

Long-term implications of welfare reform for the development of adolescents and young adults

By: P. Lindsay Chase-Lansdale, Andrew J. Cherlin, Katarina Guttmannova, Paula Fomby, David C. Ribar, Rebekah Levine Coley

Chase-Lansdale, P.L., A.J. Cherlin, K. Guttmannova, P. Fomby, [D.C. Ribar](#), and R.L. Coley. 2011. "Long-term implications of welfare reform for the development of adolescents and young adults". *Children and Youth Services Review*. 33 (5): 678-688.

Made available courtesy of Elsevier:

<http://www.sciencedirect.com/science/article/pii/S0190740910003609>

*****Reprinted with permission. No further reproduction is authorized without written permission from Elsevier. This version of the document is not the version of record. Figures and/or pictures may be missing from this format of the document. *****

Abstract:

We draw upon the 3-wave longitudinal dataset called Welfare Children and Families: A Three-City Study to examine the long-term implications for adolescents and young adults (N = 783) of mothers' welfare receipt and labor force participation from 1999 to 2005. In general, changes in mothers' work and welfare patterns were not associated with deterioration or improvement in youth development (ages 16 to 20 years at Wave 3). The few significant associations suggested that youth whose mothers increased employment (net of welfare participation) were less likely to show increases in serious behavior problems and delinquency compared to youth whose mothers were unemployed or employed part-time during the study period. Welfare roll exits (controlling for employment experiences) were unrelated to adolescent and young adult outcomes. Mothers' employment transitions were linked to improvements in household income and mothers' self esteem in addition to reductions in financial strain and their own illegal activities. However, these associations did not explain the relation between maternal employment and youths' improved behavior. These results do not support the predictions of either the supporters or the opponents of welfare reform, an outcome we discuss.

Keywords: Welfare | Maternal employment | Adolescents | young adult development | Poverty | welfare reform | youth services

Article:

1. Introduction

The landmark welfare reform law of 1996, the Personal Responsibility and Work Opportunity Reconciliation Act, or PRWORA, eliminated Aid to Families with Dependent Children and replaced it with a far more stringent program of cash assistance: Temporary Assistance for

Needy Families (TANF). Beginning in 1997, most states provided cash assistance on a short-term basis (a total of 5 years or fewer) if welfare mothers went to work. States also applied strong sanctions for not following the rules. Prior to the passage of PRWORA, policymakers and advocates had issued diametrically-opposed predictions about the bill's likely effects on children and youth. Supporters claimed that children and adolescents would benefit when their mothers left welfare for employment, because family incomes would increase, and mothers would maintain better daily routines and act as models of goal-directed behavior (Haskins, 2006). Opponents warned, in contrast, that children and teenagers would suffer, because family income would decline due to lost benefits and a shortage of adequately-paying, stable jobs. Opponents also argued that job responsibilities and stress would interfere with mothers' parenting, and that children and adolescents would receive less supervision or spend more time in unsuitable care arrangements (Edelman, 1997).

Yet, almost 15 years after the implementation of PRWORA, the long-term implications for child and youth development are still unclear, since most studies of welfare reform and children ended by 2001. Until that point, the American economy had been strong; the unemployment rate fell from 5.4% in 1996 to 4.0% in 2000 (U.S. Department of Labor, Bureau of Labor Statistics, 2008). Thus, PRWORA had the good fortune to be launched during the longest economic boom in U.S. history, along with a significant expansion of the Earned Income Tax Credit (Hall et al., 2001). By 2000, welfare reform had been widely hailed as a success: The welfare rolls had dropped sharply, many more single mothers were employed, and child poverty had decreased (Crouse, Douglas, & Hauan, 2007). After 2000, however, the economy began to cool. Unemployment climbed during the first half of the 2000s, reaching 6.0% in 2003 before declining somewhat to 5.1 in 2005, and child poverty was on the rise (Crouse et al., 2007 and Haskins, 2006).

We know little about whether and how child and youth well-being may have changed under welfare reform during the period of sluggish economic growth between 2000 and 2005. The present study was designed to address the long-term developmental trajectories of adolescents and young adults as their mothers made welfare and employment transitions from 1999 to 2005. Few studies of welfare reform follow children and adolescents into the early 2000s, and we review the four major long-term studies here whose designs emphasized leaving welfare, getting a job, or increasing employment, not simply welfare receipt. The first, involving approximately 866 children ages 1 to 10 years at baseline, is a long-term follow-up of an experimental antipoverty demonstration program, New Hope, where the treatment group of low-income mothers received case management, subsidized health care and child care, plus wage subsidies contingent upon employment for 30 or more hours per week for 3 years beginning in 1994 (Duncan, Huston, & Weisner, 2007). The follow-up evaluation in 2002, 5 years after the program ended, found that mothers in the experimental group were more likely to have left welfare, entered the labor market, or increased employment hours (with the exception that some

mothers cut back slightly on extremely high levels of employment). Children and adolescents in the treatment condition were less likely to have problems in school progress and more likely to show greater school engagement and optimism for the future than those in the control group (Huston, Walker, Dowsett, Imes, & Ware, 2008). While these results indicate the promise of a model antipoverty program, they may not readily generalize to low-income families experiencing typical state-level welfare policies and local employment opportunities.

Three additional large-scale studies of welfare and work transitions followed mothers and children into the 2000s, but were restricted to families who were receiving welfare at the start. The Women's Employment Study (WES) was based in a moderate-sized urban area in Michigan and followed approximately 575 welfare mothers and their children (ages 2–10 years at baseline) from 1997 to 2003 (Johnson, Kalil, & Dunifon, 2010). Controlling for welfare participation over 6 years, Johnson et al. found that children's and teenagers' behavior problems decreased when mothers were employed versus unemployed by 2003. In subset analyses of employed mothers only, children's and teenagers' behavior problems increased when mothers experienced job loss, worked in positions with unstable hours, or worked long hours in low-skilled jobs with little wage growth potential, as compared to those whose mothers had better-paying, stable jobs (Johnson et al., 2010). The Illinois Families Study drew its sample from welfare rolls in Chicago and downstate Illinois, and followed approximately 980 families and children (ages 6 to 14 years at Wave 1) from 1999 to 2002 (Lewis, 2010). Findings were mixed. Controlling for past and present welfare participation, the study found that mothers' employment by 2002 was related to lower school achievement for boys but not for girls compared to children and youth whose mothers were not in the labor force. Lastly, Urban Change, a longitudinal survey from 1998 to 2001 of 740 welfare-dependent mothers and their adolescents (ages 12–18 years at Wave 1) in Cuyahoga (Cleveland), Los Angeles, Miami-Dade, and Philadelphia counties, reported negative outcomes. When welfare mothers took jobs or increased employment, their adolescents were more likely to skip school, perform less well, and have higher behavior problems in school 2 years later than were teenagers whose mothers did not increase employment (Gennetian, Lopoo, & London, 2008).

2. Theoretical perspectives and related empirical research

The present study takes a long-term perspective on adolescents, because the implications of welfare reform may be particularly important for them. Adolescence is a period of tremendous change and opportunity (Downey, Eccles, & Chatman, 2005). With growing cognitive, physical, and emotional maturity, adolescents' roles in their families and society shift. A better understanding of family dynamics combined with expanded desires for material goods may lead adolescents to be more cognizant of and perhaps more affected by mothers' work and welfare

behavior as well as family economic strain (Conger, Conger, Glen, Elder, & Lorenz, 1992). Teenagers also spend more time outside of the household and with peers than do younger children, increasing opportunities to engage in risky behaviors and delinquency. Moreover, symptoms of emotional distress such as depression and anxiety also grow during adolescence (Cicchetti & Toth, 1998). Finally, adolescents face important decision points concerning central life tasks such as childbearing, schooling, and career trajectories that have repercussions for health and development throughout the lifespan (Downey et al., 2005). Stable and supportive family environments are essential for buttressing youth during this period of change (Steinberg, 2001).

Three theoretical perspectives provide hypotheses concerning why welfare reform may influence adolescent development. These perspectives also reflect the opposing political arguments that were voiced about welfare reform in the mid-1990s. The first is an economic investment framework, which argues that welfare receipt keeps families in poverty, and that employment—the most reliable pathway to higher family income—would lead to positive outcomes for adolescents. Increased family income would enable parents to invest more goods and services toward their teenagers' well-being with healthier food, improved housing, and educational opportunities. Similarly, parents could improve their adolescents' access to better neighborhoods, schools, and other important services such as afterschool programs and health care (Duncan and Brooks-Gunn, 1997, Haveman and Wolfe, 1994 and Yeung et al., 2002).

The second theoretical perspective is a psychological stress framework, which implies that requiring low-income mothers to enter the labor market or to increase their labor force participation if they were otherwise unwilling to do so would be highly stressful. Stress would result from the challenges of balancing mothering and working, the likelihood of nonstandard employment hours and unpredictable schedules, the tedium and income instability from low-level jobs, and the resulting inability to provide adequate supervision and support to adolescents (Han, 2005, Menaghan and Parcel, 1995 and Raver, 2003). Moreover, a lack of high quality jobs would lead to continued financial strain, which in turn would heighten mothers' depression, psychological distress, and problematic parenting, resulting in negative outcomes for youth (Conger et al., 1992, McLoyd, 1998 and Yeung et al., 2002).

A third perspective considers how mothers serve as role models for their children. Mothers who leave the welfare rolls for employment would provide strong examples of independence, initiative, and motivation for their teenagers. These women would have higher levels of self esteem, would exemplify persistence and determination rather than dependency, and would implement more systematic daily routines and discipline at home, all of which would be

beneficial to adolescents as they face their own important decisions concerning childbearing, education, and employment trajectories (Hao and Cherlin, 2004, Haveman and Wolfe, 1994 and Ku and Plotnick, 2003).

Ironically, few empirical findings were available to support or refute the contentious predictions of welfare reform's advocates and opponents in the 1990s. Since then, a sizable body of research has accrued regarding predominantly short-term implications of welfare reform for youth. Beginning with the first political argument and theoretical perspective—positive outcomes due to increased financial resources from employment—, the most relevant short-term empirical work is the Next Generation study of adolescents, involving a meta-analysis of 8 experimental programs in operation between 1990 and 1996 that were aimed at reducing mothers' welfare participation and increasing maternal employment (Gennetian et al., 2004). Adolescents' average ages were 10 to 16 years at random assignment and ranged from 12 to 18 years at follow-up, 2 years later. A synthesis of findings across the 8 experiments (and 16 programs) revealed that randomly-assigned treatments (financial incentives, work requirements, or time limits) for primarily welfare-reliant mothers reduced welfare receipt and increased employment, but resulted in small negative consequences for teenagers' school performance. The negative program impacts did not seem to be related to changes in family income, but instead were concentrated among families with younger siblings (in the subset of programs where this information was available), suggesting that mothers' employment may have burdened their adolescents with heightened family demands.

In contrast to these negative findings, a 2003 report with a 2-year time frame from the Three-City Study revealed that mothers' transitions off welfare or into employment from 1999 to 2001 were associated with few positive or negative links with outcomes for young adolescents aged 10 to 14 years at baseline. An exception to this pattern of null findings was that mothers who took jobs or who increased their work hours had adolescents 2 years later who reported steeper declines in psychological distress than those whose mothers remained out of the work force or who were employed part-time (Chase-Lansdale et al., 2003a). Although family income increased dramatically with maternal employment, this factor did not explain the positive outcomes. Moreover, movements into employment also predicted improvements in experiential measures of poverty, including decreased financial strain and reports of food insecurity (Coley, Lohman, Votruba-Drzal, Pittman, & Chase-Lansdale, 2007).

The second political prediction and theoretical perspective—negative outcomes due to increased psychological stress—also seems to have accrued mixed empirical support in the short-term. A more in-depth report of one of the experimental antipoverty programs in the Next Generation

Study—the Self Sufficiency Project (SSP) in Canada—includes some measurement of mothers' well-being as well as child and adolescent outcomes (Morris & Michalopoulos, 2003). The sample of welfare mothers was comprised of approximately 5100 children at random assignment (1992–1995), 1400 of whom were youth aged 9 to 15 years. Treatment families received a monthly income supplement for up to 3 years if welfare mothers obtained full-time employment within the first 12 months of the program. The evaluation was conducted in 1995–1998, and showed that over the 3-year time period following random assignment, 52% of mothers in the treatment group had worked full-time with an accompanying increase in income, compared to 39% of the control group. Despite these seemingly positive changes, mothers of adolescents in the experimental group did not report reductions in their levels of depressive symptoms or improvements in parenting as compared to the control group. Moreover, teenagers in the treatment group had modestly higher levels of delinquency, smoking, drinking, and drug use than controls.

Other studies have found mixed results in relation to mothers' well-being. In the New Hope study, mothers in the treatment group experienced increased employment and income. At the 5 year follow-up in 2002, treatment group mothers of adolescents reported lower levels of parenting stress and fewer problems with discipline than did the comparison group mothers, but there were no differences in mothers' depression, general stress, sense of hope, or positive and negative parent–youth relations (Huston et al., 2008). In reports from the Three-City Study, mothers' increases in employment by 2001 were linked with decreases in their financial strain and declining symptoms of depression as well as with heightened self esteem (Coley et al., 2007). However, increased employment was not linked to improvements in the quality of parenting, the regularity of family routines, or cognitive stimulation in the home (Chase-Lansdale et al., 2003a and Coley et al., 2007).

The third perspective—that welfare receipt impedes mothers' self esteem, determination, initiative, and discipline—has also received mixed support. The Three-City Study found few short-term associations among mothers' welfare experiences, their psychological health, and youth outcomes. Leaving welfare by 2001 was not associated with improvements in mothers' self esteem or regularity in the home environment (Coley et al., 2007). Few links were found between welfare-leaving and youth outcomes, with exceptions indicating modest evidence that mothers' movements off welfare were related to improved reading scores and lowered involvement in substance use among youth (Chase-Lansdale et al., 2003a).

Two of the most comprehensive longitudinal studies address welfare receipt per se but not transitions on or off the welfare rolls. They draw upon nationally representative datasets and

report contradictory results. Ku and Plotnick (2003), using family fixed-effects regressions in a sample from 1968 through 1997 from the Panel Study of Income Dynamics (PSID), found that mothers' welfare receipt during their children's adolescence was linked to lower educational attainment of teenagers. Yet, in a second study involving instrumental variables, sibling differences, and child fixed-effects models in a sample from 1979 to 2000 from the National Longitudinal Survey of Youth (NLSY79), Levine and Zimmerman (2005) found virtually no links between mothers' welfare receipt and adolescents' cognitive skills or behavior problems.

Contradictory findings are also evident in two cohort studies (again of mothers' welfare receipt but not welfare transitions), where the conceptual argument is that adolescents in more recent cohorts would experience the stricter, more negative signaling message of the 1996 reforms, and thus improve their behaviors, as compared to adolescents who came of age during prior, more lenient periods of welfare policy. Kaestner, Korenman, and O'Neill (2003) compared adolescent cohorts from the NLSY79 and NLSY97, and their results support this hypothesis, showing lower levels of school drop-out and adolescent pregnancy in the more recent cohorts (ages 17–19 by 1999 versus 17–19 by 1984). However, a study comparing two teenage cohorts within the NLSY97 (ages 14–17 by 1997 or by 2000) who experienced different policy regimes just before and after the 1996 welfare reforms found few links between broad changes in welfare policy and adolescent outcomes (Hao & Cherlin, 2004).

Overall, the existing literature shows numerous contradictions (Grogger & Karoly, 2005). However, one pattern stands out. Most studies drawing their samples solely from welfare recipients found negative effects of mothers' movements into employment on adolescent behavior problems and school success (Johnson et al., 2010 is an exception). Studies that have focused on broader populations of low-income families have found that increases in maternal employment are linked to improved well-being among children and early adolescents (Chase-Lansdale et al., 2003a and Duncan et al., 2007).

This may be an important distinction, because PRWORA likely had effects that dispersed across a broader population. Focusing only on welfare-receiving families omits a large portion of the target of welfare reform, specifically families facing serious economic hardship but who are not on welfare. Fewer eligible families have been entering the TANF program than prior to the passage of PRWORA (Acs, Phillips, & Nelson, 2005), and lower entry rates (as opposed to higher exit rates) have accounted for a substantial proportion of the decline in the TANF rolls—39% (e.g., Grogger, Haider, & Klerman, 2003). Since PRWORA, many low-income single mothers have attempted to find employment on their own rather than participating in the work-oriented, time-limited TANF program (Haskins, 2006). Consequently, the influence of the

changing welfare policy environment may extend to the “welfare eligible” population: not just families who are receiving TANF, but also low-income single-parent families with children who would likely qualify for benefits and may have received welfare benefits in the past, but are not currently receiving them. A second limitation to focusing solely on welfare recipients concerns the bundling of behavioral changes. Survey and experimental studies of only welfare recipients cannot separate the effects of leaving welfare from the effects of increasing employment, as these individuals have made a number of behavioral changes in combination (Moffitt & Ver Ploeg, 2002).

The current study was designed to address some of these limitations by examining the broader population of low-income families and concurrently assessing both welfare and employment behaviors. Here we report on the association of mothers' welfare and employment transitions with changes in youth socioemotional development and school performance over a six-year period, 1999 to 2005, in a random sample of low-income families living in low- and moderate-income neighborhoods in Boston, Chicago, and San Antonio. The sample is comprised of predominantly welfare-eligible families. At Wave 1, 28% of the young adolescents were in families receiving TANF, an additional 41% of families were not on TANF but had previously received welfare assistance, and 30% had never received TANF, despite being poor.

The present study is timely in a number of ways. It is the longest study of adolescents in the post welfare reform era, following families through 2005 as they experienced the economic downturn that began in the early 2000s. Mothers' employment and welfare transitions can be distinguished and are not bundled together. For example, adolescents of mothers who left welfare are compared to those whose mothers who remained on welfare, controlling for any employment experiences, and youth whose mothers took jobs or increased work hours are compared to those whose mothers remained out of the labor market or in part-time positions, net of welfare receipt. In-depth measurement of adolescent development from both mother reports and youth reports characterizes all three waves.

3. Method

3.1. Welfare, children and families: A Three-City Study

In 1999, a household-based, stratified random sample of 2402 households in Boston, Chicago, and San Antonio was surveyed. Eligible households included at least one child aged 0 to 4 years or 10 to 14 years residing with a female caregiver. The sample was stratified on four dimensions: Household income (below 100% of the federal poverty level or 100–200% of the federal poverty

level); Medicaid receipt; female household headship; and ethnicity (household head was non-Hispanic white, non-Hispanic Black, or Hispanic). Over 40,000 households were screened for inclusion in the study with a 90% response rate, and 82.5% of eligible households agreed to participate in the study, resulting in an overall response rate of 74%. In each participating household, one age-eligible child was randomly selected to become the focal child in the study. There were 1244 children aged 0–4 years and 1158 youth aged 10–14 years in the first wave of the study.

The focal children and their caregivers were each interviewed in 1999 and re-interviewed in 2000–2001 and in 2005. (Over 90% of the mothers were biological mothers; others were grandmothers, or other relatives or caregivers. We refer to them all as “mothers”). In each wave of the study, a 2.5-hour home interview was conducted in which information was gathered about the children's emotional development, behavior, and school success. Information was also obtained about the mothers' work status and living arrangements and more generally about the household economic circumstances, demographic characteristics, neighborhood conditions, and experiences with assistance programs. Older children and adolescents reported on their emotional health and problem behavior, school performance, and family circumstances. With these features, the Three-City Study provides a detailed, longitudinal portrait of children's developmental outcomes and their household environments.

3.1.1. Analytic sample

Our empirical analyses use data on the youth cohort (children aged 10 to 14 years in 1999) who participated at every wave and had valid data on the measures of interest. This yielded an analytic sample with 783 youth (68% of the initial sample). By the time of the third interview in 2005, the youth were 16–20 years old. An attrition/exclusion analysis indicated that adolescents in the analytic sample had mothers who were more likely to have completed high school by Wave 1 compared to adolescents in the remainder of the Wave 1 sample. All of our empirical analyses use longitudinal sampling weights that adjust for the study's stratified design, initial non-response, and subsequent attrition. When weighted, the analytic sample is representative of youth ages 10 to 14 years who resided in a low-income household with a female caregiver in a low-income neighborhood in Boston, Chicago, or San Antonio in 1999.

3.2. Measures

3.2.1. Youth emotional well-being, behavioral well-being, and school performance

Measures of youth functioning were reported by both mothers and youth. The Child Behavior Checklist (CBCL) was administered for youth ages 10 years to 18 years and the Adult Behavior Checklist (ABCL) for youth 19 years or older. These checklists are 100+ item mother-report measures that assess emotional and behavioral problems such as depression and anxiety (called internalizing problems), as well as aggression and delinquency (called externalizing problems). We utilized the borderline/clinical cutoff points, which identify youth with serious behavioral and emotional problems who are likely to be in need of psychological services. We used the total behavior problem scores as well as scores on the subscales of internalizing behavior problems and externalizing behavior problems (Achenbach and Rescorla, 2001a and Achenbach and Rescorla, 2001b). Borderline and clinical classification cutoff scores for internalizing, externalizing and total scores were based on T-scores (normalizing transformation scores reflecting percentile equivalents). T-scores of 60 to 63 (84th to 90th percentiles) correspond to borderline range, and T-scores above 63 correspond to the clinical range. Cutoff scores are recommended for longitudinal comparisons, particularly when different age-versions of CBCL are utilized over time (Achenbach & Rescorla, 2001b).

The youth also reported on their own behavioral and emotional functioning. These and other sensitive questions were administered directly to respondents using audio computer-assisted self-interviews to increase validity and item response. Youth responded to a measure of delinquency based on items modified from the National Longitudinal Study of Youth (NLSY) and the Youth Deviance Scale (Borus et al., 1982, Gold, 1970 and Steinberg et al., 1991). Items, measured on a 1 (never) to 4 (often) scale, were averaged to create a total score of Delinquency (α Wave1 = 0.66, α Wave3 = 0.75). Youth self-reported their psychological distress by responding to the 18-item version of the Brief Symptom Inventory (BSI) which assesses symptoms related to depression, somatization, and anxiety (BSI-18; Derogatis, 2000). We use the total BSI psychological distress score (α Wave1 = 0.89, α Wave3 = 0.92). This version of the BSI has been found to produce valid and reliable scores in diverse adult populations. Because youth norms have not yet been developed, the use of raw scores has been recommended in these samples. To address skewness in the raw Delinquency and BSI scores, we transformed the variables by taking a natural log of the mean of items on each of the total scales. In addition, adolescents reported on their grades in school, using an 8-point scale (ranging from 1 = mostly A's to 8 = mostly F's). Adolescents' self-reports of grades have been found to correlate highly with other measures of school functioning in a variety of contexts, (e.g., Gonzales, Cauce, Friedman, & Mason, 1996). In Wave 3, additional information on school performance was reported by the mothers and available for 384 youth in our sample. For these youth, the self-reported grade point average (GPA) was correlated 0.76 with the maternal report of GPA. Following the Next Generation project, we created two measures of school performance: (1) Above average school performance with grades "above mostly C's" coded as 1, while "mostly C's and below" were coded as 0; and

(2) below average school performance with grades “below mostly C’s” coded as 1, while “mostly C’s and above” were coded as 0 (Gennetian et al., 2004).

3.2.2. Mothers' welfare and employment patterns

Mothers completed monthly retrospective calendars of their welfare use and employment. For Wave 1 and Wave 3, the calendars covered the 2 years preceding each interview; for Wave 2, the calendar covered the interval between the Wave 1 and Wave 2 interviews, which ranged from 11 months to 2 years. The survey questions on employment and welfare receipt went through an extensive piloting and quality control exercise prior to field implementation. The two-year retrospective time frame is similar to the retrospective time frames in major national surveys, such as the PSID and the NLSY79, and is widely thought to be an acceptable period for recall. The two-year retrospective window does, however, create a discontinuous record of employment and welfare receipt between Waves 2 and 3 due to the longer time period (2000/2001 to 2005).

Because it is important to measure family contexts over time as predictors of adolescent developmental trajectories, we defined a mother to be working if she had been employed in at least six out of the prior 11 months and to be on welfare if she had likewise received welfare for at least six of the last 11 months. We further consider two separate definitions of employment that vary in intensity. In our first series of models, we distinguish between mothers who were working any hours per week and those who did not work at all. In the second series, we distinguish between mothers who were employed full-time (30 or more hours per week) and mothers who were employed less or not at all.

With these definitions, the mothers in our sample could have experienced one of eight possible transition patterns for each of the dichotomous welfare and employment outcomes. Limitations associated with the study's sample size led us to group the transitions into the following broader categories in most of our empirical analyses. For welfare, we distinguish between mothers who were (a) on welfare in Wave 1 but off in Wave 3 (“welfare leavers”); (b) on welfare at Wave 1 and at Wave 3 (“welfare stayers”); (c) off welfare in Wave 1 but on welfare in Wave 3 (“welfare entrants”); and (d) off welfare at Wave 1 and at Wave 3 (“welfare nonparticipants”). These definitions do not account for Wave 2 welfare status; for example, the “welfare leavers” category includes mothers who left welfare before Wave 2 and others who left after Wave 2. For the two definitions of employment, we categorize employment transitions in the same way: (a) Working any or 30+ hours at Wave 1 but less at Wave 3 (“decreased employment”); (b) working any or 30+ hours at Wave 1 and at Wave 3 (“maintained employment”); (c) not working any or 30+ hours at Wave 1 but increasing by Wave 3 (“increased employment”), and (d) not working any

or 30+ hours at Wave 1 and at Wave 3 (“maintained nonemployment or part-time employment”). Initial specification tests supported grouping the transitions this way. We also tested models that included Wave 2 information about welfare and employment status, and the results were similar.

We analyzed the transitions in employment concurrently and independently from the transitions in welfare receipt. Thus, in the multivariate models, the estimated associations between mothers' employment and youth outcomes hold welfare receipt and other observable characteristics constant, and the estimated associations between mothers' welfare receipt and youths' outcomes hold employment and other characteristics constant. Because of the close programmatic connection between employment and welfare status, it would be worthwhile to examine interactions of these variables and transitions (e.g., to examine working welfare recipients and unemployed welfare leavers). As previously mentioned, however, limitations associated with the study's sample size led us to focus on the simpler, uninteracted transition measures.

3.2.3. Demographic and background characteristics

Our multivariate analyses also account for other characteristics of youth, mothers, and households. These characteristics, reported by mothers, include the youth's age, the youth's race/ethnicity, the mother's age, her marital status, her education, the household income-to-needs ratio, and the number of children under age 18 in the household. Mothers' marital status is coded as a dummy variable (1 = married, 0 = not married), and mothers' education is measured by three categories: Less than high school (the reference category), completed high school, or college degree or higher. The income-to-needs ratio is defined as total monthly household income including food stamp benefits divided by the household's size-adjusted poverty threshold. Additional dummy variables indicated whether the mother was the biological mother of the adolescent, whether the primary caregiver changed by Wave 3, and whether the youth was living independently. Mothers also reported whether English was their first language, and their city of residence was coded as Boston or Chicago, with San Antonio as the omitted category.

3.2.4. Explanatory mechanisms

We assessed potential explanations for the associations between youth outcomes and mothers' welfare and employment transitions, guided by the three theoretical perspectives. These include measures of family economic resources, mothers' psychological stress and self esteem, as well as family routines and monitoring. Family economic resources were assessed by the income-to-needs ratio and a 6-item financial strain index (Coley & Chase-Lansdale, 2000) that measures

perceptions of economic difficulty and stress, for example whether mothers experienced difficulty paying bills and affording necessities ($\alpha = 0.76$ at Wave 1 and 0.79 at Wave 3).

Mothers' psychological distress was assessed with the Brief Symptom Inventory (BSI), the same measure used to assess youth psychological distress, employing standardized t-scores using adult norms developed by the scale's author (Derogatis, 2000; $\alpha = 0.92$ at Wave 1 and 0.90 at Wave 3), in addition to a measure of mothers' physical well-being, using a 5-point scale, where 1 = excellent and 5 = poor. Mothers also reported on their engagement in delinquency, using a similar measure as employed with youth (11 items, $\alpha = 0.70$ at Wave 1 and 0.80 at Wave 3).

Mothers reported on their self-concept using an adapted form of the Rosenberg Self-Esteem Scale (1986) which assesses both positive and negative self-concepts, summed into a total score (10 items; $\alpha = 0.76$ at Wave 1 and 0.78 at Wave 3). Measures of family functioning tapped into regularity of youths' family routines and their supervision and monitoring. Family routines were assessed through mother reports on items selected from the Family Routines Inventory (Jensen, James, Boyce, & Hartnett, 1983; 5 items, $\alpha = 0.60$ at Wave 1 and 0.72 at Wave 3). Youth reported on parental monitoring on a scale of items from the Behavior Control scale (Lamborn et al., 1991 and Steinberg et al., 1991) which measures how much parents know about youths' activities and peers (5 items, $\alpha = 0.70$ at Wave 1 and 0.84 at Wave 3). Mothers reported on their parenting stress with a scale of 7 items derived from New Hope and the PSID ($\alpha = 0.76$ at Wave 1 and 0.79 at Wave 3).

3.3. Empirical strategy

To examine how maternal employment and welfare transitions might relate to different patterns of youth development, we estimated a series of multivariate, lagged dependent variable, regression (LDV) models. We use ordinary least squares (OLS) regressions where the dependent variable was continuous and roughly normally distributed as well as logistic regressions where the dependent variable was dichotomous. Let Y_t be a variable that represents a youth outcome (e.g., an indicator for behavioral problems) measured at Wave t . Let W_3 and E_3 be vectors that contain the measures of maternal welfare and employment transitions over Waves 1 to 3. Let X_1 be a vector that contains other measured characteristics of the youth, mother, and household that are observed in Wave 1, and let ϵ_3 be a variable that represents other unmeasured characteristics. Our OLS-LDV model can be written as

$$Y_3 = \alpha + \beta Y_1 + \delta' W_3 + \gamma' E_3 + \theta' X_1 + \epsilon_3.$$

Our logistic LDV model can be written as

$$\ln[p(Y_3=1)/1-p(Y_3=1)]=\alpha+\beta Y_1+\delta'W_3+\gamma'E_3+\theta'X_1$$

where α , β , δ , γ , and θ are coefficients or vectors of coefficients to be estimated. In this specification, the youths' emotional, behavioral, and school performance outcomes from Wave 3 were regressed against baseline measures of the same outcomes taken from Wave 1 (the lagged dependent variable), mothers' employment and TANF participation histories, and other observed characteristics. Our focus is on the estimated conditional associations between the welfare and work patterns and the youths' outcomes (that is, on the estimated elements of δ and γ). All of our standard errors have been corrected using the Huber-White method. Finally, we also ran specifications that included Wave 2 youth, mother, and household measures in addition to the Wave 1 (X_1) controls, but these did not alter our findings. We also experimented with minor alternations of the welfare and work history groupings, such as defining welfare “leavers” as those who were off TANF in either Wave 2 or Wave 3 instead of just being off in Wave 3. These changes did not substantially alter our results.

Our choice of LDV specifications is motivated by several theoretical and methodological concerns. First, we are fundamentally interested in how mothers' histories of welfare use and employment correlate with youth outcomes. Developmental theory indicates that any associations of youth outcomes with changes in mothers' employment or welfare receipt over the 6 year period would be gradual and not instantaneous. This leads us to consider models that include all of the 6-year employment and welfare history. It also suggests that alternative specifications, such as fixed or random-effects models with shorter histories, might not be suitable. Second, changes in youth trajectories over time are likely to vary depending on the starting point, so we must consider the level of youths' baseline outcomes. Third, preliminary tests of “structural shift” (stability of coefficients over time) indicated that we could not “pool” observations over time. Thus, longitudinal fixed- and random-effects models using short histories (Wave 1 to Wave 2 and Wave 2 to Wave 3) were ruled out. Fourth, theory also suggests that youths' baseline outcomes could influence their mothers' subsequent welfare and employment decisions. For instance, mothers of adolescents with fewer behavior problems could feel more comfortable working or leaving welfare than other mothers. For these multiple reasons, Wave 1 youth behaviors are controlled (Coley, Ribar, Votruba-Drzal, 2011).

Finally, we wish to approach drawing causal inferences from the empirical analyses. Multivariate methods, which account for the potentially confounding influences of numerous observed measures, help in this regard. In addition, by controlling for baseline levels of development that are unique to each adolescent, the LDV models account for many unmeasured maternal and household characteristics that are associated with youth development and possibly with other observed characteristics, including the mother's welfare and work behavior. Associations could

arise if the mothers' skills, abilities, and resources are imperfectly measured but nonetheless correlated with their own welfare use and employment and with their children's development. Thus, the LDV models account for biases that could arise from observed and unobserved variables.

While the LDV specifications control for many sources of confounding variation, they do not address all sources. For example, the models do not address biases associated with unmeasured characteristics that change between the baseline and final observations, such as a change in household circumstances that affects the mother's welfare use or employment as well as the youth's development. Also, the models only control for unobservable characteristics at or before Wave 1 to the extent that those characteristics are associated with the baseline level of development. Estimation results are also sensitive to the mismeasurement or misreporting of the observed controls. The results from the LDV models need to be interpreted with these caveats in mind.

4. Results

4.1. Sample characteristics

Descriptive characteristics of the sample including the youth, maternal and family characteristics as well as the welfare and employment transitions are included in Table 1. The average youth in the data analytic sample was 12 years old and the average mother was 38.1 years old at Wave 1. About 41% were African-American, 53% were Hispanic, and 6% were non-Hispanic white and other ethnicities. Approximately 11% of youth were living independently by Wave 3. At Wave 1, the sample was quite poor: The average income-to-needs ratio was 0.77. About 32% of mothers were receiving TANF. About 34% of mothers were married with a spouse in the household at Wave 1, and 43% had less than a high school degree. Approximately 32% of mothers had been on welfare in 6 of the prior 11 months. In terms of employment at Wave 1, 45% had been employed for any hours per week in 6 of the prior 11 months, and 28% had been working for 30+ hours per week in 6 of the preceding 11 months. About 65% of the interviews were conducted in English, and 35% were conducted in Spanish. The families were evenly divided across the three cities of Boston, Chicago, and San Antonio.

Table 1.

Demographic characteristics of the sample in Wave 1 (N = 783).

Wave 1		
	Mean	SD
<i>Youth characteristics in Wave 1</i>		
Age (in years)	11.97	1.40
Male	0.46	0.50
Race		
White/other	0.06	0.23
African-American	0.41	0.49
Hispanic	0.53	0.50
Independent youth	0.11	0.32
<i>Maternal and family characteristics in Wave 1</i>		
Education		
Less than HS	0.43	0.49
HS diploma	0.43	0.50
Technical or vocational training	0.12	0.33
College	0.02	0.14
Age (in years)	38.10	7.86
Married	0.34	0.48
Income-to-needs ratio	0.77	0.58
Number of children under 18 in household	3.13	1.47
Welfare receipt	0.32	0.47
Employed (1+ hour definition)	0.45	0.50

Wave 1		
	Mean	SD
Employed (30+ hour definition)	0.28	0.45
Caregiver is focal child's mother	0.92	0.27
Interview conducted in English	0.65	0.48
City of residence		
Boston	0.33	0.47
Chicago	0.35	0.48
San Antonio	0.32	0.47

Notes: SD = Standard Deviation. Statistics are weighted.

Table 2 provides descriptive information on mothers' patterns of employment and welfare participation from 1999 to 2005. Regarding welfare participation, 26% of the sample left the welfare system by Wave 3. Approximately 6% were on the welfare rolls at Wave 1 and Wave 3, only 3% entered welfare by Wave 3, and 66% did not receive welfare at either time point. (This latter group includes the 43% who were on welfare prior to but not at the start of the study). Using the first definition of employment (any hours per week), 11% of mothers transitioned out of employment by Wave 3, and 23% entered employment by Wave 3. Another 34% were employed part-time or full-time at Waves 1 and 3, and 32% were out of the workforce at both Wave 1 and Wave 3. For the second definition of employment (30+ hours per week), 11% of mothers decreased their hours from Wave 1 to Wave 3, and 22% increased from no or part-time employment to full-time by Wave 3. Only 19% were employed 30+ hours per week at both waves, and 48% did not work or were employed part-time at both waves.

Table 2.

Description of welfare and employment transitions, Wave 1 to Wave 3 (N = 783).

	Mean	SD
<i>Welfare transitions between Waves 1 and 3</i>		
Transition off welfare	0.26	0.44
Transition onto welfare	0.03	0.16
No welfare receipt at Wave 1 or 3	0.66	0.48
Welfare receipt at Waves 1 and 3	0.06	0.24
<i>Employment transitions Between Waves 1 and 3</i>		
1+ (any) hour employment definition		
Transition out of employment	0.11	0.31
Transition into employment	0.23	0.42
Employed at Waves 1 and 3	0.34	0.48
Unemployed at Waves 1 and 3	0.32	0.47
30+ hour employment definition		
Decreased employment	0.11	0.31
Increased employment	0.22	0.42
Employed at Waves 1 and 3	0.19	0.39
Unemployed at Waves 1 and 3	0.48	0.50

Notes: SD = Standard Deviation. The sample size varied slightly across the six youth outcomes. Statistics are weighted.

Table 3 provides descriptive statistics on youth outcomes across the three waves. Mothers in our study reported that one-third of adolescents had serious behavior problems at Wave 1 and one-fifth at Wave 3, in comparison to one-sixth of all teenagers in national norms (Achenbach and Rescorla, 2001a and Achenbach and Rescorla, 2001b). For school performance, 14% reported performing below average at Wave 1, increasing to 23% by Wave 3, and 73% reported

performing above average at Wave 1, decreasing to 65% by Wave 3. The logged means of adolescents' reports of delinquency and psychological distress are also reported in Table 3.

Table 3.

Descriptive statistics on youth outcomes.

	Wave 1		Wave 3	
	Mean	SD	Mean	SD
<i>Parent report</i>				
Child Behavior Checklist				
Total problem behaviors ($N = 746$)	0.31	0.46	0.21	0.41
Internalizing problem behaviors ($N = 746$)	0.26	0.44	0.22	0.42
Externalizing problem behaviors ($N = 746$)	0.25	0.44	0.25	0.43
<i>Adolescent report</i>				
Delinquency				
Total delinquency ($N = 770$)	0.11	0.14	0.19	0.21
Brief Symptom Inventory				
Total psychological distress ($N = 761$)	1.06	1.06	1.45	1.10
School Performance				
Below average school performance ($N = 677$)	0.14	0.35	0.23	0.42
Above average school performance ($N = 677$)	0.73	0.44	0.65	0.48

Note: SD = Standard Deviation. Statistics are weighted.

4.2. Mothers' employment, welfare receipt, and youth outcomes

Table 4 presents selected results from our main questions as analyzed by LDV models of youth outcomes. Odds ratios are presented for logistic regressions where dependent variables are dichotomous, and unstandardized coefficients are presented for OLS regression models. We estimate models for seven outcomes, which are listed across the top of the table. For each outcome, we report welfare and employment transition coefficients from two specifications. The

top panel (top four rows) lists results from specifications in which employment is defined as working any hours per week during six of the preceding 11 months, while the bottom panel (bottom four rows) lists results from specifications in which employment is defined as working at least 30 h per week during six of the preceding 11 months. The table lists the coefficients associated with leaving or entering welfare or work. For each coefficient, the relevant comparison is remaining in the initial Wave 1 condition (i.e., the comparison for leaving welfare is remaining on welfare by Wave 3, the comparison for entering work is remaining non-employed by Wave 3, etc.). In addition to the listed variables, each of the models includes the baseline value of the youth outcome and the control variables listed in Table 1 and described above. For reasons of brevity, the coefficients for these other measures are not shown.

Table 4.

Summary of the lagged dependent variable regression models testing the association between adolescents' developmental trajectories and mothers' welfare and employment transitions odds ratios or OLS coefficients.

	Behavior prob total (cutoff)	Internalizing problems (cutoff)	Externalizing problems (cutoff)	Psychological distress total	Delinquency total	Grades above average	Grades below average
	<i>Odds</i>	<i>Odds</i>	<i>Odds</i>	<i>OLS Coeffs</i>	<i>OLS Coeffs</i>	<i>Odds</i>	<i>Odds</i>
<i>Any employment models</i>							
Welfare leavers	0.44	0.57	1.10	0.12	0.02	0.43	1.64
Welfare entrants	3.12	2.06	6.49**	- 0.51 T	0.07	1.05	0.41
Decreased employment	2.99*	1.48	1.99	0.21	- 0.01	0.84	1.82
Increased employment	0.57	2.01 T	0.37*	- 0.16	- 0.04	1.09	1.15
N	746	746	746	761	770	679	679
<i>Full-time employment models</i>							
Welfare leavers	0.49	0.76	1.27	0.10	0.02	0.48	1.57
Welfare entrants	3.62 T	1.49	5.36*	- 0.47	0.08	1.23	0.26 T

	Behavior prob total (cutoff)	Internalizing problems (cutoff)	Externalizing problems (cutoff)	Psychological distress total	Delinquency total	Grades above average	Grades below average
	<i>Odds</i>	<i>Odds</i>	<i>Odds</i>	<i>OLS Coeffs</i>	<i>OLS Coeffs</i>	<i>Odds</i>	<i>Odds</i>
Decreased employment	3.55*	0.89	2.90 T	0.02	- 0.02	1.10	1.17
Increased employment	0.20**	0.71	0.31**	- 0.12	- 0.07*	1.28	0.90
N	710	710	710	725	734	647	647

Note. Table 4 lists unstandardized regression coefficients or odds ratios from LDV models with dependent variables listed at the top of the columns. Models are estimated with sample weights. ** $p < 0.01$, * $p < 0.05$, T $p < 0.10$. All control variables were included in each model, but are not presented here.

The results presented in Table 4 provide no evidence that youth experienced long-term developmental problems when their mothers left the welfare system. There were no statistically significant associations between mothers' leaving the welfare rolls by 2005 and adolescents' or young adults' serious behavior problems, delinquency, psychological distress, or school performance. Similarly, mothers' entering the welfare system by 2005 (Wave 3) was not associated with positive or negative developmental trajectories of youth, with one major exception. Adolescents whose mothers went on welfare by Wave 3 were five to six times more likely to be above the sub/clinical cutoff for serious externalizing behavior problems compared to teenagers whose mothers remained off TANF between 1999 and 2005.

Results for the employment transitions showed a few consistent patterns. Mothers' decreases in either any employment or full-time employment between Waves 1 and 3 were significantly associated with an increased likelihood of their youth being above the sub/clinical cutoff for total behavior problems, in contrast to youth whose mothers stayed employed from Wave 1 to Wave 3. Specifically, adolescents and young adults whose mothers moved from any employment to no employment (top panel) were almost three times more likely to score above the sub/clinical cutoff for total behavior problems compared to youth whose mothers remained in the workforce. Similarly, youth whose mothers decreased from full-time to part-time or no employment (bottom panel) were 3.5 times more likely to score above the cutoff for total problems, as compared to youth whose mothers continued full-time employment between 1999 and 2005. These patterns were not evident, however, for psychological distress, delinquency, or grades.

In contrast, mothers who increased their employment between waves had adolescents and young adults who were significantly less likely to score above the cutoff for problem behaviors by Wave 3. Specifically, youth whose mothers switched from non-employment in Wave 1 to any employment in Wave 3 (top panel) were 63% less likely to score above the sub/clinical cutoff for externalizing behavior problems compared to their counterparts. When mothers increased their labor force participation from none or part-time to full-time between Wave 1 and Wave 3 (bottom panel), their teenagers and young adults were 80% and 69% less likely to score above the cutoff for total behavior problems and externalizing behavior problems, respectively. Similarly, this group of youth reported significantly lower levels of delinquent behavior when compared to their peers whose mothers' level of employment did not change. No significant links were found between mothers' increases in employment and adolescents' internalizing behavior problems nor their reports of psychological distress symptoms or school performance. Similar findings emerged in additional models where we defined employment as modal hours worked per week (data not shown).

4.2.1. Explanations

To test possible explanations for youth outcomes, we estimated equations of the same form as the LDV models above, except that we replaced the dependent variable (youth outcome) with variables indicating mothers' characteristics or behaviors in Wave 3: Family income-to-needs, financial strain, psychological distress, physical health, delinquency, and self-esteem in addition to parenting stress, family routines, and monitoring. These models thus explore whether mothers' employment and welfare transitions were linked with changes in their economic, psychological, and health resources in addition to their parenting behavior, providing some examination of the three theoretical perspectives on welfare reform and youth outcomes. For each of these models with a Wave 3 maternal outcome as a dependent variable, we also included as independent variables the same maternal measure in Wave 1 in addition to each Wave 1 youth outcome measure. As in our main models, controlling for each youth outcome at Wave 1 baseline outcomes is important, since these could affect mothers' subsequent welfare and employment decisions.

A specific example of these models is the following: For mothers' income-to-needs as a Wave 3 dependent variable (and as a Wave 1 independent variable), we conducted seven regressions, each with a different Wave 1 youth outcome measure as an independent variable. Table 5 summarizes these findings in column 1, providing the average of the welfare and employment transition coefficients across the seven models. In the columns next to the coefficients, the number of significant (* = 0.05 or ** = 0.01) or trend level (T = 0.10) associations is noted, ranging from 1 to 7 across the seven models. We thus repeated these seven models with financial

strain, psychological distress, physical health, delinquency, self-esteem, parenting stress, family routines, and monitoring as dependent variables.

Table 5.

Summary of selected OLS unstandardized coefficients from mediators-as-outcomes analysis controlling for seven child outcomes measured at Wave 1 in across seven regressions.

Income-to-needs	Financial strain		Psychological distress		Physical health		Illegal activities			
	<i>Avg. B</i>	<i>Sig.^a</i>	<i>Avg. B</i>	<i>Sig.</i>	<i>Avg. B</i>	<i>Sig.</i>	<i>Avg. B</i>	<i>Sig.</i>	<i>Avg. B</i>	<i>Sig.</i>
Welfare leavers	0.01		- 0.10		- 2.77	*2	- 0.41		- 0.47	
Welfare entrants	- 0.38	T5, *2	0.15		2.94		0.39		0.50	
Decreased employment (1+ hours)	- 0.43	**7	0.20		3.95	*7	0.53	*4, **3	0.67	
Increased employment (1+ hours)	0.59	**7	- 0.25	T2, *5	- 1.09		- 0.11	T4, *3	- 0.21	T6
Decreased employment (30+ hours)	- 0.64	**7	0.37	**7	3.09	T7	0.40	**7	0.55	
Increased employment (30+ hours)	0.60	**7	- 0.29	**7	- 1.39		- 0.16	T6, *1	- 0.26	*6, **1
	Global self-concept		Parenting stress		Family routines		Parental monitoring			
	<i>Avg. B</i>	<i>Sig.</i>	<i>Avg. B</i>	<i>Sig.</i>	<i>Avg. B</i>	<i>Sig.</i>	<i>Avg. B</i>	<i>Sig.</i>	<i>Avg. B</i>	<i>Sig.</i>
Welfare leavers	0.92		- 0.26	*2	0.05		0.10			
Welfare entrants	0.48		0.42	T4, *1	- 0.04		0.12			

	Global self-concept		Parenting stress		Family routines		Parental monitoring	
	<i>Avg. B</i>	<i>Sig.</i>	<i>Avg. B</i>	<i>Sig.</i>	<i>Avg. B</i>	<i>Sig.</i>	<i>Avg. B</i>	<i>Sig.</i>
Decreased employment (1+ hours)	- 2.09	T7	0.09		0.21	T7	- 0.25	
Increased employment (1+ hours)	0.28		0.15		- 0.04		0.06	
Decreased employment (30+ hours)	- 0.95		0.15		0.22		- 0.08	T2
Increased employment (30+ hours)	2.22	*7	0.00		0.03		0.32	

a Significance column describes number of models significant at $p < 0.10$ (T), $p < 0.05$ (*), or $p < 0.01$ (**) out of 7.

In terms of theoretical frameworks, the findings from these explanatory models consistently indicated support for the economic investment perspective. As can be seen in the summary statistics in columns 1 and 2 of Table 5, mothers' transitions into employment or into greater work hours were associated with unambiguous and statistically significant gains in family income-to-needs, in addition to reductions in reported financial strain. Similarly, mothers' decreases in any or full-time employment were linked with increases in the family poverty level. When mothers who were employed full-time at Wave 1 reduced their hours per week or left the labor force by Wave 3, they reported rises in financial strain. Notably, family income-to-needs decreased marginally for welfare entrants, but did not change when mothers left the welfare system. Neither did mothers' reports of financial strain change when they entered or exited welfare.

The psychological stress framework also received some support. Mothers who left any employment reported statistically significant increases in psychological distress, and full-time

employed mothers who reduced their hours or left employment reported marginally significant increases in psychological distress. Similarly, mothers who left the labor force or decreased their hours reported statistically significant increases in health problems, another possible indicator of psychological stress. Mothers who increased to full-time employment by Wave 3 also reported statistically significant decreases in their delinquent behaviors, and mothers who entered the workforce by Wave 3 had marginally significant reductions in delinquency. Welfare transitions were unrelated to changes in any of the psychological distress outcomes, with the exception that welfare leavers reported some decreases in psychological stress in two models.

The third theoretical perspective—role modeling—was also evident. Mothers who increased their employment to full-time by Wave 3 reported statistically significant increases in self-esteem, although mothers who entered “any” employment did not. In contrast, mothers who went from any hours per week at Wave 1 to no employment at Wave 3 reported marginally significant decreases in self-esteem. Entering or leaving the welfare system was not associated with changes in self-esteem.

Regarding predictions about parenting in the three theoretical frameworks, however, the explanatory models revealed no relevant evidence. There were almost no statistically significant associations between mothers' employment or welfare transitions and parenting, as measured by parenting stress, family routines, or monitoring; there was a slight indication of decreases in parenting stress as reported by welfare leavers. These results should be interpreted with caution due to sample size reduction of 82 adolescents, since neither mothers of youth living independently nor the independent youth themselves were administered these scales.

4.2.2. Fully mediated models

Given the associations between changes in mothers' welfare and employment patterns and corresponding changes in their behavior, functioning, and circumstances, we conducted fully mediated models to see if adding these maternal variables at Waves 1 and 3 to our original models with youth outcomes would explain our youth outcome findings. In general, this was not the case (data not shown). Surprisingly, even though there were statistically significant systematic patterns where family income-to-needs and mothers' self-esteem rose with increases in employment and declined with decreases in employment, the entry of these variables into the youth outcome regression models did not change the magnitude of the increased-employment coefficients. Neither did the decreased-employment coefficients decline with the entry of mothers' reports of financial strain, psychological distress, delinquency, or physical health. Thus, these analyses did not explain why increases in mothers' employment were related to

improvements in youth problem behaviors nor why mothers' reductions in employment were linked to rises in youth problem behaviors.

4.2.3. Income interactions

To examine further the economic investment framework, we tested whether the association between maternal employment transitions and changes in youth outcomes differed by family income. We hypothesized that positive youth outcomes would be more likely to occur when mothers increased employment and raised their family incomes above the poverty line, and that problematic youth outcomes would be more likely when mothers decreased employment and family income declined. We also examined whether negative youth outcomes might be more prevalent in families who had left welfare and had low family incomes. Interactions of mothers' welfare and work transitions with income-to-needs at Wave 3 were conducted for each youth outcome, and findings supported neither hypothesis. Changes in families' level of poverty did not systematically moderate the associations between maternal employment or welfare transitions and the developmental trajectories of their youth (data not shown).

4.2.4. Interactions involving the presence of younger siblings

Following Gennetian et al. (2004), we also tested whether the presence of younger siblings—another source of psychological stress or burden—might differentially influence associations between mothers' employment transitions and youth outcomes. Interactions between mothers' employment transitions and the presence of younger siblings (with separate models for siblings aged 18 years and below as well as aged 5 years and below) showed no significant links with youth emotional development or school performance (data not shown).

5. Discussion

In the mid-1990s, there was great hope among supporters and great concern among opponents about the potential consequences of the historic changes that PRWORA would make to the federal welfare system. Both sides believed that welfare assistance played an important and influential role in the lives of the poor, whether as a benign safety net against destitution or as an enabler of problematic social behaviors. Both sides therefore expected PRWORA to bring about major changes in child and adolescent well-being. Yet few studies of child and adolescent well-being have continued into the mid-2000s, a time of low economic growth and high unemployment compared to the late 1990s. These studies are inconsistent, but they suggest that the negative consequences of welfare reform, if any, may be concentrated among adolescents.

Our findings from a long-term study of a welfare-eligible population from 1999 to 2005 suggest that changes in mothers' employment and welfare patterns during this six-year period were modestly associated with declines in problematic behavioral functioning but not with changes in psychological distress or school performance of adolescents. The most consistent pattern of associations suggested that adolescents whose mothers increased their employment during the period showed fewer serious problems with aggression and delinquency, as reported by their mothers and by the youth themselves. That both mothers' and youths' reports are similar strengthens our confidence in these findings. There was also modest evidence that mothers' decreased employment and entry into the welfare system were associated with increased serious behavior problems among the adolescents and young adults. Virtually no evidence indicated that mothers' leaving welfare or becoming employed had negative consequences for adolescents.

Overall, then, we found some evidence of a few positive consequences for adolescents and young adults of the kinds of transitions that characterized the post welfare reform era, most notably the movement of their mothers into employment. Yet, these results were not consistent across all of our outcomes; we found no association between maternal welfare and work transitions and adolescents' internalizing behavior problems, psychological distress scores, or school performance. Leaving welfare, considered separately from employment, had few associations with youth outcomes. We were also largely unsuccessful in our search for indications of why moving into employment tended to be beneficial. Although mothers who transitioned into full-time employment reported notable increases in family income and declines in financial strain as well as improvements in self esteem and reductions in their own delinquent behaviors, we found little evidence that these changes explained the associations between increased employment and improved youth outcomes.

What, then, can we make of these findings, given the dire and diametrically-opposed predictions of the opponents and supporters of PRWORA? First, why were PRWORA opponents wrong in predicting a sharp deterioration in adolescent well-being? We would suggest that their predictions may have underestimated the ability of low-income mothers to find jobs, as well as the determination of welfare mothers to leave the rolls. To be sure, there is substantial variability in low-income women's ability to find sustainable employment, especially in the slowing economy after 2001. Still, national data show that maternal employment rates in the early and mid-2000s remained higher than before PRWORA, with the largest increase having occurred among unmarried mothers (Federal Interagency Forum on Children and Family Statistics, 2008 and Haskins, 2006). One of our study's strongest findings shows that mothers' entry into the labor market or their increases in work hours were related to substantial gains in family income, which

moved on average from below poverty to above poverty between Waves 1 and 3 (0.74 to 1.45 income-to-needs for the any employment models and 0.72 to 1.52 for the full-time employment models). Thus, the better-than-anticipated employment outcomes may have forestalled the predicted declines in youth well-being.

Why were proponents of welfare reform also wrong in predicting large improvements in adolescent well-being? Although mothers' employment was associated with gains in family income, we found no systematic evidence that other important contexts that promote healthy adolescent and youth development were affected. Family routines were not stabilized, mothers' parenting did not improve, and few other aspects of mothers' health and well-being showed changes, except for increases in self esteem and declines in illegal activities among those who moved into full-time employment. In short, gains in employment and income did not trickle down to the family environments and interactions that are most important for healthy adolescent and young adult life trajectories. The broader contexts of urban poverty and low-skilled employment very likely constrained improvements in mothers' parenting, mental and physical health (Chase-Lansdale and Pittman, 2002 and DeParle, 2004). Such economic constraints may also have prohibited access to other supportive contexts such as adequate schools, high quality after school programs, or safe neighborhood environments. Indeed, even with increases in family income, the majority of employed-mother families in our study hovered just modestly above the poverty line, so that their psychological distress over their economic situations likely remained substantial.

We must also note some important limits to our generally positive findings. First, the study stopped well before the great recession of 2008 began. It may be that the severe economic downturn has increased the difficulty of finding employment to the point where few mothers in the welfare-eligible population were succeeding in doing so. Second, even before the 2008 recession, a substantial number of disadvantaged mothers were receiving income from neither work nor welfare—the so-called disconnected mothers, who may comprise one-fifth or more of the population of all low-income single mothers (Blank, 2007). These mothers no longer relied on TANF but could not support their families by working; they relied on other family members or on other safety-net programs such as food stamps (DeParle & Gebeloff, 2010). Third, one could argue that as the economy worsened in the 2000s, a well-functioning public welfare system should have increased its beneficiaries substantially; and yet the rise in TANF recipients was modest during the decade (Ehrenreich & Edelman, 2009).

Another potential limitation of the study is the pattern of null findings, raising questions about data quality. We would argue that the measures of emotional and behavioral development were,

in general, better than those in most other survey-based and random-assignment studies of welfare reform and youth. For example, whereas most studies assess behavior problems with a subset of 10 to 20 items from various measures, the Three-City Study used all 100+ items from the Achenbach Child Behavior Checklist (Achenbach and Rescorla, 2001a and Achenbach and Rescorla, 2001b), the gold-standard instrument that has been validated by clinicians' independent psychological assessments. The measures of youths' delinquency and psychological distress were obtained not from their mothers' reports but rather directly from the young people themselves, using the self-administered Audio-CASI technique that has been shown in other contexts to provide more reliable data (Turner, Forsyth, et al., 1998 and Turner, Ku, et al., 1998, May 8). As for mothers, we calculated measures of employment and welfare participation based upon the previous two calendar years at each interview point and set the criterion for both labor force participation and welfare receipt to reflect at least six out of the past 11 months, rather than relying on a single question about the current time point or previous month. In addition, mothers responded to well-established, multi-item measures of their own psychological distress symptoms, self esteem, and antisocial activities, also using Audio-CASI. In sum, we believe that the two and one-half hour interview of the mother and her adolescent was one of the most intensive data-collection efforts in the welfare reform literature. It is thus unlikely that measurement error explains our pattern of null findings.

Our study suggests that neither supporters nor opponents of welfare reform accurately envisioned what would happen to children and youth, a conclusion also reached by Haskins (2006) in his historical analysis of welfare reform. Could it be that the employment and welfare status of low-income mothers has less day-to-day influence on children's outcomes than observers on both sides of the debate expected? Could work and welfare be sufficiently distant from these outcomes that variation in them makes less difference than was believed? The supporters of PRWORA may have underestimated the extent to which changes in the welfare rules are merely one factor among the multiple difficulties and constraints experienced by children and youth in low-income families (Burton, 1999, Chase-Lansdale et al., 2003b and DeParle, 2004). The opponents may have overestimated the potentially disruptive and stressful effects of moving from welfare to work or from unemployment into the labor force. Statements such as these would have been seen as heretical in 1996. But by 2005, the pattern of results from the Three-City Study suggests the possibility that adolescents and young adults are less influenced by their mothers' work and welfare transitions than nearly everyone assumed.

6. Conclusions

As public policy develops further in the 21st century to address the needs of poor families, one might reasonably infer from our findings that the well-being of adolescents and young adults in

low-income families can only be improved by more direct and intensive interventions. Such interventions should specifically target youth development as well as the health and education of their parents. Indeed, Haskins has argued that “direct interventions [for] children will be necessary if the nation is to close the ability and education gaps between them and more advantaged children” (Haskins, 2006, p. 340). We endorse that view, but with a sense of surety that is tempered by the knowledge of how inaccurate past recommendations have proven to be. In 1996, social scientific theorists and advocates on both sides of the welfare reform debate, it turns out, knew less about the influence of welfare and work on poor children and adolescents' well-being than they thought. Confident predictions were not borne out. The long-term results that we have presented clearly suggest that the nation should move beyond welfare reform as a key policy lever for improving the lives of our most economically disadvantaged children. Policies that focus on changing the learning environments of children and youth—for example, their parents' education and their own education—represent the most promising future directions.

Acknowledgements

We gratefully acknowledge the support of the National Institute of Child Health and Human Development through grants HD36093 and HD25936 and of the Office of the Assistant Secretary for Planning and Evaluation, Administration on Developmental Disabilities, Administration for Children and Families, Social Security Administration, National Institute of Mental Health, Boston Foundation, Annie E. Casey Foundation, Edna Mc-Connell Clark Foundation, Lloyd A. Fry Foundation, Hogg Foundation for Mental Health, Robert Wood Johnson Foundation, Joyce Foundation, Henry J. Kaiser Family Foundation, W. K. Kellogg Foundation, Kronkosky Charitable Foundation, John D. and Catherine T. MacArthur Foundation, Charles Stewart Mott Foundation, David and Lucile Packard Foundation, the Searle Fund for Policy Research, and Woods Fund of Chicago.

References

- T.M. Achenbach, L.A. Rescorla. Manual for the ASEBA school-age forms and profiles. University of Vermont, Research Center for Children, Youth, and Families, Burlington (2001)
- T.M. Achenbach, L.A. Rescorla. Manual for the ASEBA adult forms and profiles. University of Vermont, Research Center for Children, Youth, and Families, Burlington (2001)
- G. Acs, K.R. Phillips, S. Nelson. The road not taken? Changes in welfare entry during the 1990s. *Social Science Quarterly*, 86 (SE) (2005), pp. 1060–1079
- R.M. Blank. Improving the safety net for single mothers who face serious barriers to work. *The Future of Children*, 17 (2) (2007), pp. 183–197

M.E. Borus, S.W. Carpenter, J.E. Crowley, T.N. Daymont. Pathways to the future: Vol. II. A final report on the National Survey of Youth Labor Market Experience in 1980, Center for Human Resource Research, The Ohio State University, Columbus (1982)

Burton, L. M. (1999). Personal communication.

P.L. Chase-Lansdale, R.A. Moffitt, B.J. Lohman, A.J. Cherlin, R.L. Coley, L.D. Pittman, J. Roff, E. Votruba-Drzal. Mothers' transitions from welfare to work and the well-being of preschoolers and adolescents. *Science*, 299 (2003), pp. 1548–1552

P.L. Chase-Lansdale, R.A. Moffitt, B.J. Lohman, A.J. Cherlin, R.L. Coley, L.D. Pittman, J. Roff, E. Votruba-Drzal. How are children affected by unemployment and welfare transitions?, JCPR Policy Brief, vol. 5, no. 3)Northwestern University/University of Chicago, Evanston, IL, Chicago (2003)

P.L. Chase-Lansdale, L.D. Pittman. Welfare reform and parenting: Reasonable expectations. *The Future of Children*, 12 (1) (2002), pp. 167–183

D. Cicchetti, S.L. Toth. The development of depression in children and adolescents. *The American Psychologist*, 53 (1998), pp. 221–241

R.L. Coley, P.L. Chase-Lansdale. Welfare receipt, financial strain, and African-American adolescent functioning. *The Social Service Review*, 74 (2000), pp. 380–404

R.L. Coley, B.J. Lohman, E. Votruba-Drzal, L.D. Pittman, P.L. Chase-Lansdale. Maternal functioning, time and money: The world of work and welfare. *Children and Youth Services Review*, 29 (2007), pp. 721–741

R.L. Coley, D. Ribar, E. Votruba-Drzal. Do children's behavior problems limit poor women's labor market success? *Journal of Marriage and Family*, 73 (2011), pp. 1–13

R.D. Conger, K.J. Conger, H. Glen, J. Elder, F.O. Lorenz. A family process model of economic hardship and adjustment of early adolescent boys. *Child Development*, 63 (3) (1992), pp. 526–541

G. Crouse, S. Douglas, S. Hauan. Indicators of welfare dependence: Annual report to Congress 2007, Office of Human Services Policy. U.S. Department of Health and Human Services (2007) Available at: <http://aspe.hhs.gov/hsp/indicators07/index.htm>

J. DeParle. American dream: Three women, ten kids, and a nation's drive to end welfare. Penguin, New York (2004)

J. DeParle, R.M. Gebeloff. Living on nothing but food stamps. *The New York Times* (2010, January 2)

- L.R. Derogatis. BSI 18: The brief symptoms inventory 18: Administration, scoring, and procedures manual. National Computer Systems, Inc., Minneapolis (2000)
- G. Downey, J.S. Eccles, C. Chatman. Navigating the future: Social identity, coping, and life tasks. Russell Sage, New York (2005)
- G. Duncan, J. Brooks-Gunn (Eds.), The consequences of growing up poor, Russell Sage, New York (1997)
- G. Duncan, A.C. Huston, T.S. Weisner. Higher ground: New hope for the working poor and their children. Russell Sage, New York (2007)
- P. Edelman. The worst thing Bill Clinton has done. *The Atlantic Monthly*, 279 (3) (1997), pp. 43–58
- B. Ehrenreich, P. Edelman. Why welfare reform has failed. *The Washington Post* (2009, December 6)
- Federal Interagency Forum on Children and Family Statistics. America's children in brief: Key national indicators of wellbeing. U.S. Government Printing Office, Washington, DC (2008)
- L.A. Gennetian, G. Duncan, V. Knox, W. Vargas, E. Clark-Kauffman, A.S. London. How welfare policies affect adolescents' school outcomes: A synthesis of evidence from experimental studies. *Journal of Research on Adolescence*, 14 (2004), pp. 399–423
- L.A. Gennetian, L.M. Lopoo, A.S. London. Maternal work hours and adolescents' school outcomes among low-income families in four urban counties. *Demography*, 45 (2008), pp. 31–53
- M. Gold. Delinquent behavior in an American city. Brooks/Cole, Belmont, CA (1970)
- N.A. Gonzales, A.M. Cauce, R.J. Friedman, C.A. Mason. Family, peer, and neighborhood influences on academic achievement among African-American adolescents: One-year prospective effects. *American Journal of Community Psychology*, 24 (3) (1996), pp. 365–387
- J. Grogger, S.J. Haider, J. Klerman. Why did the welfare rolls fall during the 1990's? The importance of entry. *The American Economic Review*, 93 (2) (2003), pp. 288–292
- J. Grogger, L.A. Karoly. Welfare reform: Effects of a decade of change. Harvard University Press, Cambridge, MA (2005)
- R. Hall, M. Feldstein, B. Bernanke, J. Frankel, R. Gordon, V. Zarnowitz. The business-cycle peak of March 2001. Technical report, Business Cycle Dating Committee, National Bureau of Economic Research, USA (2001) Available at <http://www.nber.org/cycles/november2001/>
- W. Han. Maternal nonstandard work schedules and child cognitive outcomes. *Child Development*, 76 (2005), pp. 137–154

- L. Hao, A.J. Cherlin. Welfare reform and teenage pregnancy, childbirth, and school dropout. *Journal of Marriage and Family*, 66 (1) (2004), pp. 179–194
- R. Haskins. *Work over welfare: The inside story of the 1996 welfare reform law*. Brookings Institution Press, Washington (2006)
- R. Haveman, B. Wolfe (Eds.), *Succeeding generations: On the effects of investments in children*, Russell Sage Foundation, New York, New York (1994)
- Huston, A.C., Walker, J.T., Dowsett, C.J., Imes, A.E., & Ware, A. (2008). Long-term effects of New Hope on children's academic achievement and achievement motivation. Working Paper. New York, NY: Manpower Demonstration Research Corporation.
- E.W. Jensen, S.A. James, W.T. Boyce, S.A. Hartnett. The family routines inventory: Development and validation. *Social Science & Medicine*, 17 (4) (1983), pp. 201–211
- R. Johnson, A. Kalil, R. Dunifon. *Mothers' work and children's lives: Low-income families after welfare reform*. Upjohn Institute for Employment Research, Kalamazoo, MI (2010)
- R. Kaestner, S. Korenman, J. O'Neill. Has welfare reform changed teenage behaviors? *Journal of Policy Analysis and Management*, 22 (2003), pp. 225–248
- I. Ku, R. Plotnick. Do children from welfare families obtain less education? *Demography*, 40 (1) (2003), pp. 151–171
- S.D. Lamborn, N.S. Mounts, L.D. Steinberg, S.M. Dornbusch. Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development*, 62 (1991), pp. 1049–1065
- P.B. Levine, D.J. Zimmerman. Children's welfare exposure and subsequent development. *Journal of Public Economics*, 89 (2005), pp. 31–56
- D.A. Lewis. *Welfare reform and the limits of inclusion*. Northern Illinois Press, Dekalb, IL (2010)
- V.C. McLoyd. Socioeconomic disadvantage and child development. *The American Psychologist*, 53 (2) (1998), pp. 185–204
- E. Menaghan, T. Parcel. Social sources of change in children's home environments: The effects of parental occupational experiences and family conditions. *Journal of Marriage and the Family*, 57 (1995), pp. 69–84
- R. Moffitt, M. Ver Ploeg (Eds.), *Evaluating welfare reform in an era of transition*, National Academy Press, Washington, DC (2002)

P. Morris, C. Michalopoulos. Findings from the self-sufficiency project: Effects on children and adolescents of a program that increased employment and income. *Applied Developmental Psychology*, 24 (2) (2003), pp. 201–239

C.C. Raver. Does work pay, psychologically as well as economically? The effects of employment on depressive symptoms and parenting among low-income families. *Child Development*, 74 (2003), pp. 1720–1736

L. Steinberg. We know some things: Parent–adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence*, 11 (2001), pp. 1–9

L. Steinberg, N.S. Mounts, S.D. Lamborn, S.M. Dornbusch. Authoritative parenting and adolescent adjustment across varied ecological niches. *Journal of Research on Adolescence*, 1 (1) (1991), pp. 19–36

C.F. Turner, B.H. Forsyth, J.M. O'Reilly, P.C. Cooley, T.K. Smith, S.M. Rogers, H.G. Miller. Automated self-interviewing and the survey measurement of sensitive behaviors. M.P. Couper, R.P. Baker, J. Bethlehem, C.Z.F. Clark, J. Martin, W.L. Nicholls II, J.M. O'Reilly (Eds.), *Computer assisted survey information collection*, Wiley, New York (1998), pp. 455–473

C.F. Turner, L.C. Ku, S.M. Rogers, L.D. Lindberg, J.H. Pleck, F.L. Sonenstein. Adolescent sexual behavior, drug use, and violence: Increased reporting with computer survey technology. *Science*, 280 (1998, May 8), pp. 867–873

U.S. Department of Labor, Bureau of Labor Statistics. Employment status of the civilian noninstitutional population, 1940 to date. Retrieved from www.bls.gov/cps/tables.htm#empstat (2008)

W.J. Yeung, M.R. Linver, J. Brooks-Gunn. How money matters for young children's development: Parental investment and family process. *Child Development*, 73 (6) (2002), pp. 1861–1879