Interparental Discord and Child Adjustment: Prospective Investigations of Emotional Security as an Explanatory Mechanism

E. Mark Cummings and Alice C. Schermerhorn
University of Notre Dame

Patrick T. Davies
University of Rochester

Marcie C. Goeke-Morey and Jennifer S. Cummings
University of Notre Dame

Advancing the process-oriented study of links between interparental discord and child adjustment, 2 multi-method prospective tests of emotional security as an explanatory mechanism are reported. On the basis of community samples, with waves spaced 2 years apart, Study 1 (113 boys and 113 girls, ages 9–18) identified emotional security as a mediator in a 2-wave test, whereas Study 2 (105 boys and 127 girls, ages 5–7) indicated emotional security as an intervening mechanism in a 3-wave test. Relations between discord and emotional security increased as children moved into adolescence in Study 1. Emotional security was identified as an explanatory mechanism for both internalizing and externalizing problems in children.

A first generation of research has established relations between interparental discord and children's adjustment problems, including links between marital discord and child maladjustment measured several years apart (e.g., Davies & Cummings, in press; Grych & Fincham, 1990; Ingoldsby, Shaw, Owens, & Winslow, 1999; Neighbors, Forehand, & Bau, 1997). In recent years a second generation of research has focused on identifying the mechanisms or processes that explain these effects on children because of exposure to interparental discord (Cummings & Davies, 2002). Several conceptual models have been proposed to explain maladjustment in children, with common agreement that emotional, cognitive, and behavioral processes are potential mediators, and that negative forms of marital conflict (i.e., interparental hostility, see Goeke-Morey, Cummings, Harold, & Shelton, 2003) are predictive of maladjustment (Crockenberg & Langrock, 2001; Davies & Cummings, 1994; Emery, 1989; Grych & Fincham, 1990).

A next step is longitudinally testing theoretical models for relations between interparental discord, explanatory mechanisms, and child maladjustment. Most of the process-oriented studies characterizing second-generation research have used cross-sectional designs exploring concurrent relations among variables (for exceptions, see Grych, Harold, & Miles, 2003; Harold & Conger, 1997; Harold, Fincham, Osborne, & Conger, 1997). Initial cross-sectional tests of explanatory models have been promising with regard to identifying key processes accounting for relations between interparental discord and child adjustment (e.g., Grych, Fincham, Jouriles, & McDonald, 2000). Longitudinal research is essential to further advance the cogency of theoretical models about mediational pathways, including testing relations between variables pertinent to inferences about cause and effect relations (Fincham & Grych, 2001). For example, in a two-wave longitudinal design, Grych et al. (2003) reported relations between interparental conflict, children's appraisals of threat and self-blame, and child adjustment.

A mediational pathway receiving considerable support is drawn from emotional security theory (EST; Davies & Cummings, 1994). For years theorists speculated that children's emotional security in the context of the family derived from the quality of marital as well as parent–child relationships (Blatz, 1966; Byng-Hall, 1995; Cummings, Zahn-Waxler, & Radke-Yarrow, 1981; Marvin & Stewart, 1990). For example, Bowlby (1949) pointed out the need to

consider family in understanding children's security and distress. On the basis of this foundation, EST was advanced as a family-wide model of emotional security as a regulatory process, including emotional security about marital relations (Cummings & Davies, 1996). Emotional security is an appraisal that family bonds are positive and stable, even in the face of everyday stressors (e.g., marital conflict), and that family members can be expected to remain responsive and emotionally available for the child, even in times of stress. Consistent with a functionalist perspective on emotions, appraisal processes may include emotional as well as cognitive processes.

As in attachment theory, protection, safety, and security are held to be among the most salient goals in the hierarchy of human goals (Bowlby, 1973; Waters & Cummings, 2000). Another similarity is that EST is a developmental theory that assumes the child's emotional security can be enhanced or undermined by the quality of family relations (Bowlby, 1973; Cummings, Davies, & Campbell, 2000). A divergence (e.g., Ainsworth, Blehar, Waters, & Wall, 1978) is that multiple family influences on emotional security *in addition* to parent–child attachment are posited (Cummings & Davies, 1996; for a discussion of additional influences, see Waters & Cummings, 2000). For example, Davies, Harold, Goeke-Morey, and Cummings (2002) showed that security in the context of marital conflict and attachment, respectively, independently influenced child adjustment.

EST posits that preserving a sense of security in the face of marital conflict is a critical *goal* that organizes a child's responding. Drawing from core notions of attachment theory (Bowlby, 1969), EST posits a *control system model* in which preserving emotional security is a *set-goal* that influences children's reactions to marital conflict. That is, children evaluate marital conflict in terms of the set-goal of emotional security, with the emotional security behavioral system activated if that set-goal is threatened. Sroufe and Waters (1977) introduced *felt-security* as a set-goal for the *attachment behavioral system*. Although an important and influential contribution, this approach has been criticized because insecurity may also occur in nonconscious processes that may not be reported as "felt" (Ainsworth, 1990; Kobak & Sceery, 1988). EST importantly extends Sroufe and Waters' (1977) concept to include more than self-reported feelings as regulatory processes (e.g., behavioral or physiological reactions; Cummings & Davies, 1996; Davies, Cicchetti, Sturge-Apple, & Cummings, 2005). In summary, EST posits that children appraise marital conflict in terms of its implications for children's sense of emotional

security, and are motivated to respond accordingly (e.g., negative emotional reactivity; mediation in marital disputes) if the desired level of security about marital conflict (i.e., the set-goal) is violated.

To give a concrete example, if children observed aggression by one parent toward the other, responses of negative emotional reactivity and overinvolvement in the marital dispute would be among the responses expected by the children. These responses reflect the children's emotional insecurity regarding the interparental relationship (see Cummings, Goeke-Morey, & Papp, 2003). The responses also function as a regulatory response system toward regaining the set-goal of emotional security about the interparental relationship. Applying secure base and control systems concepts to the family context, it follows that a child's emotional security about marital conflict can be assessed by the organization of regulatory processes occurring in the context of interparental conflict that serve the goal of preserving the child's emotional security (Cummings & Davies, 1996; Davies, Harold et al., 2002).

The emotional security response system thus regulates, organizes, and motivates a child's responses to interparental discord, including emotional experiences (e.g., negative emotional reactivity) and behavioral action tendencies (e.g., involvement; behavioral dysregulation) (e.g., Cummings, Goeke-Morey, & Papp, 2004). These responses have been identified as especially pertinent to the control system concerned with regaining or preserving emotional security (e.g., Davies & Cummings, 1994; Davies, Harold et al., 2002). Notably, some degree of interdependency is expected among these response systems, as they serve the same goal of preserving security, but each is also assumed to represent distinct aspects of the emotional security system (Davies, Harold et al., 2002). Children's heightened emotional and behavioral dysregulation, and elevated involvement, in response to marital conflict therefore provide theory-based assessments of children's underlying emotional insecurity about marital conflict (see Davies, Forman, Rasi, & Stevens, 2002). Moving beyond simply an emphasis on single response domains, emotional security is conceptualized as a higher order system that can be understood from an organizational perspective on the functioning of the regulatory systems serving the goal of maintaining or regaining emotional security (Davies, Cummings, & Winter, 2004; Davies & Forman, 2002). Thus, similar to attachment security (Ainsworth et al., 1978; Cicchetti & Cohen, 1995; Sroufe & Waters, 1977), emotional security in the context of marital conflict is an *organizational construct*, with children's underly-

ing sense of emotional security about marital conflict served, and indicated, by a relatively broad class of interrelated responses.

These responses may be adaptive in the short term. For example, they elevate vigilance in the threatening context of destructive conflict. At the same time, emotional insecurity may increase children's risk for adjustment problems in the long term (Cicchetti, Cummings, Greenberg, & Marvin, 1990; Thompson, 2000; Waters, Weinfeld, & Hamilton, 2000), fostering the development of psychopathology (see Cassidy & Shaver, 1999; Cummings & Cicchetti, 1990). With regard to emotional insecurity about marital conflict, *vigilance, fear*, and *preoccupation* with adult problems may increase risk for more pervasive internalizing problems. Parental conflict may promote negative *expectations or representations* of the aftermath of conflict, serving as a (maladaptive) guide for interpreting other challenging contexts (e.g., peer conflicts). Insecurity may heighten tendencies for maladaptive responding in new settings, including being *less flexible, open*, and *skilled* in forming and maintaining social relationships (Davies, Harold et al., 2002). The energy required to regain emotional security in the face of interparental conflicts may *limit the psychological and physical resources* needed to pursue significant developmental goals (Cummings & Cummings, 1988; Davies, Harold et al., 2002). Children may be *sensitized to interpersonal stress* because of continual challenges to security, resulting in persistent emotional or behavioral dysregulation, or negative views of the self and others (Cummings & Davies, 1994).

A useful analogy is to think about emotional security as a bridge between the child and the world. When the marital relationship is functioning well, it serves as a secure base, a structurally sound bridge, supporting the child's exploration and relationships with others (Waters & Cummings, 2000). When destructive marital conflict erodes the bridge, children may become hesitant to move forward and lack confidence, or may move forward in a dysregulated way, unable to find appropriate footing within themselves or in interaction with others.

Several recent studies provide initial support for the explanatory mechanisms outlined by the emotional security hypothesis. On the basis of cross-sectional data, Davies and Cummings (1998) indicated initial empirical support for emotional security as mediating relations between interparental discord and child maladjustment (see also Davies, Forman et al., 2002). In a first longitudinal test of the theory, Davies, Harold et al. (2002, Study 2) demonstrated that child emotional security was an intervening

process linking interparental discord (Time 1) with subsequent child externalizing and internalizing symptoms (Time 2), even when other mechanisms (e.g., perceived threat, self-blame; Grych et al., 2003) were considered in the same analytic models. In another two-wave longitudinal study, Harold, Shelton, Goeke-Morey, and Cummings (2004) provided support for the notion that components of emotional security were a key mechanism linking interparental discord with children's risk for maladjustment, even when emotional security about parenting was also entered in the same statistical model (see also Davies, Harold et al., 2002, Study 3).

On the basis of two large-scale (200+) U.S. samples of children and families, this report further explores emotional security as an explanatory mechanism prospectively accounting for relations between interparental discord and children's maladjustment. Recent prospective investigations of longitudinal models are based on British samples (Davies, Harold et al., 2002; Grych et al., 2003; Harold et al., 2004); therefore, this research provides opportunities to examine the generalizability of this theoretical model to a U.S. sample. In addition, the present two studies examine emotional security as a latent construct, rather than examining separate components of emotional security as predictors (e.g., Davies & Cummings, 1998; Harold et al., 2004), thereby providing a conceptually integrative test of emotional security as an explanatory, organizational mechanism (see also Davies, Harold et al., 2002). Moreover, the earlier longitudinal tests (e.g., Harold et al., 2004) were based on analog designs that raise questions about the applicability to children's actual reactions, that is, concerns about ecological validity. In this study, assessments of emotional security are based on reports of children's actual reactions in the home, thereby further advancing the ecological validity of tests of the propositions of the emotional security hypothesis in the context of longitudinal research designs. Thus, the present two studies, involving different samples and different age groups, provide further programmatic exploration of emotional security as an explanatory mechanism for the effects of interparental discord on children's adjustment. The central hypothesis is that emotional security will contribute to the explanation of the impact of marital discord on children throughout a significant span of childhood, that is, for children varying in age from kindergarten through adolescence.

Study 1

Study 1 presents an initial exploratory, longitudinal analysis of multiple pathways between interparental

discord, emotional security about marital conflict, and child adjustment. A secondary goal for Study 1 was to investigate age differences. Samples in the few longitudinal studies conducted have had restricted variability in age at Time 1. Although this fact has advantages for addressing some questions, it has restricted possibilities for testing the viability of emotional security as an explanatory mechanism as a function of age. Although age is acknowledged as a potential moderator in models of interparental conflict, there is little clear support for the notion that children of any specific age group or developmental level are, in any broad sense, more vulnerable to interparental conflict (Buehler, Anthony, Krishnakumar, & Stone, 1997). Even less is known about the viability of process models about explanatory mechanisms for the impact of marital conflict on children in different age groups, or about the effects of marital conflict on different forms of child maladjustment as a function of age. Children in Study 1 were selected to vary across a relatively wide age span (i.e., about 8 years) from middle childhood to middle adolescence at the onset of the study, facilitating the examination of age-related differences in the viability of the emotional security hypothesis as a process model. However, given the exploratory nature of the tests for emotional security as a process mechanism, no specific hypotheses are advanced as a function of age.

Method

Participants

Participants were 226 primarily middle-class children (113 boys, 113 girls) and their cohabiting parents. In order to be eligible to participate, couples had to have cohabited for at least 2 years before the beginning of the study. Two hundred and twenty-two (98%) of the couples were married, and the average length of cohabitation was 13.44 years ($SD = 6.26$). The mean age for mothers was 37.61 years ($SD = 6.02$), and the mean age for fathers was 40.03 years ($SD = 6.90$). The target child's mean age was 11.12 years ($SD = 2.28$, range $= 8–17$) at Time 1. The measure of emotional security was not available for wave 2. Thus, the data used for examining the viability of emotional security as an explanatory mechanism are based on waves 1 and 3 from the larger study, described as Times 1 and 2, respectively, in this report. This data set has previously been described by DuRocher Schudlich and Cummings (2003).

In order to obtain a sociodemographically representative sample of the geographic area, efforts were made to actively recruit families of low socioeconomic status (SES) and of racial and ethnic diversity, including school districts, events and sign-ups at community agencies and events for diverse communities, and postcard mailings for lower SES areas. Representative of the Midwest community from which this sample was drawn, 87% of the children were European American, 8.5% were African American, 3% were biracial, 0.5% were Asian, and 1% were Hispanic. Families participated as part of a larger longitudinal project. The attrition rate was low at Time 2, with 221 of the families retained.

We compared the socioeconomic characteristics of our sample with those of the county from which this sample was drawn. In our sample, 98% of parents had completed at least high school, and 38% had completed at least a bachelor's degree. Based on U.S. Census Bureau statistics (2000), 82% of the population in this county had completed at least a high school education, with 24% completing at least a bachelor's degree. The median household income in our sample was in the range of $40,000–65,000, and the median household income in 2000 for the county was $49,653.

Providing a basis for comparing the marital functioning of our sample with those of other community samples, mothers and fathers reported their global marital satisfaction on the Marital Adjustment Test (MAT; Locke & Wallace, 1959). The MAT is a widely used measure, with good content and concurrent validity. Scores can range from 2 to 158, with scores below 100 suggesting marital distress (Crane, Allgood, Larson, & Griffin, 1990). The mean marital satisfaction score for mothers was 112.99 ($SD = 25.25$, range $= 34–154$) and the mean for fathers was 111.67 ($SD = 21.84$, range $= 28–156$). Sixty-one mothers (27%) and 59 fathers (26%) had MAT scores below 100, suggesting marital distress. Eight-nine of the 226 couples (39%) included at least one partner with a score below 100. Although the percentages of participants scoring in the distressed range are somewhat higher than those reported in other studies based on community samples, the average level of distress is comparable to that of other community samples (e.g., McHale, Kuersten-Hogan, Lauretti, & Rasmussen, 2000). Of the 226 families participating in the study, nine couples separated or divorced. Given that the goal of this study is to test emotional security theory with a community sample, these families were retained as participants at all time points in which they were willing to participate, on the basis that they contributed to the representativeness of our community sample.

Measures

Marital functioning. The O'Leary–Porter Scale (OPS; Porter & O'Leary, 1980) is a 10-item measure of child exposure to hostile interparental conflict. The OPS consists of 9 scored items completed on a 5-point scale ranging from 0 (*never*) to 4 (*very often*). A sample item from the OPS is *How often do you complain to your partner about his/her personal habits in front of your child?* Porter and O'Leary reported a test–retest reliability coefficient of .96, good internal consistency (Cronbach's α = .86), and good convergent validity. Cronbach's αs for mothers and fathers in this sample were .85 and .80, respectively.

The Conflict Tactics Scale (CTS, Straus, 1979) was completed by both mothers and fathers, and lists 19 conflict tactics for which parents report the frequency of occurrence by either spouse over the past year. Responses are indicated using an 8-point ordinal scale from 0 (*never*) to 6 (*more than 20 times*). For the purpose of the current study, the Verbal Aggression subscale was used; sample items include *did or said something to spite the other one* and *insulted or swore at the other one*. Previous research has supported the construct and concurrent validity of this measure. Cronbach's αs for mothers and fathers in this sample were .79 and .79, respectively.

The Negative Marital Quality dimension of the Positive and Negative Quality in Marriage Scale (Fincham & Linfield, 1997) was completed by both mothers and fathers. Parents were instructed to rate negative qualities of their spouse, negative feelings toward their spouse, and negative feelings about their marriage, while ignoring the positive aspects. Spouses rated three items on a scale ranging from 1 (*low*) to 10 (*high*). Fincham and Linfield (1997) reported high internal consistency for the Negative Marital Quality dimension for both mothers and fathers (Cronbach's α = .89 and .91, respectively) and demonstrated good validity for this dimension. In this sample, Cronbach's αs for mothers and fathers were .92 and .89, respectively. Mothers' and fathers' reports on the CTS, NMQ, and OPS were standardized and summed for each reporter to yield two indicators of interparental discord (one for mothers, one for fathers). Cronbach's αs computed on these three scales were .72 for mothers and .70 for fathers, providing support for the compositing of these variables.

The Children's Perceptions of Interparental Conflict Scale (CPIC; Grych, Seid, & Fincham, 1992) is a child-report measure of marital conflict, consisting of 51 items answered on a 3-point scale consisting of *T* (*true*), *ST* (*sort of true*), and *F* (*false*). The Conflict Properties subscale is a measure of children's perceptions of the characteristics of their parents' conflict, and includes such items as *When my parents have disagreements, they yell at each other*. The Conflict Properties subscale has demonstrated internal consistency greater than .70 and good test–retest reliability. The Cronbach's α computed for this sample was .83.

Emotional security about marital relations. The *Security in the Marital Subsystem-Parent Report Inventory* (SIMS-PR, Davies, Forman et al., 2002) is a parent-report measure of child emotional security, and includes the 9-item Direct Involvement, the 5-item Behavioral Dysregulation, and the 10-item Negative Emotional Reactivity subscales. Mothers reported on their child's reactions to witnessing arguments between parents in the past year. Each item consists of a different emotional or behavioral response, and is completed on a 5-point ordinal scale from 1 (*not at all like him/her*) to 5 (*a whole lot like him/her*). Sample items include *Tries to comfort one or both of us, Yells at family members,* and *Appears upset*. Davies, Forman et al. (2002) reported Cronbach's αs for mothers and fathers of .78 and .64 for Emotional Reactivity, .69 and .70 for Involvement, and .64 and .65 for Behavioral Dysregulation. Cronbach's αs in our sample were .71 for Behavioral Dysregulation, .77 for Involvement, and .84 for Emotional Reactivity.

Child maladjustment. Mothers and fathers completed the Child Behavior Checklist (CBCL; Achenbach, 1991a), a parent-report measure of both internalizing and externalizing child adjustment problems. The Internalizing and Externalizing subscales consist of 58 items completed on a 3-point ordinal scale. Parents rate whether or not each statement is true of their child from 0 (*not true as far as you know*) to 2 (*very true or often true*). The CBCL is composed of three Internalizing subscales: Somatic Complaints (e.g., *headaches*), Anxious/Depressed (e.g., *nervous, high strung or tense*), and Withdrawn (e.g., *withdrawn, doesn't get involved with others*). The Externalizing scale consists of two subscales: Aggressive (e.g., *gets into many fights*) and Delinquent (e.g., *vandalism*). The test–retest reliability of CBCL scale scores is good, with a mean *r* of .89 for the problem scales over a 7-day period. The CBCL has also demonstrated both content and construct validity (Achenbach, 1991a). For mothers and fathers in this sample at Time 1, Cronbach's αs were .84 and .85 for Internalizing and .89 and .87 for Externalizing, respectively. At Time 2, Cronbach's αs for mothers and fathers were .87 and .89 for Internalizing and .89 and .87 for Externalizing, respectively.

Children completed the Child Depression Inventory (CDI; Kovacs, 1981), a 27-item self-report

measure of children's depressive symptoms. Each set of items consists of three sentences representing varying levels of depression, and children are instructed to choose the sentence that best describes them for the past 2 weeks from each set of items. Sample sentences include *I feel like crying everyday* and *I feel alone all the time*. Each sentence is assigned a numerical value from 0 to 2, with higher scores corresponding to higher degrees of depression. The values for the endorsed sentences are summed to compute a CDI score for each child. The CDI has demonstrated good reliability and validity (Kovacs, 1981). Cronbach's αs for this sample were .78 at Time 1 and .85 at Time 2.

Procedure

Participating parents and their children completed questionnaires and tasks in the laboratory every year, with laboratory sessions lasting approximately 3 hr. Parents completed questionnaires about demographic information, marital functioning, and other measures in separate rooms. Children also completed questionnaires in a separate room with the assistance of a trained research assistant.

Results

Descriptive statistics and intercorrelations between all of the variables are shown in Table 1. There was a 2-year period between Times 1 and 2. Structural equation modeling was used to test our central hypotheses regarding the effects of interparental discord on child adjustment. The structural equation modeling analyses were conducted using Analysis of Moment Structures (AMOS, v. 4.01; Arbuckle & Wothke, 1999), a computer software package that utilizes the full information maximum likelihood approach to handling missing data. We tested a series of models examining the direct effect of interparental discord and the mediational effect of emotional security. We also tested child age as a moderator of the mediational models. An α level of .05 was used for all statistical tests.

We report multiple fit indices to facilitate evaluation of the degree to which our models fit the sample data. The traditional χ^2 discrepancy test is presented, although this statistic is artificially inflated by samples as large as ours (Bentler & Bonett, 1980). Several additional fit measures are also presented. For the relative χ^2 index (χ^2/df) values below 3 are considered indicative of an acceptable fit between the hypothetical model and the sample data (Arbuckle & Wothke, 1999). The root mean square error of

approximation (RMSEA; Browne & Cudeck, 1993) penalizes models that include many parameters, and values of the RMSEA less than, or equal to, .08 indicate a reasonable fit. Finally, values of the comparative fit index (CFI; Bentler, 1990) should be at least .90 for an acceptable fit. In order to minimize artificial inflation of scores reported by the same observer, as well as scores from different observers for the same measures, we allowed the error terms for these measures to be correlated (e.g., maternal reports of maladjustment at Time 1 were allowed to correlate with maternal reports of maladjustment at Time 2).

Consistent with our expectations and previous work, we found a direct effect of Time 1 interparental discord on Time 2 child adjustment, controlling for Time 1 adjustment. Internalizing symptoms were highly stable over this 2-year period (β = .75, $p < .001$). Nonetheless, interparental discord was a significant predictor of increases in internalizing problems (β = .19, $p < .05$). Similarly, even controlling for the autoregressive path from Time 1 externalizing symptoms to Time 2 externalizing symptoms (β = .78, $p < .001$), interparental discord predicted increases in externalizing problems (β = .19, $p < .05$). Demonstrating these significant direct effects represents the first step in Baron and Kenny's (1986) guidelines for testing mediation.

Mediational Model

Next, rigorous testing of mediational models was conducted, to test hypotheses about emotional security as an explanatory mechanism. We tested for mediation of the effect of Time 1 interparental discord on Time 2 child adjustment through children's emotional insecurity at Time 2. Providing a stringent test of EST, we controlled for the effect of Time 1 child adjustment on both Time 2 emotional security and Time 2 child adjustment. As described by Cole and Maxwell (2003), when some of the relevant paths are not included in the model, the paths that are modeled are biased, with the possibility that variance that is actually due to other variables is attributed to the paths that are modeled. In addition, we were concerned that by not testing age as a moderator, we might be omitting an important variable of interest for this sample. Toward providing a comprehensive and precise test of emotional security theory, we therefore tested models that included both tests of age as a moderator and controls for initial child adjustment.

A typical approach to testing moderation with continuously scaled moderators is to dichotomize

Table 1

Descriptive Statistics and Intercorrelations for Indicator Variables in Study 1

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Interparental discord																	
1. Mother discord	−0.01	2.40	–														
2. Father discord	−0.03	2.38	.62***	–													
3. Child CPIC	10.91	7.04	.53***	.44***	–												
Emotional insecurity																	
4. Emotional reactivity	16.61	5.98	.31***	.14*	.19*	–											
5. Involvement	19.76	6.58	.03	−.02	.07	.29***	–										
6. Behavioral dysregulation	7.69	3.09	.30***	.26***	.22**	.33***	.35***	–									
Child maladjustment																	
7. Time 1 mother CBCL INT	50.24	9.72	.12†	.10	.02	.48***	.24***	.31***	–								
8. Time 1 mother CBCL EXT	49.37	9.64	.19**	.20**	.04	.27***	.22**	.44***	.59***	–							
9. Time 1 father CBCL INT	48.99	10.01	−.04	.21**	−.05	.20**	.05	.17*	.48***	.31***	–						
10. Time 1 father CBCL EXT	48.36	9.33	.05	.29***	−.02	.12†	.07	.34***	.35***	.59***	.62***	–					
11. Time 1 child CDI	6.39	4.87	.09	.08	.27***	.22**	.08	.13*	.31***	.30***	.12†	.17*	–				
12. Time 2 mother CBCL INT	47.95	10.53	.19**	.13†	.16*	.52***	.24***	.26***	.67***	.40***	.35***	.19**	.25***	–			
13. Time 2 mother CBCL EXT	48.27	9.65	.27***	.28***	.18*	.29***	.23**	.47***	.52***	.72***	.26***	.47***	.25***	.58***	–		
14. Time 2 father CBCL INT	46.69	10.30	.07	.19**	.02	.24***	.06	.21**	.38***	.29***	.63***	.41***	.13†	.42***	.29***	–	
15. Time 2 father CBCL EXT	47.98	9.24	.17*	.36***	.15†	.11	.06	.34***	.24***	.50***	.47***	.70***	.16*	.26***	.59***	.58***	–
16. Time 2 child CDI	6.03	5.59	.00	.02	.18*	.08	.05	.10	.14*	.14*	.17*	.15*	.47***	.32***	.25***	.18**	.23**

Note. Ns range from 210 to 224 owing to missing data. Discord = Composite of Conflict Tactics Scale, Negative Marital Quality, and O'Leary–Porter Scale; CPIC = Children's Perceptions of Interparental Conflict; CBCL INT = Internalizing scale of the Child Behavior Checklist; CBCL EXT = Externalizing scale of the Child Behavior Checklist; CDI = Child Depression Inventory.

†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

the hypothesized moderator variable (e.g., younger children/older children) and perform tests of moderation on the dichotomized variable. However, this approach results in a loss of precision of measurement, an underestimation of the magnitudes of relationships, and a decrease in power (Cohen, 1978). The approach used in this study was to test age as a continuously scaled moderator. We did this by first centering both age and the other predictor variables, forming cross products of the centered variables, and entering these cross products as indicators of a latent interaction variable. To test age as a moderator of the effect of interparental discord on child adjustment, for example, we centered Time 1 age at 11.12 years of age and centered Time 1 maternal, paternal, and child reports of interparental discord. Then the centered age variable was multiplied by each centered report of interparental discord to form three cross products of age and interparental discord (Maternal report $\times$ Age, Paternal report $\times$ Age, Child report $\times$ Age). These cross products were then entered in the SEM model as indicators of the interaction of interparental discord and age, along with the latent first-order factors representing interparental discord and the centered age variable. Consistent with the approach of Marsh, Wen, and Hau (2004), the loadings of the cross products on the latent interaction variable were unconstrained, and, to accommodate nonnormal data, latent variables were allowed to correlate.

Much of the testing of latent variable interactions (Hayduk, 1987; Jaccard & Wan, 1995) has been based on the Kenny and Judd (1984) model, in which constraints are placed on the factor loadings and error terms of the cross-product indicator variables (see also Jaccard & Wan, 1996). However, Marsh et al. demonstrated that it is not necessary to constrain the factor loadings of the cross products. That is, allowing the factor loadings to be free does not introduce bias into the model. Marsh et al. found that the unconstrained and constrained approaches performed similarly under conditions of normality; the unconstrained approach actually performed better under nonnormal conditions.

For the mediational model predicting internalizing problems while allowing adjustment problems at Time 1 to predict emotional security and adjustment at Time 2, emotional security mediated the effect of marital discord on adjustment problems (see Figure 1). Time 1 interparental discord predicted Time 2 emotional insecurity ($\beta = .36$, $p < .01$), which in turn predicted Time 2 internalizing problems ($\beta = .35$, $p < .05$). As expected, child maladjustment scores were highly stable, as Time 1 internalizing problems predicted Time 2 internalizing problems ($\beta = .56$,

$p < .001$), and Time 1 internalizing problems significantly predicted Time 2 emotional security ($\beta = .63$, $p < .001$). The direct effect of interparental discord on later internalizing problems was no longer significant with emotional security included in the model ($\beta = -.01$, $p > .91$). Age did not serve as a moderator of this model. Fit statistics indicate that this model provided acceptable fit to the sample data.

A final test of mediation compared model fit when the direct pathway from discord to adjustment was included versus when it was constrained to zero (Holmbeck, 1997). Results of this test indicated that adding the direct path did not significantly improve model fit ($\chi^2_{\text{diff}} = 0.01$, $df_{\text{diff}} = 1$, $p > .10$), indicating that this path was not significantly different from zero when estimated in the model that included emotional insecurity as a mediator.

As with internalizing problems, even controlling for relations between Time 1 and Time 2 adjustment ($\beta = .68$, $p < .001$), Time 1 interparental discord predicted Time 2 emotional insecurity ($\beta = .28$, $p < .05$), which showed a nonsignificant trend for the prediction of Time 2 externalizing problems ($\beta = .20$, $p < .09$) (see Figure 2). As with the internalizing model, initial externalizing problems significantly predicted later emotional security ($\beta = .58$, $p < .001$), and the direct effect of Time 1 interparental discord on Time 2 externalizing problems was not significant ($\beta = .11$, $p > .10$). Fit statistics indicate that this comprehensive model provided an acceptable fit to the data.

As with the internalizing model, a further test of mediation compared model fit when the direct pathway from marital conflict to children's externalizing problems was included versus when it was constrained to zero. Results of this test indicated that adding the direct pathway did not significantly improve model fit ($\chi^2_{\text{diff}} = 2.98$, $df_{\text{diff}} = 1$, $p > .05$), indicating that this path was not significantly different from zero when estimated in the model that included emotional insecurity as a mediator. That is, consistent with our hypotheses, emotional insecurity served as a mediator of the link between marital conflict and children's internalizing and externalizing problems.

Finally, child gender was tested as a moderator using stacked modeling procedures (Sturge-Apple, Davies, Boker, & Cummings, 2004). The mediational models did not differ across girls and boys for either internalizing ($\chi^2_{\text{diff}} = 4.14$, $df_{\text{diff}} = 4$, $p > .38$) or externalizing ($\chi^2_{\text{diff}} = 1.05$, $df_{\text{diff}} = 4$, $p > .90$).

Returning to the unconstrained model, the latent variable representing the interaction of age and interparental discord was positively related to subsequent emotional insecurity ($\beta = .20$, $p < .05$). Given
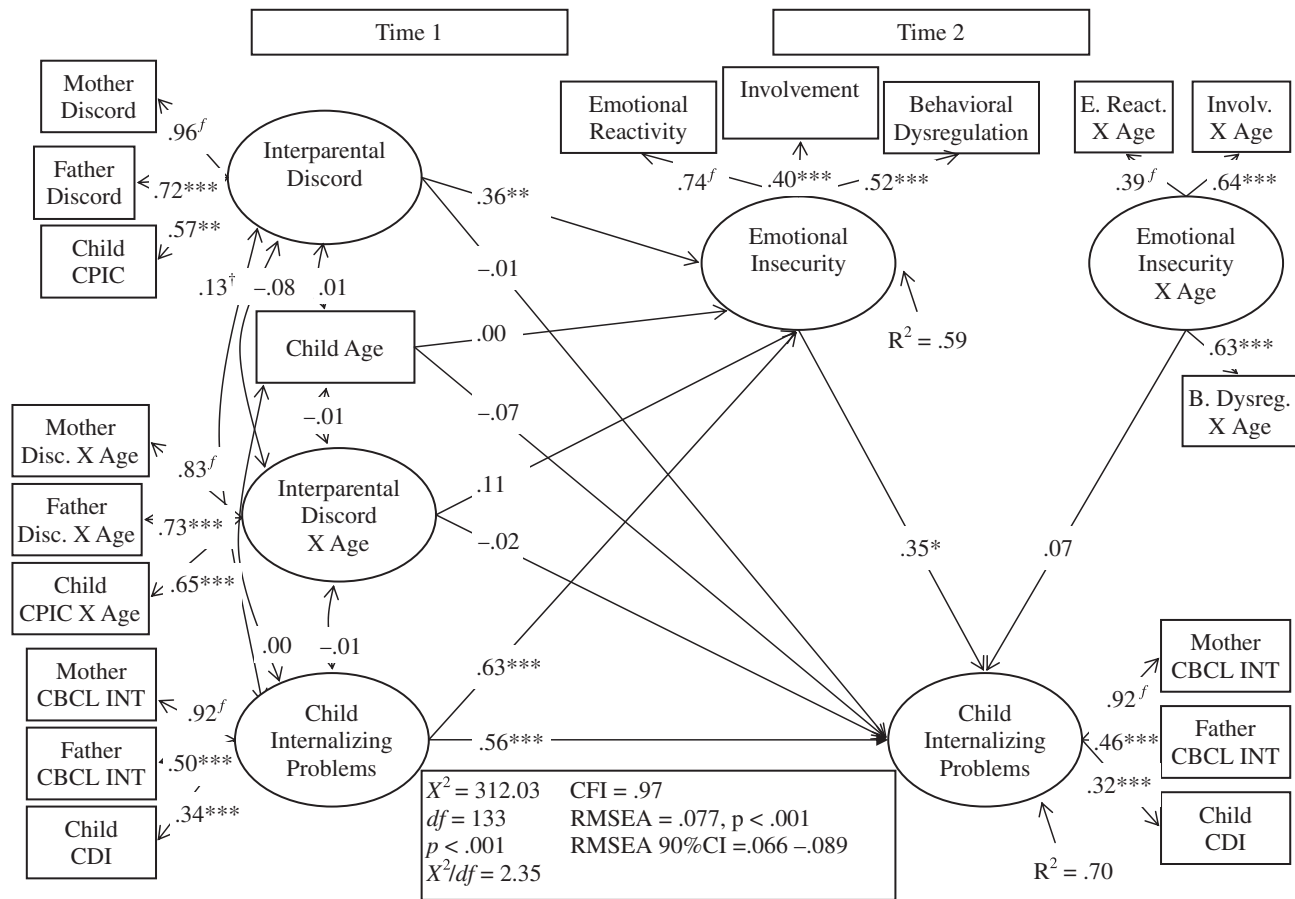
Figure 1. Study 1 comprehensive mediational model for internalizing problems. Standardized path coefficients are presented, and *f* superscripts indicate fixed loadings for model estimation. $^{†}p < .10.$ $^{*}p < .05.$ $^{**}p < .01.$ $^{***}p < .001.$

that the age variable was centered at 11.12 years of age, this interaction indicates the relationship was stronger for children older than this age and weaker for children younger than this age. The unstandardized regression weight for the path from interparental discord to emotional insecurity at the average child age (11.12 years) was .36. A 1-unit change in age (the unit of age is 1 year) was accompanied by a .14-unit change (unstandardized) in the magnitude of the relationship between interparental discord and externalizing problems. For example, for children of 12.12 years of age, the unstandardized regression weight for the path from interparental discord to externalizing problems would be .50 (.36 plus .14).

Discussion

These tests provide the first longitudinal examination based on a U.S. sample of children's sense of emotional security about marital conflict as an organizational construct inferred from multiple classes of response processes. The findings of Study 1 thus provide direct support for emotional security about marital conflict as an explanatory mechanism for relations between interparental discord and children's adjustment problems (Davies & Cummings, 1998; Davies, Harold et al., 2002, Study 3), predicting both internalizing and externalizing problems, even controlling for earlier levels of those problems.

Providing the first systematic test of how emotional security may vary as an explanatory mechanism as a function of developmental period, these results suggest that emotional security may be *even more important* for pathways relating to externalizing problems as children get older, entering adolescence. These results affirm that consideration of the processes induced in children through exposure to interparental discord is critical to accounting for the effects on the children, beyond simply the characteristics of marital conflict tactics or emotions per se (Davies & Cummings, 1994; Grych & Fincham, 1990). The new element is the suggestion that adolescence may be a period of particular significance for the
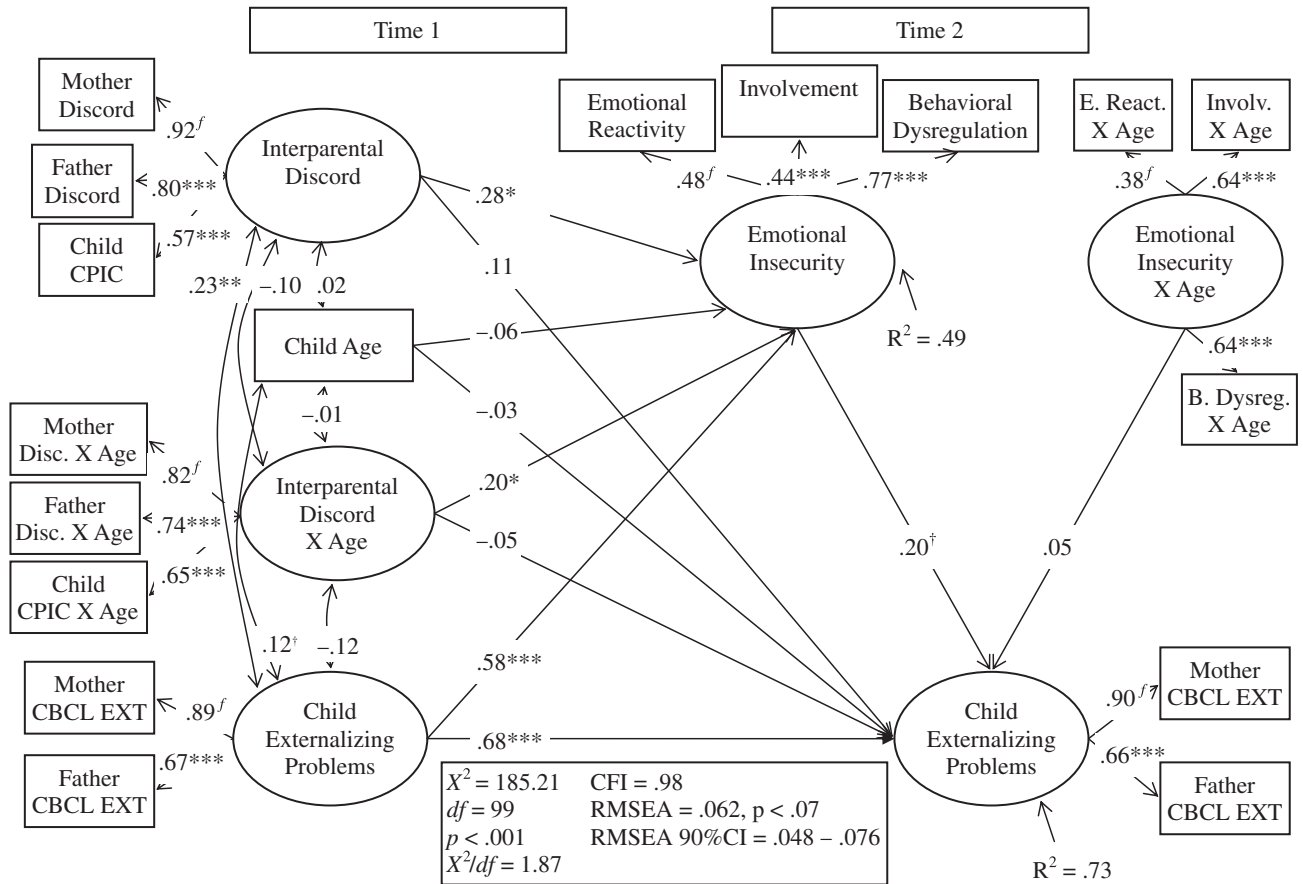
Figure 2. Study 1 comprehensive mediational model for externalizing problems. Standardized path coefficients are presented, and *f* superscripts indicate fixed loadings for model estimation. †*p*<.10. **p*<.05. **p<.01. ***p<.001.

increasing role of children's own reactions as explanatory mechanisms, including emotional security processes, or, alternatively, that adolescents' lengthier exposure to marital conflict may play a role in the strengthening of the relationship between marital conflict and emotional security. At the same time, links between emotional security and child maladjustment did not change with age, suggesting that once emotional insecurity is induced the relations with child maladjustment hold across age, or at least for the age span of this study. However, there are many questions about which processes may factor in these age-related differences in the role of emotional security processes; thus, much work remains to be accomplished for future studies on interparental discord, emotional security, and adjustment problems in adolescence.

Study 2

This study further examines emotional security as an explanatory mechanism based on another relatively large (over 200 children and families) community sample. Advances include tests of a theoretical model for the effects of interparental discord among younger children (i.e., 5–7 years old at Time 1) than in previous prospective studies (e.g., Study 1; Grych et al., 2003), and the examination of hypotheses within the context of a three-wave prospective design, as opposed to two waves that have characterized most prior prospective studies of theoretical models in this area, including Study 1. In Study 2, children were first observed in kindergarten, and participated yearly over a 2-year span.

A three-wave longitudinal design increases the cogency of tests of cause and effect relations by examining each element of the theoretical model at different points in time (e.g., interparental discord, emotional security, child adjustment, respectively). Greater caution must be exercised when interpreting two-wave tests, because at least two elements are inevitably examined at the same point in time (e.g., predictor and mediating process, or mediating process and outcome) (Cole & Maxwell, 2003). The

only two prospective investigations conducted on emotional security (Davies, Harold et al., 2002; Harold et al., 2004) have been limited because emotional security assessments were not temporally separated from assessments of child outcome, which reduces the extent to which causal relations can be inferred for this pathway in model testing.

As in Study 1, it is predicted that emotional security will be a significant explanatory mechanism. Accordingly, Study 2 prospectively tested links between children's exposure to discord, children's emotional security about marital conflict, and their externalizing and internalizing problems. One possible interpretation of Study 1 is that emotional security more consistently predicts internalizing than externalizing symptoms (see also Dadds, Atkinson, Turner, Blums, & Lendich, 1999; Grych et al., 2000; Kerig, 1998). Study 2 provides an opportunity to explore this question further. Also, in this study emotional security is assessed at a different point in time than for either the predictor (i.e., interparental discord) or the outcome (i.e., child adjustment) variables. The age range for this sample was relatively restricted at Time 1, so that further tests of age as a moderator in model testing were not performed, because it was judged unlikely that such small differences could be influential in any meaningful way.

Emotional security was again represented by a latent construct based on multiple component processes, and interparental discord and child adjustment were again based on multiple reporters. Another advance is that the interparental discord construct was derived from observational coding of marital conflict in laboratory settings, adding to the multimethod rigor of the assessment of this construct. That is, use of observational methods further increases confidence that any relations found are robust, and not a product of common method variance.

Method

Participants

The sample is a representative community sample of 232 primarily middle-class children (105 boys, 127 girls), their cohabiting parents, and their teachers. Children had an average age of 5.99 years at Time 1 ($SD = 0.45$, range $= 4.99 – 7.11$). Seventy-one percent of children were European American, 14% were African American, 13% were biracial, and 2% were Hispanic. Parents reported cohabiting for an average of 11.1 years ($SD = 4.84$). Couples had to have cohabited for at least 3 years before the beginning of the study in order to be eligible to participate. Two hundred and nine of the couples (90.1%) were married. The mean age for mothers was 35.0 years ($SD = 5.57$) and 36.8 years for fathers ($SD = 6.09$). This data set has previously been described by Sturge-Apple et al. (2004). There is no overlap between the samples in Studies 1 and 2, that is, none of the children who participated in Study 1 were participants in Study 2.

Families were recruited from the Midwest and Northeast via postcard mailings, sign-ups at community events, letters sent to parents whose children were attending local schools, and referrals from other participating families. Families participated as part of a larger longitudinal project. In order to obtain this sample, which is sociodemographically representative of the geographic area, efforts were made to actively recruit participants through school districts, community agencies, and events tailored to families of low socioeconomic status and of racial and ethnic diversity. The sample size decreased slightly at later time points because of attrition, with 222 families retained at Time 2 and 212 families retained at Time 3.

Compared with the counties from which our samples were drawn, in our samples approximately 95% of parents had completed at least high school and 41% had completed at least a bachelor's degree. On the basis of U.S. Census Bureau (2000) statistics from 2000, the percentages of the populations in the Midwest and Northeast counties with at least a high school education were 82% and 85%, respectively, and the percentages with at least a bachelor's degree were 24% and 31%, respectively. Regarding family income, in our sample, the median income fell in the range of $40,000 – 54,999. On the basis of U.S. Census Bureau statistics, the median household incomes in the Midwest and Northeast counties were $49,653 and $55,900, respectively.

Extensive comparisons for possible regional differences between the Midwestern sample and the Northeastern sample have been conducted (Davies, Sturge-Apple, Winter, Cummings, & Farrell, 2005). To summarize, out of the 30 variables compared, only 4 showed differences between sites, half indicating higher responding in the Midwest sample and half indicating higher responding in the Northeast sample. Moreover, testing research site as a moderator of Davies, Sturge-Apple et al.'s (in press) SEM analyses indicated no moderating role of region.

As in Study 1, mothers and fathers reported their global marital satisfaction on the Marital Adjustment Test (MAT; Locke & Wallace, 1959), providing a basis for comparing this sample with other community

samples on marital functioning. In Study 2, the mean marital satisfaction score was 109.38 ($SD = 27.05$, range $= 5–155$) for mothers and 102.24 ($SD = 29.42$, range $= 17–157$) for fathers. Sixty-six mothers (28.4%) and 86 fathers (38.4%) had MAT scores below 100, suggesting marital distress. Of the 232 couples, 110 (47.4%) contained at least one partner with a score below 100. As in Study 1, the percentages of participants scoring in the distressed range are somewhat higher than those reported in other studies based on community samples, but the average level of distress is comparable to that of other community samples. Between Time 1 and Time 2, four couples separated and five couples divorced; between Time 2 and Time 3, four additional couples separated, but no couples divorced. These families were retained as participants at all time points in which they were willing to participate, on the basis that they contributed to the representativeness of our community sample.

Measures

Marital functioning. As in Study 1, mothers and fathers completed the OPS (Porter & O'Leary, 1980); Cronbach's αs for mothers and fathers in this sample were .84 and .78, respectively.

Emotional security about marital relations. The SIMS-PR (Davies, Forman et al., 2002) provided a maternal-report measure of emotional security, as in Study 1. Cronbach's αs in our sample were .70 for Behavioral Dysregulation, .82 for Emotional Reactivity, and .83 for Involvement.

Child maladjustment: Mothers and fathers completed the Internalizing and Externalizing subscales of the Child Behavior Checklist (CBCL; Achenbach, 1991a, described for Study 1) at both Time 1 and Time 3. Cronbach's αs for mothers' and fathers' Time 1 reports were .85 and .88 for Internalizing, and .88 and .90 for Externalizing; at Time 3, Cronbach's αs for mothers' and fathers' reports were .87 and .88 for both Internalizing and Externalizing.

The Teacher Report Form (TRF; Achenbach, 1991b) is a teacher-report version of the CBCL. The measure is composed of 62 items that describe students. Items are answered on a 3-point ordinal scale ranging from 0 (*not true*) to 2 (*very true*). Teachers' responses on the Externalizing scale were used, and sample items include *Gets into many fights* and *Lying or cheating*. For our sample, Cronbach's αs were .92 for Time 1 and .95 for Time 3. Given concerns regarding the accuracy of teachers' reports of internalizing symptoms (Hinshaw, Han, Erhardt, & Huber, 1992), the TRF Internalizing scale was not included.

The Child Behavior Scale (CBS; Ladd & Profilet, 1996) was included to provide a measure of children's social functioning. Mothers and fathers completed the 6-item Asocial scale and the 7-item Prosocial scale, and teachers completed the 4-item Hyperactive–Distractible scale. Asocial behavior was included as an indicator of internalizing problems, and hyperactivity–distractibility and low levels of prosocial behavior were included as indicators of externalizing problems, to sharpen measurement of the internalizing and externalizing constructs. Asocial peer relations reflect social withdrawal and therefore the operation of internalizing symptoms in the highly salient developmental context of establishing and maintaining peer relations during the early childhood years. Similarly, children with externalizing symptoms exhibit low levels of prosocial behavior with peers; thus, low levels of prosocial behavior is a key manifestation of externalizing symptoms in the context of the developmentally challenging task of negotiating relations with peers in early childhood. Hyperactivity and distractibility are symptoms of undercontrolling forms of externalizing symptoms. Items are answered on a 3-point scale from 1 (*doesn't apply*) to 3 (*certainly applies*). Sample items from the Asocial scale include *Avoids peers* and *Solitary child*, items from the Prosocial scale include *Kind toward peers* and *Shows concern for moral issues*, and items from the Hyperactive–Distractible scale include *Squirmy, fidgety child* and *Inattentive*. This measure has demonstrated good internal consistency, stability, and validity (Ladd & Profilet, 1996). For our sample, Cronbach's αs for mothers' and fathers' respective reports for the Asocial subscale were .74 and .72 for Time 1 and .79 and .80 for Time 3. Cronbach's αs for mothers' and fathers' respective reports for the Prosocial subscale were .79 and .82 for Time 1 and .80 and .81 for Time 3. For the Hyperactive–Distractible scale, Cronbach's αs were .84 for Time 1 and .86 for Time 3.

Procedure

Participating parents and their children completed questionnaires and tasks in the laboratory every year, with laboratory sessions lasting approximately 3 hr. In addition to the procedure described for Study 1, parents in Study 2 also engaged in an interparental conflict resolution task in the lab. The task involved selecting two topics that the couple identified as particularly difficult for them to handle. Parents were then asked to discuss each issue as they would at home for 10 min, working toward a solution. Interactions were videotaped with parental consent,

and later coded. Using the Marital Daily Records protocol (MDR; Cummings, Goeke-Morey, Papp, & Dukewich, 2002), marital interactions were coded for such conflict tactics as nonverbal anger, personal insult, and verbal affection, using a Likert scale. These tactics were coded for each 30-s time interval on a scale that ranged from 0 (*none of the behavior evidenced*) to 2 (*strong display of the behavior evidenced*). Coders also indicated whether, and to what extent, the mother or father evidenced positive emotion, anger, sadness, or fear *during* the interaction as well as *at the end* of the interaction (final 30 s of the 10-min total interaction). Coders noted whether the mother or father evidenced the emotion and, if so, the extent to which they did. The scale ranged from 0 (*none of the emotion evidenced*) to 9 (*marked and frequent expression of the emotion*). To establish reliability, two coders coded the same 30 tapes and intraclass correlation coefficients were computed. Only codes with interrater reliabilities greater than .60 were included in analyses. The destructive codes were nonverbal anger, defensiveness, verbal anger, angry feelings, and sad feelings; constructive variables included physical affection, problem solving, compromise, and positive feelings. Intraclass correlation coefficients for these variables ranged from .67 to .98.

Data Reduction

The marital interaction codes were averaged across the twenty 30-s intervals of each interaction, and then averaged across mothers and fathers in order to reduce the number of variables in the analyses. These averages were converted to z scores, and the sum of the constructive codes was subtracted from the sum of the destructive codes to yield a single marital interaction score for each couple. Cronbach's α was computed on the z scores that make up the composite score, and demonstrated an acceptable level of internal consistency of .87.

Results

Descriptive statistics and intercorrelations between all of the variables are shown in Tables 2 (internalizing) and 3 (externalizing). Expanding the results of Study 1, we used SEM to test our central hypothesis over three time points with a more restricted age range, still controlling for the effect of Time 1 child adjustment problems. In order to minimize artificial inflation of scores reported by the same observer, as well as scores from different observers for the same measures, we allowed the error terms for these measures to be correlated (e.g., ma-

ternal reports of maladjustment at Time 1 were allowed to correlate with maternal reports of maladjustment at Time 3). We again tested separate models for internalizing and externalizing problems. Time 1 interparental discord did not predict Time 3 child adjustment ($\beta = .05$, $p > .55$ for internalizing; $\beta = .09$, $p > .31$ for externalizing), indicating that our data did not meet Baron and Kenny's (1986) criteria for mediation. However, the results are consistent with an intervening variable model of effects, in which the predictor and outcome variables are indirectly related through their mutual relationship with an intervening variable, without the requirement of a significant relationship between predictor and outcome (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Testing this intervening variable model (see Figure 3), Time 1 interparental discord predicted Time 2 emotional insecurity ($\beta = .23$, $p < 05$), which in turn predicted Time 3 internalizing problems ($\beta = .14$, $p < .05$). As expected, child maladjustment scores were highly stable, as Time 1 internalizing problems predicted Time 3 internalizing problems ($\beta = .80$, $p < .001$). Fit statistics indicate that the model provided a good fit to the sample data. Age effects were not tested because of very limited age variation for each wave.

As with internalizing problems, Time 1 interparental discord predicted Time 2 emotional insecurity ($\beta = .23$, $p < .05$), which in turn predicted Time 3 externalizing problems ($\beta = .12$, $p < .05$) (see Figure 4). These results were again found even after controlling for the high stability of the adjustment measure, that is, Time 1 externalizing problems predicted Time 3 externalizing problems ($\beta = .77$, $p < .001$). Fit statistics indicate that the model provided a good fit to the sample data. As with the internalizing model, age effects were not tested because of very limited age variation for each wave. Stacked modeling tests of moderation by gender indicated that the model did not differ across girls and boys for internalizing ($\chi^2_{diff} = 8.00$, $df_{diff} = 4$, $p > .09$) or for externalizing ($\chi^2_{diff} = 6.64$, $df_{diff} = 4$, $p > .15$).

Two additional models were tested. Controlling for the effect of Time 1 internalizing on Time 2 emotional security, Time 1 discord showed a trend approaching significance for the prediction of Time 2 insecurity ($\beta = .17$, $p > .05$), with the path from emotional insecurity to Time 3 internalizing decreasing ($\beta = .12$, $p > .10$). Controlling for the effect of Time 1 externalizing on Time 2 emotional security, Time 1 discord significantly predicted Time 2 insecurity ($\beta = .18$, $p < .05$), with the path from insecurity to Time 3 externalizing again decreasing ($\beta = .11$, $p > .10$).

Table 2

Descriptive Statistics and Intercorrelations for Indicator Variables for the Study 2 Internalizing Model

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
Interparental discord															
1. Marital interaction	0.01	7.20	–												
2. Mother OPS	10.16	5.23	.40***	–											
3. Father OPS	10.29	4.82	.42***	.64***	–										
Emotional insecurity															
4. Emotional reactivity	11.38	4.12	.00	.15*	.07	–									
5. Involvement	22.12	7.41	− .04	.13†	.11	.51***	–								
6. Behavioral dysregulation	7.70	2.95	.06	.19**	.18**	.37***	.37***	–							
Internalizing problems															
7. Time 1 mother INT	51.93	9.66	− .03	.17**	.04	.25***	.16*	.17*	–						
8. Time 1 father INT	52.24	10.87	.02	.05†	.13*	.28***	.11	.11	.49***	–					
9. Time 1 mother ASO	7.90	1.79	− .07	.06	− .02	− .02	− .01	− .04	.22**	.04	–				
10. Time 1 father ASO	7.87	1.75	− .06	− .02	− .05	.08	.03	− .01	.20**	.25***	.36***	–			
11. Time 3 mother INT	53.51	10.49	− .07	.12†	.00	.29***	.27***	.21**	.68***	.37***	.23**	.14*	–		
12. Time 3 father INT	53.01	10.36	.00	.07	.18*	.18*	.05	.06	.43***	.66***	.15*	.16*	.42***	–	
13. Time 3 mother ASO	7.91	1.93	− .13†	.03	− .03	.12†	.20**	.04	.32***	.11	.60***	.34***	.41***	.15*	–
14. Time 3 father ASO	8.03	1.99	− .09	.04	.04	.07	− .01	− .01	.25***	.18*	.42***	.58***	.37***	.32***	.49***

Note. Ns range from 199 to 232 owing to missing data. Marital interaction = Coded Marital Conflict Resolution Task; OPS = O'Leary – Porter Scale; INT = Internalizing scale of the Child Behavior Checklist; ASO = Asocial subscale of Child Behavior Scale.
†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 3

Descriptive Statistics and Intercorrelations for Indicator Variables for the Study 2 Externalizing Model

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Interparental discord																			
1. Marital interaction	0.01	7.20	–																
2. Mother OPS	10.16	5.23	.40***	–															
3. Father OPS	10.28	4.82	.42***	.64***	–														
Emotional insecurity																			
4. Emotional reactivity	11.38	4.12	.00	.15*	.07	–													
5. Involvement	22.12	7.41	− .04	.13†	.11	.51***	–												
6. Behavioral dysregulation	7.70	2.95	.06	.19**	.18**	.37***	.37***	–											
Externalizing problems																			
7. Time 1 mother EXT	51.00	9.62	− .04	.15*	.07	.23**	.15*	.41***	–										
8. Time 1 father EXT	52.49	10.65	.03	.04	.14*	.20**	.12†	.30***	.56***	–									
9. Time 1 mother PRO	18.77	2.31	− .02	− .01	.01	.05	.20**	− .07	− .21**	− .25***	–								
10. Time 1 father PRO	17.88	2.58	− .10	− .03	− .10	− .07	− .01	− .15*	− .29***	− .41***	.31***	–							
11. Time 1 teacher HD	5.17	1.78	− .01	− .08	− .05	.10	.04	.10	.21**	.25***	− .17*	− .20**	–						
12. Time 1 teacher EXT	4.50	7.01	− .02	− .06	.03	.08	.10	.17*	.25***	.32***	− .13†	− .15*	.62***	–					
13. Time 3 mother EXT	49.97	9.68	− .06	.12†	.03	.23**	.24**	.41***	.73***	.41***	− .24***	− .22**	.22**	.26***	–				
14. Time 3 father EXT	50.59	10.26	− .05	.00	.13†	.14*	.10	.28***	.46***	.71***	− .21**	− .32***	.29***	.36***	.50***	–			
15. Time 3 mother PRO	18.90	2.27	.04	− .14*	− .07	− .09	.04	− .26***	− .31***	− .23**	.47***	.19**	− .14*	− .25***	− .46***	− .32***	–		
16. Time 3 father PRO	18.20	2.50	− .01	− .04	− .02	.01	.15*	− .19**	− .14*	− .29***	.29***	.43***	− .12†	− .16*	− .26***	− .34***	.38***	–	
17. Time 3 teacher HD	5.25	1.94	.00	.03	− .04	.10	.01	.09	.13†	.14†	− .07	− .15*	.50***	.41***	.25**	.28***	− .15†	− .14†	–
18. Time 3 teacher EXT	5.27	8.77	− .05	− .03	− .05	.05	− .01	.12	.25**	.26***	− .20**	− .07	.37***	.61***	.34***	.36***	− .25**	− .19*	.57***

Note. Ns range from 184 to 232 owing to missing data. Marital Interaction = Coded Marital Conflict Resolution Task; OPS = O'Leary–Porter Scale; EXT = Externalizing scale of the Child Behavior Checklist; PRO = Prosocial subscale of Child Behavior Scale; HD = Hyperactive-Distractible subscale of Child Behavior Scale.
†$p<.10$. *$p<.05$. **$p<.01$. ***$p<.001$.

Figure 3. Study 2 intervening variable model, internalizing problems: controlling for initial levels of internalizing problems. Standardized path coefficients are presented, and *f* superscripts indicate fixed loadings for model estimation. $^*p < .05$. $^{**}p < .01$. $^{***}p < .001$.

General Discussion

Although progress has been made in identifying response processes linked with exposure to marital conflict, few prospective tests of theory-driven models about explanatory mechanisms have been conducted. The present studies further supported the model described by the emotional security hypothesis (Davies & Cummings, 1998; Davies, Harold et al., 2002) for relations between interparental discord and children's adjustment. Expanding on recent tests based on British samples and restricted ages (e.g., 11–12 years at Time 1 in Harold et al., 2004), emotional security was indicated as an explanatory mechanism for two different samples of U.S. children, ranging in age from kindergarten through adolescence. Moreover, consistent with past model tests, emotional security was indicated as an explanatory mechanism for both internalizing and externalizing problems.

In support of EST, the results indicated that emotional security in the context of interparental conflict was a mediating (Study 1) or intervening (Study 2) process linking interparental discord and subsequent child adjustment problems. In particular, interparental discord was associated with child insecurity a year later. Emotional security was, in turn, linked with children's adjustment problems either concurrently (Study 1) or 1 year later (Study 2). Moreover, the viability of assessing emotional security as a latent construct based on multiple theoretically driven component processes was further supported (see also Davies, Harold et al., 2002). In both studies, emotional security predicted later child adjustment, controlling for earlier levels of child adjustment. Notably, in a series of studies, Davies, Harold et al. (2002) demonstrated that emotional security constructs fared well in relation to other theoretical models (e.g., social learning theory), and added significantly to the prediction of child outcomes
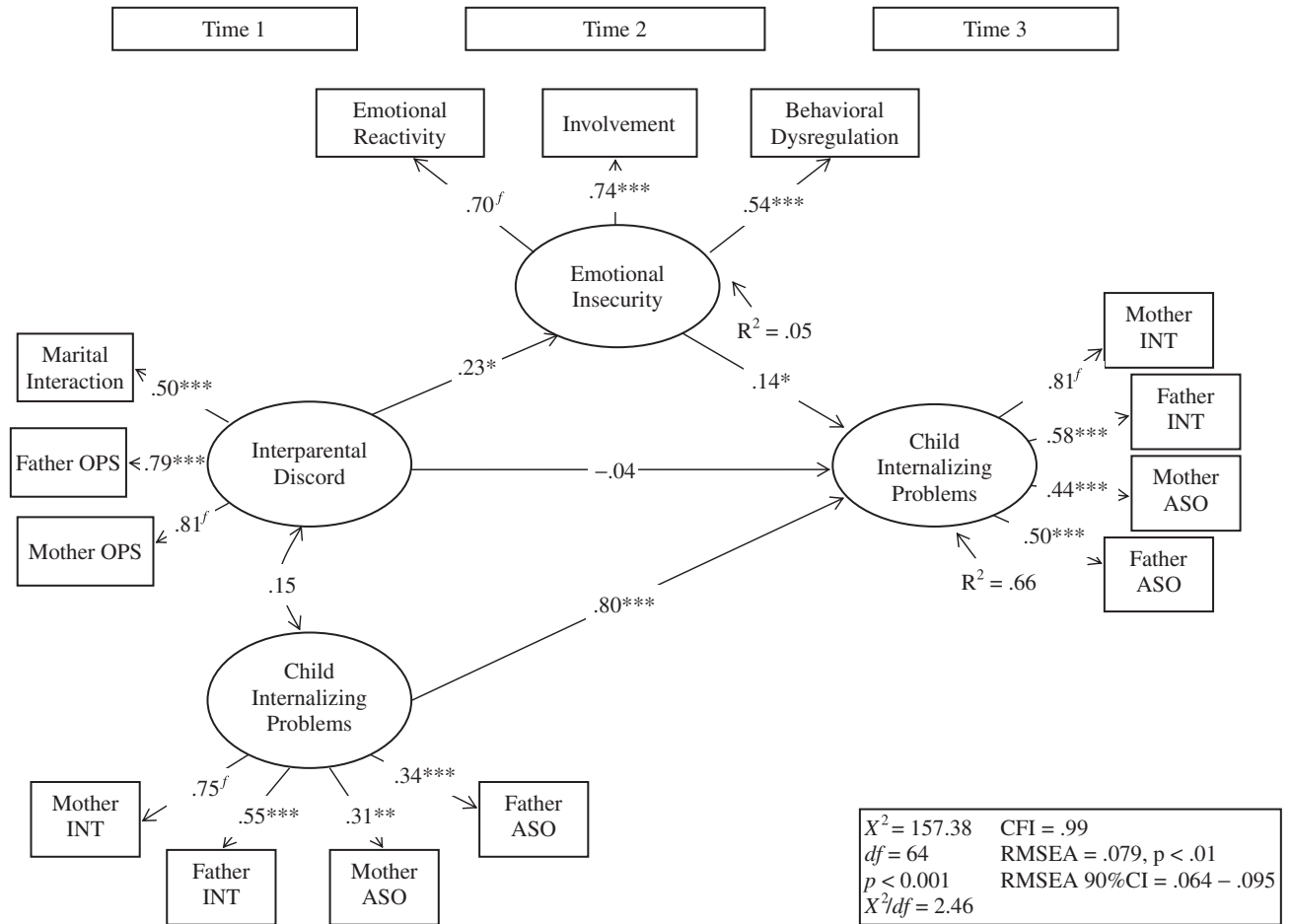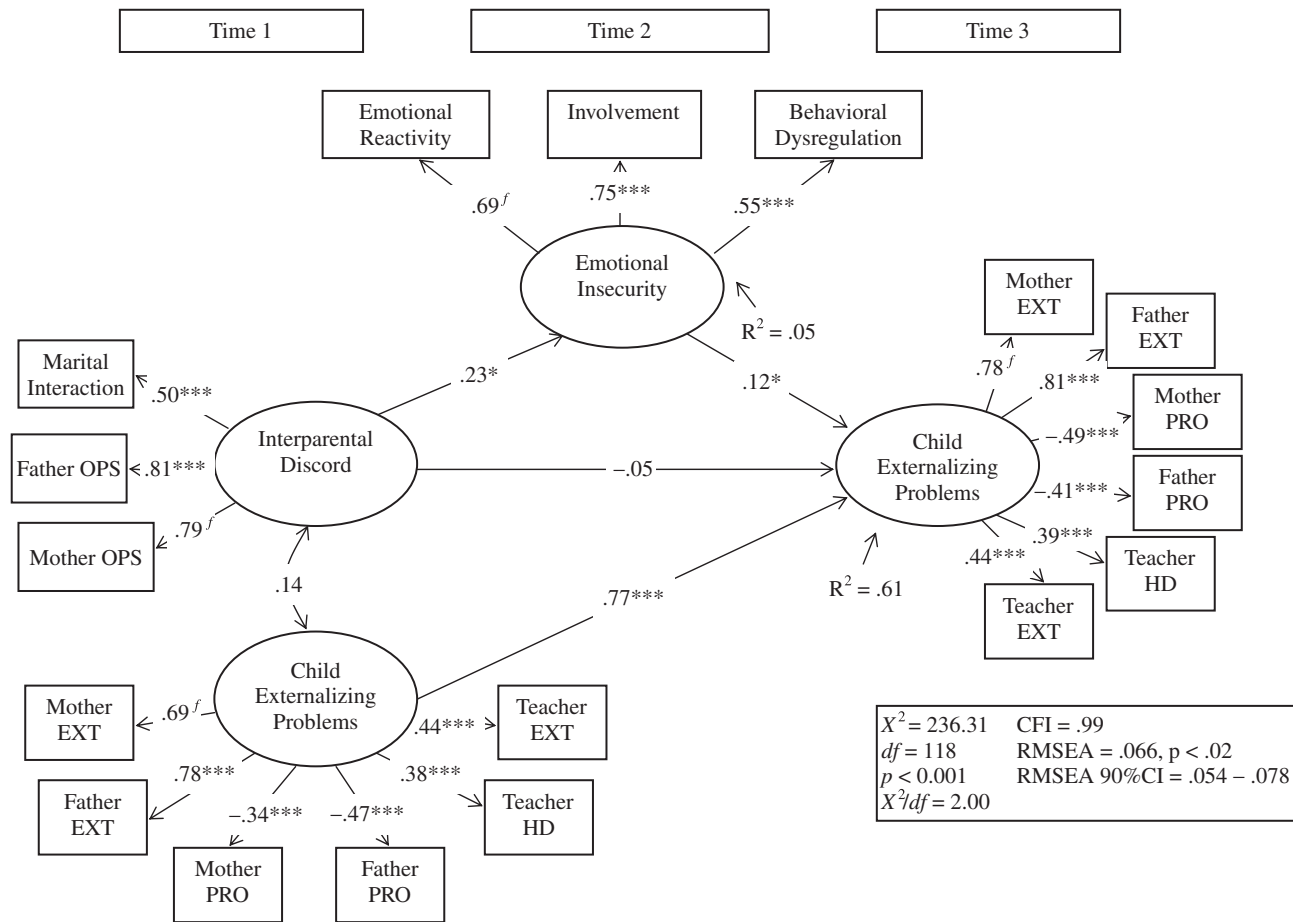
Figure 4. Study 2 intervening variable model, externalizing problems: controlling for initial levels of externalizing problems. Standardized path coefficients are presented, and *f* superscripts indicate fixed loadings for model estimation. $^*p < .05.$ $^{***}p < .001.$

when constructs from other theoretical models were taken into account (i.e., cognitive contextual model, attachment theory; see also Harold et al., 2004).

Relatedly, the Study 1 results for the tests of age as a moderator suggest that the relationship between interparental discord and emotional security is stronger for older children. These results underscore the notion that children's own evaluations of marital conflict, in this instance with regard to the goal of emotional security, may become even *more* important as they get older, reflecting perhaps the increasing sophistication of their reactions to family processes as they get older. Moreover, relative to younger children, older children may have increased sensitivity to adult problems, longer histories of exposure to interparental conflict, and stronger dispositions to mediate in conflicts (Davies & Cummings, in press). The traditional emphasis of attachment theory on emotional security in infancy and early childhood might lead to the expectation that emotional security wanes in importance as children mature. The results

of Study 2 certainly support the notion that emotional security processes are relevant for younger children. Nonetheless, the findings of Study 1 clearly underscore that, at least with regard to emotional security about interparental relations, emotional security evaluations may become even more, rather than less, important as children enter adolescence. Consistent with attachment theory, emotional security processes are important from a life-span perspective, rather than simply for early childhood functioning (Cassidy & Shaver, 1999).

In Study 2, an indirect "chain of events" involving emotional security was supported, that is, interparental conflict was longitudinally linked with child adjustment via emotional insecurity (see also Harold et al., 2004). Notably, the demonstration of a direct path between marital conflict and child adjustment is neither a necessary nor a sufficient condition for testing a process-oriented model which hypothesizes that destructive marital discord ultimately undermines child adjustment problems by setting in

motion pathogenic processes within the child. That is, marital discord is no less important as a predictor in an indirect chain of processes because, without it, the development of the unfolding series of pathogenic processes would have never occurred (Emery, Fincham, & Cummings, 1992; Jenkins, 2002). Numerous studies indicate that marital discord is a risk factor that increases the likelihood of child problems (Davies & Cummings, in press). Methodological differences between our study and most prior studies, that is, the rigor of our multimethod, autoregressive design, are an important context for interpreting differences in the findings across studies. Consistent with this interpretation, the few prior studies utilizing conservative autoregressive designs did not report significant direct paths between marital discord and changes in child adjustment problems (e.g., Grych et al., 2003; Harold et al., 1997, 2004). Null findings are difficult to interpret but the behavior problems may already be well established and sustained by multiple contexts and, as a result, resistant to further changes in the context of rigorous longitudinal analyses (see Cole & Maxwell, 2003), except when changes in emotional security about marital conflict are induced.

Nonetheless, the findings of this study must be interpreted in the context of methodological limitations. First, relationships documented in our community samples of predominantly European American families may not necessarily generalize to families with other racial or ethnic backgrounds or families facing considerable adversity. Second, although we reported the findings as suggesting that interparental discord affected child psychological adjustment by influencing children's emotional insecurity, we acknowledge the operation of child effects on the marriage, as well as the potential for other, more complex, bidirectional processes. Third, our measurement of emotional security is limited to behaviors observable by the mother. Thus, children may feel insecure without exhibiting behavioral manifestations of that security that are detected by the mother. Fourth, a more robust model test was provided in Study 1 than in Study 2, including pathways from Time 1 adjustment to Time 2 emotional security. Inclusion of these tests weakened the strength of associations for Study 2 and thus were excluded from the final models presented. Links between adjustment and emotional security are not surprising; for example, adjustment problems may influence other family processes (e.g., marital conflict) that foster insecurity (Schermerhorn, Cummings, DeCarlo, & Davies, 2005). Supporting the cogency of the results, Study 2 nonetheless provided

a relatively stringent test of the theory, based on multimethod, multi-informant data, multiple autoregressive controls, three time points of assessment, and a 2-year time span between Time 1 and Time 3. At the same time, the precision of model tests for Study 2 is reduced when this pathway is excluded from model tests (Cole & Maxwell, 2003).

Despite the limitations, these multimethod, prospective studies importantly advanced empirical tests of pathways between interparental discord, child psychological processes, and child adjustment. Both studies together provide a more cogent case for the emotional security theory than either one considered separately. By systematically varying developmental period, temporal spacing of processes in relation to other constructs in the model, and methods of assessment (e.g., observational assessment of marital interactions), this multistudy paper further, and more authoritatively, advances support for the emotional security theory. Thus, these studies advance the cause of process-oriented research in this area, responding to the (frequent) calls for tests of cause and effect relations through prospective research design (Fincham & Grych, 2001; Fincham, Grych, & Osborne, 1994).

References

Achenbach, T. M. (1991a). *Manual for the child behavior checklist: 4−18 and 1991 profile*. Burlington: Department of Psychiatry, University of Vermont.

Achenbach, T. M. (1991b). *Manual for the teacher report form and 1991 profile*. Burlington: Department of Psychiatry, University of Vermont.

Ainsworth, M. D. (1990). Some considerations regarding theory and assessment relevant to attachments beyond infancy. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 463−488). Chicago: University of Chicago Press.

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Erlbaum.

Arbuckle, J. L., & Wothke, W. (1999). *Amos 4.0 user's guide*. Chicago: SmallWaters Corporation.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173−1182.

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin, 107*, 238−246.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin, 88*, 588−606.

Blatz, W. E. (1966). *Human security: Some reflections*. Toronto: University of Toronto Press.

Bowlby, J. (1949). The study and reduction of group tensions in the family. *Human Relations, 2*, 123–128.

Bowlby, J. (1969). *Attachment and loss. Vol. 1. Attachment.* New York: Basic Books.

Bowlby, J. (1973). *Attachment and loss. Vol. 2. Separation: Anxiety and anger.* New York: Basic Books.

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Newbury Park, CA: Sage.

Buehler, C. A., Anthony, C., Krishnaukumar, A., & Stone, G. (1997). Interparental conflict and youth problem behaviors: A meta-analysis. *Journal of Child and Family Studies, 6*, 223–247.

Byng-Hall, J. (1995). Creating a secure family base: Some implications of attachment theory for family therapy. *Family Process, 34*, 45–58.

Cassidy, J., & Shaver, P. R. (Eds.) (1999). *Handbook of attachment: Theory, research, and clinical applications.* New York: Guilford Press.

Cicchetti, D., & Cohen, D. J. (1995). Perspectives on developmental psychopathology. In D. J. Cohen & D. Cicchetti (Eds.), *Developmental psychopathology, Vol. 1: Theory and methods* (pp. 3–20). Oxford, UK: John Wiley & Sons.

Cicchetti, D., Cummings, E. M., Greenberg, M. T., & Marvin, R. S. (1990). An organizational perspective on attachment beyond infancy: Implications for theory, measurement, and research. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 3–49). Chicago: University of Chicago Press.

Cohen, J. (1978). Partialed products *are* interactions; partialed powers *are* curve components. *Psychological Bulletin, 85*, 858–866.

Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: Questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology, 112*, 558–577.

Crane, D. R., Allgood, S. M., Larson, J. H., & Griffin, W. (1990). Assessing marital quality with distressed and nondistressed couples: A comparison and equivalency table for three frequently used measures. *Journal of Marriage and the Family, 52*, 87–93.

Crockenberg, S., & Langrock, A. (2001). The role of emotion and emotional regulation in children's responses to interparental conflict. In J. H. Grych & F. D. Fincham (Eds.), *Interparental conflict and child development: Theory, research, and applications* (pp. 129–156). New York: Cambridge University Press.

Cummings, E. M., & Cicetti, D. (1990). Toward a transactional model of relations between attachment and depression. In D. Cicchetti & M. T. Greenberg (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 339–372). Chicago: University of Chicago Press.

Cummings, E. M., & Cummings, J. S. (1988). A process-oriented approach to children's coping with adults' angry behavior. *Developmental Review, 8*, 296–321.

Cummings, E. M., & Davies, P. T. (1994). *Children and marital conflict: The impact of family dispute and resolution.* New York: Guilford Press.

Cummings, E. M., & Davies, P. T. (1996). Emotional security as a regulatory process in normal development and the development of psychopathology. *Development and Psychopathology, 8*, 123–139.

Cummings, E. M., & Davies, P. T. (2002). Effects of marital conflict on children: Recent advances and emerging themes in process-oriented research. *Journal of Child Psychology and Psychiatry, 43*, 31–63.

Cummings, E. M., Davies, P. T., & Campbell, S. B. (2000). *Developmental psychopathology and family process: Theory, research, and clinical implications.* New York: Guilford Press.

Cummings, E. M., Goeke-Morey, M. C., & Papp, L. M. (2003). Children's responses to everyday marital conflict tactics in the home. *Child Development, 74*, 1918–1929.

Cummings, E. M., Goeke-Morey, M. C., & Papp, L. M. (2004). Everyday marital conflict and child aggression in the home. *Journal of Abnormal Child Psychology, 32*, 191–202.

Cummings, E. M., Goeke-Morey, M. C., Papp, L. M., & Dukewich, T. L. (2002). Children's responses to mothers' and fathers' emotionality and conflict tactics during marital conflict in the home. *Journal of Family Psychology, 16*, 478–492.

Cummings, E. M., Zahn-Waxler, C., & Radke-Yarrow, M. (1981). Young children's responses to expressions of anger and affection by others in the family. *Child Development, 52*, 1274–1282.

Dadds, M. R., Atkinson, E., Turner, C., Blums, G. J., & Lendich, B. (1999). Family conflict and child adjustment: Evidence for a cognitive-contextual model of intergenerational transmission. *Journal of Family Psychology, 13*, 194–208.

Davies, P. T., Cicchetti, D., Sturge-Apple, M. L., & Cummings, E. M. (2005). The role of child adrenocortical functioning in pathways between forms of interparental conflict and child maladjustment. Manuscript submitted for publication.

Davies, P. T., & Cummings, E. M. (1994). Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin, 116*, 387–411.

Davies, P. T., & Cummings, E. M. (1998). Exploring children's emotional security as a mediator of the link between marital relations and child adjustment. *Child Development, 69*, 124–139.

Davies, P. T., & Cummings, E. M. (in press). Interparental discord, family process, and developmental psychopathology. In D. Cicchetti & D. Cohen (Eds.), *Developmental psychopathology: Vol. 3: Risk, disorder, and adaptation* (2nd ed.). New York: John Wiley & Sons.

Davies, P. T., Cummings, E. M., & Winter, M. A. (2004). Pathways between profiles of family functioning, child security in the interparental system, and child psychological problems. *Development and Psychopathology, 16*, 525–550.

Davies, P. T., & Forman, E. M. (2002). Children's patterns of preserving emotional security in the interparental subsystem. *Child Development*, 73, 1880–1903.

Davies, P. T., Forman, E. M., Rasi, J. A., & Stevens, K. I. (2002). Assessing children's emotional security in the interparental relationship: The security in the interparental subsystem scales. *Child Development*, 73, 544–562.

Davies, P. T., Harold, G. T., Goeke-Morey, M. C., & Cummings, E. M. (2002). Child emotional security and interparental conflict. *Monographs of the Society for Research in Child Development*, 67(3, Serial No. 270).

Davies, P. T., Sturge-Apple, M. L., Winter, M. A., Cummings, E. M., & Farrell, D. (in press). Child adaptational development in contexts of interparental conflict over time. *Child Development*.

DuRocher Schudlich, T. D., & Cummings, E. M. (2003). Parental dysphoria and children's internalizing symptoms: Marital conflict styles as mediators of risk. *Child Development*, 74, 1663–1681.

Emery, R. E. (1989). Family violence. *American Psychologist*, 44, 321–328.

Emery, R. E., Fincham, F. D., & Cummings, E. M. (1992). Parenting in context: Systemic thinking about parental conflict and its influence on children. *Journal of Consulting and Clinical Psychology*, 60, 909–912.

Fincham, F. D., & Grych, J. H. (2001). Advancing understanding of the association between interparental conflict and child development. In J. Grych & F. Fincham (Eds.), *Interparental conflict and child development: Theory, research, and applications* (pp. 443–452). New York: Cambridge University Press.

Fincham, F. D., Grych, J. H., & Osborne, L. N. (1994). Does marital conflict cause child maladjustment? Directions and challenges for longitudinal research. *Journal of Family Psychology*, 8, 128–140.

Fincham, F. D., & Linfield, K. J. (1997). A new look at marital quality: Can spouses feel positive and negative about their marriage? *Journal of Family Psychology*, 11, 489–502.

Goeke-Morey, M. C., Cummings, E. M., Harold, G. T., & Shelton, K. H. (2003). Categories and continua of destructive and constructive marital conflict tactics from the perspective of Welsh and US children. *Journal of Family Psychology*, 17, 327–338.

Grych, J. H., & Fincham, F. D. (1990). Marital conflict and children's adjustment: A cognitive-contextual framework. *Psychological Bulletin*, 108, 267–290.

Grych, J.H, Fincham, F. D., Jouriles, E. N., & McDonald, R. (2000). Interparental conflict and child adjustment: Testing the mediational role of appraisals in the cognitive-contextual framework. *Child Development*, 71, 1648–1661.

Grych, J. H., Harold, G. T., & Miles, C. J. (2003). A prospective investigation of appraisals as mediators of the link between interparental conflict and child adjustment. *Child Development*, 74, 1176–1193.

Grych, J. H., Seid, M., & Fincham, F. (1992). Assessing marital conflict from the child's perspective: The children's perceptions of interparental conflict scale. *Child Development*, 63, 558–572.

Harold, G. T., & Conger, R. D. (1997). Marital conflict and adolescent distress: The role of adolescent awareness. *Child Development*, 68, 333–350.

Harold, G. T., Fincham, F. D., Osborne, L. N., & Conger, R. D. (1997). Mom and dad are at it again: Adolescent perceptions of marital conflict and adolescent psychological distress. *Developmental Psychology*, 33, 333–350.

Harold, G. T., Shelton, K. H., Goeke-Morey, M. C., & Cummings, E. M. (2004). Marital conflict and child adjustment: Prospective longitudinal tests of the mediating role of children's emotional security about family relationships. *Social Development*, 13, 350–376.

Hayduk, L. A. (1987). *Structural equation modeling with LISREL: Essentials and advances*. Baltimore: John Hopkins University Press.

Hinshaw, S. P., Han, S. S., Erhardt, D., & Huber, A. (1992). Internalizing and externalizing behavior problems in preschool children: Correspondence among parent and teacher ratings and behavior observations. *Journal of Clinical Child Psychology*, 21, 143–150.

Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: Examples from the child-clinical and pediatric psychology literatures. *Journal of Consulting and Clinical Psychology*, 65, 599–610.

Ingoldsby, E. M., Shaw, D. S., Owens, E. B., & Winslow, E. B. (1999). A longitudinal study of interparental conflict, emotional and behavioral reactivity, and preschoolers' adjustment problems among low income families. *Journal of Abnormal Child Psychology*, 27, 343–356.

Jaccard, J., & Wan, C. K. (1995). Measurement error in the analysis of interaction effects between continuous predictors using multiple regression: Multiple indicator and structural equation approaches. *Psychological Bulletin*, 117, 348–357.

Jaccard, J., & Wan, C. K. (1996). *LISREL approaches to interaction effects in multiple regression (Sage University Paper series on Quantitative Applications in the Social Sciences, series no. 07-114)*. Thousand Oaks, CA: Sage Publications.

Jenkins, J. M. (2002). Commentary: Mechanisms in the development of emotional regulation. *Monographs of the Society for Research in Child Development*, 67, 116–127.

Kenny, D. A., & Judd, C. M. (1984). Estimating the nonlinear and interactive effects of latent variables. *Psychological Bulletin*, 96, 201–210.

Kerig, P. K. (1998). Moderators and mediators of the effects of interparental conflict on children's adjustment. *Journal of Abnormal Child Psychology*, 26, 199–212.

Kobak, R. R., & Sceery, A. (1988). Attachment in late adolescence: Working models, affect regulation, and representations of self and others. *Child Development*, 59, 135–146.

Kovacs, M. (1981). Rating scale to assess depression in school aged children. *Acta Paedopsychiatrica*, 46, 305–315.

Ladd, G. W., & Profilet, S. M. (1996). The Child Behavior Scale: A teacher-report measure of young children's aggressive, withdrawn, and prosocial behaviors. *Developmental Psychology, 32*, 1008–1024.

Locke, H. J., & Wallace, K. M. (1959). Short marital adjustment prediction tests: Their reliability and validity. *Marriage and Family Living, 21*, 251–255.

MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods, 7*, 83–104.

Marsh, H. W., Wen, Z., & Hau, K.-T. (2004). Structural equation models of latent interactions: Evaluation of alternative estimation strategies and indicator construction. *Psychological Bulletin, 9*, 275–300.

Marvin, R. S., & Stewart, R. B. (1990). A family systems framework for the study of attachment. In D. Cicchetti & M. T. Greenberg (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 51–86). Chicago: University of Chicago Press.

McHale, J. P., Kuersten-Hogan, R., Lauretti, A., & Rasmussen, J. L. (2000). Parental reports of coparenting and observed coparenting behavior during the toddler period. *Journal of Family Psychology, 14*, 220–236.

Neighbors, B. D., Forehand, R., & Bau, J. J. (1997). Interparental conflict and relations with parents as predictors of young adult functioning. *Development and Psychopathology, 9*, 169–187.

Porter, B., & O'Leary, K. D. (1980). Marital discord and childhood behavior problems. *Journal of Abnormal Child Psychology, 8*, 287–295.

Schermerhorn, A. C., Cummings, E. M., DeCarlo, C. A., & Davies, P. T. (2005). Children's influence in the marital relationship. Manuscript submitted for publication.

Sroufe, L. A., & Waters, E. (1977). Heart rate as a convergent measure in clinical and developmental research. *Merrill Palmer Quarterly, 23*, 3–27.

Straus, M. A. (1979). Measuring intrafamily conflict and violence: The conflict tactics (CT) scales. *Journal of Marriage and the Family, 41*, 75–88.

Sturge-Apple, M. L., Davies, P. T., Boker, S. M., & Cummings, E. M. (2004). Interparental discord and parenting: Testing the moderating roles of child and parent gender. *Parenting: Science and Practice, 4*, 361–380.

Thompson, R. A. (2000). The legacy of early attachments. *Child Development, 71*, 145–152.

U.S. Census Bureau. (2000). United States Census 2000 [Data file]. Available from U.S. Census Bureau Web site, http://www.census.gov/

Waters, E., & Cummings, E. M. (2000). A secure base from which to explore close relationships. *Child Development, 49*, 164–172.

Waters, E., Weinfield, N. S., & Hamilton, C. E. (2000). The stability of attachment security from infancy to adolescence and early adulthood: General discussion. *Child Development, 71*, 703–706.