

Psychosocial Adjustment among Children Experiencing Persistent and Intermittent Family Economic Hardship

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BOLGER, KERRY E.; PATTERSON, CHARLOTTE J.; THOMPSON, WILLIAM W.; and KUPERSMIDT, JANIS B. *Psychosocial Adjustment among Children Experiencing Persistent and Intermittent Family Economic Hardship*. CHILD DEVELOPMENT, 1995, 66, 1107-1129. Much research on family economic hardship and its effects on children has been cross-sectional in nature, has focused primarily on white children, and has assessed the impact of episodic rather than chronic economic difficulties. In contrast, the present research was designed to study outcomes associated with persistent economic hardship among a heterogeneous group of children over time. Results showed that, for both black and white children, a broad range of difficulties was associated with enduring economic hardship. Children who experienced persistent family economic hardship were more likely than those who did not to have difficulties in peer relations, show conduct problems at school, and report low self-esteem. Children who experienced intermittent family economic hardship fell between the other 2 groups. Connections between persistent economic hardship and psychosocial adjustment were more pronounced for boys than for girls. Consistent with suggestions by a number of investigators, the impact of economic hardship on children in the present sample was mediated in part by its association with parental behavior.

Children are the poorest age group in the United States today. In 1992, 21.9% of American children under the age of 18 were living below federally designated poverty levels, as compared to 14.5% of the entire population of the United States and to 12.9% of the population 65 years of age or older (U.S. Bureau of the Census, 1993). In 1992, over 14 million American children were living in poverty. As an issue, poverty affects significant numbers of American children.

A large body of research demonstrates associations between poverty and negative outcomes for children who experience it (e.g., Elder, 1974; Elder, Conger, Foster, & Ardel, 1992; Gecas, 1979; Huston, 1991; Kohn, 1963; Lempers, Clark-Lempers, & Simons, 1989; McLoyd, 1989, 1990; Patterson, Griesler, Vaden, & Kupersmidt, 1992;

Slaughter, 1988; Zill & Coiro, 1992; Zill, Moore, Smith, Stief, & Coiro, 1991). Family economic hardship has been associated with a wide variety of negative outcomes for children, including low self-esteem (Isralowitz & Singer, 1986), heightened levels of both internalizing and externalizing behavior problems (Werner, 1989), and lack of acceptance by peers (Patterson, Vaden, Griesler, & Kupersmidt, 1991; Patterson, Vaden, & Kupersmidt, 1991). Existing research suggests that childhood difficulties in behavior and peer relationships are associated with adjustment problems in adolescence and adulthood, including delinquency, school dropout, and psychopathology (see Parker & Asher, 1987, for a review); this association makes the relation between poverty and childhood socioemotional problems a cause of even greater concern.

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Longitudinal studies of family income such as the Panel Study of Income Dynamics have revealed that, while many families with children move into and out of poverty over time, others remain poor for long periods of time (Duncan et al., 1984; Duncan & Rodgers, 1988). The former group of families experiences intermittent economic hardship, whereas the latter group experiences persistent economic hardship (Huston, 1991). Despite this, most studies of poverty's effects on children have been cross-sectional. For this reason, it has not yet been possible in most cases to study the effects of persistent versus intermittent economic hardship on children's development (Featherman, Spenner, & Tsunematsu, 1988).

Persistent poverty may exert a particularly strong negative influence on children's adjustment. Cross-sectional research on the impact of chronic and acute life stresses suggests that their effects on children's development are likely to be cumulative. For example, Patterson, Vaden, and Kupersmidt (1991) found that the more chronic family adversities children experienced (e.g., low family income, parental divorce), the more likely they were to experience difficulties in peer relationships. Shaw and Emery (1988) reported that multiple life stressors had cumulative effects on child behavior problems. Such cumulative effects have also been reported by Rutter (1979; Rutter & Garnezy, 1983).

Although it seems likely that the effects of persistent economic hardship on children are more negative than those of intermittent or no economic stress, little information has been available to evaluate this hypothesis. Recently, however, two studies have examined the influence of persistence of poverty on child adjustment. McLeod and Shanahan (1993) found that, among 4–8-year-old children, current poverty was related to externalizing symptoms whereas persistence of poverty was related to internalizing symptoms. Duncan, Brooks-Gunn, and Klebanov (1994) found that low family income was associated with internalizing and externalizing behavior problems at age 5; persistent economic hardship added to these negative effects.

Even studies that have measured family economic status longitudinally (e.g., Duncan et al., 1994; McLeod & Shanahan, 1993) have generally assessed the effects of persistent and intermittent hardship on child out-

comes at only one time point. However, if psychosocial risk is a transaction between the individual and the environment, rather than a fixed characteristic of the individual, then individuals may move into and out of risk status over time (Bell & Pearl, 1982; Sameroff, 1977). At any given time, such factors as the school and peer environment help determine whether risk manifests itself in poor developmental outcomes. Research that charts the sequelae of economic deprivation across childhood is essential to understanding the effects of persistent and intermittent family economic hardship.

A number of writers have suggested that the effects of family economic pressures are felt by children and adolescents at least in part through their influence on parental emotional state and behavior (Clark, 1983; Conger et al., 1992; Elder, 1979; Lempers et al., 1989; McLoyd, 1990). McLoyd (1990) has described a model in which conditions of poverty increase parents' psychological distress, which diminishes parents' capacity for sensitive, involved parenting, which in turn leads to impaired socioemotional functioning among children. Living in poverty may expose parents to a multitude of stressful life events and conditions (e.g., marital discord, family illness, criminal victimization, and inadequate housing) over which they have little or no control. Under conditions of poverty and concomitant psychological distress, parents are more likely to use harsh discipline and physical punishment and less likely to be supportively and affectionately involved with their children (Gecas, 1979; McLoyd, 1990).

Harsh discipline appears to be a powerful mediator between parental psychological difficulties and child adjustment problems (Patterson, 1986). In his work on children of the Great Depression, Elder showed that effects of family economic hardship were conveyed to children at least in part through increased punitive and arbitrary discipline on the part of their fathers (Elder, 1979; Elder, Nguyen, & Caspi, 1985). Lempers and his colleagues (1989) found that the effect of family economic hardship on adolescent depression and delinquency was mediated by inconsistent parental discipline. Our cross-sectional research has also confirmed the role of parental involvement as a mediating variable between family background and child outcomes (Kupersmidt, DeRosier, Patterson, & Griesler, 1990). Related findings have also been reported by Duncan et al. (1994) and McLeod and Shanahan (1993).

In addition to their involvement in child care and discipline in the home, parents also play a more direct role in preparing their children for success in school and peer environments by monitoring and managing their children's school and peer group activities (Ladd, Profilet, & Hart, 1993). Baker and Stevenson (1986) found that parents' management of their children's school careers had direct consequences for their educational achievement. Mothers of low socioeconomic status knew less about their children's school performance, had less contact with teachers, and were less likely to manage children's school achievement in an active fashion. Low parental monitoring of children's peer activities has been associated with externalizing behavior problems in childhood (Wilson, 1980; Patterson & Stouthamer-Loeber, 1984) and with lower child competence in classroom peer activities (Ladd & Golter, 1988). Low levels of parental monitoring are especially likely to occur in families under stress (McCord, 1979). Thus, parental behavior linking the family to the school and peer environments appears to be an important pathway from family poverty to negative child outcomes.

In addition to family economic hardship, personal qualities of the child such as gender are important predictors of psychosocial outcomes during childhood. It is widely agreed that greater difficulties are experienced by boys during childhood (Elder, 1979; Hartup, 1983; Hetherington, Camara, & Featherman, 1983). It is also believed that boys may be more vulnerable than girls to a variety of stressors (Rutter & Garmezy, 1983). In response to stressors such as family conflict, boys are more likely than girls to react with aggressive and disruptive behavior; this aggressive behavior may elicit punitive responses from both parents and peers. Boys may actually be exposed to more parental conflict than girls because parents are more likely to fight in front of them (Hetherington et al., 1983). The association of family economic hardship and negative outcomes for children seems to be more pronounced for boys than for girls (Patterson, Kuper-smidt, & Vaden, 1990; Patterson, Vaden, Griesler, & Kupersmidt, 1991). Thus, the effects of family economic circumstances on children may depend, at least in part, on gender.

In the United States today, African-American children are particularly likely to be exposed to the effects of family economic hardship. African-American children are

more likely than white children to grow up in economically disadvantaged families (Duncan & Rodgers, 1988). African-American children are also more likely to grow up in single-parent homes and to live in neighborhoods characterized by poverty (Wilson, 1987). Although a number of studies have reported that African-American children are at higher risk for psychosocial adjustment problems (Rutter & Garmezy, 1983), further research is needed to clarify the roles of ethnicity, income, and other factors. Whether because the school environment requires different skills than those required for success in other community and family settings they encounter, or because they suffer the effects of stratification based on both race and economic status (Ogbu, 1990), African-American children growing up in economic hardship may be especially likely to experience difficulties in school. On the other hand, poor white children may experience effects of more negative social comparisons as a result of living among wealthier neighbors (McLeod & Shanahan, 1993). Research is needed to clarify whether a single model of the effects of economic hardship can describe the experiences of both African-American and white children.

In this context, the present research seeks to identify the effects of persistent family economic hardship on personal and social development during childhood. Drawing on the archives of the Charlottesville Longitudinal Study, a study of psychosocial risk and resilience among children in the Charlottesville (Virginia) Public Schools during the years 1986–1989, the present research compares psychosocial change and growth among children from families that experienced significant economic hardship during all, part, or none of the period of time under study. The study thus compares development among children growing up in families that can be characterized as experiencing persistent, intermittent, or no economic hardship during the period of the research.

In the present study, we tested a cumulative risk model of the effects of family economic hardship on children. We hypothesized that children experiencing family economic hardship would exhibit more behavior problems, be less well accepted among their peers, and have lower self-esteem than their socioeconomically advantaged peers. We also tested the hypothesis that children who experienced persistent economic hardship would show the most

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negative effects in each of these domains. We hypothesized that, within the age range of our study, boys who experienced economic hardship, especially persistent hardship, would show particularly severe difficulties in their behavior, peer relationships, and self-esteem. We also tested whether any differences in psychosocial adjustment between African-American and white children could be accounted for by greater exposure to family economic hardship among African-American children.

In addition to testing the direct link between patterns of economic hardship over time and child outcomes, we also wanted to examine the extent to which such linkages might be mediated by parent behavior. To this end, we tested the hypothesis that the effects of persistent and intermittent economic hardship on child behavior problems, peer acceptance, and self-concept are mediated, in part, by maternal involvement in the child's schooling.

To extend previous cross-sectional research, we wished to examine the effects of persistent and intermittent family economic hardship longitudinally. Therefore, we tested not only whether children who experienced persistent and intermittent hardship started off behind their peers on measures of psychosocial adjustment, but also whether these children caught up with, stayed behind, or fell even farther behind their wealthier peers over time. Our research is the first to examine differences in the developmental trajectories from childhood to early adolescence of children who experienced persistent, intermittent, or no family economic hardship.

Method

Source of Data

Data were drawn from the archives of the Charlottesville Longitudinal Study (CLS) (Kupersmidt et al., 1990; Kupersmidt & Patterson, 1991; Patterson et al., 1992; Patterson, Kupersmidt, & Griesler, 1990; Patterson, Kupersmidt, & Vaden, 1990; Patterson, Vaden, Griesler, & Kupersmidt, 1991; Patterson, Vaden, & Kupersmidt, 1991). The CLS employed a cohort-longitudinal design to follow a large, heterogeneous group of public school students over the years 1986–1989. In the spring of 1986, when the study began, the three cohorts of children were in second, third, and fourth grades, and their modal ages were 8, 9, and 10 years, respectively. The study was

conducted with an intervention program that was part of the curriculum of the Charlottesville Public Schools. Parents received a letter explaining the study and were given the option of notifying the school if they preferred not to have their child participate. Fewer than 2% of parents so refused. In 1986, data were collected on 1,154 students, who represented over 95% of all children registered in these grades in the Charlottesville Public Schools during the years of the study. Using similar procedures, data were collected each year for 3 subsequent years.

Participating Children

The participants in the present research were 534 students who took part in the CLS during each of the four annual assessments. Using criteria described below, each child was classified as having lived in a low-income family during all 4 years of the study (persistent family economic hardship); during 1, 2, or 3 years of the study (intermittent family economic hardship); or during none of the years from 1986 to 1989 (no family economic hardship).

Data for approximately half (575) of the original 1,154 subjects were available for all four time points of the study. To determine whether subject attrition was random, we compared the children who participated at all four time points (identified in Table 1 as "stable") to those who did not participate at one or more time points (identified in Table 1 as "mobile"). As shown in Table 1, white children were more likely than black children to be lost to attrition. Children in the mobile group were less popular with their peers than children in the stable group. The stable and mobile groups did not differ significantly on any other target variables, including gender, economic hardship, and self-esteem, as well as teacher ratings of maternal involvement and internalizing and externalizing behavior problems. Despite some attrition over the 3-year period of the research, the longitudinal sample was representative in many respects of the original group from which it was drawn.

Several additional criteria were used for inclusion in the present study. First, because we wished to examine the role of maternal involvement in the child's schooling, we excluded children who did not live with their mother during any year of the study. Based on this criterion 12 children who lived with a single father and 13 children who lived with neither parent were excluded from the analyses. We also limited

TABLE 1
COMPARISON OF MOBILE AND STABLE SUBJECT GROUPS ON DEMOGRAPHIC CHARACTERISTICS
AND RISK CRITERIA

Measures at Time 1	Stable Children (n = 575)	Mobile Children (n = 579)	Significance Test
Demographic characteristics:			
Percent male	48	46	$\chi^2 = 17.36^{**}$
Percent white	55	67	
Percent experiencing economic hardship	39	36	
Mean scores on risk criteria:			
Maternal involvement	3.58	3.67	$F(1, 1077) = 4.13^*$
Externalizing behavior problems	8.42	8.55	
Internalizing behavior problems	5.57	5.69	
Popularity .....	.09	-.10
Self-concept	3.58	3.67	

* $p < .05$.
** $p < .01$.

our sample to children who spent all 4 years of the study in either a single mother household or a two parent household. Five children who spent part of the time period of the study in a two parent household and part in a single mother household were excluded. Also, among the 575 children who participated in all four waves of data collection, only 11 were identified as Asian, Hispanic, or Native American. Because we lacked a sufficiently large sample to generalize our findings to children from these ethnic groups, we did not include these children in the analyses.

The numbers of children in the sample in each category of family economic hardship, gender, and ethnicity are shown in Table 2. Although the distribution of children was uneven across categories, there were sufficient numbers of children in each of the major categories to allow analysis.

As expected on the basis of national figures, ethnicity and persistence of family

economic hardship were strongly related in this sample. For example, during the period of this study, African-American children in this sample were more than four times as likely as white children to have experienced persistent family economic hardship. African-American children made up only 20% of those experiencing no family economic hardship, but they made up 60% of those experiencing intermittent family economic hardship and 79% of those experiencing persistent family economic hardship.

Material and Procedures

In each year of the CLS, core assessments focused on three areas of children's competence at school: behavior problems, peer relations, and self-concept (Patterson, Kupersmidt, & Griesler, 1990; Patterson, Kupersmidt, & Vaden, 1990). Measures of peer relations were drawn from peer nominations. Group sociometric testing was conducted in each participating classroom by an adult experimenter, with one or two aides,

TABLE 2
NUMBERS OF CHILDREN IN THE SAMPLE AS A FUNCTION OF GENDER, ETHNICITY,
AND FAMILY ECONOMIC HARDSHIP

	NO ECONOMIC HARDSHIP		INTERMITTENT ECONOMIC HARDSHIP		PERSISTENT ECONOMIC HARDSHIP		Totals
	White	Black	White	Black	White	Black	
Girls	117	29	28	40	15	46	275
Boys	99	25	23	35	14	63	259
Totals	216	54	51	75	29	109	534

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according to the procedures described by Coie, Dodge, and Coppotelli (1982). Children were presented with an alphabetized list of children in their grade and were asked to nominate three children whom they liked most and three whom they liked least. Coding of the sociometric data was accomplished using the criteria and procedures developed by Coie and his colleagues (1982). As a measure of children's acceptance by their peers, liked-most and liked-least scores were computed to derive values for social preference (the difference between liked-most and liked-least nominations). Because we wanted to preserve any changes in variance over time, we did not standardize these scores.

Following the completion of the sociometric testing, each child was asked to complete the Self-Perception Profile (Harter, 1985), a self-report instrument designed to assess children's perceptions of their own competence in various domains. We used the subscale for global self-worth, which assessed the extent to which children felt good about themselves and were happy with how they were leading their lives (Harter, 1985). Mean Cronbach's alpha of the scale across all time points of the study was .76 (.71 and .79 for black and white children, respectively).

Each teacher was individually interviewed in a separate room while the sociometric testing was conducted in his or her classroom each year. For the teacher interview, the interviewer read each item aloud and recorded the teacher's response. Teacher ratings of behavior problems for each child were collected at this time. Assessments of behavior problems were made by classroom teachers for each child, using a standardized rating scale adapted from the Classroom Adjustment Rating Scales developed by Cowen and his colleagues (Cowen, Lorton, & Caldwell, 1975; Patterson, Kupersmidt, & Vaden, 1990). This scale, developed as a screening instrument to identify adjustment problems among elementary school children, has the advantage of being relatively brief and hence feasible for a teacher to complete for every child in a class. Factor analysis yielded summary scores for internalizing (i.e., shy, anxious) and for externalizing (e.g., aggressive, acting out) behavior problems (see Patterson, Kupersmidt, & Vaden, 1990). Averaged across all time points of the study, Cronbach's alpha for the externalizing scale was .91 (.92 for black children and .89 for white children) and, for

the internalizing scale, .64 (.63 and .64 for black and white children, respectively).

Teachers were also asked to answer the question, "How involved is this mother in her child's educational development?" Teachers rated mother involvement using a five-point scale; higher scores indicated greater involvement (for further details, see Kupersmidt et al., 1990). These ratings were relatively stable over time (mean test-retest correlation = .46) and so were averaged across time to create the mother involvement scores used in the present study. Previous research by Stevenson and Baker (1987; Baker & Stevenson, 1986) has shown that teacher ratings similar to the item we used predict child performance in school, even after controlling for maternal education and child's age and gender.

Interviewers were white; therefore, race of the interviewer was unfortunately not matched with race of the participant for African-American children and teachers.

Median correlations among variables are shown in Table 3.

Categorization of Family Income Levels

Children were identified as coming from a low-income family in any year that they were receiving federally mandated free or reduced price school lunches. To be eligible for free lunches, children's family incomes could not exceed 130% of the federally mandated poverty level; to be eligible for reduced price lunches, children's family incomes could not exceed 185% of the poverty level. During the period of this study, the poverty line for a family of three ranged from \$9,120 to \$10,060 per year; the same cutoff for free lunches ranged from \$11,856 to \$13,078 and for reduced price lunches from \$16,872 to \$18,611 per year. Our criterion thus identified not only children living below the poverty line but also those living just above it.

Use of this criterion has a number of advantages. First, receipt of free or reduced price lunches represents an ecologically salient indicator of the economic dimensions of children's lives in their school environments. Second, the criterion represents federally mandated income cut-off points, just above poverty levels, that are adjusted for family size, and it yields results that are readily comparable with those of research conducted in other parts of the country. Third, this indicator is available in school records and could be collected for every

TABLE 3
 MEDIAN CORRELATIONS AMONG VARIABLES

	1	2	3	4	5	6	7	8
1. Economic hardship								
2. Persistent hardship .....	.03							
3. Gender .....	.05	.07						
4. Ethnicity .....	.50	.15	.06					
5. Maternal involvement	-.56	-.12	-.08	-.42				
6. Externalizing .....	.24	.08	.30	.20	-.29			
7. Internalizing .....	.14	.08	.12	.06	-.17	.30		
8. Popularity	-.24	-.04	-.08	-.05	.21	-.30	-.20	
9. Self-esteem	-.16	-.12	.01	-.10	.22	-.12	-.12	.18

child participating in the study. Thus, children who received public assistance in the form of free or reduced price lunches in any given year were categorized as having low family incomes for that year.

Results

Growth Curve Models

Numerous methods are available for the study of longitudinal data (Baltes & Nesselrode, 1977). One recently developed method (McArdle, Hamagami, Elias, & Robbins, 1991) has combined the latent growth curve model (McArdle & Epstein, 1987) and the convergence (or accelerated longitudinal) approach (Bell, 1953, 1954). The latent growth curve model describes both individual differences and patterns of change over time (McArdle & Hamagami, 1992). Thus, the latent growth curve model allows for estimation not only of mean differences on measures of psychosocial adjustment but also of differences in patterns of change over time, as a function of family economic hardship, gender, and ethnicity.

Growth curve models have usually required measurement of individuals over long periods of time (McArdle & Hamagami, 1992). However, the convergence approach (Bell, 1954) allows information on individuals from multiple cohorts, measured at overlapping time points, to be linked. The convergence approach assumes that the same model is invariant across cohorts. This assumption was considered appropriate for this study because few, if any, cohort effects are expected for groups of children who are very close in age. By making this assumption, we take full advantage of the cohort-sequential design (Schaie, 1986), which is intended to measure developmental trends while controlling for secular effects. By fol-

lowing three cohorts of children, we were able to model change across a 5-year rather than a 3-year interval, while at the same time increasing the power to detect significant differences.

A latent growth curve model is depicted in Figure 1 (after McArdle & Hamagami, 1992). Observed variables are shown here as squares and latent variables as circles. In this model, an individual's score on the dependent variable Y at each time point is assumed to be a linear combination of three unobserved variables: a Level component, a Slope component, and an Error component. The Level function (labeled L_n in Fig. 1) embodies differences among individuals; its effect on the dependent variable Y is held constant over time. The Slope function (labeled S_n) represents change over time; B_t represents the effect of this Slope component on dependent variable Y_t at time t . The effect of the Slope function can change over time, in a linear or nonlinear fashion, as a function of B_t . The variances of Level and Slope are represented in Figure 1 as L_n^* and S_n^* , respectively. A constant (labeled 1 in Fig. 1) is used to scale the other variables. The Error component represents error of measurement. Consistent with the principles of the classical true score model (see Crocker & Algina, 1986; Spearman, 1904), measurement error is assumed to be random, with a mean of zero and no autocorrelation over time. (For further details on the statistical assumptions of the latent growth curve model, see McArdle & Epstein, 1987, and McArdle & Hamagami, 1992.)

Figure 2 (after McArdle & Hamagami, 1992) shows a multiple group latent growth curve model for our cohort-sequential design, with each of three cohorts measured at four overlapping occasions of measurement,

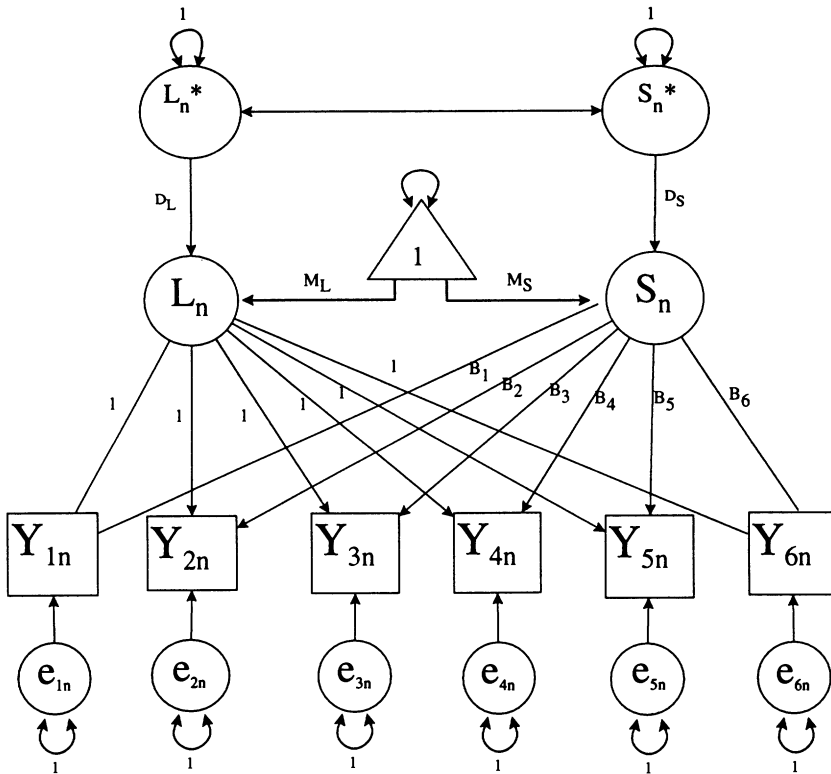


FIG. 1.—Latent growth curve model

for a total of six time points. Each group in this model represents a single cohort in our design. The model parameters are constrained to be invariant across cohorts. As in MANOVA, the error variance for the dependent variable Y is constrained to be equal across time points. Where Y_t is unmeasured at a particular time point for a given cohort (i.e., Times 5 and 6 for Cohort 1, Times 1 and 6 for Cohort 2, and Times 1 and 2 for Cohort 3), Y_t is represented as a latent variable, with variance fixed at $(N/N - 1)$, where N is the sample size for that cohort.

To determine whether and how children's psychosocial adjustment changed over time, we compared three alternative models for each of the four dependent variables (externalizing and internalizing behavior problems, popularity with peers, and self-esteem). In the first model, a no-growth model, all Slope loadings (B_t) were fixed at zero. This model specified that children's scores on the dependent variable were stable over time; that is, this model specified individual differences among children but no individual differences in change. In the second model, B_t was fixed at [0 .2 .4 .6 .8

1], to specify a linear pattern of change over time. In the third model, a latent growth model, coefficients B_2 through B_5 were estimated from the data. Coefficient B_1 was fixed at zero and coefficient B_6 was fixed at one, in order to provide a scale for the other Slope loadings in this model. In this way, the latent growth model could estimate any non-linear pattern of change over time that is present in the data. To evaluate the relative fit of alternative models, we used a likelihood improvement percentage (LIP) (McArdle & Hamagami, 1992), which was calculated as the ratio of the χ^2 fit index of the linear and latent growth models compared to the no-growth baseline model (computed as the χ^2 fit index for the baseline model minus χ^2 for the linear or latent model, divided by the baseline χ^2). We chose a less parsimonious model (i.e., one with fewer degrees of freedom) over a more parsimonious model only when the likelihood improvement index was at least 10%.

Before examining patterns of change over time, we wanted to verify that each of the dependent variables was measuring the same construct at each time point. We there-

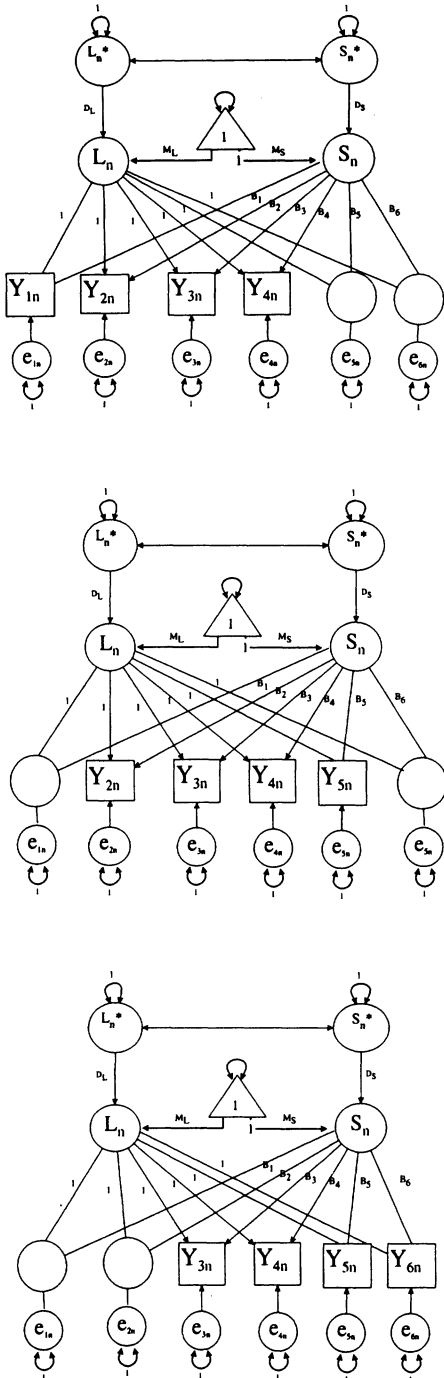


FIG. 2.—Multiple cohort growth curve model

fore tested for factor invariance over time by comparing two models for each dependent variable. In the first model (the invariant model), the factor loadings for each item were constrained to be equal at each time point. In the second (variant) model, loadings were allowed to vary across time. To the extent that the variant model improves over the invariant model, the assumption of measurement invariance is violated. For three of the four dependent variables, the variant model did not improve substantially over the invariant model (externalizing: invariant $\chi^2 = 2,835$ (1,349), variant $\chi^2 = 2,661$ (1,324), LIP = 6%; popularity: invariant $\chi^2 = 1,303$ (200), variant $\chi^2 = 1,258$ (190), LIP = 3%; self-concept, invariant $\chi^2 = 1,368$ (1,929), variant $\chi^2 = 1,302$ (1,902), LIP = 5%). For internalizing behavior problems, however, the variant model fit substantially better than the invariant model (invariant $\chi^2 = 1,514$ (850), variant $\chi^2 = 1,352$ (830), LIP = 11%). Examination of the factor loadings revealed that loadings for the internalizing items were lower at grade 7 than at other time points. When this last time point was dropped from the model, the invariant model fit well, as compared to the variant model (invariant $\chi^2 = 1,208$ (857), variant $\chi^2 = 1,133$ (841), LIP = 6%). The grade 7 items for internalizing were therefore excluded from further analysis.

Table 4 shows the results of comparisons among the no slope, linear growth, and latent growth models. For each dependent variable, the linear growth model provided a substantial improvement in fit as compared to the no-growth model. The linear model improved over the no-growth model by 72% for externalizing behavior problems, 91% for internalizing behavior problems, 59% for peer acceptance, and 86% for self-concept. For externalizing behavior problems, the latent growth model improved substantially (15%) over the fit of the linear growth model. For internalizing behavior problems and popularity, the latent growth model improved only slightly (1% and 4%, respectively) over the more parsimonious linear model. For self-esteem, the latent growth model offered no improvement in fit over the linear model. Thus, children's scores on each of the dependent variables changed substantially over time. Changes in externalizing behavior problems followed a non-linear pattern, increasing between grade 2 and grade 3 and decreasing thereafter.¹ In-

¹ The measure of externalizing problems used here includes disruptive, aggressive, and attention-seeking behavior; thus it does not directly tap delinquent or risk-taking behavior of the

TABLE 4

GOODNESS OF FIT FOR LATENT GROWTH, LINEAR GROWTH,
AND NO SLOPE BASELINE MODELS

	Latent	Linear	No Slope
Externalizing behavior problems:			
Likelihood ratio (degrees of freedom)	148 (71)	307 (75)	1,115 (78)
Likelihood improvement %	87	72	...
Internalizing behavior problems:			
Likelihood ratio (degrees of freedom)	79 (51)	89 (54)	1,033 (57)
Likelihood improvement %	92	91	...
Popularity:			
Likelihood ratio (degrees of freedom)	59 (71)	64 (75)	159 (78)
Likelihood improvement %	63	59	...
Self-concept:			
Likelihood ratio (degrees of freedom)	245 (71)	252 (75)	1,789 (78)
Likelihood improvement %	86	86	...

NOTE.—Degrees of freedom = LISREL $df - 3$ (due to fixed unit for each cohort). Likelihood ratio test (LRT) = LISREL χ^2 value. Likelihood improvement % = $[(LRT_0 - LRT_1)/LRT_0] * 100$ where LRT_0 = baseline.

ternalizing behavior problems, popularity, and self-esteem changed in a linear pattern.

Economic Hardship, Gender, Ethnicity, and Children's Psychosocial Adjustment

The main data analyses were designed to describe the course of psychosocial development among children experiencing persistent, intermittent, or no family economic hardship over time. To this end, we added economic hardship, gender, ethnicity, and their interactions to the multiple cohort growth model described above as exogenous variables affecting Level and Slope. Tests of significance were one-tailed when hypotheses were directional; otherwise, they were two-tailed.

To compare the effects of intermittent and persistent hardship, we created four orthogonal contrast variables: the first contrast compared children who experienced family economic hardship, either intermittent or persistent, to those who experienced no hardship. The second contrast compares children who experienced intermittent hardship to those who experienced persistent hardship. Within the intermittent hardship group, we compared children who experienced 1, 2, and 3 years of economic hardship: the third orthogonal contrast compared

children who experienced 1 year of hardship to those who experienced 2 or 3 years, and the fourth contrast compared children who lived in hardship for 2 years versus 3 years. We also created effect codes for gender and ethnicity and for their interactions with family economic hardship.

A separate model was estimated for each of the four main dependent measures (externalizing behavior problems, internalizing behavior problems, popularity with peers, and self-esteem). For externalizing behavior problems, we specified a latent growth pattern, as indicated by the results of the alternative model comparisons. For internalizing problems, popularity, and self-esteem, we specified a linear pattern of change over time.

Externalizing behavior problems.—Results of the latent growth curve model for externalizing behavior problems are shown in Table 5. Using the latent growth model parameter estimates from this model, we plotted estimated developmental functions for externalizing behavior problems as a function of family economic hardship, gender, and ethnicity. These functions appear in Figure 3 (for boys) and Figure 4 (for girls). Results (see Table 5) revealed main effects

sort that is likely to increase during adolescence. The decline in childhood forms of externalizing behavior evident in these results may be offset by an increase in adolescent problem behaviors that are unmeasured in our dataset. However, the measure employed here is developmentally appropriate for the age range of our sample because attention problems in childhood are a risk factor for delinquency (Maguin, Loeber, & LeMahieu, 1993).

TABLE 5

LATENT GROWTH MODEL OF EFFECTS OF FAMILY ECONOMIC HARDSHIP, GENDER, AND ETHNICITY ON EXTERNALIZING BEHAVIOR PROBLEMS
 A. EFFECTS OF FAMILY ECONOMIC HARDSHIP, PERSISTENT HARDSHIP, GENDER, AND ETHNICITY

	MEAN		EFFECT ON LEVEL		EFFECT ON SLOPE	
	M	(SE)	B	(SE)	B	(SE)
Main effects:						
Family economic hardship	-.01	(.04)	.27**	(.06)	.20**	(.08)
Persistent hardship .....	.02	(.03)	.25**	(.09)	.23**	(.11)
1 versus 2-3 years of hardship .....	.10	(.02)	.34**	(.12)	.18	(.15)
Gender .....	.03	(.04)	.25**	(.08)	.25**	(.09)
Ethnicity	-.11	(.04)	.13	(.06)	-.04	(.08)
Interactions:						
Hardship × gender .....	.01	(.04)	.00	(.21)	.23	(.26)
Persistent hardship × gender .....	.03	(.03)	.58**	(.22)	-.06	(.28)
1 versus 2-3 years × gender	-.03	(.02)	.38	(.24)	.10	(.29)
Hardship × ethnicity .....	.19	(.04)	.37*	(.22)	.36	(.27)
Persistent hardship × ethnicity .....	.15	(.03)	-.53*	(.24)	-.41	(.29)
1 versus 2-3 years × ethnicity .....	.05	(.02)	-.18	(.24)	-.24	(.29)

B. PARAMETER ESTIMATES FOR FUNCTION MEANS, SLOPE LOADINGS, AND FUNCTION DEVIATIONS

	B	(SE)
Function means:		
1 → level	3.11	(.08)
1 → slope .....	.59	(.10)
Slope loadings:		
Slope → Y ₁ .....	.00	(=)
Slope → Y ₂ .....	.58	(.18)
Slope → Y ₃ .....	.44	(.16)
Slope → Y ₄ .....	.28	(.14)
Slope → Y ₅ .....	.02	(.13)
Slope → Y ₆	-1.00	(=)
Function deviations:		
L* → level .....	.94	(.09)
S* → slope .....	.34	(.18)
L* ↔ S*	1.00	(=)
E _t → Y _t	1.19	(.02)

NOTE.—The symbol “=” indicates a fixed parameter.
 * $p < .05$.
 ** $p < .01$.

on Level for family economic hardship, $B = .27, p < .01$, persistent family economic hardship, $B = .25, p < .01$, 1 versus 2-3 years of hardship, $B = .34, p < .01$, gender, $B = .25, p < .01$. Children who experienced 1 year of family economic hardship showed greater externalizing behavior problems than did those experiencing no family economic hardship. Children with 2 versus 3 years of hardship did not differ significantly from one another, $B = -.09$, but fared worse than those with 1 year of hardship. Children who experienced persistent hardship had the most difficulties. Boys had higher scores for externalizing problems than did girls.

These main effects were qualified by two significant interactions influencing the Level function. Gender interacted with persistent family economic hardship, $B = .58, p < .01$. As shown in Figure 3 (for boys) and Figure 4 (for girls), gender differences in externalizing behavior problem scores were greatest for children experiencing persistent hardship. For girls, differences in externalizing problems between those who did and did not experience persistent family economic disadvantage were relatively small. For boys, however, externalizing behavior problems were greater among those experiencing persistent family economic hardship

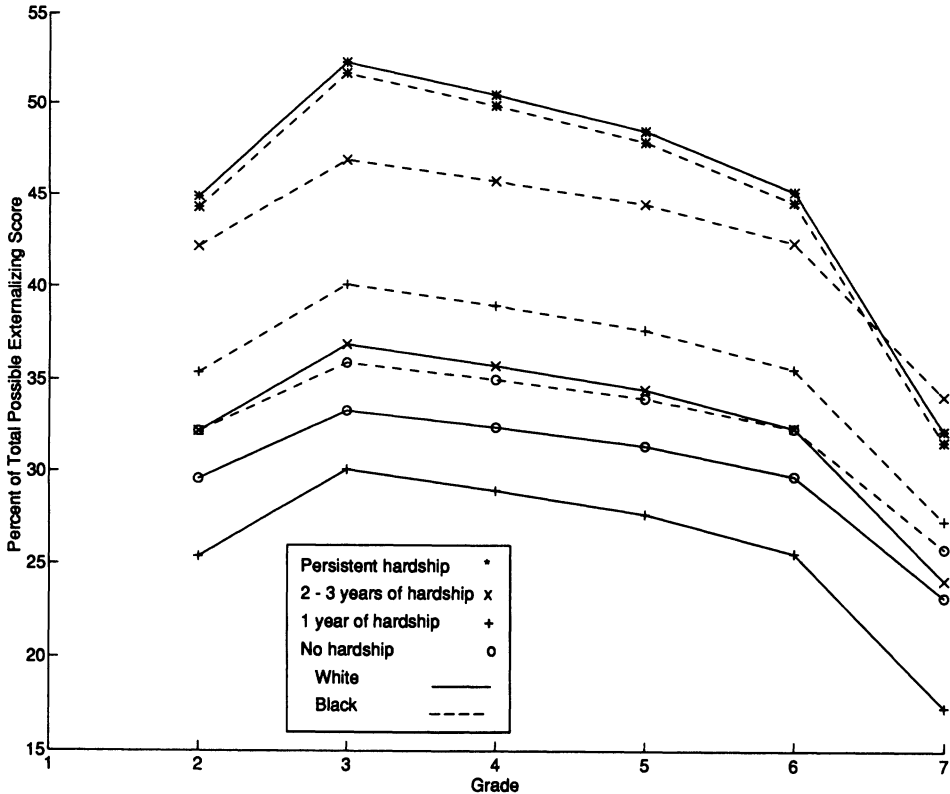


FIG. 3.—Externalizing behavior problems as a function of grade, family economic hardship, and race for boys.

than among those who experienced no hardship or intermittent hardship. Thus, the connection of economic hardship, especially persistent economic hardship, with children's externalizing behavior in this sample was more important for boys.

There was also a significant interaction of persistent family economic hardship and ethnicity, $B = -.53$, $p < .05$. Among children experiencing no economic hardship or intermittent hardship, African-American children received higher externalizing scores than white children. However, among children experiencing persistent family economic hardship, white children scored higher on externalizing problems than African-American children.

The Slope function for externalizing behavior problems was influenced by a main effect of family economic hardship, $B = .20$, $p < .01$, by persistent hardship, $B = .23$, $p < .01$. Among children who experienced economic hardship, especially persistent hardship, externalizing behavior problems increased more in the first year of the study

and decreased more in the later years, as compared to children who experienced no economic hardship. The main effect of gender on Slope was also significant, $B = .25$, $p < .01$. As shown in Figures 3 and 4, girls' levels of externalizing behavior problems were relatively stable across time, whereas boys' externalizing behavior problems increased more in the first year of the study and decreased more in subsequent years.

Internalizing behavior problems.—Results of the linear growth model for internalizing behavior problems (shown in Table 6) revealed main effects on Level for family economic hardship, $B = .20$, $p < .01$, and persistent family economic hardship, $B = .24$, $p < .01$. Children who experienced persistent family economic hardship had higher scores for internalizing behavior problems than did those who experienced intermittent hardship, who in turn had higher scores for internalizing problems than those who did not experience family economic problems. Children in the intermittent group did not differ significantly from each other as a func-

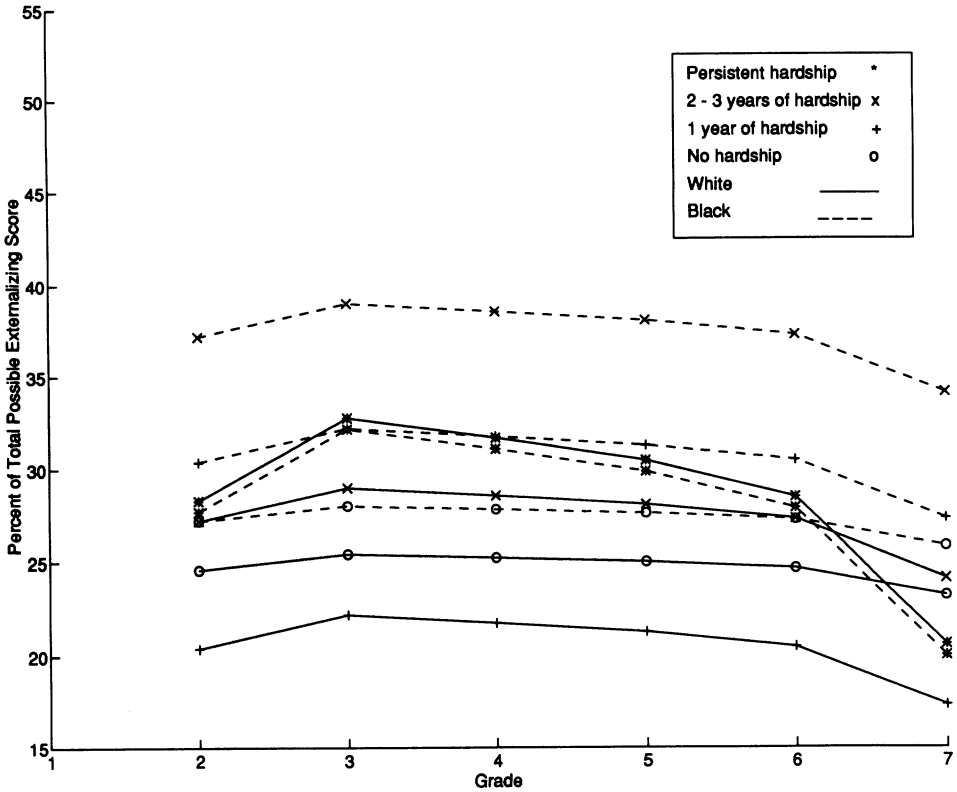


FIG. 4.—Externalizing behavior problems as a function of grade, family economic hardship, and race for girls.

tion of number of years of economic hardship (1 vs. 2–3 years: Level, $B = .01$, Slope, $B = -.13$; 2 vs. 3 years: Level $B = .04$, Slope $B = -.31$). Gender affected Slope, $B = .16$, $p < .05$. Over time, internalizing problems decreased among girls but increased among boys.

These main effects were qualified by a significant effect of persistent hardship \times ethnicity affecting both Level, $B = -.45$, $p < .01$, and Slope, $B = .56$, $p < .01$. As shown in Figures 5 (for boys) and 6 (for girls), among children who experienced no family economic hardship or intermittent hardship, there were no significant differences in the internalizing scores of African-American versus white children. However, among those experiencing persistent family economic hardship, white children's scores declined over time while African-American children's scores increased.

Peer relations.—Results of the linear growth model for acceptance among peers (shown in Table 7) revealed main effects on Level for family economic hardship, $B =$

$-.53$, $p < .01$, and for persistent family economic hardship, $B = -.24$, $p < .05$. Children who experienced no family economic hardship were more popular among their peers than were children who experienced intermittent family economic difficulties. Children who experienced persistent family economic hardship were the least popular. Children in the intermittent group did not differ significantly from one another based on their number of years of economic hardship (1 vs. 2–3 years: Level, $B = .02$, Slope, $B = -.24$; 2 vs. 3 years: Level, $B = -.23$, Slope, $B = .13$).

The main effect of family economic hardship on Slope was also significant, $B = .29$, $p < .05$. As Figure 7 shows, children who experienced no economic hardship became less popular over time, while those who experienced economic hardship became more popular. Nevertheless, at every time point, children who experienced economic hardship were less popular than those who did not and children who experienced persistent hardship were least popular.

TABLE 6

LINEAR GROWTH MODEL OF EFFECTS OF FAMILY ECONOMIC HARDSHIP, GENDER, AND ETHNICITY ON INTERNALIZING BEHAVIOR PROBLEMS

A. EFFECTS OF FAMILY ECONOMIC HARDSHIP, PERSISTENT HARDSHIP, GENDER, AND ETHNICITY

	MEAN		EFFECT ON LEVEL		EFFECT ON SLOPE	
	M	(SE)	B	(SE)	B	(SE)
Main effects:						
Family economic hardship	-.01	(.05)	.20**	(.07)	-.04	(.10)
Persistent hardship .....	.02	(.03)	.24**	(.09)	-.18	(.14)
Gender	-.03	(.05)	.09	(.08)	.16*	(.09)
Ethnicity	-.11	(.04)	.10	(.10)	-.09	(.10)
Interactions:						
Hardship × gender .....	.01	(.03)	.05	(.14)	-.10	(.22)
Persistent hardship × gender .....	.03	(.02)	.17	(.16)	-.16	(.25)
Hardship × ethnicity .....	.19	(.03)	.02	(.05)	.05	(.24)
Persistent hardship × ethnicity .....	.15	(.02)	-.45**	(.18)	.56*	(.28)

B. PARAMETER ESTIMATES FOR FUNCTION MEANS, SLOPE LOADINGS, AND FUNCTION DEVIATIONS

	B	(SE)
Function means:		
1 → level	2.78	(.07)
1 → slope .....	.00	(.10)
Slope loadings:		
Slope → Y ₁ .....	.00	(=)
Slope → Y ₂ .....	.25	(=)
Slope → Y ₃ .....	.50	(=)
Slope → Y ₄ .....	.75	(=)
Slope → Y ₅	1.00	(=)
Function deviations:		
L* → level .....	.52	(.09)
S* → slope .....	.79	(.16)
L* ↔ S*	-.38	(.22)
E _t → Y _t .....	.94	(.02)

NOTE.—The symbol “=” indicates a fixed parameter.

* $p < .05$.

** $p < .01$.

Self-esteem.—Results of the linear growth model for self-esteem scores yielded main effects on Level for family economic hardship, $B = -.22, p < .05$, and persistent family economic hardship, $B = -.42, p < .01$ (see Table 8). Children in the intermittent group did not differ significantly from each other as a function of number of years of economic hardship (1 vs. 2–3 years: Level, $B = -.06$, Slope, $B = -.14$; 2 vs. 3 years: Level, $B = .03$, Slope, $B = -.22$). As illustrated in Figure 8, children who experienced family economic hardship reported lower self-esteem than other children, and those who experienced persistent hardship were lower than any others.

Role of Maternal Involvement

In addition to assessing the differences in psychosocial outcomes among children

experiencing differing levels of poverty, we also wanted to examine factors that might link family economic hardship to child outcomes. To test the hypothesis that parental behavior links family economic hardship to child outcomes, we adapted the three-part data analysis strategy advocated by Baron and Kenny (1986) to establish mediation. First, according to this strategy, the independent variable must affect the proposed mediator. Second, the independent variable must affect the dependent variable. Third, when the effect of the mediator on the dependent variable is added to the model, the mediator must affect the dependent variable, and the direct effect of the independent variable on the dependent variable must be reduced. For each dependent variable, we tested for each of these relationships by adding the specified variables and effects to the multi-

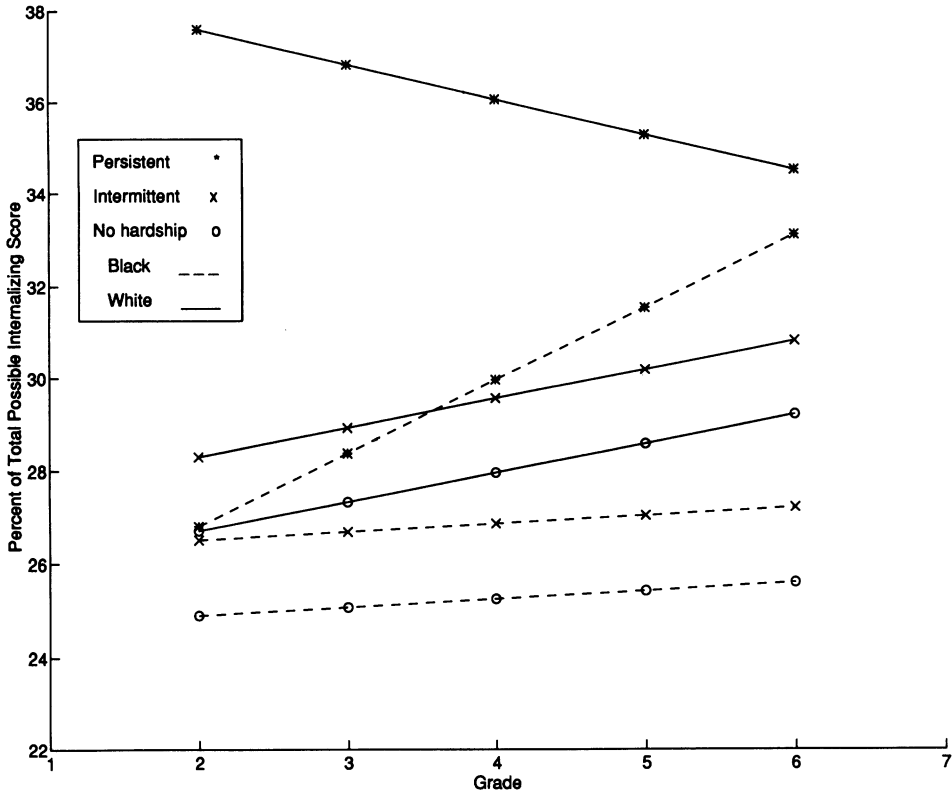


FIG. 5.—Internalizing behavior problems as a function of grade, family economic hardship, and race for boys.

ple cohort growth model. We included all effects of economic hardship that had been shown, in our previous models, to influence Level and Slope significantly. To assess the relative importance of the mediated path, we used path analysis (Loehlin, 1987; Wright, 1920) to compute, for each dependent variable, the proportion of variance accounted for by intermittent and persistent hardship, along with their interactions with gender and ethnicity, that was mediated by maternal involvement.

For internalizing behavior problems, maternal involvement failed to predict Level ($B = -.09$) or Slope ($B = -.08$) significantly. We therefore concluded that maternal involvement did not mediate the effects of family economic hardship on internalizing problems. Results of the mediation models for externalizing, popularity, and self-esteem appear in Table 9. Table 9 shows the effects of economic hardship variables on maternal involvement, and the direct effects of hardship on Level and Slope after maternal involvement is added to the model. Maternal involvement mediated 34%

of the variance in externalizing behavior problems, 31% of the variance in self-esteem, and 14% of the variance in popularity accounted for by the main and interactive effects of persistent and intermittent hardship.

Discussion

Considerable interest has focused in recent years on the distinction between persistent and intermittent economic hardship and on the implications of both for child development (Duncan & Rodgers, 1988; Huston, 1991; McLoyd, 1990). Because most research to date has been cross-sectional in nature, however, it has not allowed a full understanding of the effects of family economic hardship on children over time (Featherman et al., 1988). Even previous research that has measured family economic hardship over time has not examined concomitant changes in child outcomes over the same period. By studying both family economic hardship and child outcomes over time, the present study described associations between persistent and intermittent family economic hardship

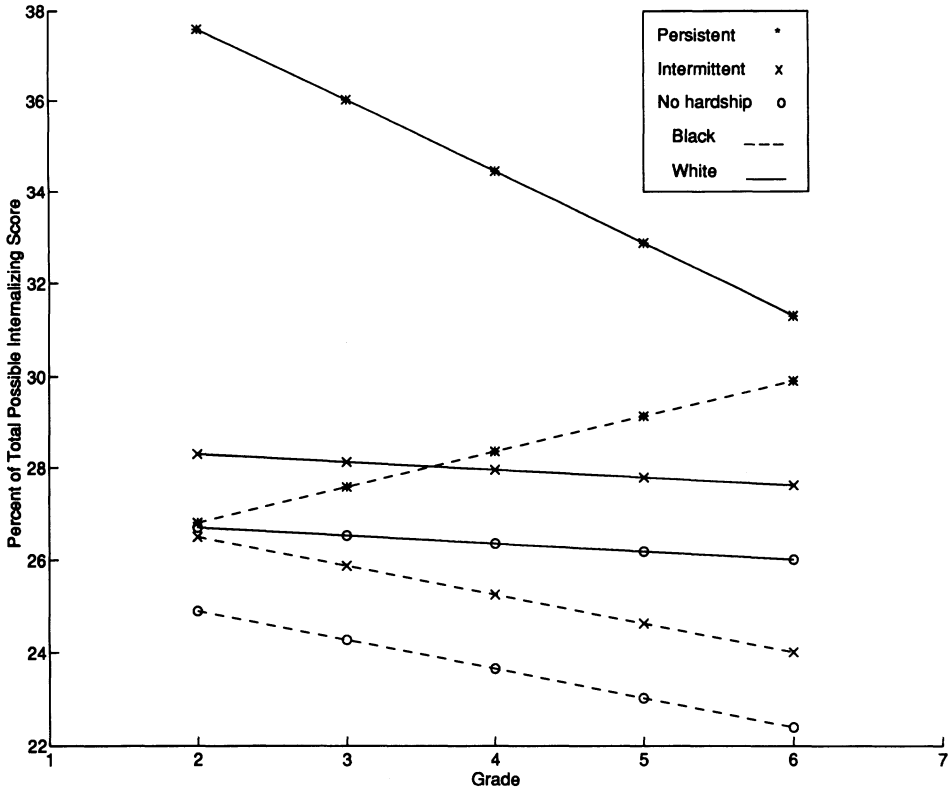


FIG. 6.—Internalizing behavior problems as a function of grade, family economic hardship, and race for girls.

and different aspects of children’s school-based competence over time. Combining the latent growth curve and convergence models with a cohort-sequential design allowed us to examine both individual differences and change over time as a function of family economic hardship, while reducing the influence of possible cohort effects on our results.

Our results document a remarkable range of difficulties encountered at school by children whose families experienced persistent economic hardship. Children who experienced persistent family economic hardship started out behind other children on every measure of school-based competence we collected and generally stayed behind throughout all the years of the study. Overall, the greatest difficulties in adjustment were shown by children whose families experienced persistent economic disadvantage, followed by those whose families experienced intermittent economic hardship; the fewest difficulties were shown by those whose families did not undergo economic

hardship. Our results revealed that children exposed to persistent economic hardship were less well adjusted across a range of assessments collected in the school environment.

Because family economic circumstances and ethnicity were themselves interrelated, we wanted to separate the effects of each variable. We found that negative outcomes associated for children with persistent family economic hardship in our sample occurred even after evaluating statistically the separate and interactive contributions of ethnicity. Thus, aspects of economic status over and above ethnicity were linked most strongly to child outcomes in our sample. Patterns of growth and decline across the years of the study were, however, moderated by both economic hardship and ethnicity.

Consistent with findings from a large body of research, our findings revealed that boys were more affected than girls by family economic hardship, at least in terms of externalizing behavior problems (Elder, 1979;

TABLE 7

LINEAR GROWTH MODEL OF EFFECTS OF FAMILY ECONOMIC HARDSHIP, GENDER,
AND ETHNICITY ON POPULARITY
A. EFFECTS OF FAMILY ECONOMIC HARDSHIP, PERSISTENT HARDSHIP, GENDER, AND ETHNICITY

	MEAN		EFFECT ON LEVEL		EFFECT ON SLOPE	
	M	(SE)	B	(SE)	B	(SE)
Main effects:						
Family economic hardship	-.02	(.04)	-.53**	(.09)	.29*	(.12)
Persistent hardship .....	.01	(.03)	-.24*	(.12)	.18	(.17)
Gender	-.04	(.04)	-.10	(.10)	.04	(.15)
Ethnicity	-.09	(.04)	.12	(.13)	-.13	(.18)
Interactions:						
Hardship × gender .....	.05	(.03)	.06	(.19)	-.09	(.26)
Persistent hardship × gender .....	.05	(.02)	-.07	(.21)	-.04	(.30)
Hardship × ethnicity .....	.51	(.03)	.03	(.20)	.22	(.28)
Persistent hardship × ethnicity .....	.11	(.02)	.44	(.25)	-.66	(.35)

B. PARAMETER ESTIMATES FOR FUNCTION MEANS, SLOPE LOADINGS, AND FUNCTION DEVIATIONS

	B	(SE)
Function means:		
1 → level .....	.06	(.09)
1 → slope .....	.07	(.12)
Slope loadings:		
Slope → Y ₁ .....	.0	(=)
Slope → Y ₂ .....	.2	(=)
Slope → Y ₃ .....	.4	(=)
Slope → Y ₄ .....	.6	(=)
Slope → Y ₅ .....	.8	(=)
Slope → Y ₆	1.0	(=)
Function deviations:		
L* → level	1.14	(.08)
S* → slope .....	.85	(.23)
L* ↔ S*	-.47	(.11)
E _t → Y _t	1.02	(.02)

NOTE.—The symbol “=” indicates a fixed parameter.
* *p* < .05.
** *p* < .01.

Hartup, 1983; Hetherington et al., 1983; Patterson, Kupersmidt, & Vaden, 1990; Patterson, Vaden, Griesler, & Kupersmidt, 1991; Rutter & Garnezy, 1983). We found that the association between persistent family economic hardship and externalizing behavior problems was greater for boys than for girls. This result held true for both white and African-American boys. To the extent that gender differences emerged in response to persistent economic hardship, boys had more difficulties than girls.

In accord with suggestions from a number of investigators (Conger et al., 1992; Elder, 1979; Elder et al., 1992; Lempers et al., 1989; McLoyd, 1990) and with our own

findings from cross-sectional analyses (Kupersmidt et al., 1990), we also found that the linkage of economic hardship and children's school-based competence was mediated in part by parental involvement. We found that scores for maternal involvement accounted for a significant portion of the linkages between family economic hardship and aspects of children's competence at school. When we controlled statistically for maternal involvement in children's educational progress, the significant effects of economic variables on externalizing behavior problems, peer relations, and self-esteem were attenuated. Thus, in the present case as in others (e.g., Conger et al., 1992; Duncan et al., 1994; Lempers et al., 1989; McLeod &

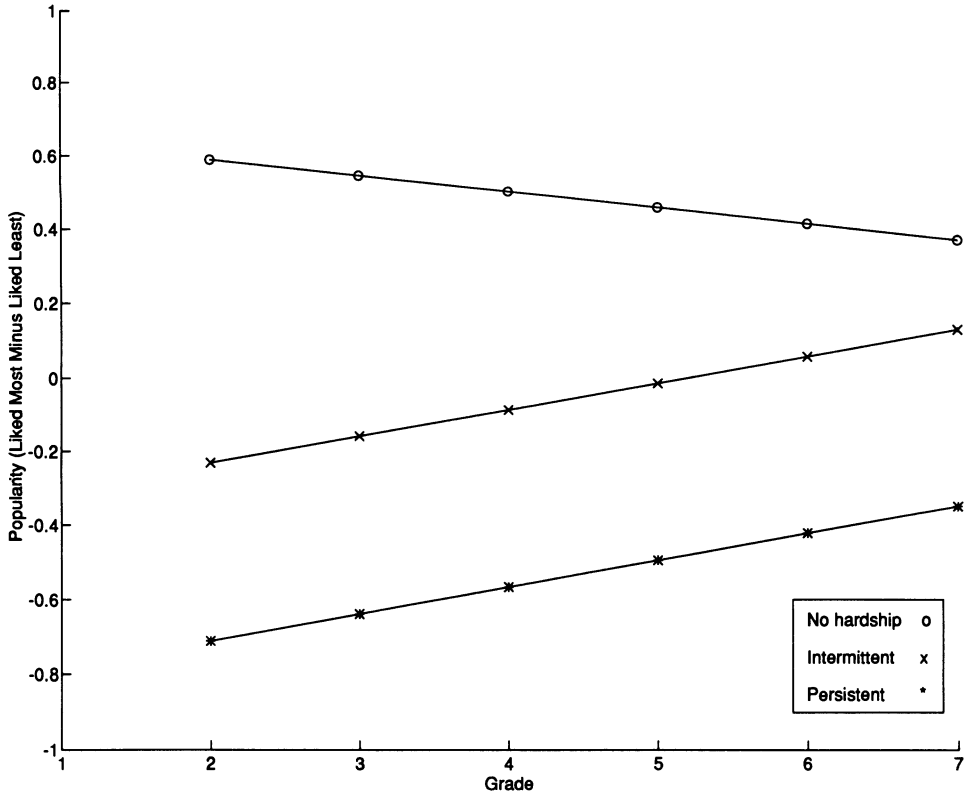


FIG. 7.—Popularity as a function of grade and family economic hardship

Shanahan, 1993), the impact of economic hardship on children appeared to be filtered, at least in part, through the family.

Several caveats apply to our findings about mediation of the effects of economic hardship by maternal involvement. First, our measure of maternal involvement was based on teachers' response to a single item; these same teachers also rated children's classroom behavior. Although our results are consistent with those from studies that have used maternal self-reports and observer ratings to assess parental behavior (e.g., Duncan et al., 1994; McLeod & Shanahan, 1993), scores on maternal involvement may be affected by reporter bias and limitations on reliability. Also, our assessment was limited to mothers' behavior. Other family variables, including fathers' role in children's educational development and other family processes in the home, are clearly important in children's development.

Based on our findings about mediation by maternal involvement, it may be tempting to argue that interventions to reduce the

negative effects of family economic hardship on children ought to be directed toward changing parental behavior. However, such interpretations of our data should be viewed with caution for at least two reasons. First, most of the effect of economic hardship on child outcomes was unaccounted for by maternal involvement in children's schooling. Second, the mediation model we tested specifies that maternal involvement influences child outcomes, but also that maternal involvement itself is affected by economic hardship. In theory, the causal chain between family economic hardship and child outcomes could be weakened or broken at either of these links. Thus our findings about mediation by maternal behavior do not argue against the potential importance of interventions aimed at direct improvement of family economic well-being.

Although the present results are fully consistent with family mediation models such as those proposed by Conger and his colleagues (1992) and by McLoyd (1990), they by no means rule out other interpreta-

TABLE 8

LINEAR GROWTH MODEL OF EFFECTS OF FAMILY ECONOMIC HARDSHIP, GENDER,
AND ETHNICITY ON SELF-CONCEPT
A. EFFECTS OF FAMILY ECONOMIC HARDSHIP, PERSISTENT HARDSHIP, GENDER, AND ETHNICITY

	MEAN		EFFECT ON LEVEL		EFFECT ON SLOPE	
	M	(SE)	B	(SE)	B	(SE)
Main effects:						
Family economic hardship	-.08	(.06)	-.22*	(.12)	-.19	(.20)
Persistent hardship .....	.00	(.04)	-.42**	(.17)	.04	(.28)
Gender	-.12	(.06)	.06	(.13)	.17	(.22)
Ethnicity	-.13	(.06)	-.15	(.17)	.16	(.27)
Interactions:						
Hardship × gender	-.07	(.04)	.28	(.25)	-.54	(.41)
Persistent hardship × gender	-.02	(.03)	.03	(.30)	-.59	(.49)
Hardship × ethnicity .....	.20	(.04)	.05	(.27)	.08	(.44)
Persistent hardship × ethnicity .....	.15	(.03)	-.11	(.34)	.15	(.56)

B. PARAMETER ESTIMATES FOR FUNCTION MEANS, SLOPE LOADINGS, AND FUNCTION DEVIATIONS

	B	(SE)
Function means:		
1 → level	7.81	(.05)
1 → slope .....	.36	(.04)
Slope loadings:		
Slope → Y ₁ .....	.0	(=)
Slope → Y ₂ .....	.2	(=)
Slope → Y ₃ .....	.4	(=)
Slope → Y ₄ .....	.6	(=)
Slope → Y ₅ .....	.8	(=)
Slope → Y ₆	1.0	(=)
Function deviations:		
L* → level .....	.83	(.14)
S* → slope .....	.98	(.35)
L* ↔ S*	-.10	(.40)
E _t → Y _t	1.20	(.03)

NOTE.—The symbol “=” indicates a fixed parameter.
* *p* < .05.
** *p* < .01.

tions. Low maternal involvement might be a result of economic hardship and its sequelae, but its origins might also be elsewhere. For instance, Zill, Moore, Nord, and Stief (1991) found that most long-term recipients of welfare scored low on tests of intelligence and that most had not graduated from high school. Maternal involvement scores are predicted by mothers' own levels of educational attainment, which are in turn predicted by intelligence test scores (Stevenson & Baker, 1987). In short, maternal characteristics may contribute to as well as result from family economic circumstances, and the influence processes are likely to be complex. Further specification of processes involved

in the linkages between economic hardship, parental behavior, and child outcomes is an important task for future research.

From a methodological standpoint, some concerns about our criterion for family economic hardship might be noted. Despite its many strengths, our criterion might have omitted children from some low-income families who were eligible for but did not participate in the subsidized school lunch program. Inclusion of low-income children in our no hardship group, however, would have worked against both our expectations and the main trends of our results. To the extent that this occurred, the present study

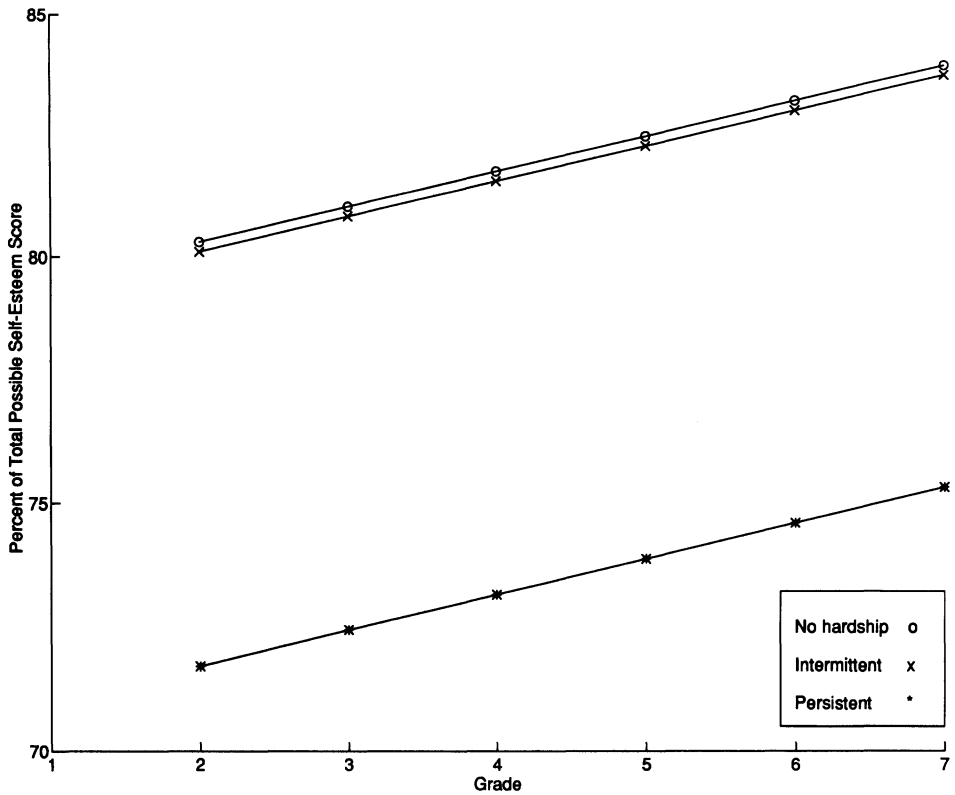


FIG. 8.—Self-esteem as a function of grade and family economic hardship

TABLE 9

MEDIATION BY MATERNAL INVOLVEMENT OF THE EFFECTS OF FAMILY ECONOMIC HARDSHIP ON CHILDREN'S EXTERNALIZING BEHAVIOR PROBLEMS, POPULARITY, AND SELF-ESTEEM

	EFFECT ON INVOLVEMENT		EFFECT ON LEVEL		EFFECT ON SLOPE	
	B	(SE)	B	(SE)	B	(SE)
Externalizing:						
Maternal involvement .....	...	...	-.23**	(.02)	-.04*	(.02)
Hardship	-.61**	(.14)	.17**	(.06)	.18**	(.08)
Persistent hardship	-.54**	(.22)	.20**	(.09)	.25**	(.11)
1 versus 2-3 years hardship .....	.93*	(.30)	.26*	(.12)	...	...
Persistent × gender .....	.07	(.19)	.19**	(.08)	...	...
Hardship × ethnicity	1.66**	(.14)	.04	(.07)	...	...
Persistent × ethnicity .....	.97**	(.21)	-.21*	(.09)	...	...
Popularity:						
Maternal involvement .....	...	...	.26**	(.09)	-.13	(.13)
Hardship	-.59**	(.04)	-.40**	(.10)	.22	(.14)
Persistent hardship	-.21**	(.06)	-.21*	(.12)	...	...
Self-esteem:						
Maternal involvement .....	...	...	.25*	(.13)	.21	(.21)
Hardship .....	.61*	(.05)	-.09	(.14)	...	...
Persistent hardship	-.22**	(.07)	-.37**	(.17)	...	...

* $p < .05$.
 ** $p < .01$.

provided a conservative test of our main expectations. The fact that our hypotheses were confirmed despite the conservatism inherent in our methods adds to confidence in the results.

Another important issue of interpretation rests on a distinction between the extent of economic hardship, on the one hand, and its persistence over time, on the other. Were our results attributable to *greater* hardship (e.g., lower family incomes) among families coded as experiencing persistent economic hardship, to the *persistence* of their difficulties, or to both? Because detailed information about family incomes was not available to us, we were not able to examine this question directly here. In many cases, however, the extent and persistence of family economic difficulties can be expected to go together (Duncan, 1991). Indeed, the idea of an underclass was proposed to describe the existence of a group characterized by significant economic difficulties extending over substantial periods of time (Auletta, 1982; Wilson, 1987). In the present study, it seems likely that both the extent and persistence of economic pressures are important factors underlying our results. To address this issue more directly, however, future research should include more detailed measures of family income (see Elder et al., 1992).

In summary, our findings provide an important assessment of the psychosocial outcomes associated with persistent family economic hardship for children. Whereas much previous research in this area has been cross-sectional in nature, has focused primarily on white children, has assessed the impact of episodic rather than chronic economic hardship (Duncan, 1991; McLoyd, 1989, 1990), and has measured child outcomes at only one time point, the present study evaluated outcomes associated with persistent economic hardship among a heterogeneous group of children over time. Results showed that for both white and African-American children a broad range of negative outcomes was associated with enduring economic hardship. These linkages were partially accounted for by variations in maternal involvement among the groups. Consistent with suggestions made by a number of investigators (Clark, 1983; Conger et al., 1992; Elder, 1979; McLoyd, 1990), the association of economic hardship and children's school-based competence was apparently mediated in part by processes within the family.

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