results show a positive association between having experienced more than one long commute and children's internalizing problems, and no association between maternal work conditions and externalizing problems. Unlike the OLS results, the fixed-effects results indicate no relationship between the maternal work condition variables and positive behavior (results are available upon request).

We next performed two tests to determine whether a fixed-effects approach is preferable for our data. A test developed by Hausman (1978) compares the results of analyses that do adjust for fixed-effects to those that do not (Green, 1997). A significant difference in estimates could reflect measurement error, problems with simultaneity, or endogeneity. Results from a Hausman test indicate that, for internalizing and externalizing behavior, significant differences in estimates do exist between fixed-effects and OLS analyses ( $p < .01$ ), but that there were no significant differences in the estimates obtained by these two methods when looking at positive behavior. This suggests that we

should prefer the fixed-effects results for externalizing and internalizing problems and the OLS results for positive behavior.

Another way to examine the potential for bias from unmeasured variables is to use the fixed-effects themselves (that is, all measured and unmeasured characteristics of children and their mothers that do not change with time, which can be obtained by conducting fixed-effects analyses) as dependent variables, and then use the full set of control measures to predict these fixed-effects. A low R-square in such a regression would indicate that the measured control variables capture very little of the total fixed characteristics of mothers and children in our sample; a relatively high R-square would indicate the opposite, and would suggest that, through the use of extensive controls, we are capturing most of the important time-invariant characteristics of mothers and children. Results from such analyses (available upon request) indicate that the extensive control variables available in the WES account for 38% of the total observed and unobserved fixed characteristics of our sample. While this is a substantial amount, it still leaves a majority of the fixed effects unexplained.

#### Discussion

This paper examined the associations between maternal working conditions and child well-being across a five-year period among families leaving welfare. In recent years, increasing numbers of mothers have left welfare and entered low-wage jobs that often require them to work long, non-standard, or irregular hours, and to commute far from home. However, to our knowledge, no other study has related this range of job characteristics to child well-being. Among the four different types of job conditions we examined, mothers' having a lengthy commute was associated with increases in

children's internalizing behavior problems and decreases in children's positive behavior. These results were found despite a stringent research design that used lagged dependent variables and an unusually wide set of control variables representing important aspects of maternal mental health, experiences and behaviors.

We know of no other studies that have specifically examined commute times, but it emerges as a key measure in our analyses. Among mothers in our study who have a long commute, the average time spent commuting is 80 minutes per day; this represents a significant portion of time away from children for mothers who already have a long work day (the average woman in our sample works 37 hours a week). Time spent commuting is obviously not time that is paid, and so any negative effects of decreased time with children are not offset by increased income.

It is also possible that something about the mode of transportation associated with a long commute is problematic, unreliable, or stressful for mothers (and that this stress is reflected in their children's behavior problems), but with our data, we can only speculate on this point. In our sample of mothers with long commutes, 64% drive to work, 3% walk, 15% ride with someone else, and 17% take the bus. Of those who do not have a long commute, 87% drive, 2% walk, 6% ride with someone, and 2% take the bus. These differences are statistically significant at the 1% level; women with long commutes appear less likely to drive themselves to work and more likely to ride with others or take the bus.

It is noteworthy that our study failed to find negative effects on child behavior of mothers' working non-standard shifts -- the measure that has been most commonly studied in the previous literature (see Presser, 2004). For example, Bogen and Joshi

(2001) found significant associations between maternal nonstandard work and pre-school aged children's behavior problems. The current study examines school-aged children and young adolescents, which may account for the difference in findings. Additionally, this study measures a wider set of maternal working conditions; it is possible that in other studies, non-standard work is proxying for other, more salient, work conditions. This highlights the importance of examining a wider range of measures of job conditions to better understand the impact on children and families.

We did not find support for our hypotheses relating to differences for boys versus girls, for older children, or for children with and without a potential secondary caregiver. We think these hypotheses are theoretically well-justified, however, and deserve to be examined in future studies. For example, in our study, we were unable to assess the employment status of the potential secondary caregiver (either the mothers' spouse or partner or the child's grandmother). If all of these individuals were also employed most of the time (and perhaps faced the same kinds of non-“family friendly” work conditions as did the child's mother), then it would not be surprising that their presence would not yield any protective effects for young children's behavior.

With respect to the hypothesized sex and age differences, it could be possible that an unequal burden of responsibility for household management (and concomitant lower levels of well-being) would fall to older teenage girls in particular; in our sample the number of girls over the age of 10 was only 49, and we had data on only 23 teenage girls ages 13-15. Future studies that had larger samples could provide a better test of this hypothesis.

Some limitations of this paper should be noted. We do not have information on

the child care arrangements that mothers' use for the WES target children, nor the types of activities that children are engaged in (such as participating in after school programs, or staying home alone) when their mothers are at work. Understanding these aspects of children's time spent away from their mothers is clearly important and future work should seek to address this.

The next "phase" of welfare reform research will undoubtedly include many more studies of the associations between maternal working conditions and parental and child well-being. Many of these studies will be conducted with an eye toward policy-relevant recommendations and possibilities for intervention, when necessary. Given that ours is one of only a handful of such studies, we are mindful of the need to be cautious when drawing such conclusions from the results presented here. Our unique findings on the associations between lengthy commute times and poorer adjustment in children call for replication.

During the past decade, record numbers of single mothers have left the welfare rolls and entered jobs. Although a substantial literature has now examined how this transition has affected children, very little work has considered the consequences of the conditions of these jobs for children. This study, and others like it, signals the need for a new focus of research in this area addressing the challenges faced by low-income working families.

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TABLE 1: Descriptive Statistics

	Mean	Standard Deviation	N
Internalizing Behavior at wave 4	6.34	1.81	368
Externalizing Behavior at wave 4	4.55	1.39	369
Positive Behavior at wave 4	20.03	3.19	369
Mother works long hours at one wave	.26	.44	372
Mother works long hours at two or more waves	.17	.38	372
Mother works varying hours at one wave	.30	.46	372
Mother works varying hours at two or more waves	.16	.37	372
Mother works non day shift at one wave	.33	.47	372
Mother works non day shift at two or more waves	.38	.49	372
Lengthy commute at one wave	.32	.47	372
Lengthy commute at two or more waves	.22	.42	372
Average hourly wage	7.54	2.68	372
Total number of children under 18 in household	2.52	1.36	372
Age of respondent	28.93	6.30	372
Age of target child	4.63	2.40	372
Mother in fair/poor health	.20	.40	372
Child's grandmother lives in household	.07	.26	372
Mother lives with husband or partner	.23	.42	372
African-American	.56	.50	372
Mother's Education level	1.10	.80	372
Maternal Depression	.24	.43	372
Parental Stress	20.75	5.43	371
Anxiety Disorder	.04	.20	371
Alcohol Dependence	.03	.18	372
Drug Dependence	.03	.18	372

Domestic Violence	.18	.38	372
PTSD	.16	.37	372
Maternal Learning Disability	.10	.30	372
Number of waves mother was employed	2.96	1.07	369
Target child is male	.50	.50	372
Internalizing Behavior at wave 1	5.67	1.13	367
Externalizing Behavior at wave 1	4.67	1.36	368
Positive behavior at wave 1	19.48	2.99	360

TABLE 2: Regression Results for Full Sample (Standard Errors in parentheses)

	Internalizing	Externalizing	Positive Behavior
Mother works long hours at one wave	-0.14 (0.21)	0.04 (0.16)	-0.01 (0.36)
Mother works long hours at two or more waves	-0.28 (0.25)	-0.10 (0.19)	0.15 (0.43)
Mother works varying hours at one wave	0.10 (0.20)	0.10 (0.15)	0.05 (0.34)
Mother works varying hours at two or more waves	0.06 (0.27)	0.08 (0.20)	0.29 (0.46)
Mother works non day shift at one wave	-0.13 (0.23)	-0.10 (0.17)	-0.19 (0.38)
Mother works non day shift at two or more waves	0.21 (0.24)	0.06 (0.18)	-0.24 (0.41)
Lengthy commute at one wave	0.21 (0.20)	0.01 (0.15)	-0.83** (0.34)
Lengthy commute at two or more waves	0.46** (0.23)	0.13 (0.17)	-1.03** (0.40)
Control for Wave 1 variable	0.49*** (0.08)	0.40*** (0.05)	0.50*** (0.05)
Constant	2.40** (0.78)	1.97*** (0.55)	13.68*** (1.65)
Observations	359	361	353
R-squared	0.26	0.29	0.26

Note: \* indicates  $p < .10$ , \*\* indicates  $p < .05$ , \*\*\* indicates  $p < .01$

All analyses also control for the following measures from Wave 1: average hourly wage, number of children in the household, mother's age, child age, child sex, maternal health status, maternal depression, maternal anxiety disorder, maternal alcohol dependence, maternal drug dependence, experiences of domestic violence, maternal PTSD, whether the mother has a learning disability, whether the grandmother lives in the household, whether the mother is married or has a cohabiting partner, whether the mother is African-American, maternal educational level, and the number of waves worked by the mother.

