

Family Instability and the Problem Behaviors of Children From Economically Disadvantaged Families

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This longitudinal study examined the relation between family instability and the problem behaviors of children from economically disadvantaged families. Family instability was assessed when the children were ages 5 and 7 and included number of residence changes, changes of intimate caregiver relationships, and recent negative life events. The results showed direct concurrent relations between family instability and preschool children's externalizing behavior in the context of other family process variables, relations between subsequent family instability and 1st-grade children's internalizing behavior (i.e., with preschool behavior ratings controlled), and an effect for persistent instability across grade. Moderator effects were also found for child variables, including gender, temperamental adaptability, and prior externalizing scores.

Children raised in economically disadvantaged families are at risk for a variety of academic and social problems. As shown by a large body of research, these problems include increased risk for ability deficits (Brooks-Gunn, Klebanov, & Duncan, 1996; Duncan, Brooks-Gunn, & Klebanov, 1994; Ramey & Campbell, 1991), relatively poor academic achievement and grade retention in primary and secondary school (F. A. Campbell & Ramey, 1994; Felner et al., 1995; Patterson, Kupersmidt, & Vaden, 1990; Pungello, Kupersmidt, Burchinal, & Patterson, 1996), school dropout (Cairns, Cairns, & Neckerman, 1989), problematic peer relationships and acceptance in childhood (Dodge, Pettit, & Bates, 1994; Kupersmidt, Burchinal, & Patterson, 1995), childhood conduct problems (Bolger, Patterson, Thompson, & Kupersmidt, 1995; Guerra, Huesmann, Tolan, Van Acker, & Eron, 1995), and delinquent and antisocial conduct in adolescence (cf. Dishion, French, & Patterson, 1995; Sampson & Laub, 1994). Only recently, however, have developmental researchers begun to develop differentiated views of specific factors associated with economic disadvantage that might relate to children's adjustment and development (Chase-Lansdale & Gordon, 1996; Coll et al., 1996; Huston, McLoyd, & Coll, 1994). One factor might be family instability.

In this longitudinal study, we examined the relations between family instability, child variables, and behavioral adjustment in preschool and in first grade for children from disadvantaged families. We conceptualized family instability as an aggregate of several kinds of events that challenge the daily continuity and

cohesiveness of family life for a child. We are concerned in particular with events that may occur repeatedly over the child's lifetime, which distinguishes our construct from a narrower focus on acute stressors and recent life events. Thus, family instability describes a chronically chaotic and unpredictable family environment. The indicators of family instability include residential mobility, the number of intimate adult relationships involving the primary caregiver, the number of families with whom the child has lived, serious childhood illness, and other recent negative life events (e.g., deaths of relatives, changing jobs, etc.). We represented family instability as an aggregate because some of the events could correlate, which would reduce the power to detect effects of individual variables, and because individual indicators alone often have little power to predict child outcomes (cf. Fergusson, Horwood, & Lynskey, 1994; Sameroff, Seifer, Baldwin, & Baldwin, 1993).

In this conceptualization, family instability is a critical aspect of the quality of the home environment (cf. Bradley et al., 1994; Garrett, Ng'andu, & Ferron, 1994), and a distinct context of development. We selected a relatively homogeneous sample of disadvantaged families to examine more closely variable aspects of family life that may affect children's adjustment. The kinds of events that contribute to family instability typically correlate with poverty, and the social diversity within poor families may be obscured when economic diversity is controlled in studies with more heterogeneous samples (cf. Coll et al., 1996). Some families within a disadvantaged population, for example, change residences many times in a child's early life, whereas others maintain a single residence. Some primary caregivers experience multiple intimate relations with adults other than a biological parent of the child, whereas others maintain a stable relationship with the child's biological parent. Children may live with one or more than one (e.g., foster care) primary caregiver.

These variables and others contribute to the diversity of environments experienced by children in economically disadvantaged families, which we represented as variations in family instability. The issues we addressed concerned the unique relation of instability to children's adjustment in the context of other family

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variables, child factors that moderate instability effects, and variations due to the persistence of family instability in a young child's life. Our general goal was to explore the relations between children's adjustment and a potentially important and neglected aspect of the ecology of disadvantaged families.

Unique Effects

Economic adversity is associated with family variables that related powerfully to child adjustment problems (cf. Conger, Patterson, & Ge, 1995; McLoyd, 1989; Miller, Cowan, Cowan, Hetherington, & Clingempeel, 1993; Sampson & Laub, 1994). The variables include marital conflict (cf. Conger et al., 1993), caregiver negative emotionality (Elder, Eccles, Ardel, & Lord, 1995; McLoyd, Jayaratne, Ceballo, & Borquez, 1994), and harsh and overreactive parenting (Conger, Ge, Elder, Lorenz, & Simons, 1994; Dishion et al., 1995; Dumas & Wekerle, 1995; Felner et al., 1995). These variables are cofactors of economic disadvantage and often mediate the relation between environmental adversity and child adjustment.

One important issue concerns the extent of the relation between family instability and child problem behaviors in the context of these family process variables. The results of several recent studies with disadvantaged families have shown that substantial portions of the variance in child problem behaviors are unexplained by caregiver emotionality and parenting processes (cf. Bolger et al., 1995; Dodge et al., 1994; Harnish, Dodge, & Valente, 1995). These findings suggest the possibility that other aspects of adverse family environments may have unique effects on child functioning that are important to describe and understand. Frequent residential moves, for instance, may disrupt friendships and relations with schools and teachers (cf. Eckenrode, Rowe, Laird, & Braithwaite, 1995), as well as parent-child relations (cf. Capaldi & Patterson, 1991; Sampson & Laub, 1994), and may combine with other events to create a general sense of a chaotic and uncertain environment for the child. Other stressful life events also may relate to child functioning independently of caregiver-child relations (S. B. Campbell, Pierce, Moore, Marakovitz, & Newby, 1996; DuBois, Felner, Meares, & Krier, 1994).

Similarly, recent studies have found that marital conflict affects child adjustment directly (cf. Davies & Cummings, 1994; Harold & Conger, 1997; Harold, Fincham, Osborne, & Conger, 1997; Osborne & Fincham, 1996) as well as indirectly through disrupted parent-child relations (Fincham, Grych, & Osborne, 1994; Zill, Morrison, & Coiro, 1993). These studies suggest that the conflict associated with multiple changes in intimate adult relationships also may have unique effects. In addition to the effects of witnessing adult conflict, frequent turnover in adult cohabitants who perform parenting functions may confuse a child about appropriate behavioral comportment, and stimulate feelings of loss and sadness. This evidence for specific indicators suggests that the family instability aggregate may be useful in understanding the unique influence of adverse environments on children's adjustment in disadvantaged families.

Child Moderators

Relations between family instability and child adjustment are unlikely to be the same for all children, and it is important to

determine whether and how child variables moderate the relation. Possible moderators concern characteristics that index variations in reactivity to environmental factors. Unpredictable and stressful environments disrupt the child's agenda and control of the proximal environment, and challenge developing emotion regulation (cf. Cummings & Davies, 1996) and coping processes (Levine & Wiener, 1989). We focused on temperamental adaptability, prior problems of behavior regulation, and gender.

Individual differences in temperamental adaptability (cf. Rothbart & Ahadi, 1994) index differences in stress reactivity (cf. Susman, Nottelmann, Dorn, Gold, & Chrousos, 1989) and may moderate the relation between stressful family environments and child adjustment. Adaptive children may show easy accommodation to an unstable and changing environment, whereas more inflexible children resist change and react unfavorably. Low adaptability, then, may increase children's sensitivity to family instability.

Another index of stress reactivity may be prior problems of behavior regulation, as shown in higher levels of problem behaviors. Cummings and his associates (cf. Cummings, Davies, & Simpson, 1994; Davies & Cummings, 1994; Klaczynski & Cummings, 1989) have found, for example, that more aggressive boys are more reactive than other boys to angry interpersonal interactions among adults. Similarly, Dodge, Lochman, Harnish, Bates, and Pettit (1997) argued that greater reactivity may underlie elevated levels of aggressive behaviors for some elementary school children. This evidence implies that young children who show early problems of behavior regulation may be most affected by subsequent unstable family environments.

Some evidence also suggests that in some circumstances young boys are more sensitive to the effects of adverse environments than young girls (Bolger et al., 1995; Hops, 1992, 1995; McFayden-Ketchum, Bates, Dodge, & Pettit, 1996; Patterson et al., 1990). The evidence is slim, however, and findings are inconsistent (cf. Webster-Stratton, 1996). Any sensitivity differences may be due to the greater stress reactivity of boys (cf. Cummings et al., 1994) or to the greater exposure to environmental risks (Fincham et al., 1994; Harold et al., 1997), like marital conflict.

Persistence of Instability

A third issue is whether the relations vary with the persistence of family instability in a young child's life. Experiences of environmental disadvantage are dynamic, as family members gain and lose employment over time (cf. Bolger et al., 1995; Duncan et al., 1994), and find and lose stable residences and relationships. Some evidence suggests that adverse experiences in a child's life accumulate (cf. Rutter, 1979; Sameroff, Seifer, & Bartko, 1997), and thus that persistent adversity may have greater effects on child adjustment than early or more recent periods of adversity. For example, Bolger et al. (1995) and Duncan et al. (1994) showed that children's adjustment varies with the persistence of economic disadvantage, and Hammen (1992) argued that chronically stressful environments impede the development of competent coping processes. From this perspective, children experiencing persistently high family instability in both preschool and first grade may show higher levels of first grade problem behaviors than children experiencing high family instability at only one point in time.

Other evidence, in contrast, supports the position that environmental adversity early in life may have a prepotent effect on the adjustment of first graders, or that child adjustment is uniquely sensitive to current adversity. Research by Egeland, Pianta, and O'Brien (1993) and others (Lyons-Ruth, Alpern, & Repacholi, 1993), for example, suggests that early emotional insecurity associated with frequent caregiver and residence changes could have an enduring impact on a child's emotional growth and behavioral adaptation in middle childhood. Stressful family events early in life may sensitize a child by lowering the threshold for subsequent experiences of emotional arousal and dysregulation (cf. Cicchetti & Tucker, 1994).

Alternatively, Feiring and Lewis (1996) argued that current contextual adversity has a prepotent effect on current child adjustment. Any undesirable effects of residence changes on friendship relations, for example, may require that the child be old enough to have stable friendships outside the local family circle. In support of this point, S. B. Campbell et al. (1996) showed that current conduct problems tend to vary with recent family stressors and current aspects of negative maternal control and marital functioning.

In sum, this longitudinal study explored the relation between family instability and child externalizing and internalizing behavior for children from disadvantaged families. First, we assessed the concurrent relations between family instability, family process variables, and caregiver and teacher reports about child behavior when the children were in preschool (Head Start) and first grade. The family variables included family conflict and cohesion, caregiver negative emotionality, and parental overreactivity. For the first-grade analysis, we controlled for preschool behavior. Second, we investigated child moderators by determining whether the first-grade relations differed for girls and boys and by examining the relations between first-grade instability and both temperamental adaptability and preschool problem behaviors in predicting children's behavior in first grade. Third, we examined the relation between persistent instability and first-grade children's problem behaviors.

Method

Participants

The preschool sample consisted of 169 children, including 86 girls, 131 African American children and 38 European American children, and their primary caregivers. The total sample represented the number of families recruited from Head Start centers for whom complete family, child, and teacher data were available. The mean age of the children at the preschool assessment was 60 months, with a range of 48 to 67 months. The primary caregiver usually was the biological mother (88%) or adult female relative (7%) of the child. The rest were biological fathers or foster parents.

The first-grade sample consisted of 151 caregivers and children and had characteristics similar to those at the preschool assessment. The mean child age was 84 months, with a range of 72 to 91 months. Attrition (9%) was due to families moving away or to our inability to schedule the caregiver for an interview. Neither the children nor the caregivers of the missing families differed in the preschool assessment from those who remained in the project in any way that we could detect.

Self-reports about economic status at the first-grade assessment showed that 435 of the families in the sample were on Aid to Families With Dependent Children (AFDC). In addition, 27% of the caregivers reported no earned family income, the total earned family income in another 30% of

the families was less than \$20,000, and about half of these families had earned incomes of less than \$10,000. The total earned family income in another 19% was between \$22,000 and \$30,000. Family income included the incomes of all adults living in the same house as the primary caregiver. Approximately 33% of the families had single adult caregivers.

Our income data were not complete enough (i.e., no information about AFDC income or supplemental security income) to compute the precise number of families below the poverty threshold, but the earned income estimates for families put most of the families in our sample close to or below the poverty threshold. The 1994 poverty threshold for a family of 3 children and 1 adult was \$15,081 (per capita = \$3,770) and was \$17,686 for a family of 3 children and 2 adults (per capita = \$3,483; cf. Hernandez, 1997). Our families averaged about 3 children ($M = 2.97$, $SD = 1.54$), and per capita earned income averaged \$3,251.

The preschool assessment and the first-grade assessment each took 2 years to complete, with about half of the sample participating in each year. The preschool assessment involved about 25% of the families enrolled in the eight Head Start centers in northern Delaware. Inclusion in the study was determined by caregiver willingness to participate. The same constraints held for the first-grade assessment. The children in this assessment were enrolled in 48 elementary schools, dispersed widely across northern Delaware.

Procedure

In the preschool assessment, caregiver interviews took place primarily in Head Start centers or other associated community centers from January through June. Each caregiver completed child and family questionnaires. Trained undergraduate research assistants helped the caregivers by reading the questionnaires out loud. Missing questionnaires for specific caregivers were completed by telephone interview. The first-grade assessments occurred primarily in the child's elementary school and were conducted in the same manner. All teacher reports were self-administered and were collected both through mail and through personal contact with a teacher. Caregivers and teachers were compensated for their participation in each assessment.

Family Measures

Preschool family instability. The measure of preschool family instability was a single index constructed from caregiver reports about life events involving family members during the child's lifetime prior to the preschool assessment (about 5 years on average). For the instability index, numbers reported in each of the categories below were z -scored and aggregated to form one index of instability. The index reflects five kinds of events: (a) the number of residences of the primary caregiver and child ($M = 2.28$, $SD = 1.71$); (b) the number of intimate adult relationships involving the caregiver ($M = 2.52$, $SD = 0.86$); (c) the number of families with whom the child has lived (i.e., including the current caregiver and any other primary caregiver in a residence separate from the current caregiver's residence, as in foster or grandparent custody; $M = 1.26$, $SD = 0.82$); (d) significant illnesses in the child's history that index a lasting problem, including asthma, operations, heart anomalies, and so on, but excluding perinatal problems and episodic childhood diseases like measles ($M = 0.63$, $SD = 1.01$); and (e) negative life events in the past 6 months excluding the above events ($M = 1.46$, $SD = 1.80$). Significant and lasting child illness was included as an indicator because of its disruptive and destabilizing effect on family functioning. Similarly, living with different primary caregivers reflects extreme family instability for the child. Information about the first four kinds of events was culled from a family history measure completed by the caregiver. The information about recent negative life events came from a modified version of the Life Events Survey (Sarason, Johnson, & Siegel, 1978). This survey consists of a 33-item checklist about events that may have happened to the caregiver within the

past 6 months. The negative life events predominately concerned the death or serious illness of relatives and close friends (30%) and job and income loss (35%). Less frequent events included personal injury (5%), time in jail and court (8%), and separation from a relative (6%). All of these events seem destabilizing.

First-grade family instability. The index of first-grade family instability was based on caregiver reports about significant life events in the time period between the preschool and first-grade assessments (about 2 years). The index reflects three kinds of events: (a) the number of residences of the primary caregiver ($M = 1.72$, $SD = 1.22$), (b) the number of intimate adult relationships involving the caregiver ($M = 1.50$, $SD = 1.18$), and (c) negative life events in the past 6 months, not involving residence or relationship changes (taken from the Life Events Survey; $M = 1.44$, $SD = 1.87$). Again, the negative life events primarily concerned death and illness of relatives and friends (31%) and job or income loss (38%). The information obtained for each of the first two categories came from an expanded family history questionnaire given at the first-grade assessment. The significant illness category from the preschool index was not applied because few illnesses were reported other than episodic childhood diseases like measles. Similarly, the category referring to alternative families for the child was not applied because only one child lived with another family. As with the preschool index, the reports were z-scored and summed to create one aggregate index.

In the first-grade assessment, the caregivers also reported residence and relationship changes that occurred prior to the preschool assessment (i.e., during the first 5 years of the child's life). This preschool information was then checked against information given independently at the preschool assessment to evaluate report accuracy. Only four of the first-grade family histories contained any discrepancies with the preschool reports. The discrepancies exclusively concerned number of residences. The discrepancies were resolved in favor of the preschool reports.

Our logic of aggregation was based on theoretical relations between the indicators and the instability constructs, rather than empirical relations. For each index, the correlations among the indicators were weak. For the preschool index only 2 of 10 correlations were significant, the mean intercorrelation was .13, and the range was .04 to .26. For the first-grade index, the mean intercorrelation was .07, and the range was .03 to .10. The indicators did correlate significantly over time, however, in that the correlations between the preschool and first-grade scores were .32, .37, and .39 ($ps < .01$) for residences, relationships, and negative life events, respectively.

Caregiver negative emotionality. The Differential Emotions Scale (DES; Izard, Libero, Putnam, & Haynes, 1993) measured caregiver negative emotionality at both the preschool and first-grade assessments. The DES consists of 12 three-item scales. Nine scales assess negative emotions, including sadness, fear, anger, disgust, contempt, shame, guilt, shyness, and inner-directed hostility. Individuals estimate the prevalence of each emotion in their daily lives by rating each item on a 5-point frequency scale, ranging from 1 (*rarely or never*) to 5 (*very often*). The average 2-month test-retest reliability coefficient for the nine negative affect scales was .68 in Izard et al. (1993). We aggregated the negative affect scales to form one composite. The correlation for the composite at the two assessments was .60 ($p < .001$). In addition, selected aggregates of the negative emotions also correlated significantly with measures assessing overlapping aspects of emotionality. For example, scores for the anxious-depressed aggregate correlated with scores on the Beck Depression Inventory (Beck & Steer, 1987; $r = .59$, $p < .000$).

Family interaction. The two indicators of family interactions at both assessments were the Cohesion and Conflict subscales on the Family Environment Scale (Moos & Moos, 1994) completed by caregivers. Each subscale consists of nine items scored *true* (1) or *false* (0). The Cohesion subscale represents the degree of commitment, help, and support family members provide for one another and has an internal consistency of .78 and a 2-month test-retest reliability of .86. The Conflict subscale represents the

amount of openly expressed anger and conflict among family members and has an internal consistency of .75 and a test-retest reliability of .85.

Parenting. Caregivers completed an adapted form of the parenting questionnaire of Arnold, O'Leary, Wolff, and Acker (1993). The questionnaire has scales describing overreactivity, laxness, and verbosity. Each item on the questionnaire asks the caregiver to estimate the percentage of times the caregiver uses certain parenting techniques when interacting with the target child. We used the overreactivity scale at the first-grade assessment, which consists of 10 items. Examples of the items include estimates of the frequency of hitting the child, yelling at the child, calling the child names, and swearing at the child. The full scale was not available at the preschool assessment. Arnold et al. reported Cronbach's alpha of .83 for this scale, with test-retest reliability of .83. They also reported that the scale distinguishes parents seeking help with child management versus control parents and that the scale correlates significantly with child externalizing reported by caregivers and independent observers.

Child Measures

Temperament. The temperament measure was the Behavioral Style Questionnaire (BSQ; McDevitt & Carey, 1978) completed by caregivers. The BSQ was given at both assessments. The BSQ is a widely used measure of child temperament, is composed of nine subscales, and has a test-retest reliability of .89. We used the Adaptability subscale.

Child behavior. Ratings on the Externalizing Composite and Internalizing Composite on the age 4-18 form of the Child Behavior Checklist (CBCL; Achenbach, 1991) provided caregiver measures of child behavior at both assessments. For the first-grade assessment, the Externalizing and Internalizing Composites from the teacher's report form of the CBCL (Achenbach, 1991) provided measures of child behavior by independent observers. At the preschool assessment, the teachers completed the preschool form of the CBCL, and we used the total problem score as the index of child behavior. This form does not have Externalizing and Internalizing Composites. Achenbach (1991) reported excellent test-retest reliability on both forms for both kinds of informants. The bibliography of Brown and Achenbach (1993) includes more than 1,000 studies that have used the measure.

Results

This section has three parts. The first part explores the concurrent relations among family instability, the family process and caregiver emotionality variables, and child behavior. Time of assessment and adult informant organize the report. The second part explores child moderator variables, focusing on temperamental adaptability and preschool behavior. The third part explores persistent instability.

Concurrent Instability

Preschool. Table 1 shows means, standard deviations, and correlations among the continuous variables. Hierarchical regressions examined the relations among the variables for the caregiver reports of child externalizing behavior and child internalizing behavior and for teacher total problem scores. The independent variables were preschool instability, family conflict and cohesion, caregiver negative emotionality, ethnicity, and gender. These terms were entered simultaneously, as our goal was to determine the unique effects for instability. Terms for the Ethnicity \times Instability interaction and the Gender \times Instability interaction were entered as a second block. The purpose of the interaction terms was to determine if the effects of instability varied with sample characteristics.

Table 1
Means, Standard Deviations, and Correlations of Predictor and Criterion Variables
at the Preschool Assessment

Variable	M	SD	1	2	3	4	5	6	7
1. Instability ^a	0.0	1.0	—						
2. Conflict	3.1	2.0	.20**	—					
3. Cohesion	7.5	1.7	-.06	-.52**	—				
4. Negative emotionality	53.5	16.0	.27**	.41**	-.41**	—			
5. Externalizing-C	15.8	8.9	.38**	.41**	-.25**	.38**	—		
6. Internalizing-C	7.5	5.7	.28**	.33**	-.18*	.37**	.57**	—	
7. Total problems-T	22.1	24.3	.24**	.16*	-.01	.10	.15	.02	—

Note. C = caregiver ratings; T = teacher ratings.

^a Preschool instability represents an aggregate of z-scored indicators.

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

Table 2 shows the unique effects of the independent variables prior to entry of the interaction terms, and the interaction effects. Except where noted, all of the beta coefficients in the text and tables are standardized. The model was significant in predicting caregiver reports about externalizing behavior, $F(8, 162) = 8.63$, $R^2 = .28$, $p < .001$, as were the unique effects of preschool instability and family conflict. The model also was significant for child internalizing behavior, $F(8, 162) = 7.15$, $R^2 = .26$, $p < .001$, as were the unique effects for family conflict and caregiver negative emotionality. The unique effect for preschool instability, however, was not significant. Finally, the model was not significant for teacher reports of total problem behaviors, $F(8, 121) = 1.63$, $R^2 = .10$, $p = .12$. However, the unique effect associated with preschool instability was significant ($R^2 = .04$, $p = .02$).

First grade. Table 3 shows the correlations among the continuous variables, including parent overreactivity. The hierarchical regressions were similar to those used for the preschool data, except that each analysis included the appropriate preschool behavior report and parent overreactivity in the first block of variables. The goal was to determine if first-grade instability (i.e., in the last 2 years) accounts for variance in current behavior reports beyond that associated with prior reports. Caregiver reports at the preschool assessment correlated significantly with the first-grade

reports for both child externalizing behavior ($r = .70$) and child internalizing behavior ($r = .61$).

Table 4 shows the unique effects of the independent variables prior to entry of the interaction terms, and the interaction effects. The model was significant in predicting caregiver reports about child externalizing behavior, $F(10, 140) = 18.82$, $R^2 = .57$, $p < .001$, as was the unique effect for overreactivity. The unique effect for preschool instability was not significant. Preschool behavior accounted uniquely for a substantial portion of the variance in the first-grade reports ($R^2 = .26$). Except for ethnicity and gender, the independent variables showed substantial collinearity.

The effect for instability was more substantial for caregiver reports about child internalizing behavior. The model was significant, $F(10, 140) = 15.81$, $R^2 = .53$, $p < .001$, as were the unique effects for first-grade instability, conflict, overreactivity, and preschool behavior. What is unique in this analysis, however, is the interaction of gender and first-grade instability. To interpret the interaction, we conducted separate analyses for girls and boys. For the girls, first-grade instability did not account for significant variance in child internalizing behavior ($R^2 = .02$, $p = .10$). In contrast, first-grade instability accounted for significant variance in internalizing behavior for the boys, $\beta = 0.37$, $t(74) = 4.28$, $R^2 = .11$, $p < .001$.

Table 2
Summary of Unique Effects in Regressions Predicting Caregiver and Teacher Reports
at the Preschool Assessment

Variable	Caregiver externalizing		Caregiver internalizing		Teacher total problems	
	β	R^2	β	R^2	β	R^2
Instability	.27	.07**	.13	.02	.23	.04*
Conflict	.27	.05**	.24	.04**	.07	.00
Cohesion	-.03	.00	.04	.00	.11	.01
Negative emotionality	.14	.01	.24	.04**	.09	.01
Ethnicity	.03	.00	-.22	.01	-.08	.01
Gender	.09	.01	-.17	.00	-.09	.01
Interaction						
Instability \times Ethnicity	-.04	.00	-.22	.01	-.23	.01
Instability \times Gender	.20	.00	-.17	.00	-.42	.01

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

Table 3
Means, Standard Deviations, and Correlations of Predictor and Criterion Variables at the First-Grade Assessment

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Instability ^a	0.0	1.0	—								
2. Conflict	3.2	2.0	.18*	—							
3. Cohesion	7.0	2.2	-.05	-.64**	—						
4. Emotionality	58.4	16.4	.17*	.25**	-.18*	—					
5. Overreactivity	327.7	114.6	.08	.27**	-.19*	.44**	—				
6. Externalizing-C	15.3	8.2	.24**	.24**	-.07	.24**	.46**	—			
7. Internalizing-C	8.5	6.2	.34**	.32**	-.09	.37**	.37**	.48**	—		
8. Externalizing-T	12.1	12.7	.07	.01	-.02	.13	.00	.28**	.02	—	
9. Internalizing-T	7.6	7.0	.26**	.09	-.15	.15	.05	.11	.15	.33**	—

Note. C = caregiver ratings; T = teacher ratings.
^a First-grade instability represents an aggregate of z-scored indicators.
 * $p < .05$. ** $p < .01$.

The right columns of Table 4 show the results for the teacher reports about child internalizing behavior. The model was significant, $F(10, 96) = 2.87, R^2 = .23, p = .004$. First-grade instability accounted for significant unique variance, as did preschool behavior and family cohesion. To save space, we did not include the results for the teacher reports of first-grade externalizing behavior in the table. Though the model was significant, $F(10, 96) = 2.63, R^2 = .22, p = .007$, the unique effect for first-grade instability was not significant.

Child Moderators

These analyses examined the moderating effects of child variables on the relation between first-grade instability and child internalizing behavior at the first-grade assessment. Only first-grade internalizing behavior related uniquely to first-grade instability in the concurrent analyses. In each analysis, we regressed first-grade internalizing behavior (caregiver or teacher report) on first-grade instability, the child variable, and the interaction term. A significant interaction term indicated a moderator effect. The child variables were preschool temperamental adaptability (i.e., caregiver ratings) and preschool behavior (i.e., caregiver ratings of

child externalizing and internalizing behavior and teacher total problem scores). We used preschool variables because the logic required that the child moderator variable precede subsequent instability. We found nothing for preschool internalizing ratings, and we omitted descriptions of the analysis.

For temperamental adaptability, the interaction term was not significant for the analysis of teacher reports of child internalizing behavior. For the caregiver report of child internalizing behavior, however, the Family Instability \times Adaptability interaction was significant, $\beta = 0.87, t(149) = 2.51, R^2 = .03, p = .01$. We interpreted the interaction in the manner recommended by Jaccard, Turrissi, and Wan (1990) by computing conditional unstandardized beta coefficients for instability at low ($-1 SD$), medium (the mean), and high ($1 SD$) values of adaptability. Because of the reverse coding of adaptability, a high score indicates poor adaptability. The coefficients increased with level of adaptability (β s = 0.27, 0.93, and 1.58), indicating that family instability was an especially robust predictor of internalizing behavior for children exhibiting low temperamental adaptability. Using the t test described by Jaccard et al., we found that each of the values was significant at $p < .01, ts(149) = 2.63, 4.35, \text{ and } 3.33$, respectively.

Table 4
Summary of Unique Effects in Regressions Predicting Caregiver and Teacher Reports at the First-Grade Assessment

Variable	Caregiver externalizing		Caregiver internalizing		Teacher internalizing	
	β	R^2	β	R^2	β	R^2
Preschool behavior	.60	.26**	.43	.14**	.21	.04*
Instability	.10	.01	.13	.02*	.25	.05*
Conflict	.00	.00	.22	.03**	-.04	.00
Cohesion	-.02	.00	.11	.01	-.31	.05*
Emotionality	-.06	.00	.12	.01	.07	.00
Overreactivity	.25	.04**	.16	.02*	-.03	.00
Ethnicity	.06	.00	.00	.00	-.14	.02
Gender	-.02	.00	.01	.00	.16	.03
Interaction						
Preschool Behavior \times Ethnicity	-.02	.00	.05	.00	.14	.00
Preschool Behavior \times Gender	.09	.00	.80	.05**	.23	.00

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

Concerning preschool externalizing behavior, the Family Instability \times Externalizing Behavior interaction significantly predicted caregiver reports of first-grade child internalizing behavior, $\beta = 0.57$, $t(150) = 2.76$, $R^2 = .04$, $p = .007$. Interpretation showed that the conditional unstandardized beta coefficients for family instability increased (0.10, 0.66, 1.21) with low, medium, and high values of preschool externalizing behavior. All of the coefficients were significant at $p < .01$, $t_s(150) = 2.73, 4.10, \text{ and } 3.83$, respectively.

Similarly, the interaction of family instability and preschool total problem scores significantly predicted first-grade teacher reports of child internalizing behavior, $\beta = 0.70$, $t(108) = 3.91$, $R^2 = .06$, $p = .03$. In summary, the relation between first-grade instability and first-grade internalizing behavior was the strongest for the children exhibiting more total problems in preschool.

Persistence

We examined effects associated with persistent instability by identifying children whose family instability scores variously were 0.5 *SD* above and below the mean in preschool and first grade. The persistent high instability group ($n = 18$) had scores 0.5 *SD* above the mean on both occasions. The preschool instability group ($n = 13$) had scores 0.5 *SD* above in preschool and 0.5 *SD* below in first grade. The first-grade instability group ($n = 15$) had scores 0.5 *SD* below in preschool and 0.5 *SD* above in first grade. The low instability group ($n = 33$) had scores 0.5 *SD* below the mean on both occasions. The criterion of 0.5 *SD* above and below the mean was selected because of power considerations: The criterion allowed a reasonable cell size for each group. We examined group differences for the first-grade assessment for the caregiver and teacher reports about child internalizing behavior by means of one-way analyses of variance. For the teacher reports, the main effect was significant, $F(3, 75) = 5.74$, $p < .001$, and Tukey *B* tests showed that the scores for the persistent group ($M = 12.72$) exceeded the scores for the other three groups ($M = 8.87$ for the first grade group, 4.92 for the preschool group, and 6.36 for the low instability group). The first-grade instability group and preschool instability group also differed significantly. For the caregiver reports, the main effect also was significant, $F(3, 75) = 6.97$, $p < .001$. Tukey *B* tests showed that the internalizing scores for the persistent group ($M = 14.22$) exceeded the scores for the other three groups ($M_s = 9.06$ for the first-grade group, 8.79 for the preschool group, and 6.45 for the low instability group), which did not differ significantly.

An alternative explanation for the effect for persistent instability is that the instability index was higher for this group at each assessment. Thus, the effect could reflect extreme rather than persistent instability. As shown by *t* tests, however, the instability index was similar for the two groups of children with high preschool instability (mean *z* score = 1.59 for the persistent group and 1.45 for the preschool group), and the instability index also was similar for the two groups with high first-grade instability (mean *z* score = 1.31 for the persistent group and 1.21 for the first-grade group).

Discussion

The relation between economic disadvantage and children's academic and social problems is well-established (cf. F. A. Campbell & Ramey, 1994; Dodge et al., 1994; Pungello et al., 1996).

Researchers have not paid sufficient attention, however, to the diversity among disadvantaged families (cf. Coll et al., 1996) or to isolating specific factors within disadvantaged samples that pose risks for children's adjustment. This longitudinal study focused on family instability as one possible factor. The results support conclusions about the unique relation between family instability and child adjustment, about differences in sensitivity to instability for girls and boys, about the moderating effects of children's temperamental adaptability and early problems of behavior regulation, and about the effects of persistent instability.

Unique Instability Effect

Recent research has provided evidence for the powerful relation between proximal family variables and child adjustment for economically disadvantaged families (cf. Conger et al., 1995; McLoyd, 1989; Miller et al., 1993). These family variables critically include marital conflict, caregiver negative emotionality, and harsh parenting. Our findings provide evidence for the unique relation between family instability and child adjustment in the context of family variables. At the preschool assessment, for example, the instability measure accounted for significant unique variance in caregiver reports of child externalizing behavior and in teacher total problem scores. At the first-grade assessment, instability accounted for significant unique variance in caregiver and teacher reports of child internalizing behavior. These first-grade results occurred even after accounting for the variance associated with preschool behavior, so the effects are not due simply to continuity of behavioral problems.

These unique effects suggest the importance of examining the diversity within a relatively homogeneous sample of economically disadvantaged families (cf. Coll et al., 1996). The instability construct may be useful in beginning to build a theory of developmental context for disadvantaged families (cf. Jensen & Hoagwood, 1997; Sroufe, 1997). Most studies examining the relation between environmental adversity and child adaptation focus on the mediational effects of proximal family processes. Our results suggest the importance of conceptualizing other variables associated with these processes, like family instability. Families within the present sample, for instance, changed residences an average of about three times within the first 6 years of the target child's life, with about 22% of the families moving five or more times. Caregivers also reported a mean of about three intimate adult relationships in the same time span, with about 11% of the caregivers reporting five or more partners. High instability in these aspects of family ecology must have some impact on a child, and this impact may be relatively independent of both proximal family variables and economic resources for a disadvantaged sample. As evidence for the last point, neither preschool nor first-grade instability correlated significantly with total family earned income for our sample ($r_s = -.09$ and $-.12$, respectively).

The mechanism of the unique relation to children's adjustment is unclear. The findings accord with other findings of unique effects associated with recent stressful life events (cf. S. B. Campbell et al., 1996) and neighborhood variables (cf. Chase-Lansdale & Gordon, 1996) and with specific factors involved in the present instability indexes, like residential moves (cf. Capaldi & Patterson, 1991; Sampson & Laub, 1994) and instability of intimate caregiver relationships (cf. Davies & Cummings, 1994; Harold et al., 1997).

These studies suggest that family instability may challenge the child's sense of emotional security in the family (Davies & Cummings, 1994) and sense of control over the proximal environment. Chaotic and unpredictable family environments may compromise the child's developing ability to regulate arousal and emotionality (cf. Cummings & Davies, 1996; Levine & Wiener, 1989).

What is puzzling about our findings is that the associations of current instability with child behavior primarily concerned preschool externalizing behavior but first-grade internalizing behavior. It is not clear whether the differing relations over time reflect some common underlying problem of emotion and behavior regulation expressed in multiple ways over time (cf. Cicchetti & Rogosch, 1996), some developing pathway from externalizing to internalizing problems, some newly emerging internalizing problems in response to first-grade instability, measurement error, or some combination of all four factors. The recent findings by Egeland, Pianta, and Ogawa (1996) and others (Ge, Best, Conger, & Simons, 1996; Leadbeater, Blatt, & Quinlan, 1995; Robins & Price, 1991) of a lack of developmental specificity in problem behavior in older children suggest that child distress generally may be expressed in variable ways over time (cf. Sroufe, 1997), in which case our finding of a shift from externalizing to internalizing may reflect the contextualized demands associated with the transition to first grade.

This idea implies an underlying continuity in distress over time and the presence of some common underlying problem. Evidence for this position is the interaction of preschool externalizing behavior (and total problem scores for the teachers) and first-grade instability in predicting first-grade internalizing. This finding suggests that many of the children who were high externalizers at the preschool assessment were high internalizers in first grade. However, we also found effects for first-grade instability after controlling for preschool behavior. This finding suggests discontinuity in children's novel responses to first-grade instability.

Our findings are limited in several ways. One potential problem concerns the adequacy of our measures of family process (i.e., conflict, cohesion, and overreactivity) and caregiver emotionality. Perhaps we found evidence for the unique effects of instability, for example, because we tapped relatively weak process variables. We chose our family measures, however, because of their theoretical relation to key instability indicators (e.g., residence changes and caregiver relationships) and their empirical associations with problematic child behavior in many studies (cf. Dodge et al., 1994; Felner et al., 1995; Harnish et al., 1995). Thus, our findings of unique effects suggest the existence of family sources of influence on child adjustment that do not reduce to the demonstrated influence of process variables.

Another problem is the selective nature of the indicators constituting the instability construct. Why did we choose residence changes and the number of intimate adult relationships, for example, and what factors have we missed? We chose the particular indicators because they seemed to contribute centrally to chaotic and unpredictable family environments that children might experience over time and because they are memorable for the caregivers and could be quantified easily. Other variables often included in family adversity indexes (i.e., such as years of maternal education, number of children, single-parent family) may degrade family functioning but are not necessarily disruptive of family life for the child. We also ended up eliminating two preschool indicators

(serious child illnesses and families lived with) from the first-grade index because these experiences were rare at the first-grade assessment. The differences in the indexes reduce their comparability and suggest that the nature of family instability for a child may change with age.

Finally, it is important to note that the unique effects we reported are correlational, not causal. To the extent that caregivers select and create family environments, our instability effects may reflect unmeasured caregiver variables. Similarly, the relations could reflect child variables to some extent. It is not impossible to imagine, for instance, that a noncompliant and oppositional child could have an influence on both residential and relationship instability, as well as changes in jobs and other happenings that represent current life events.

Child Moderators

Do child variables in preschool moderate the effects of subsequent exposure to family instability? The issue is motivated by findings that boys in middle childhood seem more sensitive to environmental adversity than girls in some circumstances and for some measures (cf. McFayden-Ketchum et al., 1996), that some aspects of temperament accentuate children's reactivity to environmental stressors (Rothbart & Ahadi, 1994), and that early problems may index greater sensitivity to environmental adversity. This last idea suggests that children who already show early adjustment problems will be most sensitive to current stressors as measured by current behavior.

The findings for gender were mixed but provide some evidence that boys are more sensitive than girls to current family instability. Only the boys showed a concurrent relation, for example, between first-grade instability and caregiver reports about child internalizing behavior. One possible explanation is that boys generally are more stress-reactive than girls in middle childhood (cf. Cummings et al., 1994). Alternatively, it is possible that the boys were exposed more to the family conflict inherent in multiple relationship changes involving the caregiver (cf. Harold et al., 1997) or that the boys were more connected than the girls to the other adults (i.e., men) in these relationships.

The finding for temperament was that preschool adaptability moderated the effects of first-grade family instability in predicting caregiver reports about child internalizing behavior at the first-grade assessment. In particular, the relation between first-grade instability and child internalizing behavior was stronger for less adaptable children than for more adaptable children. Thus, more flexible children apparently found it possible to accommodate to an uncertain and chaotic environment, whereas less flexible children responded to the environment with behaviors suggesting anxiety and withdrawal. The finding suggests that children are not equally sensitive to the effects of family instability and that stress reactivity plays some role in children's ability to cope with a chaotic environment.

Finally, the results showed an interaction of preschool externalizing behavior with first-grade instability in predicting caregiver reports about child internalizing behavior and an interaction of preschool teachers' total problem scores and first-grade instability in predicting the first-grade teachers' reports of child internalizing behavior. These interactions showed that the relations between first-grade instability and child internalizing behavior was stron-

gest for children with higher problem behavior scores in preschool. Consistent with the research of Cummings et al. (1994), Klaczynski and Cummings (1989), and others, a possible interpretation is that these preschool problem behaviors index regulatory difficulties that sensitize children to later environmental stressors.

Persistence

This issue is motivated by the recent findings by Bolger et al. (1995) and others (Duncan et al., 1994) that persistent economic adversity has stronger effects than intermittent adversity on child adjustment. Our evidence was robust for the effects of persistent instability on internalizing behavior, whether reported by the caregiver or the teacher. Specifically, the internalizing scores were significantly higher for the persistent high instability group of children than for the other three groups of children characterized by high preschool instability, high first-grade instability, or low instability. The findings suggest both that children can rebound from effects associated with early instability and that cumulative environmental adversity has effects beyond those associated with recent adversity. In accord with Sroufe's (1997) perspective, the findings suggest that adjustment problems may not reside in the child per se but in the child's continuing adjustments to adverse environmental circumstances over time. It is important to qualify these claims, however, by noting that the analysis did not include children with middling instability scores (i.e., over half of the sample).

In sum, the results suggest that family instability may be an important variable in the social ecology of economically disadvantaged families for understanding children's adjustment difficulties at ages 5 and 7 at home and in school. Family instability current with behavior has unique effects on adjustment, and the influence of persistent instability is especially powerful. Any effects may be expressed differently for different aged children (i.e., externalizing for preschoolers, internalizing for first graders), and children who show low temperamental adaptability or high externalizing behavior at age 5 are most likely to show high internalizing scores at age 7 in the context of high family instability.

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