

## Single Mothers in Low-Wage Jobs: Financial Strain, Parenting, and Preschoolers' Outcomes

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Using data from an ongoing study of 93 single Black mothers of preschoolers who had been welfare recipients, but were employed in low-wage jobs at baseline, this study tests a model of how maternal education, economic conditions (earnings and financial strain), and the availability of instrumental support influence maternal psychological functioning, parenting, and child development. Results indicate that maternal educational attainment was positively associated with earnings, which, together with instrumental support, were negatively associated with financial strain. Financial strain, in turn, was implicated in elevated levels of depressive symptoms, which were directly and negatively implicated in parenting quality. The quality of parenting was associated with children's behavior problems and preschool ability. Specifically, mothers with higher scores on the HOME scale, our measure of involved, supportive parenting, had children with fewer behavior problems and better preschool ability.

### INTRODUCTION

During the mid- to late-1990s, the poverty rate for children under 6 years of age hovered around 25% (Brooks-Gunn & Duncan, 1997; Hernandez, 1997). Living at or below the poverty threshold is difficult; families struggle to make ends meet (Edin & Lein, 1997; Mayer, 1997). These families are very likely to have at least one worker; only about one in five poor families during the mid-1990s depended solely on welfare for financial support (Blank, 1997). Of poor families with young children, about 40% indicate that an adult in the household is working, while another 40% indicate that an adult is looking for work (Spalter-Roth, Burr, Hartmann, & Shaw, 1995; U.S. Bureau of the Census, 1996). The percentage of poor families with working adults has increased in the past two years, given the 1996 welfare reform legislation—a main component of which is TANF (Temporary Assistance for Needy Families)—which places time limits on welfare receipt and requires most recipients to enter the paid labor force.

As mothers who have received welfare leave the rolls in increasing numbers, concern has been raised about the well-being of their children (Collins & Aber, 1996; Lichter, 1997; Wilson, Ellwood, & Brooks-Gunn, 1995; Zaslow, Moore, Morrison, & Coiro, 1995). Several research strands are relevant to the issue of how children of former welfare recipients will fare, given the assumption that most of these mothers will be single and most will not earn incomes raising them above the poverty threshold. One of these has to do with the effects of poverty on child well-being, another with mechanisms through which financial hardship affects parenting and, in turn, child well-being, and still an-

other, with the effects of maternal employment on children in poor single-parent households. In general, this research has not focused exclusively on employed single mothers with young children, although this is the group most likely to be affected by the new law (McLoyd, 1993, 1998; Vandell & Ramanan, 1992). Given that rates of maternal employment when children are young have increased dramatically since the early 1970s when many of the most frequently analyzed studies were begun (Brooks-Gunn, Phelps, & Elder, 1991; Hayghe, 1997), previous longitudinal studies often have had relatively few employed single mothers even though new national surveys going into the field (such as the National Longitudinal Survey of Youth, the Early Childhood Longitudinal Study—Birth Cohort, and the Fragile Families and Child Well-Being Project) have larger numbers of single-parent and minority families (Brooks-Gunn, Berlin, Leventhal, & Fuligni, 2000).

We know, for example, that poverty, regardless of source of income, is associated with diminished school achievement and high behavior problems, even when factors such as parental education, mother's age at birth, family structure, and residential relocations (all associated with low income) are controlled for (Duncan & Brooks-Gunn, 1997b; Lipman & Offord, 1997; McLanahan, 1997; McLanahan & Sandefur, 1994). Effects seem to be most pronounced for early poverty, persistent poverty, and deep poverty (Duncan & Brooks-Gunn, 1997b). While debates continue on the size of these effects (Mayer, 1997), so-called selection

bias does not account for the findings; i.e., income effects are still found when using fixed-effects and sibling models (Duncan, Brooks-Gunn, Yeung, & Smith, 1998).

Research also has demonstrated how economic hardship influences parental psychological functioning and family relationships. For example, economic hardship has been shown to influence adolescent outcomes through its effect on parental emotional health/depressive symptoms and parenting behavior (Conger et al., 1992; Elder & Caspi, 1988; Elder, Conger, Foster, & Ardelt, 1992; McLoyd, 1990; McLoyd & Wilson, 1991; Simons, Lorenz, Conger, & Wu, 1992). These sets of findings have been demonstrated in two-parent white families, some of whom experienced the loss of their farms in Iowa during the 1980s (Conger et al., 1992; Elder et al., 1992; Simons et al., 1992) and in single-parent black families in Michigan, also in the 1980s, who were experiencing past work interruptions or current unemployment (McLoyd, Jayaratne, Ceballo, & Borquez, 1994). Whether links among financial strain, parental emotional health, parenting behavior, and child outcomes would also be found in other groups—such as families with younger children—is not known. The present study assesses these links for single black mothers of preschoolers who had been welfare recipients, but were in low-wage jobs in 1996.

We thus focus on a group of single mothers who are of special interest for two principal reasons. First, the welfare act of 1996 substitutes time-limited cash assistance and work programs for what was an entitlement, and single black mothers are disproportionately represented among the very poor and the welfare-dependent (Duncan, 1991; Wilson, 1987, 1996). Our study is one of the first to focus specifically on former welfare recipients now in the job market. Surprisingly little research has examined the relationship between work and welfare. Recent research has indicated, nevertheless, that most welfare exits occur through work and that human capital investments are key determinants of such exits (Harris, 1993; Smith, Brooks-Gunn, Klebanov, & Lee, 2000). The route by which women manage to stay off welfare, however, is as important as—or more important than—the route by which they initially exit. Most noteworthy is the importance of maternal education (which affords access to greater labor market income), along with access to helpful social support (Harris, 1996). Education seems to operate indirectly through wages and social support through its effect on maternal psychological functioning (Crnic & Greenberg, 1987; McLoyd et al., 1994; Weinraub & Wolf, 1983).

Second, employment may have different consequences for poor and near-poor, single, black mothers and their children than for their middle-class, married, mostly white counterparts because the former are less

affluent and the earnings of black mothers make up a greater proportion of total family income than those of white mothers (McLoyd & Wilson, 1991). Single black mothers also are more likely than married white mothers to experience stressful events that put them at risk for psychological distress (Belle, 1990; Kessler & Neighbors, 1986; McLanahan, 1983). High levels of psychological distress may lead to inadequate or impaired parenting and adverse child outcomes (Conger et al., 1992; McLoyd, 1990). This is an important issue because a large number of young black children are being raised by a single mother (Duncan & Brooks-Gunn, 1997a).

In assessing the roles of financial strain, maternal psychological well-being, and parenting in linking employment in the low-wage job market to developmental outcomes for preschool black children, our model draws heavily on the work of Conger et al. (1992) and McLoyd and Wilson (McLoyd, 1990; McLoyd & Wilson, 1991). Conger and his colleagues postulate that objective economic circumstances affect parents' experience of economic pressure or strain, which reduces their psychological well-being. According to their model, psychological distress, in turn, disrupts effective parenting behaviors and, thereby, child outcomes. McLoyd and her colleagues postulate that an accumulation of risks is associated with economic hardship among single mothers (e.g., low educational attainment, psychological distress, little social support). These risks may have different effects on children's development, depending on the presence of protective factors (among them, maternal psychological well-being) that mediate between economic hardship and child developmental outcomes (see, also, Elder, 1974; Garnezy & Rutter, 1983; Rutter, 1987). More explicitly, we test the hypothesis that, rather than influencing the development of preschoolers directly, low-wage employment and financial strain affect young children's functioning indirectly through their impact on mothers' psychological functioning and, in turn, parenting behavior. In the paragraphs that follow, we briefly describe the components of our model and provide the basis for the hypothesized relations depicted in the model.

Our model (Figure 1) begins with the mother's educational attainment and proposes that it will be related directly to income level and maternal depressive symptoms. From the emerging bodies of research examining the relationship between work and welfare and the consequences of poverty for children (Duncan & Brooks-Gunn, 1997a; Harris, 1996; Mayer, 1997), we selected education as an important predictor of wages. Lack of education is likely to constrict opportunities for jobs paying higher wages, which might, in turn, lead to greater financial strain. Consistent with prior research linking single, employed,

black mothers' psychological functioning to the level of their educational attainment (Jackson, 1992, 1994), we expected a direct relationship between education and depressive symptoms. In addition, numerous studies have found a link between financial strain and psychological functioning (Belle, 1990; Conger et al., 1992; Kessler & Neighbors, 1986; McLoyd, 1990). Based on this research, financial strain, in our model, is proposed to be a key mechanism through which income influences depressive symptoms. In sum, Figure 1 shows paths from education to earnings and symptoms of depression, from earnings to financial strain, and from the latter to depressive symptoms.

From the literature on psychological distress and parenting, we expected higher levels of depressive symptoms in mothers to be associated directly with the quality of parenting and, thereby, to influence child developmental outcomes. Because studies have shown

that they are predictors of later school adjustment and progress, we consider two dimensions of children's cognitive and social development: preschool ability and behavior problems (Baydar, Brooks-Gunn, & Furstenberg, 1993; Hinshaw, 1992; Keenan & Shaw, 1997; Layzer, Goodson, & Layzer, 1990; Lee, Brooks-Gunn, & Schnur, 1988). Indeed, higher scores on behavior problems scales in the preschool years, as assessed by parental report, have been found to predict behavior problems in the elementary school years, as reported by mothers and teachers (Conrad & Hammen, 1989; Luster & McAdoo, 1994; Richman, Stevenson, & Graham, 1982; Richters & Pellegrini, 1989; Schaughency & Lahey, 1985). In addition, behavior problems are associated with delayed school entry and poorer school progress, as assessed in large, multisite national studies (Byrd, Weitzman, & Auinger, 1997; Klebanov, Brooks-Gunn, & McCormick, 1994). Since parents' reports of

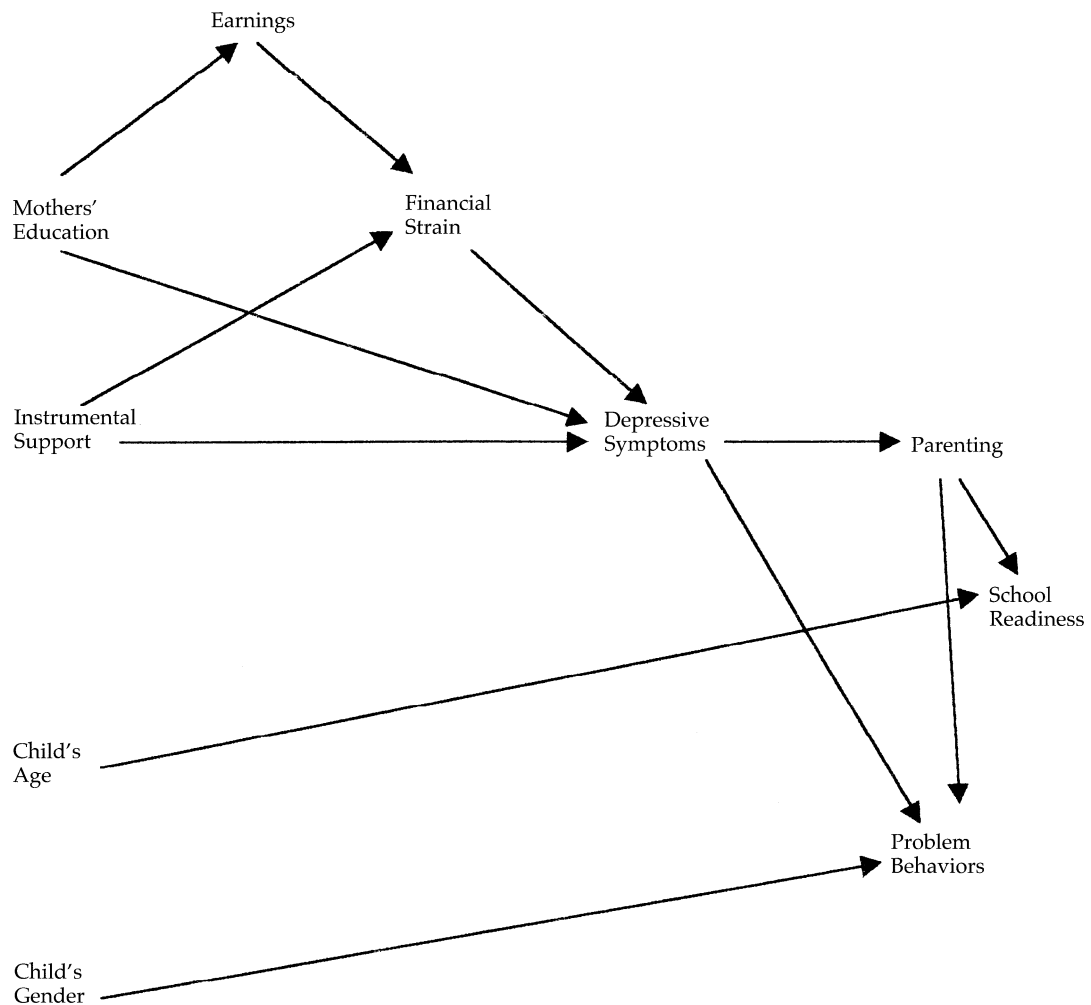


Figure 1 Path diagram of theoretical model.

children's behaviors have been found to correlate positively with teachers' reports (Conrad & Hammen, 1989; Richters & Pellegrini, 1989; Schaughency & Lahey, 1985), such reports are not just reflections of maternal characteristics (although they no doubt include a component of maternal perception that is not totally accounted for by actual behavior; Spiker, Kraemer, Constantine, & Bryant, 1992). This research, together with the sizable body of evidence demonstrating the association between poverty and developmental problems in children, particularly black children, that continue through the primary grades and beyond (see, for example, Huston, McLoyd, & Garcia Coll, 1994; Phillips, Crouse, & Ralph, 1998; Wilson, 1998), prompted us to include as child outcomes in our model mothers' reports of behavior problems as well as an objective measure of preschool ability.

Our expectations with regard to depressive symptoms—that is, that higher levels would be related directly to the quality of parenting and, thereby, to children's development—are informed by studies that have found that maternal depression is associated with diminished nurturance toward children and less adequate parenting (Crnic & Greenberg, 1987; McLoyd & Wilson, 1991). Some studies also have found that maternal depression increases the risk for behavior problems in young children (Downey & Coyne, 1991). Thus, we expected a direct and positive association between mothers' symptoms of depression and children's behavior problems.

In addition, our model postulates that access to instrumental support will influence parenting indirectly through its association with depressive symptoms. Simons, Lorenz, Wu, and Conger (1993) have argued that because nonresident friends and family typically are unavailable in the household to help with daily parenting demands, their effect on maternal psychological well-being is likely to be indirect rather than direct. If helpful and available, however, friends and family can be supportive in important ways that make parenting less stressful, such as lending money to mothers in a crisis or offering emotional assistance that might strengthen an over-burdened mother's coping capacities. Along these lines, McLoyd and her colleagues (1994) have noted that the salutary effect of social support may be due to mothers feeling less isolated and overwhelmed by their parenting and employment situations when support is available (see also Crnic & Greenberg, 1987; Harris, 1996). Others have found that mothers who receive higher levels of social support are more nurturant toward their children than are those who receive lower levels of support (Weinraub & Wolf, 1983). It also is likely that mothers who are able to turn to friends and family for financial help when they need

to might experience less financial strain than those who are not. Given this likelihood, we anticipated that the relationship between instrumental support and financial strain would be both direct and negative.

While we expected the availability of instrumental support to influence parenting (and, thereby children's development) indirectly, our model postulates that the child's gender and age will be associated directly with preschoolers' outcomes. The rationale for these expectations is found in the literature on gender differences with regard to young children's behavior and age differences with regard to preschool ability (Baydar et al., 1993; Cox, Owen, Lewis, & Henderson, 1989; Goldberg & Easterbrooks, 1984; Jackson, 1994; Jackson & Huang, 1998). More explicitly, young boys, perhaps because of their greater levels of activity and aggressiveness, are reported to have more behavior problems than young girls (see, for example, Bronfenbrenner, Alvarez, & Henderson, 1984; Jackson, 1993; Maccoby, 1998). In addition, older children would be expected to score higher than their younger counterparts on a measure of preschool ability.

We employ structural equation modeling (LISREL) to test for the direct and indirect relations proposed in Figure 1. Data from the first wave of an ongoing study of single black mothers in New York City are used.

## METHOD

### Sample

Participants in this ongoing study are 188 current and former welfare recipients and their preschool children. The mothers, who reside in three communities in New York City with substantial numbers of low-income black families, were chosen for their employment status in the fall of 1995. In the analyses that follow, we focus only on the 93 employed mothers in the study. On average, these mothers were 29 years old ( $SD = 4.8$ ). Number of working hours per week ranged from 10 to 72, with a mean of 34 hours ( $SD = 11.0$ ). A majority of the mothers (60%) worked full time at the time of the interview; the rest worked part time. The average mother earned \$8.72 an hour ( $SD = \$3.08$ ), salaries ranged from \$2.50 to \$19.20 an hour, and mean weekly earnings were \$299.86 ( $SD = \$149.27$ ).

At the time of the interview, the focal children were 3–5 years old, with a mean of 4.7 years. Fifty-five percent were boys and 45% were girls.

### Procedures

Mothers and their preschoolers were recruited in the fall of 1995 through the Office of Employment Services

of the New York City Human Resources Administration (HRA). The HRA administers the city's welfare programs. Its Office of Employment Services offers a range of employment programs and support services, including vouchers for subsidized child care provided to employed former welfare recipients and facilitation of job training, job placement, and basic education classes for currently nonemployed recipients of welfare.

First, we obtained the names of employed mothers eligible for child-care vouchers. The list included all such mothers with a 3- or 4-year-old child in zip codes representing Central Harlem in Manhattan, Bedford-Stuyvesant in Brooklyn, and Jamaica in Queens. Next, 150 randomly selected mothers who also were former welfare recipients were sent a letter describing the study's interest in learning how parents of young children manage their various responsibilities and were asked to participate in the study. Mothers who returned a form indicating their willingness to participate were then contacted by telephone to arrange an appointment to visit at their home. Follow-up letters were sent to prospective respondents who failed to return the form. These mothers were invited to participate through additional letters, telephone calls (if they had a listed phone number), and visits to their home (if they had no working phone number) to explain the purposes of the research and the importance of their participation.

Between February 1996 and January 1997, 93 employed-mother interviews and child assessments were completed, representing a response rate of 74% of 125 eligible respondents. Of the original 150 employed mothers, 25 were ineligible for the study because they were either married, Latino, or did not receive the solicitation letter. Respondents were paid \$25.

Mothers and focal children were interviewed in their homes. The average duration of the mother interview was from 1½ to 2 hours. In most cases, the first author and a research assistant worked as a team, with the former interviewing the mother and the other doing a child assessment. All the interviewers were women. Because the first author is black and interviewed all the mothers, research assistants were chosen for their comfort with home visiting in the three communities and their ability to engage young children, not by their race. They were African American, European American, Asian American, and Latino American graduate students (for further details, see Jackson & Ivanoff, 1999).

## Measures

The description of measures proceeds across constructs from left to right paralleling the model delineated in Figure 1. We first describe measures of

mothers' education, the availability of instrumental support, the child's gender and age, mothers' income, and perceptions of financial strain. These are followed by measures of depressive symptoms, parenting behavior, and child developmental outcomes. Alpha coefficients were obtained for scales with three or more items. When calculating the mean value on scales it proved necessary to reverse items, so that a higher score indicates more of the attribute named in the label.

*Demographic and support variables.* (1) *Mothers' education* was indicated on a five-point scale (1 = grade school to 5 = BA/BS degree) that asked mothers to give the highest level of education they had completed. The intermediate points on this scale were some high school, high school diploma/GED, and some education beyond high school. (All the employed mothers had at least some education at the high school level. Thus, for these analyses, the beginning point on the scale was 2 = some high school education. Most of the mothers, 79%, had some education beyond high school, and, among these, 7% had a bachelor's degree.) (2) *Availability of instrumental support* (four items,  $\alpha = .63$ ) was assessed by asking mothers to indicate the level of help they could acquire from others if such support was needed (McLoyd et al., 1994). Mothers were asked to indicate on a six-point scale how true the following statements were for them: "If I need to do an errand, I can easily find a friend or relative living nearby to watch my child(ren)," "If I need a ride to get my child to the doctor, there are friends I could call to help," "If I need to buy a pair of shoes for my child(ren) but I am short of cash, there is someone who would lend me the money," "If I'm feeling exhausted or depressed, like at the end of a long day, I have to cope alone." For each item, the mother indicated if the statement was never true (0) to true all of the time (5). (3) *Child's gender* is a single dummy variable, coded 1 if female and 0 if male. (4) *Child's age* was measured in months.

*Economic and employment variables.* (1) *Income* was constructed from mothers' answers to questions about their weekly working hours and hourly wage. We then multiplied Hours  $\times$  Wage to get a figure for weekly income. (2) *Financial strain* (two items) was measured by asking mothers to indicate on a four-point scale (developed by McLoyd et al., 1994) how often they had decided not to buy something they really needed for themselves or their children because they couldn't afford it (1 = not at all to 4 = a lot), and lately how difficult they had found it to pay bills (1 = not at all difficult to 4 = very difficult). These are dimensions of objective economic circumstances and subjective feelings of economic hardship. We draw from McLoyd et al. (1994) in our conceptualization of

financial strain (e.g., not having enough money to meet needs, difficulty paying bills) as indicative of objective and subjective economic pressures associated with the stress of low income. Others have found that economic pressures often force families to reduce consumption (Elder et al., 1992). Such circumstances have been found to affect parents' psychological well-being and the quality of family relations through their effect on parenting behavior (see, for example, Conger et al., 1992).

*Maternal depressive symptoms.* The Center for Epidemiological Studies Depression (CES-D) scale (20 items,  $\alpha = .88$ ) was used to measure depressive symptoms. Mothers were asked to indicate on a four-point scale (0 = less than once a day to 3 = most or all of the time) how often during the past week they felt depressed, lonely, sad, unusually bothered by things, or that they could not get going. This scale is not intended as a measure of clinical depression, but groups with scores of 16 or above are considered to be at risk for depression (Radloff, 1977).

*Maternal parenting.* The Home Observation for Measurement of the Environment (HOME) was used to measure the level of involved, supportive parenting. Designed to assess whether the child's home is an environment that enhances intellectual and emotional development and helps to prepare him/her for the challenges of school, the HOME is a well validated and widely used instrument (Bradley, 1989, 1995; Bradley & Caldwell, 1984; Caldwell & Bradley, 1984). The version used in this study (18 items,  $\alpha = .67$ ) includes maternal report items and interviewer observations that tap the regularity and structure of the family's daily routine, the amount of intellectual stimulation available to the child, and the degree of emotional support and warmth provided by the parents.

Theorists have argued that an essential characteristic of competent parenting is the extent to which parents are able to forge an involved, supportive relationship with their children (Maccoby & Martin, 1983) and provide an environment conducive to their children's cognitive and social development (Rutter, 1985a, 1985b). The HOME scale taps such characteristics and is consistently found to be associated with child outcomes (Menaghan & Parcel, 1991). Its moderate, but adequate, reliability in the present study may be due to the composition of the sample and the truncated range on some factors; that is, all the mothers were single, black, and employed in relatively low-wage jobs.

*Children's development.* (1) *Child problem behaviors* (26 items,  $\alpha = .86$ ) were assessed by asking mothers to indicate on a 3-point scale (developed by Peter-

son and Zill, 1986) from 1 (very much like my child) to 3 (not at all like my child) the extent to which statements such as the following described their child's behavior during the last three months: "Tends to fight, hit, take toys when playing with other children," "is disobedient at school or with child care providers," "bullies or is cruel or mean to others."

(2) *School readiness* (32 items,  $\alpha = .86$ ) was measured by a shortened version of the Caldwell Child Behavior Inventory (CBI; 1980). This repertoire of small tasks that measures competencies such as concept recognition and associative vocabulary, ability to identify shapes, colors, and sizes, and social responsiveness, all of which are regarded as necessary for success in school (Caldwell, 1980; Cooperative Tests and Services, 1970), was designed for individual use with disadvantaged children between 3 and 6 years of age. A single score (which can range from 0 to 32) is obtained, with a higher score indicating greater preschool ability. This scale is well validated and widely used by child development researchers (Baydar et al., 1993; Brooks-Gunn et al., 1991; Layzer et al., 1990; Lee et al., 1988; St. Pierre, Swartz, & Gamse, 1995). Children's scores on the CBI are expected to improve with age, simply as a function of maturation.

## RESULTS

### Descriptive Analyses

Means, standard deviations, and correlations between variables are shown in Table 1. In general, these results are in accord with our expectations. Mothers' educational attainment is significantly positively correlated with earnings, which in turn are associated negatively with financial strain and depressive symptoms. Financial strain is correlated positively with depressive symptoms, as is less available instrumental support. The latter also is negatively associated with financial strain. Depressive symptoms, in turn, are related to parenting quality. More precisely, mothers with higher levels of depressive affect—as well as those with lower educational attainment and those who perceived greater financial strain—scored lower on the HOME scale.

Children's behavior problems are correlated negatively with maternal educational attainment and parenting quality (HOME scores), and positively with financial strain and mothers' symptoms of depression. The child's gender is associated with behavior problems and the child's age with school readiness. More specifically, boys were rated higher on the measure of problem behaviors, while older children scored higher on the measure of preschool ability.

**Table 1** Means, Standard Deviations, and Correlations between Variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1 Mothers' education	4.62	1.32										
2 Child's gender	.46	.50	-.16									
3 Child's age	55.13	7.88	.09	-.03								
4 Pay	299.86	149.27	.23**	-.04	.06							
5 Financial strain	3.09	.82	.01	-.09	-.19*	-.24**						
6 Available instrumental support	3.66	1.18	-.14	-.05	-.05	-.08	-.31**					
7 Depressive symptoms	14.45	9.67	-.21*	.01	.00	-.24**	.26**	-.29**				
8 HOME	14.01	2.53	.22*	.16	-.12	.10	-.18*	-.01	-.21*			
9 Problem behaviors	1.41	.27	-.18*	-.24**	.04	-.11	.19*	-.09	.39**	-.37**		
10 School readiness	24.86	9.20	.14	.04	.61**	-.00	-.11	-.12	-.08	.09	-.11	

Note: Pay = earnings per week. Child's gender: 1 = girl; 0 = boy. Child's age is in months. HOME = parenting.

\* $p < .05$ ; \*\* $p < .01$ .

### Model Testing

Given the literature on gender differences, it would be illuminating to test the proposed model separately for boys and girls. Moreover, typically, a model like the one proposed would be estimated using latent variable methods in which both measurement and structural submodels would be specified and estimated. However, the size of the sample available to estimate the parameters of these submodels is modest,  $N = 93$ . This fact, coupled with the realization that most of the constructs in the model are operationalized by multi-item measures, implies a rather large number of model parameters to be estimated in the context of a relatively small number of cases. It quickly became apparent to us that the conventional approach to model estimation would have to be amended in order to obtain stable parameter estimates and significance tests. Thus, because of the limited sample size, we decided against testing the model separately for boys and girls, we adopted a modified approach to model estimation, and  $p < .10$  was interpreted as a meaningful finding. Also, although direction is predicted in our model, we decided to use two-tailed significance tests because findings completely opposite from the expected (should this occur) would be of interest to social and behavioral scientists as well as to policymakers. One-tailed tests do not permit an investigation of unanticipated findings in the opposite direction. Moreover, since two-tailed tests are more conservative than one-tailed tests (inasmuch as the latter would undoubtedly yield more significant results using the  $p < .10$  criterion), we are confident that our findings are less likely to be exaggerated.

We specified the measurement submodel by fixing the measurement error variances of all the latent constructs employed in the model. Specifically, for the multi-item measures—such as social support, financial strain, depressive symptoms, parenting, and the child outcomes—we used composites. Reliability

was estimated by internal consistency methods and the resulting estimates were used to fix indirectly the factor loading of the observed composite measures on the latent constructs. For single-item variables (i.e., the demographic variables, excluding the child's gender), a small amount of measurement error (1%) was assumed for this purpose. Hence, the number of parameters was considerably reduced and unwanted effects of unreliability were eliminated from structural coefficients. This approach, we believe, increases confidence in the model's stability (see, for example, Bentler & Chou, 1988).

Since we used composite measures, rather than multiple indicators, for constructs with multiple items, some might believe that a path analysis would have been a better way than structural equation modeling to analyze the data. Essentially, the LISREL model we present is an "improved" path analysis model. Path analysis assumes that all variables are perfectly measured (obviously an unrealistic assumption); hence, its focus is exclusively on the structural or regression parameters of the model. Insofar as our model also focuses primarily on the structural parameters (i.e., the regression coefficients), it is more akin to a path analysis than the usual LISREL model, which focuses both on structural and measurement parameters. However, our model is superior to the typical path analytic model in that it does not assume perfect measurement. Instead, it purges the estimates of the regression coefficients of the unwanted and undesirable effects of measurement error as estimated, ex cathedra, by the alpha coefficients computed for the "core" constructs of the model.

The model produced a small chi-square relative to degrees of freedom ( $p = .63$ ) and a goodness-of-fit coefficient of .95 (see Figure 2). Since it is based on a sample of 93 mothers, however, the satisfactory fit implied by the test may be an artifact of the study being underpowered statistically. To circumvent this possibility, we cal-

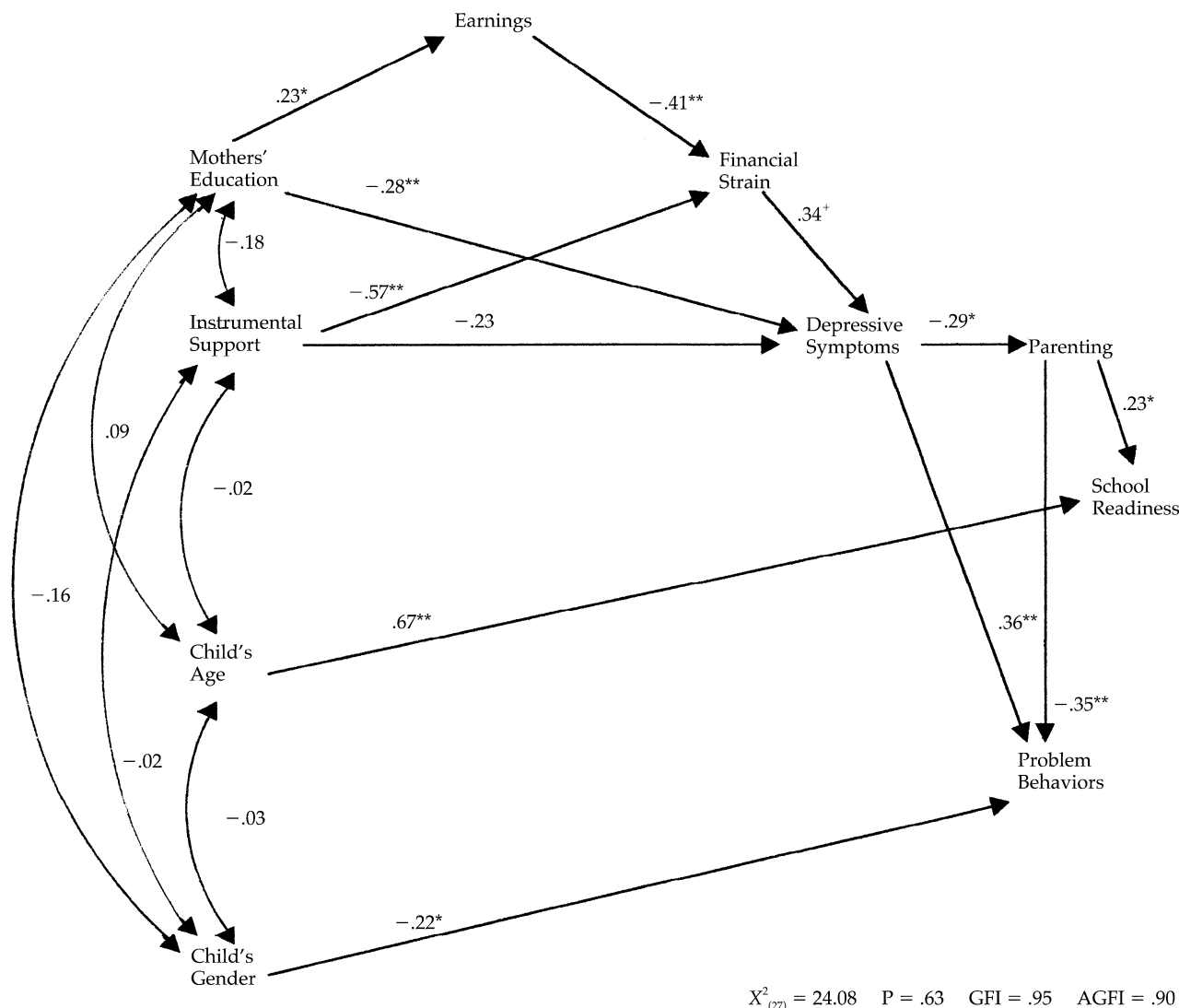


Figure 2 Path results (+  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ).

culated the value of the adjusted goodness-of-fit index (AGFI) which does consider the number of estimated parameters relative to sample size. The AGFI of .90 indicates that our model does provide a good fit to the data.

Turning to an estimation of the structural parameters of the model depicted in Figure 2, the path between mothers' educational attainment and earnings is consistent with the hypothesized effect, indicating that education is associated positively with earnings ( $\beta = .23, p < .05$ ), which in turn exhibit the expected negative relationship to financial strain ( $\beta = -.41, p < .01$ ). With regard to depressive symptoms, maternal education displays a negative association ( $\beta = -.28, p < .01$ ) and financial strain a positive one ( $\beta = .34, p < .10$ ). Neither maternal education nor earnings is related in-

directly to depressive symptoms at  $p < .05$ , although income is significant at  $p < .10$ .<sup>1</sup> It should be noted

<sup>1</sup>Total and indirect (mediated) effects are tested via the effect of decomposition provided by the program used in estimating the model. Standardized estimates and  $t$  values are provided for both the total and indirect effects postulated by the model (Joreskog & Sorbom, 1996). The presence of a statistically significant indirect effect consistent with the theoretical expectation constitutes evidence of a fully or partially mediated effect. It should be noted that we do not use the Baron and Kenny (1986) approach to mediation. Rather, we employ structural equation modeling (LISREL) and, as such, mediated effects are understood in the following sense: Does a variable serving as an intervening variable transmit some of the "causal" effects of prior variables onto subsequent ones? For example, an effect constitutes mediation in our analyses if the product of the paths from  $A$  to  $B$  and  $B$  to  $C$  is significantly different from 0. If so, then  $B$  is considered to be a mediator.

Table 2 Decomposition of Effects in Path Model

Predictor	Dependent Variable	Total Effect	Direct Effect	Indirect Effect
Mothers' education	Earnings	.23*	.23*	.00
	Financial strain	-.10 <sup>+</sup>	.00	-.10 <sup>+</sup>
	Depressive symptoms	-.31**	-.28**	-.03
	HOME/parenting	.09 <sup>+</sup>	.00	.09 <sup>+</sup>
	Problem behaviors	-.14*	.00	-.14*
	School readiness	.02	.00	.02
Instrumental support	Financial strain	-.57**	-.57**	.00
	Depressive symptoms	-.42**	-.23	-.19
	HOME/parenting	.12 <sup>+</sup>	.00	.12 <sup>+</sup>
	Problem behaviors	-.20*	.00	-.20*
	School readiness	.03	.00	.03
Child's gender	Problem behaviors	-.22*	-.22*	.00
Child's age	School readiness	.67**	.67**	.00
Earnings	Financial strain	-.41**	-.41**	.00
	Depressive symptoms	-.14 <sup>+</sup>	.00	-.14 <sup>+</sup>
	HOME/parenting	.04	.00	.04
	Problem behaviors	-.06	.00	-.06
	School readiness	.01	.00	.01
Financial strain	Depressive symptoms	.34 <sup>+</sup>	.34 <sup>+</sup>	.00
	HOME/parenting	-.10	.00	-.10
	Problem behaviors	.16 <sup>+</sup>	.00	.16 <sup>+</sup>
	School readiness	-.02	.00	-.02
Depressive symptoms	HOME/parenting	-.29*	-.29*	.00
	Problem behaviors	.46**	.36**	.10 <sup>+</sup>
	School readiness	-.06	.00	-.06
HOME/parenting	Problem behaviors	-.35**	-.35**	.00
	School readiness	.23*	.23*	.00

<sup>+</sup>  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ .

that the directions of these associations are consistent with the theoretical expectation; that is, in both cases, the relations to depressive symptoms are negative (see Table 2). Figure 2 shows, moreover, that depressive symptoms have the expected negative relationship to the parenting (HOME) score ( $\beta = -.29$ ,  $p < .05$ ). None of the antecedent variables in the model, however, displays statistically significant indirect associations with parenting through depressive symptoms at  $p < .05$ , although both educational attainment and instrumental support do so at  $p < .10$ . Concerning the latter, instrumental support is related indirectly to both depressive symptoms ( $\beta = -.19$ ,  $p < .10$ ) and the HOME score ( $\beta = .12$ ,  $p < .10$ ). Again, all these indirect associations display signs consistent with our theoretical expectation. Moreover, instrumental support's beneficial effect on maternal psychological functioning appears to be transmitted via its mitigating effect on financial strain. As expected, the relationship between instrumental support and financial strain is both direct and negative ( $\beta = -.57$ ,  $p < .01$ ).

Insofar as preschoolers' outcomes are concerned, the association between parenting and the child's behavior ( $\beta = -.35$ ,  $p < .01$ ) and that between parenting and school readiness ( $\beta = .23$ ,  $p < .05$ ) are as predicted. More explicitly, children whose mothers score higher on the HOME scale appear to have significantly fewer problem behaviors and better preschool ability. Likewise, the indirect associations between depressive symptoms and child functioning transmitted through parenting are in the predicted directions—negative for preschool ability and positive for behavior problems—and, while neither is significant at  $p < .05$ , the latter is significant at  $p < .10$ . On the other hand, the direct relationship between depressive symptoms and behavior problems is moderately strong and statistically significant ( $\beta = .36$ ,  $p < .01$ ). Looking at the total effect of depressive symptoms (i.e., its direct and indirect effects taken together), this variable does not exhibit a relationship to school readiness, but it is clearly associated with behavior problems (total effect = .46,  $p < .01$ ; see Table 2). The relations of the child's demographics to outcomes also are as expected. Older chil-

dren clearly are more ready to begin school ( $\beta = .67$ ,  $p < .01$ ) and girls are less likely than boys to exhibit problem behaviors ( $\beta = -.22$ ,  $p < .05$ ; see Figure 2).

More antecedent variables in the model, such as income and financial strain, show a pattern of associations with the child outcomes similar to that displayed by depressive symptoms; namely, weaker relationships to school readiness than to problem behaviors. Although neither of these indirect associations is significant for earnings, the association between financial strain and behavior problems is significant at  $p < .10$ . This pattern also applies to the variables most antecedent in the model. Both maternal education and instrumental support display statistically significant, negative, indirect relations to behavior problems and statistically nonsignificant, positive, indirect relations to school readiness. The magnitude of the array of direct and indirect effects can perhaps best be appreciated by noting that the model accounts for sizeable proportions of the variance in both child outcomes (school readiness:  $R^2 = .50$ ; behavior problems:  $R^2 = .37$ ).<sup>2</sup>

## DISCUSSION

Using data from the first wave of an ongoing study, we examined the impact of maternal education, economic conditions, and the availability of instrumental support on parenting and child development. We hypothesized that low-wage employment and financial strain would be associated with young children's functioning through their effect on mothers' psychological functioning. In turn, maternal depressive symptoms were expected to be related directly to mothers' involved, supportive parenting and thereby influence child developmental outcomes. Although causal assumptions are made in the path analytic procedures used to perform the analyses, the data are cross-sectional and, as such, provide no basis for inferences about causality. We are mindful of this caveat, as the reader should be, in the discussion that follows. Still, despite this limitation, the general theoretical model was not rejected by the data. Inasmuch as the logic of science is one of refutation, we have passed this essential test.

The results revealed that higher educational attainment was associated with increased earnings, which

in turn were associated with less financial strain. Financial strain, together with lower educational attainment, predicted elevated levels of depressive symptoms. Furthermore, when controlling for actual income, the path from instrumental support to financial strain was quite strong and highly significant, suggesting that women with more such support (including financial help when needed) do not suffer as much financial strain as those with less. Moreover, the sizeable indirect relationship between instrumental support and depressive symptoms suggests that available instrumental support does play a role in the association between economic pressure and maternal psychological functioning. These results are consistent with those of Conger et al. (1992) and McLoyd et al. (1994), who found a direct association between parents' perceptions of economic pressure/financial strain and, respectively, greater psychological distress and less available instrumental support. In addition, Conger and his colleagues found that economic pressure, a variable that is similar to our measure of financial strain, mediated the relation between economic conditions and parents' depressive symptoms.

Consistent with our model, financial strain was associated indirectly with children's development, suggesting that money does seem to matter both for mothers' psychological functioning and child developmental outcomes. This finding corroborates those of others who have argued that income plays a role in the development (and life chances) of children (Brooks-Gunn, Klebanov, & Duncan, 1996; Conger et al., 1992; McLoyd, 1990; McLoyd et al., 1994; Smith, Brooks-Gunn, & Klebanov, 1997). Still, Mayer (1997) argues that unmeasured variables simultaneously predict low earnings and poor child outcomes. For example, poor mothers may have low earnings because of low education, low ability, single-parent status, and low psychological functioning. These same variables also could predict poor child outcomes. Mayer demonstrates that the relationship of income to child outcomes becomes nonsignificant when statistical techniques that deal with such selection factors are applied. For example, she provides a set of tests for omitted-variable bias that involves a measure of future income. She argues, moreover, that the "true effect" of income can only be estimated if a measure of income that is not related to unmeasured parental characteristics is used, such as asset income. The latter measure would be all but useless for most if not all of the families we studied. In contrast, Duncan and colleagues (1998), using sibling comparison to control for potential unmeasured family characteristics (another approach to studying selection, and one that might be more appropriate than future income or asset income

<sup>2</sup> Although LISREL does not generate adjusted  $R^2$  results, our computations indicate that the adjusted  $R^2$  for school readiness was .49 and that for behavior problems was .35. We used the following formula:  $1 - \{[(n - 1)/(n - k)]\} (1 - \text{original } R^2)$ , where  $n$  is the number of cases (93) and  $k$  is the number of independent variables (2 for school readiness, 3 for behavior problems).

for poor and near-poor families), have reported income effects on school completion. These effects were most likely to occur for income during the early childhood years and for deep poverty. While we did not apply these techniques in the present study (and could not, given the design), our findings do begin to offer a different rationale for why Mayer failed to find strong associations between income and child outcomes: Namely, there may be a complex process of indirect effects involved in the early years of life. Given the nature of our data and analytic procedures, however, caution must be exercised when comparing them with those of Mayer. It is noteworthy, nevertheless, that the magnitude of the pattern of direct and indirect effects in our model accounts for a sizeable proportion of the variance in the child outcomes we studied.

In the present study, the pathway from financial strain to depressive symptoms to parenting seemed to affect children's behavior problems but not necessarily school readiness. Although previous research has found an effect of poverty on diminished school achievement, perhaps we failed to find an association between financial strain and preschool ability because of several factors: the limited income range of the sample, the fact that all the mothers were employed and, as such, probably not in deep poverty (see, for example, Brooks-Gunn & Duncan, 1997). Both child outcomes, however, were directly associated with parenting quality. While these results should be interpreted within the context of the limitations of the study, they suggest that economic circumstances may have effects on children's development through their effect on financial strain and, in turn, on parenting quality. Future studies are needed to explore other positive and negative pathways to poor and near-poor children's development. The role of financial strain in this study highlights the importance of replicated studies using a prospective, longitudinal research design that includes other indicators of child development (such as subsequent school adjustment) and that takes into account work interruptions, reduced job hours, wage increases and declines, and the influence of these factors on mothers (and children) over time.

This is one of the few studies to focus specifically on former welfare recipients now in the job market, recognizing the importance of examining the roles of financial strain and mothers' psychological functioning in preschoolers' development (Duncan & Brooks-Gunn, 1997b). There are, nevertheless, limitations in the generalizability of the findings. We focused specifically on employed mothers, and these results may not generalize to welfare recipients who have not yet begun the transition to employment. Mothers who

are employed are probably functioning better overall than their nonemployed peers who receive welfare (Smith et al., 2000). Future longitudinal studies should include both employed and nonemployed mothers who enter and leave the job market. Another limitation that should be noted involves our measure of income; namely, the mother's income from her formal job. There may have been other sources of income in the household that influenced child outcomes. We had no measure of the number of people who were supported by the mother's earnings. Hence, our data did not permit the construction of an income-to-needs ratio or per capita income; such measures might have reflected more precisely the impact of family income on the children's development. Although attempts were made to choose variables based on theory and past research, this study also was limited by its correlational design. Other important background variables may have been omitted; the significant results that were found may have been due to unmeasured variables. These possibilities as well as others need to be examined in future research.

Also, some researchers have found that boys may be especially vulnerable to adverse effects related to family economic conditions and circumstances (Conger et al., 1992; Jackson & Huang, 1998). The size of our sample, together with the complexity of our model (i.e., multi-item measures of constructs involving a large number of model parameters), prevented us from conducting more than preliminary analyses of gender differences. Replicated studies are needed that look at whether the present pattern of results is different for boys than for girls.

Still, this study adds to the literature in several ways. It focuses on mothers with preschool children while previous research on economic hardship and parenting has focused on families with adolescents. In so doing, these findings replicate the work of Conger et al. (1992) and McLoyd et al. (1994) and extend their research by demonstrating similar relations for poor, single mothers and their young children. In addition, many previous studies on maternal employment have focused on middle-class, two-parent, mostly white families. As Conger et al. (1992) have noted with respect to the latter, there may be a "threshold effect" (p. 539) in that, because of their greater vulnerability, increases in stress for single parents may have a more deleterious impact than would the same stress increases for married parents. In short, poor and near-poor, single-parent, black families may be more vulnerable to the effects of financial strain than other families, although no data exist directly on this point (McLoyd, 1998).

Finally, our findings suggest some preliminary im-

plications for policies that might enhance the beneficial effects of maternal employment in single-parent families with young children. We are not sanguine about the prospects for mothers who are similar to those described in this study. In general, the earnings of former welfare recipients during the 1990s have been quite low (Cheng, 1995; Meyer & Cancian, 1998). Still, exiters do better if they leave welfare via employment. For example, in one study, the approximately one-quarter of exiters who married or were cohabiting were still poor versus the approximately one-half who went to work (Harris, 1996). Such findings suggest that most of the mothers in our sample will experience some financial hardship as they continue in the workforce. Hence, wages that bring those who work out of poverty should be a key concern of policymakers, especially during children's early years. This could be done by increasing the minimum wage and by making educational opportunities that enhance human capital (and thereby earnings) more accessible to mothers like those in this sample. It also could be done by combining earnings (again, especially in families with very young children) and publicly funded supplements (Nelson, 1999). Such policies might reduce poor and near-poor single mothers' financial strain, enhance their psychological functioning and, as our findings suggest, decrease (indirectly) the likelihood of problem behaviors in their children.

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