Single Mothers' Employment Dynamics and Adolescent Well-Being

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Abstract

The booming economy of the mid-to-late 1990's helped single mothers reach unprecedented employment levels. Researchers have been concerned with the largely unaddressed questions of whether single mothers who enter the workforce will be able to earn a living wage, the stability of women's jobs over time, and the links between these job characteristics and child well-being. In this paper, we use data from a nationally-representative sample of single mothers whose employment experiences we observe over a two-year period during the mid-to-late 1990's. We rely on mothers' weekly work histories to create detailed patterns of employment, which we then link to change over time in the well-being of the mothers' teenage children. Controlling for a wide array of background characteristics and potential selection factors, we find that, relative to being continuously employed in a good job, teens whose mothers lose a job without regaining employment show declines in mastery and self-esteem. Those whose mothers are continuously employed in a bad job show an increase in grade repetition and those whose mothers are either persistently out of the labor force or lose more than one job show an increased likelihood of school drop-out. These effects are largely unexplained by concomitant changes in family income.

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Introduction

The booming economy of the mid-to-late 1990's helped 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). Together, these forces dramatically increased the employment of single mothers, dwarfing the increase in employment for the economy as a whole. These trends have sparked interest in the association between single mothers' employment experiences and child well-being. Whereas research to date has found neutral or slightly positive effects of low-income single mothers' transitions into work on the well-being of younger children (Gennetian & Miller, 2002; Huston et al., 2001), some studies have identified more negative effects for some subgroups of teenage children (Gennetian et al., 2002).

Economists studying the labor market experiences of single mothers in the past decade have been concerned with questions of whether single mothers who enter the workforce will be able to earn a living wage and with the stability of women's jobs over time. Largely unaddressed are the links between these job characteristics and child well-being, questions that are of interest to developmental psychologists. In this paper, we use longitudinal data from a national sample of single mothers whose employment experiences we observe over a two-year period during the mid-to-late 1990's. We rely on mothers' weekly work histories to create detailed patterns of employment, taking into account the stability of mothers' employment over this period, as well as the quality of jobs in which mothers are employed as indicated by the jobs' wages and benefits. We then link these employment patterns to change over time in measures of emotional

well-being (self-esteem and mastery) and academic progress (school drop-out and grade repetition) among these mothers' teenage children.

Background

The 1990's economy 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). Single-mother employment rates increased sharply from about 57 percent in 1994 to almost 75 percent in 2000 (Mishel et al., 2003). According to Lerman and Ratcliffe's (2001) assessment of the labor force participation of single mothers in the 20 largest metropolitan areas, between early 1996 and the middle of 1998 about 741,000 additional never-married mothers entered the labor force, enough to warrant a 40 percent rise in employment for this group. In these 20 metropolitan areas, single mothers accounted for six percent of the total labor force in 1995-96, but accounted for 20 percent of the labor force growth in the three years following the 1996 welfare reforms.

Economists studying the work experiences of low-income single mothers have been concerned with job stability and with the question of whether available jobs will pay a living wage (Johnson & Corcoran, 2003). Research using national data from the early 1990's, for example, found considerable volatility in welfare recipients' work trajectories, but concluded

that most can find a job. National longitudinal data show that about half of all mothers worked at some point while receiving welfare, with work accounting for about one-half to two-thirds of all welfare exits (Harris 1993, 1996; Pavetti 1993). Keeping a job and staying off welfare are more problematic; Harris (1996) reported that 25 to 40 percent of women leaving welfare via work returned to welfare within a year.

Even in tight labor markets, however, there is reason to be concerned with the quality of jobs that low-income single mothers can obtain. In the 1980's, the wages and benefits associated with entry-level low skilled jobs declined, and it became increasingly difficult for low skilled workers to earn enough to support a family at or above the poverty line (Blank 1997; Danziger & Gottschalk, 1995; Wilson, 1987; Holzer, 1996). Furthermore, there is no consensus about the potential for movement into "good" jobs from "bad" ones. Some argue that low-wage jobs without benefits are "good" in the sense that they represent an entry point into higher-paying jobs with benefits, and provide valuable work experience along the way (Gladden & Tabor, 2000), whereas others are concerned that entry-level jobs simply represent the beginning of a lengthy stay in the "low-wage ghetto" (Edin & Lein, 1997).

Psychologists and sociologists studying single mothers' (and also, more recently, welfare recipients') work experiences have been concerned with how women's work experiences affect child well-being. Questions of job stability and quality are also salient in this literature. 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). In national samples, more extensive maternal employment is linked to more positive outcomes for children in middle

childhood (Menaghan, Jekielek, Mott, & Cooksey, 1998). This may be due to the stability underlying continuous employment, to the quality of jobs that tend to be long-term, or to the characteristics of mothers who are able to remain employed for extended lengths of time. 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 evidence from non-experimental studies shows neutral or positive effects of low-income mothers' employment on child development. Results from the *Three Cities Study*, a representative sample of low-income 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 (Chase-Lansdale, et al., 2003). Moreover, mothers' transitions into work were associated with improvements in teenagers' mental health, and stability in employment was related to declines in teens' externalizing behavior problems. In contrast, mothers' job losses were linked with teenagers' increased behavioral problems (Chase-Lansdale et al., 2003). Kalil, Dunifon, and Danziger (2001) showed similar findings using data from the Women's Employment Survey, a longitudinal survey of current and former welfare recipients in Michigan. The authors consistently found that the intensity of work—months worked and hours worked per week—has little effect on school-aged children's behavior problems. However, the number of transitions between working and not working increased children's anxious and depressed behavior, net of other factors.

Recent experimental evaluations have identified more consistently positive aspects of mandated work programs on low-income children, particularly when the programs not only encourage work but also "make work pay." In the Minnesota Family Investment Program (MFIP), young children of single-parent, long-term welfare recipients who were required to work

-- but also 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). An important pathway of influence was through the program's financial incentives, which led to increased income and reduced poverty. Similarly, another experimental work-based income-supplement program – New Hope – improved school performance and social behavior among school-age boys (Huston et al., 2001). These findings lend support to the contention that work that provides a living wage can benefit the development of children of single mothers, and suggests that studies of the influence of single mothers' work on child development should distinguish among the types of jobs in which mothers are employed.

At the same time, there is also some evidence of negative effects of maternal employment in low-income families, especially when job quality is considered. Researchers drawing on national data (the Children of the National Longitudinal Survey of Youth – CNLSY-, the same data employed in the present sample) 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 and that 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 the effects of employment in low-wage, low-benefit jobs; i.e., those into which most single mothers naturally transition.

Finally, results from recent experimental studies have reported evidence that teenage children in families where parents are leaving welfare and increasing their employment under

mandatory 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., 2002). Negative effects for teenage children seem to be concentrated among those who have a younger sibling at home, suggesting that some teens might take on increased (and possibly stressful) household responsibilities in the face of their mothers' transitions into work.

Taken together, these studies suggest that low quality and instability in employment may present risk factors for child well-being when single mothers' work experiences are considered. What factors might account for the linkages between poorly remunerated or unstable employment and diminished child well-being? Two theories, drawn from economics and psychology, respectively, are prominent. The "investments" perspective (see Becker & Thomes, 1986) posits that unstable or low-wage work limits families' economic resources; namely, the income necessary to purchase the resources and goods (e.g., schools, housing, food, safe and cognitively enriched learning environments) that are critical for successful development. The "family stress" perspective, in contrast, posits that unstable or low-wage work is psychologically stressful for parents (see McLoyd, Jayaratne, Ceballo, & Borquez, 1994; Conger & Elder, 1994), which in turn inhibits parents' emotional warmth and increases parents' harsh or erratic behaviors. These negative aspects of the families' emotional climate are posited to increase children's maladjustment. On balance, the results from the most recent set of experimental studies of mandated employment point to the relatively greater importance of the "resources" pathway. In both MFIP and New Hope, for example, there were virtually no program impacts on parenting behavior or the quality of the home environment (Gennetian & Miller, 2002; Huston et al, 2001). And, in Chase-Lansdale et al. (2003), the quality of mothers' parenting (e.g., structured family routines or cognitive stimulation) did not change as mothers' employment

status changed. This suggests that the positive impacts of increased employment on the children of low-income single mothers may be driven by incremental increases in income (see also Harvey, 1999).

The present study uses non-experimental data collected in the mid-to-late 1990's in a national longitudinal sample to examine the effect on teenagers of naturally-occurring transitions into and out of employment by single mothers, the majority of whom are low income. In this sense, our study is most comparable to the *Three-City Study*. As in that study, we provide a broad look at low-income mothers' employment transitions over a multi-year period (in our case, 24 months). Our sample has a substantially larger percentage of families who were receiving welfare (61% vs. 38%); this is in part due to our limiting our sample to single mothers, whereas approximately one-quarter of the mothers in the *Three-City Study* were married.

We advance the hypotheses tested in the *Three-City Study* in several ways. First, we account for intra-survey year patterns of job loss and recovery by relying on detailed weekly employment histories covering a complete 2-year interval to create a comprehensive set of dynamic employment patterns. Second, we divide the group of employed mothers into those with "good" and "bad" jobs, using data on the jobs' wages and benefits. Many U.S. cities and counties have enacted "living wage" ordinances that require businesses with city contracts or subsidies to offer wages exceeding the federal minimum wage. One relatively common threshold indexes the living wage to the federal poverty threshold. We follow Johnson and Corcoran (2003) in defining "good" jobs as ones that pay at least $7 per hour (in 1999 dollars) with health benefits or $8.50 per hour without health benefits. For a single mother with two children the net annual income of a full-time worker at these wage levels would be 19 percent

and 13 percent above the 1999 federal poverty line for a family of three, respectively (see Johnson & Corcoran, Table 1, for more detail).

Third, we examine an older group of teenagers than was assessed in the *Three-City Study* (whose teens were 10-14 at baseline). The teenagers in our sample are 14-16 at baseline, and we follow them until the ages of 16-18, thus allowing us to look at a different set of outcome measures that is potentially more relevant for older teenagers (e.g., high school drop-out, grade repetition).

Finally, we examine the potential mediating role of changes in mothers' income between survey waves as a potential explanation for any observed associations between mothers' employment dynamics and child well-being. Previous studies have implicated the loss of income and its associated financial strain in explaining the negative effects of unstable employment on child well-being (McLoyd et al., 1994). In contrast, transitions into work that "pays" have been linked to positive changes in child well-being (Gennetian & Miller, 2002). Thus, any associations between job patterns and changes in child well-being over time may be attributable to concomitant changes in family income. Unfortunately, the data we use here do not provide measures of changes in parenting or family socialization processes and thus we are not able to test these theoretically important mediators laid out in the family stress model.

Method

Sample

Data for this paper are drawn from the National Longitudinal Survey of Youth 1979 (NLSY79) and Children of the National Longitudinal Survey of Youth (CNLSY). The NLSY79 is a nationally representative sample of 12,686 youth (6,283 females and 6,403 males) aged fourteen to twenty-two years old in 1979 (Hispanic, Black, and low-income youth were

oversampled). The primary research focus of the NLSY79 is labor force behavior, but a range of information on educational attainment, training investments, income and assets, health conditions, workplace injuries, insurance coverage, alcohol and substance abuse, sexual activity, and marital and fertility histories, is also collected. These youth were reinterviewed every year until 1994. Beginning in 1994 they have been reinterviewed every two years. In 1986 a separate survey of the children of the original NLSY79 female respondents were interviewed (CNLSY). In 1986, 3,053 women from the original NLSY79 survey had 5,236 children. Child cognitive, socioemotional, and physiological assessments as well as a variety of attitude, aspiration, and psychological well-being questions have been administered for age appropriate children biennially. In 1994 children who were fifteen or older (Young Adults) completed an extensive questionnaire modeled after the NLSY79 questionnaire. Data gathered in the survey includes information on schooling, training, work experiences and expectations, health, dating, fertility and marital histories, and household composition. A confidential supplement records their self-report of sensitive subjects such as parent-child conflict, participation in delinquent or criminal activities, use of controlled and uncontrolled substances, and expectations for the future. Given their emphasis on the labor market experiences and household economic well-being of adults and high-quality information on the activities and well-being of children, these data are ideally suited for the research questions posed here.

We merge the female respondents from the NLSY79 with their Young Adult children. We draw respondents from the 1994 and 1996 survey waves and follow these respondents for two years (until their next interview) in 1996 and 1998 respectively.[1] We then limit the sample to "Young Adults" (hereafter, teenagers) who are 14, 15 or 16 at the beginning of the two-year

[1] The 1994-1996 cohort consists of 656 mothers with 871 young adult children; the 1996-1998 cohort consists of 991 mothers with 1226 young adult children. For our purposes, a young adult is included in his or her cohort if he or she was interviewed in both the beginning and ending interview year (i.e., 1994 and 1996).

observation period.[2] Finally, we restrict this sample to those families in which mothers were single (unmarried) at the beginning of two-year observation period. The sample sizes for single mothers with teenage children in the age range of interest include 231 mothers with 258 teenage children in the 1994-96 cohort, and 299 mothers with 314 teenage children in the 1996-98 cohort.[3]

Dependent Variables[4]

Mastery. Teenagers responded to seven individual items from the Pearlin Mastery scale (Pearlin, Lieberman, Menaghan, & Mullan, 1981). Respondents were asked to indicate how much they agreed with the following statements: (1) there is really no way I can solve some of the problems that I have; (2) sometimes I feel that I'm being pushed around in life; (3) I have little control over the things that happen to me; (4) I can do just about anything I really set my mind to; (5) I often feel helpless in dealing with the problems of life; (6) what happens to me in the future mostly depends on me; and (7) there is little I can do to change many of the important things in my life (1994 a = .72; 1996 a = .70; 1998 a = .74). The mastery questions were measured on a 1-4 scale (corresponding to answers of *strongly disagree, disagree, agree, strongly agree*), and the measure represents the sum of responses. Responses to negative items were reverse-coded so that higher scores on the summary scale represent greater mastery.

Self-esteem. Teenagers responded to ten individual items assessing self-esteem using the Rosenberg self-esteem scale (Rosenberg, 1986). Designed for adolescents and adults to measure

[2] The 1994-1996 cohort of 14, 15 and 16 year olds consists of 495 mothers with 538 teenage children; the 1996-1998 cohort of 14, 15 and 16 year olds consists of 657 mothers with 695 teenage children.

[3] While the 1998-2000 cohort was available for this analysis, many of the outcome variables of interest were not collected in 2000 for those teenage children who participated in the 1998 interview. Lacking follow-up data on outcome measures first collected in 1998 made it impossible for us to conduct models of change over time, our preferred analytic strategy.

[4] In addition to the four dependent variables assessed here, we would have liked to examine additional measures of academic behavior to parallel some of the outcomes examined in the recent experimental studies (Gennetian et al., 2002). Unfortunately, substantial missing data precluded these analyses (e.g., 185 teens were missing information on grades and 161 teens were missing data on a measure of school satisfaction).

an individual's self-evaluation, it describes a degree of approval or disapproval toward oneself. Respondents were asked to indicate how much they agreed with the following statements: (1) I feel that I'm a person of worth, at least on an equal basis with others; (2) I feel that I have a number of good qualities; (3) All in all, I am inclined to feel that I am a failure; (4) I am able to do things as well as most people; (5) I feel that I do not have much to be proud of; (6) I take a positive attitude toward myself; (7) On the whole, I am satisfied with myself; (8) I wish I could have more respect for myself; (9) I certainly feel useless at times; and (10) At times I think I am no good at all (1994 a = .85; 1996 a = .85; 1998 a = .87). The self-esteem questions were measured on a 1-4 scale (corresponding to answers of *strongly disagree*, *disagree*, *agree*, *strongly agree*), and the measure represents the sum of responses. Responses to negative items were reverse-coded so that higher scores on the summary scale represent greater self-esteem.

Grade repetition. We determined whether the teen repeated a grade in the two-year interval in which they appeared in the study. Responses are coded as a dichotomous variable (coded 1 if yes 0 if no). Teenagers were asked if they had ever repeated a grade at both the beginning and ending of the interval and which grades they had repeated. Teenagers also reported what grade in school they were currently in at both the beginning and ending of the interval. If the reported grades repeated at the end of the interval correspond to grades held back between the two time points, the teenager was characterized as having repeated a grade during that time.

Drop out. Teenagers specified whether they ever dropped out of regular school for at least one month, whether or not they returned to school, and the month and year of the most recent drop out. If a drop-out occurred between the beginning and the ending of the two-year

interval and a return to school was not indicated, the respondent was coded as having dropped out of school. Responses are coded as a dichotomous variable (coded 1 if yes 0 if no).

Independent Variables

Employment patterns. Mothers' employment patterns are classified based on several labor force characteristics associated with the two-year interval between survey waves. Mothers' employment patterns are assigned to six mutually exclusive groups: 1) continually employed in a "good" job; 2) continually employed in a "bad" job; 3) continually unemployed; 4) exactly one job loss followed by re-employment; 5) exactly one job loss without regaining employment, and 6) more than one job loss (re-employment not specified). Mothers are characterized as continually employed if they worked in each week since the first interview and all of the weeks are accounted for. The continually employed mothers are further classified as continually working in "good" or "bad" jobs. Following Johnson and Corcoran (2003), a good job is one that is (a) at least 35 hours per week, pays at least $7 per hour (1999$) and offers health insurance, or is (b) at least 35 hours per week and pays more than $8.50 per hour (1999$) if it does not offer health insurance. A bad job (a) pays less than $7 per hour (1999$) even if it offers health insurance or (b) pays between $7 and $8.50 per hour (1999$) and offers no health insurance.[5] By definition in our study, no mother with a part-time job can be classified as having a "good job," because our definition of "good" and "bad" jobs is based on the jobs' ability to enable economic self-sufficiency (in theory, a part-time worker with a high enough hourly wage could bring her family above the poverty line, but no mother in our sample had these characteristics). Arguably, part-time jobs are "good" ones to the extent that they allow for

[5] For the 1994-1996 cohort, wages in 1996 dollars for the two types of jobs are $6.59 and $8.01, respectively and for the 1996-1998 cohort, wages in 1998 dollars are $6.85 and $8.32.

flexibility and time with children. Given that the majority (72%) of mothers in our sample does not have preschool-age children, we assume that part-time work is undesirable.

Mothers' work characteristics are reported for up to five jobs held during the two-year window. Mothers who were continually employed but switched jobs between interviews were characterized as having a good (bad) job if the average of their job characteristics were equivalent to a good (bad) job.[6]

The continually unemployed mothers are either unemployed or out of the labor force for all of the weeks since the first interview and all of the weeks are accounted for. Mothers who experienced employment transitions were categorized according to the number of transitions and their re-employment experiences. Mothers were characterized as losing exactly one job and regaining employment if all weeks since the first interview are accounted for and they reported one gap in employment. Mothers in this group must report that they are currently employed at the end of their two-year interval. Mothers were characterized as losing exactly one job and not regaining employment if all of the weeks since the first interview are accounted for, they report one gap in employment during that time, and they report that they are not currently working at the end of their two-year interval. Finally, mothers are characterized with multiple job losses if all of the weeks since the first interview are accounted for, and if the mother reported more than one gap in employment during that time. Small sample sizes preclude further specification of the latter group.

[6] We average job wage characteristics for those who had more than one job because the sample sizes are too small to differentiate these groups any further. Among the multiple job holders, 10 are in the group of those continually employed in a good job -- 9 of these mothers have 2 jobs and 1 has three jobs. 34 of the mothers continually employed in a bad job have held more than one job -- 24 of these mothers have held 2 jobs and 10 have held more than two jobs. Overall, there is little upward mobility in this sample. For example, of the 24 mothers who have held exactly two jobs whose average characteristics are "bad", 15 had moved to lower paying jobs.

Control variables: teenagers' characteristics. We control for two teen demographic characteristics in the models, age and gender. Age is measured as a continuous variable at the first interview. Gender is measured as a dichotomous variable (coded 1 if boy 0 if girl).

Control variables: mothers' characteristics. We control for several maternal demographic characteristics. First, age and years of education (both measured at the first interview) are entered as continuous variables. Second, we control for race/ethnicity, coded as Hispanic, Black, and White (the reference group). Although all of the mothers in the sample are single at baseline, we include a dichotomous variable for whether the mother is never married at the first interview (coded 1 if never married 0 if ever married) given that ever-married mothers may have access to greater economic and social resources (e.g., in the form of child support payments or father involvement) and thus may have teenagers with better developmental outcomes. Household composition is captured with four different variables measured at the baseline interview.[7] The first measure is the total number of children under the age of 18 residing in the household. These individuals could be the child of the mother in the sample, a niece or nephew, or any other related or non-related individual. The second measure is the total number of adults residing in the household (not including a domestic partner). The third measure is a dichotomous variable for whether or not the mother reported a partner/cohabitor residing in the household (coded 1 if yes, 0 if no). A greater number of children, and caretaking responsibilities, may impede mothers' stable employment and may also relate to poorer child outcomes to the extent that resources are diluted among many children. In contrast, the presence of other adults in the household may serve as a source of economic, social, or informational

[7] A pre-coded family size measure is included in the NLSY data, however this measure computed by CHRR includes only relations by blood, marriage, and adoption. This eliminates foster relationships, boarders, partners, guardians, and other non-relatives that may reside in the household. To account for these potential household residents, we compute measures using all of the information available in the household roster.

support and may not only exert a stabilizing influence on maternal employment patterns but also benefit adolescents' well-being (see, e.g., DeLeire & Kalil, 2002, for an example of the positive association between grandparent presence and adolescent well-being in single-parent households). Finally, the fourth measure is a continuous variable representing the age of the youngest child (whether or not it is the mother's own child) in the household. A very young child in the household may place extra care demands on the mother, which could interfere with her employment, or it may require child care assistance from the teen, which could diminish the teen's well-being.

We also include measures of mother's ability and depressive symptoms. These two measures are assessed prior to the assessment of mothers' work patterns and are important to include as control variables to the extent that they play a role in selecting mothers into different patterns of employment (see, e.g., Danziger et al., 2000 for a discussion of the role of depression in shaping low-income mothers' employment patterns and Mayer, 1997 for a discussion of the role of mothers' abilities) and may also influence teenagers' well-being. These factors, because they are often not available in developmental psychological studies (or if they are, are measured concurrently with the assessment of, e.g., employment status), are often implicated in discussions of selection bias in analyses linking economic conditions to child well-being and it is a strength of these data that they are explicitly measured. Mothers' ability is measured with the Armed Forces Qualification Test (AFQT) percentile score. The AFQT, which was administered to NLSY sample members in 1980, assesses paragraph comprehension, arithmetic reasoning, word knowledge, and mathematics knowledge. The AFQT is described by Neal and Johnson (1996) as a measure of basic skills, or human capital, attained.

Mothers' depressive symptoms are measured in the NLSY 1992 interview with the Center for Epidemiologic Studies Depression (CES-D) scale. The 20-item CES-D (Radloff, 1977) is a widely used, standardized, self-report scale designed to measure depressive symptoms in the general population. Respondents were asked to rate how often they felt the following ways: (1) I was bothered by things that usually don't bother me; (2) I did not feel like eating, my appetite was poor; (3) I felt that I couldn't shake off the blues even with help from my family and friends; (4) I felt that I was just as good as other people; (5) I had trouble keeping my mind on what I was doing; (6) I felt depressed; (7) I felt that everything I did was an effort; (8) I felt hopeful about the future; (9) I thought my life had been a failure; (10) I felt fearful; (11) My sleep was restless; (12) I was happy; (13) I talked less than usual; (14) I felt lonely; (15) People were unfriendly; (16) I enjoyed life; (17) I had crying spells; (18) I felt sad; (19) I felt that people dislike me; and (20) I could not get "going" (a = .89). The questions were measured on a 0-3 scale (corresponding to answers of *rarely/none of the time/1 day, some/a little of the time/1-2 days, occasionally/moderate amount of the time/3-4 days, most/all of the time/5-7 days*) and the measure represents the sum of responses. Responses to positive items were reverse-coded so that higher scores on the summary scale represent greater risk of depression. Scores of 16 or more are commonly taken as indicative of depression (Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977).

Mediator variable: change in income. Income is measured as the sum of reported income in the following categories: military income; wages/salary/tips; net business and farm income; unemployment compensation; child support; welfare, food stamps, other welfare and SSI; disability/VA benefits; inheritances/gifts; and income from other sources. Our measure of reported income is different from the computed measure of income provided by CHHR in the

NLSY data in that if respondents indicate that they receive income in a particular category but do not specify an amount received, they are assigned the mean value of that category based on the valid responses.[8] This helps to reduce the amount of missing data in the analyses. Prior year income is collected from the mother at the interview date, such that in 1994 mothers report 1993 calendar year income. The incomes for each year available (1993, 1995, and 1997) are all computed in 1999 dollars. We create a change in income score such that the baseline income (1993 and 1995) is differenced from the ending income (1995 and 1997). Change in income is used as a proxy for changes in families' economic circumstances.[9]

Results

Sample Description

Table 1 presents the overall means and standard deviations of all variables in the analysis. Sample sizes for each study variable vary depending on when and how it was measured. Teenagers' characteristics are reported for the 439 teens in the sample. Mothers' characteristics that are measured once, including her race/ethnicity, AFQT and CES-D scores are reported for 369 mothers of these teens. Time-varying characteristics of the mothers that are drawn from the baseline observation in each of the two cohorts, such as mother's age and education, are reported for 409 "families." A "family" refers to the number of times a mother's information is counted. For example, a mother may have one teenage child in the 1994-96 cohort and another one in the

[8] Beginning (i.e., at the start of the 2-year interval) wages were missing for 21 mothers (mean value = $16,156.58) and ending (i.e., at the end of the 2-year interval) wages were missing for 26 mothers ($16,670.12). Beginning veterans benefits were missing for 2 mothers ($9,070.42) and ending veterans benefits were missing for 2 mothers ($7,456.98). Ending welfare receipt was missing from 1 mother ($6,752.01). Beginning child support amounts were missing for 19 mothers ($3,168.43), and ending child support amounts were missing for 17 mothers ($3,173.90). Beginning farm and business income was missing for 1 mother ($29,049.97), and ending farm and business income was missing for 1 mother ($7,490.23). Beginning inheritance income was missing for 1 mother ($10,079.17), and ending inheritance income was missing for 1 mother ($2,103.70). Beginning "other income" was missing for 1 mother ($5,359.26), and the ending "other income" was missing for 3 mothers ($1,991.14).

[9] Change in income is measured in 1,000s in the regression analysis.

1996-98 cohort and some of her baseline characteristics, as well as employment patterns, may differ for those two children.

There is wide variation in mothers' employment patterns. Although the majority of the single mothers are not working during the two-year window (24 percent), the next largest group is continually working in a good job (22 percent). The balance is distributed between those continually working in a bad job (17 percent), losing one job and not regaining employment (6 percent), losing one job and regaining employment (18 percent), and losing more than one job (13 percent). In analysis not shown, we examined the types of jobs those who lose and regain are employed in at the end of the two-year interval, and find that almost all of them regain employment in bad jobs. We therefore do not further distinguish the patterns of job loss followed by re-employment.

Mothers continually working in good jobs earn an average hourly wage of $12.00 (in 1999$) and 92% of these mothers are covered by health insurance the entire time we observe them (data not shown in tables). On average, these mothers work 41 hours per week. Mothers continually working in bad jobs earn $7.82 per hour and work 33 hours per week. 71% of these mothers are covered by health insurance the entire time we observe them. Fifty-one percent of the mothers continually employed in bad jobs work full-time and these mothers earn an average wage of $7.16. Forty-nine percent of those in bad jobs work part-time and have an average wage of $8.52.

Among mothers who lose one job but regain employment, the hourly wage (averaged across jobs) is $8.07 and hours worked are about 35 per week. The median proportion of weeks these mothers are out of work in the two-year interval is 34%. Mothers who lose a job without regaining one earned $8.64 on that job and worked 38 hours per week. The median proportion

of weeks these mothers are out of work in the two-year interval is 59%. Finally, mothers who cycle between jobs earn, on average, $6.65 per hour and work about 39 hours per week. The median proportion of weeks these mothers are out of work in the two-year interval is 52%.

Teenagers are on average fifteen years old, with an equal number of boys and girls. Mothers are on average 35 years old at baseline and have just less than 12 years of education. The modal number of mothers' own children in the household is two (data not shown), 15% of mothers reported residing with a cohabitor, and the youngest child in the household is 8.9 years on average. Forty percent of the mothers have never married, and a majority is Black. The average score on the CES-D scale is relatively high and is approaching the cut-off indicating risk for clinical levels of depressive symptoms. Forty-one percent of mothers overall are at risk for depression according to their CES-D score (data not shown).

Predictably, mothers' characteristics vary in systematic ways across the six employment patterns (data not shown). For example, mothers working continuously in good jobs have the highest levels of education, the fewest number of children, the highest AFQT scores, and the lowest CES-D scores. In contrast, the continuously unemployed mothers have the most limited education, are the most likely never to have married, have the greatest number of children, the lowest AFQT scores, and the highest CES-D scores.

Teenagers' Outcomes

On average the teenagers reported scores that were higher than the statistical midpoint on the mastery and self esteem measures, with averages of 22 and 33 respectively. For a benchmark comparison of these figures, we estimated the average mastery and self-esteem scores in a cross-section of all 14-16 year olds in the 2000 CNLSY (approximately 745 youth). The average mastery score is 22 and the average self-esteem score is 27 in this population. Thus, while the

mastery scores are comparable, the self-esteem scores of the teenagers from these two cohorts of predominantly Black low-income single mothers, compared to a more representative population, are substantially higher. This corresponds to results reported in a recent meta-analysis showing that Black children have higher self-esteem scores than whites and that this advantage not only increases with age but also is greater among low than among middle or high SES groups (Gray-Little & Hafdahl, 2000).

With respect to the educational outcomes, 11 percent of the teens in this sample repeated a grade in the two-year interval and 13 percent dropped out during this time. No national statistics are collected on grade retention; however, it is estimated that 5 to 7 percent of public school children are retained annually (Center for Policy Research in Education, 1990). National statistics on high school drop-out suggest that in any given year (within the last 15 years) approximately 5% of young adults enrolled in high school will leave without successfully completing the program (Kaufman, Alt, & Chapman, 2002). Thus, our sample generally mirrors a national sample with respect to educational progress.

Change in income

The average level change in income across the entire sample is a decline of about $674 (1999$), although this figure varies widely across the six employment groups (data not shown). Only mothers who were continually working evidenced income growth, on average, over the two-year interval, although the median amount of growth was small (4% for continually employed mothers in both good and bad jobs). All other groups experienced income declines on average, with unemployed mothers experiencing the least amount of decline ($1,140) and cyclers experiencing the most ($2,759) (data not shown).

Regression Analyses

Multivariate regression analyses were conducted predicting each of the four teen outcomes. Different regression techniques were adopted depending on the nature of the outcome variable. Ordinary least squares (OLS) regression was used to estimate mastery and self esteem. The dichotomous outcomes (grade repetition and school drop-out) are modeled using a logistic regression. We correct the standard errors (using the cluster option in STATA) in all analyses to account for the presence of siblings in the data (clustering on the mother).

Variables are entered into the analysis in blocks in four separate models. Model 1 includes the mothers' employment pattern over the two-year interval (continually employed in a good job is the reference group). Model 2 adds the baseline value of each teen outcome measure. Including the baseline value of the outcome measure as an independent variable provided a proxy for (1) unmeasured genetic influences; (2) selection characteristics that discriminate families with different employment patterns; and (3) teenager's prior functioning, which would at least partially reflect the effects of earlier maternal employment histories (Cain, 1975). In the grade repetition and drop-out regressions we include a dichotomous variable indicating whether or not the teenager reported ever previously repeating a grade or dropping out, respectively, prior to our baseline observation. This differs from the baseline outcome variables used in other analysis because grade repetition and dropping out could have occurred at any time in the child's life leading up to the day they entered the survey. Model 3 adds the teenagers' demographic characteristics (age and gender; female is omitted) as well as the measures of mothers' demographic characteristics, household composition, and her AFQT and CES-D scores. A final model (Model 4) is also examined testing change in the level of reported income over the two-year interval as a potential mediator of any observed effects of the

employment patterns. We also experimented with using the percent change in income as a mediator but doing so did not change any of the point estimates reported here.

Mastery and self-esteem. Table 2 presents the regression results for mastery. Model 1 is significant at $p < .10$, and several of the employment patterns are individually significant. The teenagers whose mothers are continually unemployed or lose one job and do not regain employment show a decline over time in their mastery scores compared to those whose mothers are continually employed in a good job. Model 2 is significant, and these employment patterns maintain their significance in the presence of baseline mastery. Model 3 is also significant, but the coefficient for the continually unemployed drops below significance, while the coefficient for lose one job and do not regain employment drops to marginal levels of significance. These findings suggest that mothers' demographic and personality characteristics and ability explain much of the associations previously observed between employment and teens' mastery. Nevertheless, the effect size for decline in mastery associated with losing one job and not regaining one, while only marginally significant, is about 1/3 of one standard deviation. We also observe that teens with Black mothers have greater increases over time in their mastery scores. A mother's educational attainment at baseline is, somewhat surprisingly, associated with a decline in mastery over time, while mothers' higher AFQT scores are associated with increased mastery over time. These same patterns hold in the mediated model (Model 4); and change in income is not a significant predictor of change over time in teenagers' mastery.

Table 3 presents the regression results predicting teenagers' self esteem. Model 1 is significant, and the measures of continual unemployment, losing a job and not regaining employment, and losing a job with re-employment are all negatively associated with change over time in teenagers' self esteem relative to those whose mothers are continually employed in a

good job. Model 2 is also significant, and these three employment patterns maintain significance in the presence of the lagged dependent variable. With the inclusion of the block of variables in Model 3, the employment pattern of continual unemployment becomes non-significant; however, losing a job and not regaining employment continues to be negatively associated with change over time in teenagers' self esteem, as does losing a job and regaining one (albeit at marginal levels of significance). Teens with Black mothers have increases in self esteem over time, and, as with mastery, mother's AFQT is positively associated with change in self esteem. Model 4 suggests that even after controlling for changes over time in income, mothers' losing one job and not regaining employment and losing one job and regaining employment are predictive of a decline in teenagers' self esteem. The effect of the mother's losing one job and not regaining employment is equivalent to 2/5 standard deviation decline in teenagers' self-esteem.

Grade repetition and school drop-out. Table 4 presents the results for grade repetition. Model 1, though not significant overall, suggests that all of the mothers' employment patterns are predictive of grade repetition. Teens whose mothers are continually employed in a bad job, are continually unemployed, or who lose one job and regain employment have increased odds of repeating a grade by 4.02, 4.10, and 1.27 respectively. At a marginal significance level, teens whose mothers lose a job and do not regain one have increased odds of repeating a grade by 4.58, and those whose mothers lose more than one job (the cyclers) have increased odds of 3.76. Model 2 adds the prior grade repetition variable, which is highly significant, as is the model. In this model, continually not working and job loss followed by re-employment are marginally significant predictors of repeating a grade, but having a mother who is continually employed in a bad job remains predictive of greater odds of grade repetition at conventional levels. Once the teen and mother characteristics are introduced as controls in Model 3, this employment pattern

drops just below conventional levels of significance. Among the background variables, having a mother with higher educational attainment reduces the odds that the child will repeat a grade, while residing in a household with a cohabitor increases these odds. Having more children residing in the household is also associated with increased odds of grade repetitionl. The measure of change in income, introduced in Model 4, is significant and suggests that an increase in income of $1000 during the two-year interval decreases the odds of the teen repeating a grade by 2 percentage points. Further, the indicator variable for continual employment in a bad job is again significant at conventional levels in this final model.

Finally, Table 5 presents the findings for dropping out. Model 1 is significant, and indicates that having a mother who is continually unemployed increases the odds of dropping out by 5.12 and having a mother who loses more than one job (the cyclers) increases the odds of dropping out by 3.31. Further, having a mother who loses a job and regains employment is also associated, albeit at marginal levels of significance, with increased odds of dropping out. Model 2 includes the prior measure of dropping out before baseline. This model is highly significant as is the prior measure of drop out. The measure of continual unemployment maintains its significance, although losing and regaining work is no longer even marginally significant. Model 3 is also significant. Teens with older mothers and those whose mothers never married are less likely to drop out. In contrast, the greater the number of adults residing in the household, the more likely the teen is to drop out. Results from Model 4 suggests that above and beyond the teen and mother characteristics, and changes in income, having a mother who is continually unemployed or who loses more than one job is still predictive of dropping out. All other things constant, teens whose mothers are continually unemployed (lose more than one job) are 7.40

(3.55) times more likely than those whose mothers are continually employed at a good job to drop out of school in the two-year window.

To provide a better sense of this wide range of results on the two academic achievement measures, we computed the predicted probabilities of both grade repetition and dropping out from the regression coefficients in Model 4. To do so, we chose a hypothetical "base case" teenager to whom we assigned the mean value of all continuous predictors and the characteristics Black, male, mother is never married, no cohabitor present, and no previous grade repetition (drop-out) for the predictors coded as dummy variables. For these such teenagers, the percent who repeated a grade (dropped out) in the two-year interval is .03 .(04) for those whose mothers were continually employed in a good job, .11 (.06) for those whose mothers were continually employed in a bad job, .05 (.25) for those whose mothers were continually unemployed, .06 (.06) for those whose mothers lost a job and did not regain employment, .08 (.10) for those whose mothers lost a job but regained employment, and .06 (.14) for those whose mothers lost more than one job. The predicted probabilities are quite similar for boys and girls (data not shown) but white boys and girls with the same base characteristics as their Black counterparts have higher predicted probabilities of dropping out compared to the Black youth (data not shown).

Discussion

We find that under certain conditions, the employment experiences of low-income single mothers are associated with negative changes in their teenage children's well-being. In particular, relative to the group of teenagers whose mothers were continuously employed at a job that paid a living wage, negative effects were observed for teenagers whose mothers experienced unstable employment trajectories over a two-year period. Employment instability was associated with an increased risk of school drop-out and declines in teenagers' self-esteem and mastery. In

the case of school drop-out, employment instability in the form of maternal "cycling" back and forth between work and non-work was especially detrimental. In the case of teenagers' self-esteem and mastery scores, instability in the form of job loss that was not followed by re-employment within a two-year period was associated with declines in well-being. A more limited negative impact of employment at a "bad" job was also observed; teens whose mothers with this type of work experience were at greater risk of grade repetition. Finally, we found a negative effect of mothers' continuous unemployment on teenagers' risk of school drop-out.

These findings replicate and extend those found in previous reports. For example, the negative effects of job instability on teenagers' self-esteem and mastery correspond with the results from Kalil, Dunifon, and Danziger (2001) and also those from Chase-Lansdale et al. (2003), both of which examined low-income mothers' job instability in younger children. In Chase-Lansdale et al.'s study of 10-14-year olds, mothers' exits from employment were associated with increases in adolescents' depressive symptoms and aggressive behavior problems (but not tests of their math or reading skills). Collectively, these results suggest that maternal job loss in a low-income population may be especially detrimental for teenagers' mental health. In our data, we were able to provide greater insight into the nature of these job exits, insofar as these negative effects were observed for those who lost jobs but failed to regain one during the two-year interval. Comparable declines in mastery were not observed for those teens whose mothers lost one job but regained employment and were employed at the time of the follow-up interview. Recall that among the group who lost jobs without regaining employment, the median proportion of weeks those mothers were out of work in the two-year interval was a fairly sizeable 59% (i.e., over half of the time we observed them). And, the median proportion of weeks unemployed among mothers who "cycled" back and forth between work and non-work was also

sizeable (52%); this pattern was associated with an increased risk of school drop-out. In contrast, the median proportion of weeks unemployed among mothers who lost exactly one job but regained one by the time of the follow-up interview was only 34%. These findings suggest that it may not only be job loss, per se, that negatively affects child well-being, but the length of time spent out of work following the loss.

Relatively few prior studies have examined the linkages between job conditions and child well-being; the collective work of Menaghan and Parcel is an exception, but much of their work has focused on preschool age children. Parcel & Menaghan (1990), for example, linked the rate of pay of mothers' jobs and its substantive complexity to young children's (ages 3-6) scores on a test of verbal skills, which were mediated in part by children's experiences in the home. These authors argued that routinized, low-quality jobs erode opportunities for parents' intellectual flexibility and exacerbate psychological distress, and that these factors create less responsive parenting. In our study, we linked mothers' continuous employment in a "bad" job (i.e., a low-paying or low-benefit one) to teenagers' increased risk of grade repetition. To the extent that the outcomes in both of these studies reflect children's cognitive capabilities, then the results from these two studies appear fairly complementary despite the fact that the age groups examined are quite dissimilar. Finally, we found a negative association between mothers' continuous unemployment and her teenage child's increased risk of school drop-out, a finding that corresponds to arguments put forth by Wilson (1996) and by McLoyd et al. (1994).

What factors account for these various linkages between different employment experiences and teenagers' well-being? Based on previous research, we anticipated finding a significant mediating role of change in income and our data were particularly well-suited to test this argument. However, in general, we found a very limited role for change in income, either as

a mediator of these observed linkages or as a predictor of change in teenagers' well-being. In fact, change in income was itself associated with only one of the four outcomes we examined (grade repetition). The changes in income associated with mothers' differing employment patterns were possibly too modest to make much difference in the lives of their teenage children. In addition, income (both level and change) has been identified in previous studies as a relatively more important determinant of young children's development (Duncan & Brooks-Gunn, 1997).

Thus, in the absence of significant mediating effects of income changes, and the relatively weak evidence from prior studies of the explanatory effects of quality of mothers' parenting, what can explain the linkages we observe in this study? These questions remain important ones for future research. Although observable income change, per se, did not help explain the linkages between job instability and teens' declines in psychological functioning, it may be that mothers' or teenagers' psychological perceptions of their families' current or future economic viability are compromised when job loss is followed by a lengthy period of unemployment and that these worries and anxieties diminish well-being. Maternal job loss or instability may provoke other intra-family stresses or conflicts that threaten youth's adjustment. More detailed psychological measures would be useful to pursue these ideas.

The role of mothers as role models, and the ways in which they shape teenagers' self-concepts might also be an important mediating factor. Mothers who lose jobs and have difficulty gaining another one, lose multiple jobs, or do not work at all may present a more negative self-concept to their children, which could be reflected in the children's own declining self-concepts. In the case of continuous unemployment, these mothers may be less effective in conveying the importance of staying attached to school as an important component of future employment success.

Finally, the ways in which maternal work experiences are associated with teenagers' time use or experiences at school, with their peers, or in their neighborhoods are all potentially important as explanatory variables, but regrettably, few measures of these behaviors exist in our data. We were able to examine one measure of teenagers' time use – whether or not the teen him or herself started working in the two-year interval. We re-ran the regression models including this variable Models 3 and 4, but doing so did not affect significance of any of the results reported here. This variable itself was significant (at marginal levels) in predicting a decreased likelihood of school drop-out.

The results presented here were obtained in a series of fairly conservative tests insofar as they used large-scale panel data that allowed for controlling the lagged version of each dependent variable, as well as a wide range of potentially important selection factors, including pre-existing measures of mothers' achievement and her mental health. Indeed, in several cases, the introduction of these background characteristics reduced significant associations between employment patterns and change over time in teens' well-being to non-significance, highlighting the importance of including these important control variables. Given this fairly rigorous set of controls, we have a reasonable amount of confidence in the results presented here. Nevertheless, we performed a series of sensitivity tests to try to rule out any additional spurious associations. For example, in examining these results, one should be concerned about the direction of the observed associations. That is, could the results be interpreted as suggesting that a decline in teens' psychological well-being causes mothers to lose jobs or withdraw from the work force? Or is a decline in teens' self-esteem or mastery proxying for an increase in the teenagers' behavior problems that interrupt mothers' work? To address this issue, we examined a series of regressions that controlled for pre-existing measures of the teenagers' behavior problems as well

as a measure of whether the teenager was in poor physical health. We assessed these measures when the child was age 11 or 10, prior to our assessment of the teen outcome measures or the mothers' work experience. In no case were any of these variables individually significant, nor did including them in the regressions change any of the associations presented here in any meaningful way (results available upon request).

In addition, an obvious problem inherent in non-experimental research is determining causality. If joblessness and job termination were random acts perpetrated by the market then it would be reasonable to interpret job holding patterns as a reflection of the environment rather than of the individual's tastes and propensities. Of course the truth is that many of these mothers might have quit their jobs voluntarily or provoked a termination by their behavior. It is easy to imagine that the quality of parenting is also related to the traits that also influence job holding and that it is these characteristics that are responsible for the declines over time in teenagers' functioning that we observe here. Unfortunately, the data do not provide any information on the reason for job separations (i.e., voluntary vs. involuntary). However, we conducted tests that included indicator variables for whether any of the mothers' reported income came from unemployment insurance or from cash welfare assistance (i.e., unemployment insurance is only available to those whose job separation is involuntary). These variables could possibly proxy for the nature of the job separation or for mothers' tastes for employment. Finally, we ran the regressions with a series of controls for the unemployment rate for the metropolitan statistical area in which the NLSY mothers resided (these data are limited in the NLSY for confidentiality reasons). Our results changed very little under all of these alternative specifications (results available upon request).

In sum, results presented here suggest that the well-being of teenagers may be compromised as their single mothers negotiate work in the low-wage labor market. Available jobs in this sector often have unpredictable or non-traditional schedules that can prompt job separations, or provide wages and benefits that are too meager to support the families' economic viability. Ideally, all single mothers would find and keep "good jobs," but in the real world, many low-income mothers are not qualified to get these jobs; moreover, such jobs are not available to everyone who wants one, particularly in a period of economic stagnation. Thus, the results from this study point to the importance of not only helping mothers keep jobs once they find them, but also providing the economic supports that make these jobs as much like "good" ones as possible, even if the actual wage rate is low. To address the former issue, further research is needed to identify the factors predicting job loss in this population. A myriad number of possibilities exist, ranging from transportation problems to a lack of "soft skills" that help workers get along with co-workers and supervisors. Once identified, these problems can be targeted for intervention. To address the second issue, the continued provision and expansion of subsidies and incentives, such as the Earned Income Tax Credit, as well as child and health care supports, can help make even lower-wage jobs an economically viable option for single mothers and their children.

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Table 1

Descriptive Statistics of Study Variables

	Overall Mean	SD
Employment Patterns		
Good job	.22	---
Bad job	.17	---
Not working	.24	---
Lose and do not regain	.06	---
Lose and regain	.18	---
Lose more than one	.13	---
Youth Characteristics		
Age (baseline)	15.05	.72
Gender (Boy)	.51	---
Mother Characteristics		
Age (baseline)	34.56	1.99
Hispanic	.19	---
Black	.62	---
White	.19	---
Baseline years of education	11.73	2.01
Baseline never married	.40	---
Baseline number of children	2.59	1.49
Baseline number of adults	.52	.92

Baseline presence of cohabitor	.15	---
Baseline age of youngest child in home	8.91	5.07
AFQT (1980)	20.29	19.44
CES-D (1992)	14.33	10.85
Mediator		
Change in income	-674.10	15583.57
Baseline scores on outcome variables		
Mastery	21.33	2.87
Self esteem	31.75	4.19
Ever previously repeated a grade	.36	---
Ever previously dropped out of school	.08	---
Outcomes		
Mastery	21.90	3.14
Self esteem	32.64	4.13
Repeated a grade	.11	---
Dropped out of school	.13	---

Note: Sample sizes differ for each variable. Youth characteristics are reported for all 439 children. Mother characteristics that are measured once (race, AFQT, and CES-D) are reported for 369 mothers. Baseline characteristics (employment patterns, mother's age, education, never married, and family size) are reported for 409 "families". Mastery and sef esteem are reported for 431 youths, grade repetition is reported for 427 youths, and dropped out of school is reported for 435 youths.

Table 2

Ordinary Least Squares Results: Mastery (n=431)

	Model 1		Model 2		Model 3		Model 4	
	B	SE	B	SE	B	SE	B	SE
Employment Patterns								
Bad job	-.21	.43	.01	.38	.07	.39	.07	.39
Not working	-1.11 *	.44	-.91 *	.39	-.63	.43	-.63	.43
Lose and do not regain	-1.23 *	.64	-1.31 *	.51	-1.03 §	.56	-1.03 §	.56
Lose and regain	-.41	.51	-.37	.47	-.29	.47	-.29	.47
Lose more than one	-.33	.58	-.03	.52	.18	.55	.18	.55
Youth Characteristics								
Age (baseline)	---		---		.10	.20	.10	.20
Gender (Boy)	---		---		.09	.28	.09	.28
Mother Characteristics								
Age (baseline)	---		---		.02	.08	.02	.08
Hispanic	---		---		.66	.49	.66	.49

Black	---			---			1.03	*	.44	1.03	*	.44
Baseline years of education	---			---			-.17	*	.08	-.17	*	.09
Baseline never married	---			---			.13		.33	.13		.33
Baseline number of children	---			---			-.15		.12	-.15		.12
Baseline number of adults	---			---			-.22		.14	-.21		.14
Baseline presence of cohabitor	---			---			-.41		.41	-.42		.41
Baseline age of youngest child in home							-.03		.04	-.03		.04
AFQT (1980)	---			---			.03	**	.01	.03	**	.01
CES-D (1992)	---			---			-.01		.01	-.01		.01
Baseline scores on outcome variables	---			.45	***	.05	.43	***	.05	.43	***	.05
Mediator												
Change in income (1,000s)	---			---			---			.00		.01
Constant	22.40	***	.33	12.75	***	1.18	12.00		4.12	12.02		4.15
F-test	1.89	§		15.10	***		6.88	***		6.55	***	
R-square	.02			.18			.22			.22		

Note: §$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 3

Ordinary Least Squares Results: Self Esteem (n=431)

	Model 1		Model 2		Model 3		Model 4	
	B	SE	B	SE	B	SE	B	SE
Employment Patterns								
Bad job	-.74	.67	-.38	.58	-.31	.59	-.32	.59
Not working	-1.59 **	.58	-1.09 *	.50	-.81	.54	-.80	.54
Lose and do not regain	-1.86 *	.90	-2.19 **	.83	-1.71 *	.83	-1.69 *	.84
Lose and regain	-1.37 *	.67	-1.28 *	.60	-1.15 §	.61	-1.14 §	.61
Lose more than one	-.04	.68	.26	.59	.48	.62	.50	.62
Youth Characteristics								
Age (baseline)	---		---		.19	.24	.20	.24
Gender (Boy)	---		---		.15	.35	.15	.35
Mother Characteristics								
Age (baseline)	---		---		-.09	.09	-.09	.09
Hispanic	---		---		-.29	.62	-.29	.62

Black	---			---			1.15	*	.57	1.16	*	.57
Baseline years of education	---			---			-.08		.10	-.07		.10
Baseline never married	---			---			.26		.37	.26		.37
Baseline number of children	---			---			-.16		.14	-.17		.14
Baseline number of adults	---			---			-.06		.18	-.06		.18
Baseline presence of cohabitor	---			---			-.05		.47	-.04		.47
Baseline age of youngest child in home							.03		.04	.02		.04
AFQT (1980)	---			---			.02	§	.01	.02	§	.01
CES-D (1992)	---			---			-.02		.02	-.02		.02
Baseline scores on outcome variables	---			.46	***	.04	.44	***	.04	.44	***	.04
Mediator												
Change in income (1,000s)	---			---			---			.01		.01
Constant	33.51	***	.46	18.60	***	1.41	19.37	***	5.15	19.20	***	5.18
F-test	2.59	*		25.28	***		10.09	***		9.59	***	
R-square	.03			.25			.28			.28		

Note: §$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 4

Logistic Regression Results: Repeated a Grade (n=427)

	Model 1			Model 2			Model 3			Model 4		
	B	SE B	OR	B	SE B	OR	B	SE B	OR	B	SE B	OR
Employment Patterns												
Bad job	1.39 *	.68	4.02	1.43 *	.68	4.18	1.32 §	.68	3.76	1.41 *	.71	4.08
Not working	1.41 *	.65	4.10	1.25 §	.65	3.50	.63	.73	1.88	.65	.76	1.91
Lose and do not regain	1.52 §	.86	4.58	1.28	.84	3.61	.74	.89	2.09	.75	.90	2.11
Lose and regain	1.48 *	.73	4.39	1.33 §	.73	3.78	.98	.76	2.67	1.03	.78	2.79
Lose more than one	1.32 §	.74	3.76	1.03	.77	2.81	.83	.75	2.29	.77	.76	2.16
Youth Characteristics												
Age (baseline)	---			---			-.19	.25	.83	-.24	.24	.79
Gender (Boy)	---			---			.58	.38	1.78	.57	.38	1.76
Mother Characteristics												
Age (baseline)	---			---			.11	.09	1.11	.11	.09	1.11
Hispanic	---			---			.37	.67	1.45	.33	.67	1.39

Black	---			---			.42		.62	1.52	.39		.63	1.47
Baseline years of education	---			---			-.21	*	.09	.81	-.23	*	.09	.79
Baseline never married	---			---			-.17		.43	.84	-.20		.44	.82
Baseline number of children	---			---			.22	§	.12	1.24	.23	§	.12	1.25
Baseline number of adults	---			---			-.02		.21	.98	-.01		.20	.99
Baseline presence of cohabitor	---			---			1.07	**	.39	2.93	1.03	**	.40	2.81
Baseline age of youngest child in home							-.04		.04	.96	-.03		.04	.97
AFQT (1980)	---			---			.01		.01	1.01	.01		.01	1.01
CES-D (1992)	---			---			.01		.02	1.01	.01		.02	1.01
Baseline scores on outcome variables	---			1.29	***	.35	3.65	1.22	***	.35	3.39	1.25		.36	3.51
Mediator														
Change in income (1,000s)	---							---				-.02	**	.01	.98
Constant	-3.37	***	.59	-3.87	***	.61		-3.59		5.94		-2.67		5.98	
Wald Chi-Square	5.36			20.65	**			53.50	***			52.36	***		
Pseudo R-Square	.03			.08				.17				.18			

Note: §$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$. OR are odds ratios. SE are standard errors of the B.

Table 5

Logistic Regression Results: Dropped out of School (n=435)

	Model 1			Model 2			Model 3			Model 4		
	B	SE B	OR	B	SE B	OR	B	SE B	OR	B	SE B	OR
Employment Patterns												
Bad job	.22	.66	1.25	.20	.66	1.22	.39	.69	1.48	.39	.69	1.48
Not working	1.63 **	.52	5.12	1.55 **	.51	4.69	2.00 ***	.53	7.41	2.00 ***	.53	7.40
Lose and do not regain	.49	.87	1.64	.25	.95	1.29	.38	.88	1.47	.38	.88	1.46
Lose and regain	.94 §	.58	2.57	.74	.55	2.10	.92 §	.56	2.51	.92 §	.56	2.51
Lose more than one	1.20 *	.55	3.31	1.11 *	.53	3.03	1.27 *	.59	3.55	1.27 *	.59	3.55
Youth Characteristics												
Age (baseline)	---			---			.27	.23	1.31	.27	.23	1.31
Gender (Boy)	---			---			-.08	.31	.92	-.08	.31	.92
Mother Characteristics												
Age (baseline)	---			---			-.23 **	.08	.79	-.23 **	.08	.79
Hispanic	---			---			-.20	.52	.82	-.20	.53	.82

Black	---			---			-.49		.42	.61	-.49		.42	.61
Baseline years of education	---			---			.00		.08	1.00	-.01		.08	.99
Baseline never married	---			---			-.64	§	.38	.53	-.64	§	.38	.52
Baseline number of children	---			---			-.18		.12	.84	-.18		.12	.84
Baseline number of adults	---			---			.29	*	.15	1.33	.29	*	.15	1.33
Baseline presence of cohabitor	---			---			-.59		.56	.55	-.60		.56	.55
Baseline age of youngest child in home							-.02		.04	.98	-.02		.04	.98
AFQT (1980)	---			---			.02		.01	1.02	.02		.01	1.02
CES-D (1992)	---			---			.01		.01	1.01	.01		.01	1.01
Baseline scores on outcome variables	---			1.55	***	.42	1.76	**	.52	5.79	1.76	**	.52	5.80
Mediator														
Change in income (1,000s)	---						---				.00		.01	1.00
Constant	-2.84	***	.46	-2.94	***	.44	1.42		4.91		1.43		4.92	
Wald Chi-Square	15.28	**		29.84	***		50.38	***			50.76	***		
Pseudo R-Square	.05			.09			.16				.16			

Note: §$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$. OR are odds ratios. SE are standard errors of the B.