
Marital Conflict and Children's Adjustment: Evaluation of the Parenting Process Model

This investigation tested whether parenting mediates longitudinal associations between marital conflict and children's adjustment. Data were drawn from a three-wave study of 283 families with children aged 8 – 16 years at Wave 1. Relations among marital conflict, parenting (behavioral control, psychological autonomy, and warmth), and children's adjustment (externalizing and internalizing) were examined. Structural equation models indicated multiple dimensions of parenting mediated relations between marital conflict and children's adjustment. When including controls for earlier adjustment, behavioral control continued to mediate relations between marital conflict and change in children's internalizing symptoms over time. These results advance parenting process models for relations between marital conflict and child adjustment and provide impetus for study of other pathways, including direct and child effects.

Decades of research have demonstrated links between marital or interparental conflict and

children's socioemotional functioning (Davies & Cummings, 1994; Emery, 1982). Continuing to document simple associations between marital conflict and children's adjustment, however, has reached a point of diminishing returns (Cummings & Davies, 2002). The next step is to identify the processes through which marital conflict affects children's adjustment, including pathways for direct effects, such as children's emotional security (Cummings, Schermerhorn, Davies, Goeke-Morey, & Cummings, 2006), and indirect effects resulting from changes in family functioning, such as parenting behavior (Fauber, Forehand, Thomas, & Wiersen, 1990).

The present study focuses on further investigating the *parenting process model*, which posits that parenting quality mediates the association between marital conflict and children's adjustment. Links between the quality of marital and parent-child relationships are frequently reported (Erel & Burman, 1995; Krishnakumar & Buehler, 2000). In a recent meta-analysis, Krishnakumar and Buehler found the average association between interparental conflict and parenting behaviors to be moderate (Cohen's $d = -.62$). Yet many questions remain about these relations at a process level, partly because of limitations in approach.

A THEORETICAL PERSPECTIVE ON THE MEDIATIONAL ROLE OF PARENTING

Although various perspectives emphasize the important role of parenting (e.g., *spillover hypothesis*, Erel & Burman, 1995), *emotional*

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Key Words: child outcomes, longitudinal, marital conflict, parent-child relations, parenting, structural equation modeling.

security theory (Davies & Cummings, 1994), grounded in attachment theory, is among the few with well-specified predictions and tests of predictions. Emotional security theory hypothesizes that marital conflict reduces children's emotional security within the family context and that reduced emotional security leads to adjustment problems. The emotional security framework incorporates parent-child relationship quality (i.e., attachment security) as an important component of children's emotional security; insecurity arises when marital conflict disrupts parent-child relationships. Marital conflict is viewed as disrupting parent-child relationships in several ways. First, marital conflict "spills over" to affect other relationships, including the parent-child relationship, causing contagion of negative emotionality. Second, marital conflict results in diminished parental resources to support optimal parenting. Notably, Doyle and Markiewicz (2005) examined adolescent attachment insecurity as a component of the parenting process model and found that attachment insecurity explained associations between parental warmth and adolescents' externalizing problems and self-esteem.

GAPS IN PAST STUDIES OF THE PARENTING PROCESS MODEL

Although the validity of the parenting process model is often taken for granted (e.g., Crockerberg & Covey, 1991), Buehler and Gerard (2002) pointed out that previous research on parenting as a mediator has been limited by insufficient tests, including the use of relatively small, unrepresentative samples (e.g., Mann & MacKenzie, 1996), a focus on a single aspect of parenting or parent-child relationships (e.g., Chang, Lansford, Schwartz, & Farver, 2004; Harold & Conger, 1997), study of only one parent-child (typically mother-child) dyad (e.g., Fauber et al., 1990; Krishnakumar, Buehler, & Barber, 2003), and reliance on single informants (e.g., Buehler & Gerard; Gonzales, Pitts, Hill, & Roosa, 2000). These weaknesses may contribute to the findings of parenting as an explanatory variable in some investigations (e.g., Harold, Fincham, Osborne, & Conger, 1997; Stocker, Richmond, Low, Alexander, & Elias, 2003) and less consistent results in others (e.g., Frosch & Mangelsdorf, 2001; Stone, Buehler, & Barber, 2002). Thus, Buehler and Gerard concluded, "mediating ef-

fects might exist, but they are not a foregone conclusion based on the empirical literature" (p. 79).

Recent research reflects progress in testing mediational models. For example, Kaczynski, Lindahl, Malik, and Laurenceau (2006) found that parenting mediated links between marital conflict and child adjustment and Buehler and Gerard (2002) found that a multidimensional operationalization of ineffective parenting fully mediated the relation between marital conflict and adolescents' maladjustment. Using samples of 10- to 18-year-old European American and African American children, Krishnakumar et al. (2003) concluded that youth perceptions of multiple aspects of parenting partially explained links between interparental conflict and youth problem behavior but more so in European American families than in African American families. Gonzales et al. (2000) found evidence for the mediational role of parenting for children's depression and conduct problems in a low-income minority sample of 9- to 11-year-old children.

In theory, however, mediation involves a chain of causal relations, and for one variable to cause another, the cause must precede the outcome in time (Cole & Maxwell, 2003). Thus, longitudinal studies of the parenting process model hold promise for more closely examining whether processes proceed in accord with the hypothesized model (Buehler & Gerard, 2002; Harold & Conger, 1997). In particular, longitudinal designs go a step beyond cross-sectional designs in that they demonstrate associations among constructs, not just concurrently but also over time. Estimates of relations among constructs gleaned from cross-sectional data may be inflated because of concurrent measurement, and at the same time, concurrent relations among constructs do not necessarily imply that the constructs are related across time as hypothesized. Moreover, longitudinal tests allow for the inclusion of key variables, such as pre-existing levels of child adjustment, that cannot be taken into account in cross-sectional designs and may (if left unmeasured) contribute to inflation of relations among variables (Cole & Maxwell).

To date, only a few studies have included longitudinal tests of the parenting process model. Harold et al. (1997) reported data from two studies, the second of which utilized two waves of data, indicating that indirect effects through adolescents' perceptions of parental hostility accounted for the association between marital conflict and increases in externalizing problems

but that marital conflict predicted change in adolescents' internalizing problems through both direct and indirect pathways. Chang et al. (2004) used two waves of data to examine the mediating role of harsh parenting in explaining the association between marital conflict and change in Chinese children's externalizing problems over time and found evidence for mediation. In a rare longitudinal test that considered multiple aspects of parenting, Doyle and Markiewicz (2005) used two waves of adolescent self-report data, finding that parenting mediated the relation between marital conflict and change in adolescent adjustment. In the only study to date measuring the cause, mediators, and outcome at distinct points in time in addition to accounting for pre-existing levels of child adjustment, Harold and Conger (1997) found that parent-child hostility (as reported by parents and observers) and adolescents' perceptions of parent-child hostility provided an indirect link between marital conflict and change in adolescent psychological distress over time.

Thus, no single study has used three waves of data, accounted for pre-existing levels of child adjustment, and included measures of multiple aspects of parenting behavior to test the parenting process model. In addition, many previous tests may have underestimated mediational effects by focusing on mothers' parenting (e.g., Fauber et al., 1990; Krishnakumar et al., 2003) and not including fathers' reports of parenting. Moreover, of the few longitudinal studies described above, only two employed structural equation modeling (SEM) techniques (Harold & Conger, 1997; Harold et al., 1997), which offer distinct advantages for the simultaneous testing of multiple paths and for incorporating information from multiple reporters (e.g., mothers, fathers, children). Use of latent variables allows for measurement error to be separated out from what is common among informants' perspectives, improving representations of constructs (Cole & Maxwell, 2003). In the current study, we extended past research on the parenting process model by utilizing three waves of data, considering several key facets of parenting and incorporating reports from multiple informants.

QUESTIONS ADDRESSED IN THE PRESENT STUDY

First, *Does parenting mediate the longitudinal association between marital conflict and child-*

ren's externalizing and internalizing symptoms? The three dimensions of parenting examined here are psychological autonomy, behavioral control, and warmth. All three aspects of parenting are expected to mediate the effects of marital conflict on child adjustment but psychological autonomy and warmth are expected to be the most consistent mediators, given the importance ascribed to emotional dimensions of parent-child relationships by emotional security theory (Davies & Cummings, 1994). Moreover, parental psychological control (vs. autonomy) has been shown to mediate the effects of marital conflict on internalizing problems (Fauber et al., 1990; Krishnakumar et al., 2003; Stone et al., 2002), externalizing problems (Stone et al.), and self-esteem and internalizing problems (Doyle & Markiewicz, 2005). Similarly, parental warmth and acceptance, or alternatively, harsh and hostile parenting, are implicated in the effects of marital conflict on externalizing problems (Krishnakumar et al.); internalizing and externalizing problems (Buehler & Gerard, 2002; Fauber et al.; Gonzales et al., 2000; Harold & Conger, 1997); and self-esteem, internalizing problems, and externalizing problems (Doyle & Markiewicz). Less consistently, parental behavioral control has been found to mediate effects on externalizing problems (Krishnakumar et al.) and conduct problems and depression (Gonzales et al.). Addressing a gap, no (three-wave) longitudinal study has simultaneously assessed the relative importance of these key aspects of parenting in the context of the parenting process model, allowing inferences about the relative importance of these dimensions of parenting. Further precision in specifying directions of influence and the roles of particular parenting dimensions was gained by introducing autoregressive controls for earlier child adjustment in these models. In other words, we examined whether parenting contributes to the process through which marital conflict predicts changes in child adjustment over time.

Second, *Do child gender or age moderate relevant associations in these mediational models?* Despite early controversy, there is now general agreement that marital conflict represents an equivalent risk factor for both boys and girls and for children of all ages (for a meta-analysis, see Buehler et al., 1997). Yet it remains possible that the processes linking conflict and children's functioning may differ across gender and development. Some research suggests that

girls may be more vulnerable (e.g., Harold et al., 1997; Krishnakumar & Buehler, 2000), whereas other studies have suggested that boys may be at greater risk when marital problems affect parenting (e.g., Harold & Conger, 1997; Verlaan & Schwartzman, 2002). Other studies have neither found nor emphasized distinct gender-related patterns (e.g., Buehler & Gerard, 2002; Chang et al., 2004). Thus, in the absence of a theoretical rationale for expecting gender-related patterns, and given the contradictory nature of past results, we did not advance specific hypotheses but we did examine the role of gender in the parenting process model.

With regard to age, both Krishnakumar and Buehler (2000) and Buehler and Gerard (2002) found a stronger link between interparental conflict and parenting for adolescents than for younger children. Thus, for our sample of children ranging in developmental level from middle childhood to adolescence, we hypothesized that stronger links between marital conflict and parenting would emerge for older than for younger children. The ability to test for age effects is another key advantage of the present study.

Finally, *Does parenting moderate longitudinal relations between marital conflict and child adjustment?* We also considered a set of alternative models in which the three dimensions of parenting moderated relations between marital conflict and children's externalizing and internalizing symptoms. Some have suggested that positive parenting may buffer children from the negative effects of marital conflict or that ineffective parenting exacerbates the negative effects of exposure to marital conflict (Buehler, Krishnakumar, Anthony, Tittsworth, & Stone, 1994). Although few investigations have considered these possibilities, several studies have found evidence for moderation (e.g., Buehler & Gerard, 2002; Frosch & Mangelsdorf, 2001), and thus, we also tested for moderation in the present study.

METHOD

Participants

Data for this study were drawn from a three-wave longitudinal study of a community sample of 283 families. Participants included one child per family (145 boys, 138 girls) and their married or cohabiting parents. The age of the children ranged from 8 to 16 years when enrolled in the study

($M = 11.11$, $SD = 2.27$). To be eligible to participate, couples had to have cohabited for at least 2 years prior to the beginning of the study. Two hundred and seventy-five (97%) couples were married, and the average length of cohabitation was 13.29 years ($SD = 5.95$). The mean age of mothers was 37.67 years ($SD = 5.89$), and the mean age of fathers was 40.00 years ($SD = 6.54$).

Efforts were made to actively recruit families of low socioeconomic status and of racial and ethnic diversity, including recruitment efforts at school districts, sign-ups at community agencies and events for diverse communities, and postcard mailings to lower SES areas. According to U.S. Census Bureau statistics (2000), the population by race in the county was 88% European American, 8% African American, and 4% Hispanic. Similarly, 85.5% of the children in our sample were European American, 9.0% were African American, 2.9% were biracial, 0.4% were Asian, and 2.2% were Hispanic.

Regarding educational attainment, 98% of mothers and 96% of fathers had completed at least high school, and 35% of mothers and 42% of fathers had completed at least a bachelor's degree. Household incomes ranged from \$0 – \$10,000 (2% of the sample) to \$80,000 or more (12% of the sample), with a median income of \$40,000 – \$65,000. In terms of family size, 44% of the families consisted of three or four members, 50% had five to seven members, and 6% had eight or more members. Stepfamilies comprised 17% of the sample (49 families).

Procedure

As part of a larger study, participating parents and their children completed questionnaires in the laboratory every year for 3 years, during sessions lasting approximately 3 hours. Parents completed questionnaires in separate rooms. Children also completed questionnaires in a separate room with the assistance of a trained research assistant. Substantial efforts were made to reduce missing data consistent with recommendations by Acock (2005), including the use of newsletters, reminder calls and postcards, and a policy of rescheduling visits as many times as needed for willing families. The attrition rate was low, with 251 families (89%) retained at Wave 2 and 246 families (87%) retained at Wave 3. We tested for differences in each of the variables in our study as a function of attrition. A difference was found for the

demographic variables: Parents whose families participated in all three waves had higher levels of education, $\chi^2(13, n = 283) = 30.89, p < .01, \phi = .33$ for mothers; $\chi^2(12, n = 282) = 24.92, p < .05, \phi = .30$ for fathers. There were several significant differences in the central variables of the study (see below for descriptions of the variables): (a) mothers' and fathers' Conflict Tactics Scale (Straus, 1979) verbal aggression scores were lower in families who participated in all three waves ($M = 10.62, SD = 6.57$ for mothers; $M = 9.55, SD = 6.45$ for fathers) than in families who did not ($M = 12.98, SD = 7.21$ for mothers; $M = 11.81, SD = 7.48$ for fathers), $t_{\text{Mothers}}(279) = -2.23, p < .05$ and $t_{\text{Fathers}}(274) = -2.11, p < .05$; (b) mothers whose families participated in all three waves reported lower O'Leary-Porter Scale (Porter & O'Leary, 1980) scores ($M = 18.41, SD = 5.19$) than mothers whose families did not ($M = 20.23, SD = 5.81$), $t_{\text{OPS}}(281) = -2.17, p < .05$; (c) fathers whose families participated in all three waves reported more child withdrawn symptoms ($M = 1.85, SD = 2.08$) than fathers whose families did not ($M = 1.27, SD = 1.35$), $t_{\text{WD-F}}(68) = 2.23, p < .05$ (Child Behavior Checklist; Achenbach, 1991); (d) children whose families participated in all three waves reported lower parental strictness scores and lower parental warmth scores ($M = 20.35, SD = 4.22$ for strictness; $M = 17.22, SD = 2.79$ for warmth) on the Index of Parenting Style Questionnaire (Lamborn, Mounts, Steinberg, & Dornbusch, 1991) than children whose families did not ($M = 22.47, SD = 2.70$ for strictness; $M = 18.81, SD = 3.25$ for warmth), $t_{\text{Strictness}}(18.69) = -2.83, p < .05$; $t_{\text{Warmth}}(249) = -2.19, p < .05$; and (e) fathers whose families participated in all three waves reported lower Parent Behavior Inventory (Margolies & Weintraub, 1977) acceptance scores ($M = 58.53, SD = 7.29$) than fathers whose families did not ($M = 63.40, SD = 6.89$), $t(246) = -2.51, p < .05$.

Parents' reports of marital satisfaction on the widely used Marital Adjustment Test (Locke & Wallace, 1959) provide a basis for comparing the marital functioning of our sample with other samples. Scores can range from 2 to 158, with scores below 100 suggesting marital distress (Crane, Allgood, Larson, & Griffin, 1990). The mean score for mothers was 112.51 ($SD = 25.36$, range = 18 – 154) and for fathers 109.71 ($SD = 23.05$, range = 28 – 156). Seventy-three mothers (26%) and 80 fathers (28%) had scores

below 100, suggesting marital distress. One hundred and fifteen couples (41%) included at least one partner who scored below 100. Although the percentage of participants scoring in the distressed range is somewhat higher than that reported for other community samples, the average level of distress is comparable (e.g., McHale, Kuersten-Hogan, Lauretti, & Rasmussen, 2000).

Measures

Marital conflict. Data on marital conflict were derived from mothers' and fathers' reports on three questionnaires at Wave 1: the O'Leary-Porter Scale (Porter & O'Leary, 1980), the Conflict Tactics Scale (Straus, 1979), and the Positive and Negative Quality in Marriage Scale (Fincham & Linfield, 1997). The O'Leary-Porter Scale contains 10 items assessing interparental hostility in the presence of the child, $\alpha = .84$ for mothers and .81 for fathers in this sample. The Conflict Tactics Scale assesses how couples handle conflict using 19 items rated on 7-point scales and includes a summary scale assessing the extent of verbal aggression between partners (six items) used in the present analyses ($\alpha = .79$ and .81, for mothers and fathers, respectively). The Positive and Negative Quality in Marriage Scale uses six items to assess partners' positive and negative perceptions of their spouse and marriage and has good psychometric properties. For the present study, items were rated using a 10-point scale (*low to high*), and summary scores on the negative marital quality scale (three items) were included in the analyses ($\alpha = .92$ for mothers and .89 for fathers). These six indicators of marital conflict were used to create a latent variable representing marital conflict for SEM.

Parenting quality. Data were obtained from mothers', fathers', and children's reports of parenting at Wave 2. The main instrument used to assess parenting was the 56-item Parent Behavior Inventory (Margolies & Weintraub, 1977), which assesses three dimensions of parenting: Firm Control/Lax Control (16 items) measures the extent to which the parent consistently enforces rules instead of eschewing rule enforcement or using inconsistent punishments (e.g., "I check up to see whether my child has done what he/she was told to do"); Psychological Autonomy/Psychological Control (16 items) captures the extent to which the parent uses direct methods of controlling the child instead of inducing guilt

or anxiety as a means of control (e.g., the parent does not strongly endorse items like "I tell my child how much I have suffered for him/her"); and Acceptance/Rejection (24 items) assesses the extent to which the parent expresses warmth toward the child and enjoys the child's company versus expressing hostility or coldness toward the child (e.g., "I like to talk to my child and be with him/her much of the time"). In the current sample, alphas ranged from .76 to .91 for mothers and fathers.

Children also reported about two dimensions of parenting using the Index of Parenting Style questionnaire (Lamborn et al., 1991): Strictness/Supervision (9 items), which captures the extent to which parents are perceived as "keeping tabs" on their children's whereabouts and activities (e.g., "My parents know exactly where I am most afternoons after school"), and Warmth/Involvement (15 items), which measures the extent to which parents are perceived as helpful, dependable, encouraging, and involved with their children (e.g., "How often do your parents spend time just talking with you"?). In the present study, alphas for Strictness/Supervision and Warmth/Involvement were .75 and .65, respectively.

Mothers' and fathers' scores on Firm Control and children's reports of Strictness/Supervision were used as indicators of the latent variable representing Behavioral Control. Mothers' and fathers' scores on Psychological Autonomy were used as indicators for this latent variable. Children's ratings of Warmth/Involvement were used in conjunction with mothers' and fathers' reports of Acceptance as indicators of the Warmth latent variable.

Children's adjustment. Data on children's adjustment were obtained at Waves 1 and 3. Parents reported on children's externalizing symptoms, and parents and children reported on children's internalizing symptoms. Mothers and fathers completed the Child Behavior Checklist for ages 4–18 (Achenbach, 1991), which contains 113 items rated on 3-point scales. Mothers' and fathers' reports on the Externalizing summary scale were used to operationalize externalizing symptoms, and mothers' and fathers' reports on the Withdrawn summary scale were used to operationalize internalizing symptoms. We selected the Withdrawn scale as a measure of internalizing symptoms because the items have more in common with those of the Children's Depression Inventory (Kovacs, 1981) than the items on the

Anxious/Depressed scale of the Child Behavior Checklist. Mothers' and fathers' reports of externalizing (Wave 1, $\alpha = .91$ and $.87$, respectively; Wave 3, $\alpha = .90$ and $.87$, respectively) and internalizing (Wave 1, $\alpha = .74$ and $.71$, respectively; Wave 3, $\alpha = .75$ and $.77$, respectively) symptoms were internally consistent.

The Children's Depression Inventory (Kovacs, 1981) was used as another measure of internalizing symptoms. This 27-item questionnaire is a widely used measure of children's depressive symptomatology. For this sample, $\alpha = .80$ at Wave 1 and $.86$ at Wave 3.

RESULTS

Preliminary Analyses

Table 1 presents descriptive statistics and correlations among the study variables. *Ns* are reported in Table 1, both for individual variables and as a range for the correlations. The correlations among the variables supported our planned construction of the latent variables (Cohen, Cohen, West, & Aiken, 2003). The indicator variables of marital conflict, parenting, and children's externalizing and internalizing symptoms are interrelated across the three waves, supporting our hypotheses and previous empirical findings. Marital conflict related to lower levels of parental behavioral control, autonomy granting, and acceptance, and to higher levels of child adjustment problems. In turn, all three parenting dimensions were negatively correlated with child adjustment problems.

Reflecting agreement between different informants on the same measures, maternal and paternal reports were correlated for marital conflict, parenting, and child adjustment problems, respectively, justifying combining across parental reporters, including for parenting variables. Children's reports of strictness/supervision, warmth/involvement, and internalizing symptoms related to parents' reports of the same constructs, respectively.

Analysis Plan

We tested a series of models using SEM in order to examine our major hypotheses. Potential moderating effects of child gender and age were also explored. The SEM program AMOS (version 4.0) was used for all analyses (Arbuckle & Wothke, 1999). Missing data were handled using

Table 1. Descriptive Statistics and Intercorrelations Among the Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Marital conflict																			
1. CTS-M	—																		
2. CTS-F	.43***	—																	
3. OPS-M	.59***	.44***	—																
4. OPS-F	.38***	.60***	.66***	—															
5. NMQ-M	.43***	.32***	.48***	.31***	—														
6. NMQ-F	.30***	.35***	.34***	.40***	.32***	—													
Parenting																			
7. Con-M	-.08	.00	-.22***	-.25***	-.16*	-.10	—												
8. Con-F	-.01	-.05	-.15*	-.14*	-.03	-.04	.30***	—											
9. ST/SUP	-.03	-.01	-.02	-.08	-.03	-.01	.21***	.19**	—										
10. Aut-M	.01	-.03	-.06	-.10	.02	-.01	.02	.03	.19**	—									
11. Aut-F	-.10	-.18**	-.15*	-.29***	-.12†	-.15*	.13*	.12†	.45***	.13*	—								
12. Acc-M	-.12†	-.11†	-.14*	-.10	-.14*	-.15*	-.01	-.02	.20**	.21**	.12†	—							
13. Acc-F	-.02	-.12†	.02	-.07	-.10	-.13*	.05	.08	.19**	.17**	.09	.32***	—						
14. W/INV	-.17**	-.04	-.09	-.07	-.10	.00	.07	.08	.26***	.11†	.14*	.16*	.25***	—					
Adjustment problems																			
15. Ext-M	.26***	.18**	.25***	.26***	.13*	.17**	-.14*	-.05	-.11	-.32***	-.34***	-.25***	-.16*	-.23***	—				
16. Ext-F	.13†	.34***	.13*	.29***	.07	.17*	.01	-.06	.01	-.19**	-.38***	-.15*	-.16*	-.17*	.60***	—			
17. CDI	.01	.07	.03	.04	.05	.02	-.10	-.19**	-.30***	-.21**	-.21**	-.13†	-.13*	-.28***	.27***	.22***	—		
18. WD-M	.18**	.14*	.24***	.18**	.15*	.10	-.16*	-.11†	-.20**	-.28***	-.30***	-.17***	-.11†	-.10	.58***	.30***	.29***	—	
19. WD-F	.08	.25***	.06	.13†	.06	.05	-.05	-.11†	-.13†	-.14*	-.23***	-.09	-.13†	-.06	.26***	.50***	.25***	.50***	—
M	11.02	9.92	18.71	18.85	9.57	9.17	40.22	39.63	20.48	40.59	40.14	62.36	58.83	17.32	7.38	6.76	5.94	1.72	1.63
SD	6.73	6.67	5.33	4.81	5.93	5.12	3.98	4.02	4.17	4.70	4.68	5.91	7.35	2.84	7.10	5.86	5.50	2.24	2.12
N	281	276	283	283	283	283	249	248	250	249	248	249	248	251	246	238	244	246	238

Note: Because of missing data, *n*s range from 238 to 283 for individual variables and from 226 to 283 for correlations. Acc = Acceptance/Rejection subscale of the Parent Behavior Inventory; Aut = Psychological Autonomy/Psychological Control subscale of the Parent Behavior Inventory; CDI = Children's Depression Inventory; Con = Firm Control/Lax Control subscale of the Parent Behavior Inventory; CTS = Verbal Aggression subscale of the Conflict Tactics Scale; Ext = Externalizing subscale of the Child Behavior Checklist; F = Father; M = Mother; NMQ = Negative Marital Quality subscale of the Positive and Negative Quality in Marriage Scale; OPS = the O'Leary-Porter Scale; ST/SUP = Strictness/Supervision subscale of the Index of Parenting Style questionnaire; W/INV = Warmth/Involvement subscale of the Index of Parenting Style questionnaire; WD = Withdrawn subscale of the Child Behavior Checklist.

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

the full information maximum likelihood procedure in AMOS that has the advantage of utilizing all observed data for each case (Marcoulides & Schumacker, 1996). This method performs substantially better than traditional approaches in terms of R^2 values, β weights, and average margins of error for β weights (Acock, 2005). Standardized factor loadings and path coefficients are reported. To assess overall model fit, we relied on several commonly used fit indices in addition to the traditional chi-square test of model fit, which becomes increasingly sensitive to detecting even small discrepancies between the observed and null models as sample size increases (Bentler & Bonett, 1980). The fit indices we employed include the root mean square error of approximation (RMSEA), following the suggestion of Browne and Cudeck (1993) that RMSEA $<.08$ indicates an acceptable fit. We also examined the χ^2/df ratio, which indicates appropriate fit if it is between 1 and 3 (Arbuckle & Wothke), and the Comparative Fit Index (CFI; Bentler, 1990) and Normed Fit Index (NFI; Bentler & Bonett), which indicate good fit if values exceed 0.95.

Separate sets of models were tested for externalizing and internalizing symptoms. To test our hypotheses concerning mediation, we estimated indirect effects through computation of the product of the path coefficient linking the independent variable and the mediator and the path coefficient linking the mediator and the dependent variable. Methodologists prefer this approach to testing mediation over more traditional approaches because it maximizes statistical power while maintaining accurate Type 1 error rates (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). The significance of these indirect effects was determined by employing bootstrapping procedures (for a similar approach, see Keller, Cummings, Davies, & Mitchell, in press). Bootstrapping involves taking repeated random samples of observations from a single data set. These new data sets are analyzed to provide parameter estimates, and the estimates derived from the multiple samples yield a distribution of parameter estimates. Bootstrapping is advantageous for testing the significance of parameters that are distributed non-normally, such as the measure of indirect effect used here (MacKinnon, Lockwood, & Williams, 2004). We used the bootstrapping function in AMOS to obtain 2000 random samples to derive estimates of the indirect effects of interest and their 95% confidence

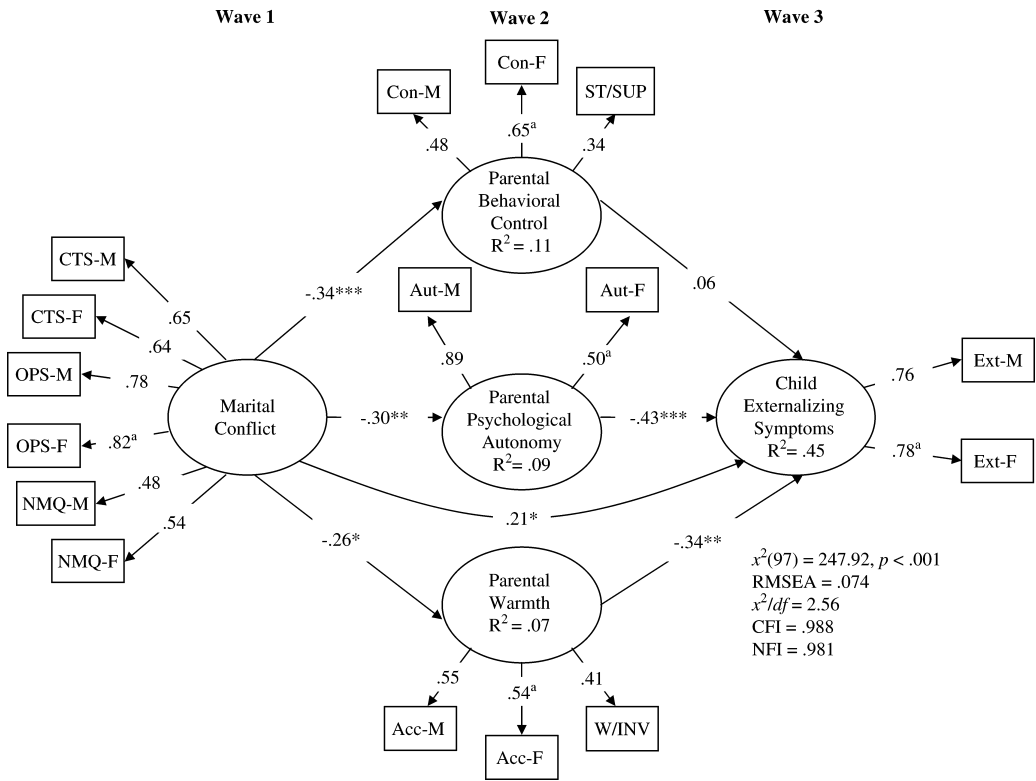
intervals (CIs). We report bias-corrected CIs for the standardized indirect effects. Given that AMOS requires complete data for bootstrapping, cases with missing data were deleted for analyses of the indirect effects.

Mediational Models for Marital Conflict, Parenting, and Child Adjustment

Externalizing symptoms. We tested a model including marital conflict at Wave 1; parental behavioral control, psychological autonomy, and warmth at Wave 2; and externalizing symptoms at Wave 3 (see Figure 1). As anticipated, greater marital conflict was associated with less positive parenting over time, specifically, lower levels of behavioral control, psychological autonomy, and warmth. In turn, lower levels of parental psychological autonomy and warmth, but not behavioral control, predicted greater externalizing symptoms. The indirect effects through parental psychological autonomy (95% CI = 0.0202 – 0.3403) and warmth (95% CI = 0.0028 – 0.1907) were significant. The indirect effect through behavioral control was not significant. Notably, the direct association between marital conflict and children's externalizing symptoms was significant even when including the parenting variables. For the overall model, the chi-square test was significant, but other fit indices suggested that this model provided an adequate fit to the data (see Figure 1). Thus, although parental psychological autonomy and warmth may partially mediate the longitudinal association between marital conflict and children's externalizing symptoms, evidence consistent with full mediation was not obtained.

Internalizing symptoms. Next, a model including marital conflict at Wave 1, parenting at Wave 2, and internalizing symptoms at Wave 3 was tested (see Figure 2). As expected, greater marital conflict was associated longitudinally with lower levels of parents' behavioral control, psychological autonomy, and warmth. Moreover, lower levels of parental behavioral control and psychological autonomy were associated with higher levels of children's internalizing symptoms over time. The association between parental warmth and children's internalizing symptoms approached significance ($p = .07$). As shown in Figure 2, the model demonstrated acceptable fit. The indirect effects through behavioral control (95% CI = 0.0042 – 0.2727) and psychological

FIGURE 1. MODEL TESTING ROLE OF WAVE 2 PARENTING QUALITY IN MEDIATING THE ASSOCIATION BETWEEN MARITAL CONFLICT AT WAVE 1 AND CHILDREN'S EXTERNALIZING SYMPTOMS AT WAVE 3.



Note: M = mother; F = father. ^a Fixed factor loading.
 * $p < .05$. ** $p < .01$. *** $p < .001$.

autonomy (95% CI = 0.0238 – 0.3821) were significant. The indirect effect through parental warmth was not significant. These effects, combined with the nonsignificant direct association between marital conflict and internalizing symptoms, are consistent with the hypothesis that parenting (specifically, behavioral control and psychological autonomy) mediates the association between marital conflict and children's internalizing symptoms.

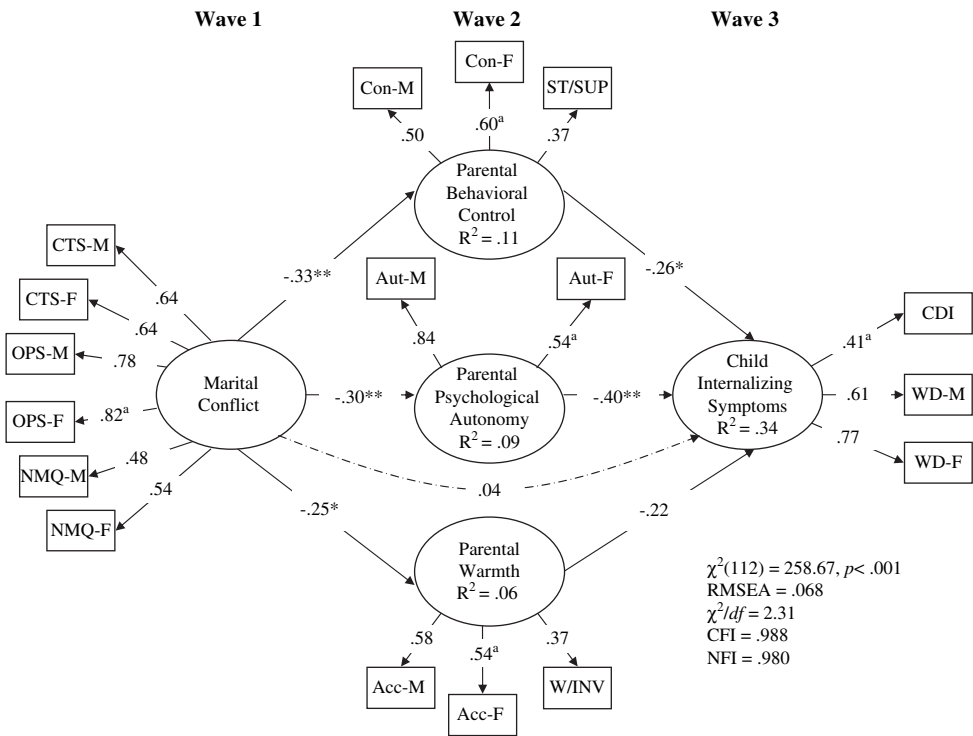
Testing Child Characteristics as Moderators

Child gender and age were considered as moderators of relations within the mediational models predicting externalizing and internalizing symptoms. Given that gender is a categorical variable, stacked models testing procedures were employed to test whether paths in the model were significantly different across groups (girls vs.

boys). These procedures compare a model in which paths are allowed to vary freely across groups to a constrained model in which the paths are constrained to be equal across groups. For the model predicting externalizing symptoms, the stacked model comparison was not significant ($\chi^2_{diff} = 5.93, df_{diff} = 7, p = .55$). Similarly, the comparison of models was not significant when predicting internalizing symptoms ($\chi^2_{diff} = 7.47, df_{diff} = 7, p = .38$). Thus, tests of moderation indicated the absence of gender differences in the processes linking marital conflict to children's adjustment through parenting.

To test whether child age (a continuous variable) moderated relevant paths in the model, we used procedures appropriate for testing moderation with continuously scaled variables. We included child age (observed variable) as well as the interaction between child age and marital conflict (latent variable) as predictors of the three

FIGURE 2. MODEL TESTING ROLE OF WAVE 2 PARENTING QUALITY IN MEDIATING THE ASSOCIATION BETWEEN MARITAL CONFLICT AT WAVE 1 AND CHILDREN'S INTERNALIZING SYMPTOMS AT WAVE 3.



Note: M = mother; F = father. ^a Fixed factor loading.
 * $p < .05$. ** $p < .01$.

parenting variables and the adjustment variable (externalizing or internalizing symptoms). Essentially, child age was multiplied by each observed marital conflict variable to create a new set of indicators for the latent variable representing the Age \times Marital Conflict interaction. Consistent with Marsh, Wen, and Hau (2004), latent variables were allowed to correlate to accommodate non-normal data. Prior to computing the interaction product terms, the age variable and all of the observed marital conflict variables were centered. Within these new models, child age and marital conflict were each allowed to correlate with the Age \times Marital Conflict interaction variable. When interpreting these models, the significance of paths involving child age or the interaction between child age and marital conflict were examined, as well as the overall fit of the models.

The model that tested child age as a moderator in the prediction of children's externalizing symptoms provided an adequate fit for the data, $\chi^2(204) = 393.51, p < .001$, RMSEA = .057, $\chi^2/df =$

1.93, CFI = .986, NFI = .971. Within this model, child age was a significant predictor of all three parenting variables: behavioral control ($\beta = -.70, p < .001$), psychological autonomy ($\beta = -.25, p < .01$), and warmth ($\beta = -.20, p < .05$). This pattern suggests that parents of older children (compared to parents of younger children) demonstrate lower levels of all three aspects of parenting measured. The path between the Age \times Marital Conflict interaction and the parenting dimension of psychological autonomy was also significant, $\beta = .18, p < .05$, implying that the negative association between marital conflict and psychological autonomy strengthens as children age. In other words, marital conflict is more likely to lead to decreased granting of psychological autonomy by parents of adolescents than by parents of younger children. All originally significant paths remained significant with age included in the model.

Including child age as a moderator when predicting children's internalizing symptoms also

resulted in a model with adequate fit, $\chi^2(226) = 409.93, p < .001$, RMSEA = .054, $\chi^2/df = 1.81$, CFI = .986, NFI = .970. In general, results for specific paths were consistent with the results for the externalizing model. Child age was a significant predictor of parents' behavioral control ($\beta = -.70, p < .001$), psychological autonomy ($\beta = -.26, p < .01$), and warmth ($\beta = -.20, p < .05$), such that parents engaged in less of each of these parenting behaviors with older children than with younger children. Again, the Age \times Marital Conflict interaction was a significant predictor of psychological autonomy ($\beta = .19, p < .05$), indicating that the negative association between marital conflict and psychological autonomy is stronger for older than for younger children. In the internalizing model, there was also a significant path from child age to internalizing symptoms, $\beta = -.50, p < .05$, suggesting that the incidence of internalizing symptoms is lower for older children than for younger children in this sample. This model was very similar to the original mediational model, such that all previously significant paths remained significant with the exception of the path from marital conflict to parental warmth, which was reduced to a trend when age was included in the model ($\beta = -.19, p = .06$).

Autoregressive Mediational Models for Marital Conflict, Parenting, and Child Adjustment

As a further step in elucidating pathways from marital conflict to child adjustment through parenting, tests of these same models with the addition of autoregressive controls for adjustment problems at Wave 1 were conducted. These models consider whether parenting is part of the process through which marital conflict may lead to *change* in child externalizing and internalizing symptoms over time. Moreover, to provide a stringent test of relations among the variables of interest, we allowed Wave 1 adjustment problems to predict not only Wave 3 adjustment problems but also the intermediate dimensions of parenting.

Change in externalizing symptoms. The inclusion of autoregressive controls for Wave 1 externalizing symptoms served to more precisely identify pathways among marital conflict, parenting, and externalizing symptoms at Wave 3. That is, with the inclusion of the pathway from Wave 1 to 3 adjustment (see Figure 3), the relation between

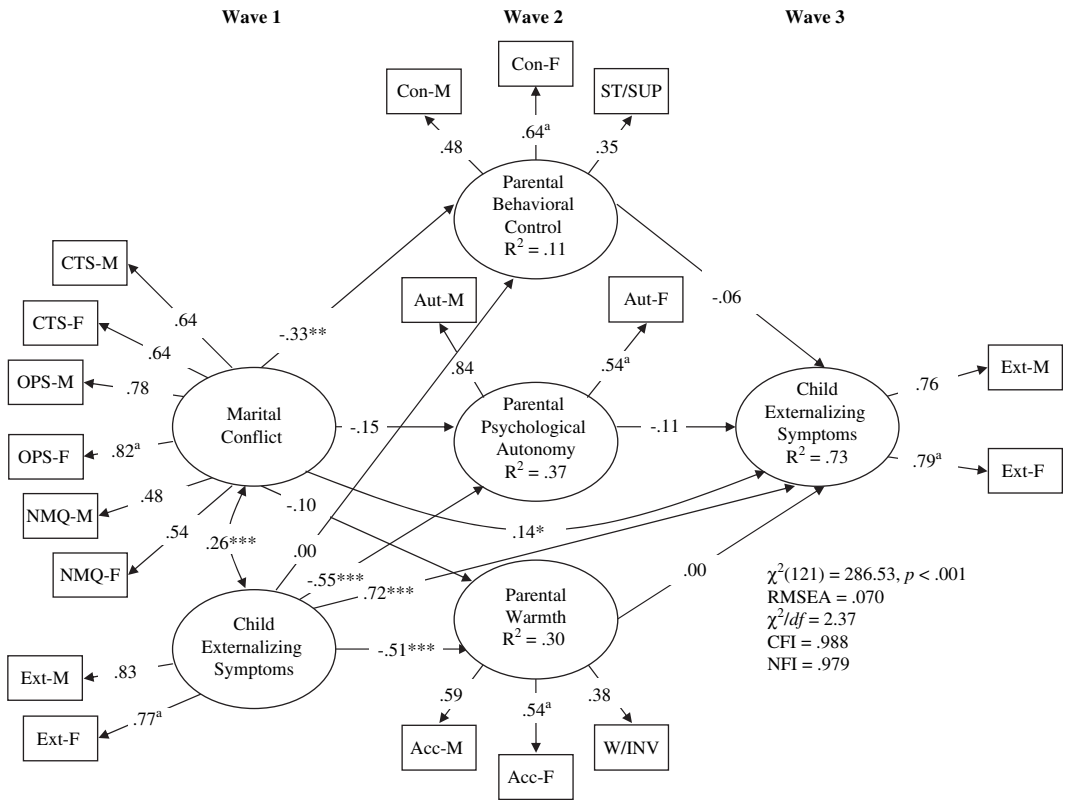
marital conflict and behavioral control remained significant, but pathways from marital conflict to warmth and psychological autonomy became nonsignificant. Pathways from behavioral control, psychological autonomy, and warmth to externalizing symptoms also became nonsignificant; thus, the indirect effects through the three dimensions of parenting were not tested. Notably, even with autoregressive control for Time 1 adjustment and all parenting variables in the model, the pathway from Wave 1 marital conflict to Wave 3 externalizing symptoms remained significant, such that marital conflict predicted increases in child externalizing symptoms over time. In addition, possibly implicating child effects on parenting, Wave 1 externalizing symptoms significantly predicted decreased psychological autonomy and warmth but not behavioral control. The model demonstrated acceptable fit to the data (see Figure 3).

Change in internalizing symptoms. In the analogous model predicting change in internalizing symptoms from Waves 1 to 3 (see Figure 4), greater marital conflict continued to predict lower levels of parental behavioral control and psychological autonomy. In turn, greater behavioral control by parents predicted lower levels of internalizing symptoms. In contrast, pathways from marital conflict to parental warmth and to internalizing at Wave 3 were nonsignificant, as were pathways from warmth and psychological autonomy to internalizing symptoms. Although the indirect effect of marital conflict on change in internalizing symptoms through behavioral control was significant (95% CI = 0.0046 – 0.2706; this CI is unstandardized because AMOS could not produce a standardized solution), the indirect effects through psychological autonomy and warmth were not. In addition, possibly implicating child effects, internalizing symptoms at Wave 1 predicted decreased behavioral control, psychological autonomy, and warmth. As shown in Figure 4, this model also demonstrated acceptable fit.

Tests of Moderated Mediation

We also examined whether each of the three dimensions of parenting interacted with marital conflict when predicting children's externalizing and internalizing symptoms. These interaction effects were tested through the creation of new latent variables, with indicators consisting of

FIGURE 3. MODEL TESTING ROLE OF PARENTING QUALITY IN MEDIATING THE ASSOCIATION BETWEEN MARITAL CONFLICT AND CHANGE IN CHILDREN'S EXTERNALIZING SYMPTOMS FROM WAVES 1 TO 3.



Note: M = mother; F = father. ^a Fixed factor loading.
 * $p < .05$. ** $p < .01$. *** $p < .001$.

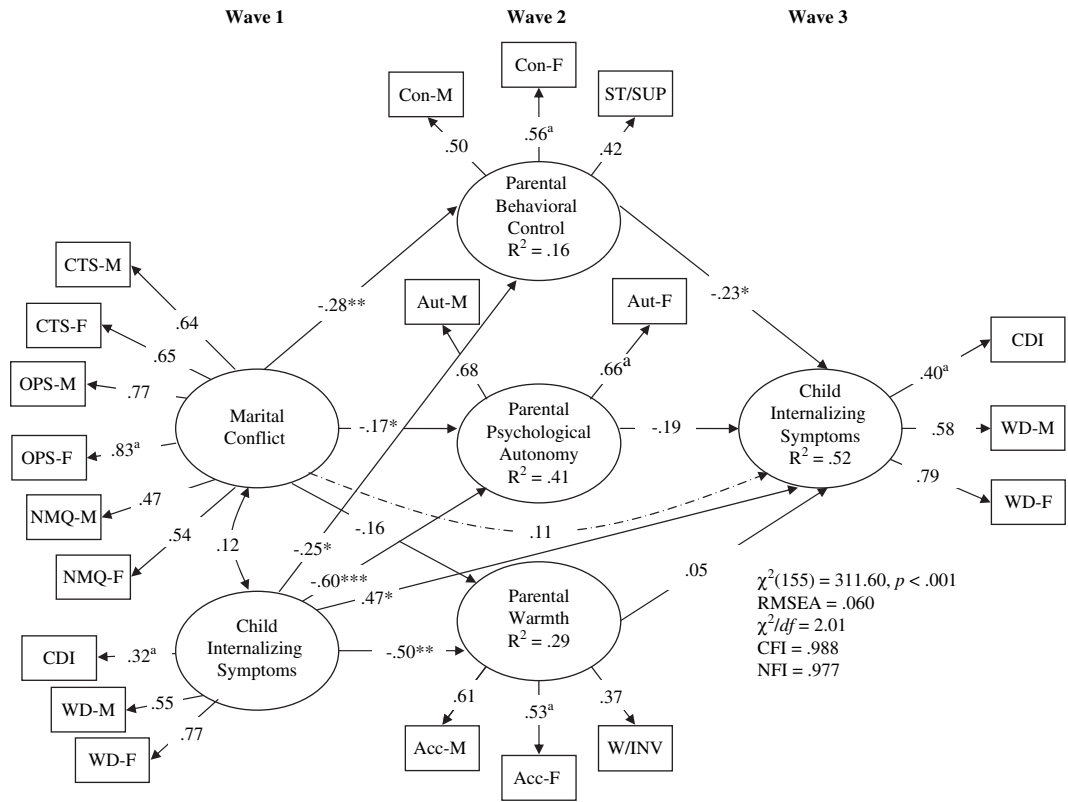
the cross-products of indicators from the original latent variables involved in the interaction effect (see procedures described above for testing age as a continuous moderator and Marsh et al., 2004). These new latent variables (Marital Conflict \times Behavioral Control, Marital Conflict \times Psychological Autonomy, and Marital Conflict \times Warmth) were tested as predictors of externalizing or internalizing symptoms in separate models, each of which maintained the original direct and indirect paths in the model. Of the six models tested, only one significant interaction effect was found: Marital conflict interacted with psychological autonomy when predicting externalizing symptoms ($\beta = -.22, p < .05$) in the context of a model that demonstrated mediocre fit, $\chi^2(317) = 1313.73, p < .001, RMSEA = .106, \chi^2/df = 4.14, CFI = .931, NFI = .912$. This interaction effect suggests that in the face of elevated mari-

tal conflict, greater granting of psychological autonomy by parents may buffer children from experiencing externalizing symptoms, whereas less granting of psychological autonomy may have an exacerbating effect. Although this effect is intriguing, we recommend caution in interpretation given that it was the lone significant interaction effect and that it was not significant in the model that included the autoregressive control for Wave 1 externalizing symptoms.

DISCUSSION

Using a three-wave longitudinal design, indirect effects of marital conflict on children's externalizing and internalizing symptoms through multiple dimensions of parenting were found. In these models, mediation was partial for externalizing and complete for internalizing. Although there

FIGURE 4. MODEL TESTING ROLE OF PARENTING QUALITY IN MEDIATING THE ASSOCIATION BETWEEN MARITAL CONFLICT AND CHANGE IN CHILDREN'S INTERNALIZING SYMPTOMS FROM WAVES 1 TO 3.



Note: M = mother; F = father. ^a Fixed factor loading.
 * $p < .05$. ** $p < .01$. *** $p < .001$.

were no child gender differences in the extent to which the models explained children's internalizing and externalizing behaviors, evidence for a greater role of parenting was found for older than for younger children. When autoregressive controls for Time 1 adjustment were introduced, parental behavioral control continued to mediate relations between marital conflict and change in children's internalizing symptoms over time.

The findings from full model tests without autoregressive controls, which nonetheless provide methodological and statistical advances over much past work on parenting and marital conflict, are most consistent with Fauber et al. (1990). They also found a direct effect remained between marital conflict and externalizing after testing parenting as a mediator but that internalizing problems were fully mediated by parenting. Notably, others have reported full mediation for

externalizing and internalizing (e.g., Doyle & Markiewicz, 2005; Gonzales et al., 2000) or more complete mediation for externalizing than for internalizing symptoms (e.g., Harold et al., 1997). The reasons for these differences across studies are unclear; variations in those providing information about parenting and children's adjustment, and which and how many parenting dimensions were investigated, are possibilities.

Consistent with emotional security theory (Davies & Cummings, 1994) and past research (Buehler & Gerard, 2002; Doyle & Markiewicz, 2005; Fauber et al., 1990; Harold & Conger, 1997), the emotional dimensions (psychological autonomy and warmth) were most consistent as mediators. In particular, psychological autonomy emerged as a mediator for both externalizing and internalizing symptoms. Parents' granting of autonomy (vs. employing psychological control)

has been negatively related to internalizing and externalizing problems in the literature (Doyle & Markiewicz; Fauber et al.; Krishnakumar et al., 2003; Stone et al., 2002), although in some cases nonsignificant associations have been reported for externalizing problems (e.g., Doyle & Markiewicz; Krishnakumar et al.). In the current study, marital conflict appeared to lead parents of older children in particular to grant their children less psychological autonomy, consistent with past research that found greater indirect effects of marital conflict through parenting for older than for younger children (Buehler & Gerard; Krishnakumar & Buehler, 2000). Thus, marital conflict may pose a specific risk for adolescents, given that establishing autonomy from parents is a central developmental task of this age period (Stone et al.). Older children, however, have also likely experienced greater cumulative exposure to their parents' marital conflict. The longer marital conflict is present in a family, the more it may be likely to affect parenting. Future research including measures of the family's history of marital conflict could help to disentangle effects of the child's developmental level from those of cumulative exposure to marital conflict.

Increasing the precision of the demonstration of influence pathways, even with the inclusion of Time 1 adjustment in the model, parental behavioral control remained a mediator of relations between marital conflict and change in children's internalizing symptoms. At first glance, this pattern may seem counterintuitive, given the emphasis placed on relations between behavioral control and externalizing in some accounts. Krishnakumar et al. (2003), Fauber et al. (1990), and Doyle and Markiewicz (2005), however, all found constructs related to parental behavioral control (lax control, inconsistent discipline) to be, at best, weakly related or not related at all to externalizing symptoms. Thus, theoretical accounts of the role of parental behavioral control may need to be rethought or expanded with regard to children's behavior problems, at least for this age period. Firm, age-appropriate control by parents may help anchor older children emotionally as they traverse the changes associated with middle childhood and adolescence and clear expectations from parents may free older children from some of the anxiety generated by the choices that peers and their external world present.

These findings also provide impetus for further study of other processes and causal pathways

linking marital conflict and child adjustment. Consistent with existing work (Buehler & Gerard, 2002; Frosch & Mangelsdorf, 2001), we did find evidence, although weak, that parenting (specifically psychological autonomy) may moderate relations between marital conflict and externalizing symptoms. This finding awaits confirmation in subsequent work. In addition, results from model tests including autoregressive controls for adjustment suggest the importance of further investigations of direct effects and child effects (Cummings & Davies, 2002). For example, only a direct pathway remained between marital conflict and externalizing symptoms, even after accounting for parenting processes. One possibility is that a different underlying mechanism may account for links between marital conflict and externalizing problems. For example, Cummings et al. (2006) found that children's emotional security about marital conflict served as a process underlying direct relations between marital conflict and both internalizing and externalizing problems over time (see also Davies, Harold, Goeke-Morey, & Cummings, 2002). Child effects on parenting and interparental conflict have also been implicated in recent research (Jenkins, Dunn, O'Connor, Rasbash, & Simpson, 2005; Schermerhorn, Cummings, DeCarlo, & Davies, 2007), further advancing the notion that pathways involving relations between marital conflict, parenting, and adjustment are relatively complex and determined by multiple mediating processes (Davies et al.). At the same time, the reduction in significant pathways through parenting as a result of the inclusion of autoregressive controls can be attributed to many possibilities, including not assessing parenting or child adjustment at appropriate intervals to detect causal influences (Cole & Maxwell, 2003).

Future work toward achieving a more complete understanding of processes linking marital conflict and children's adjustment may benefit from an integration of multiple models of child and family processes. Notably, Davies, Sturge-Apple, and Cummings (2004) reported that relations between marital conflict and parenting may depend on other aspects of parents' personal and relationship characteristics. In particular, emotional security theory (Davies & Cummings, 1994), with its focus on children's emotional security as an important component of these processes, has advanced these efforts by directing attention to the emotional dimensions of parenting and parent-child attachment relationships.

Given the discrepancies in this literature already noted, understanding more about specific process relations is crucial for informing future research and intervention.

As emphasized above, strengths of this investigation include the use of three waves of longitudinal data to test the parenting process model and the inclusion of several key aspects of mothers' and fathers' parenting behavior described from the perspectives of multiple family members, as well as the use of a relatively large community sample that allowed us to capitalize on the advantages of SEM. Limitations are also acknowledged, however. Although this study was longitudinal and accounted for pre-existing levels of child adjustment, several other key constructs were not included in our model. To provide the clearest picture of associations among the constructs, measures of marital conflict, parenting, and child adjustment at all three waves are needed, such that the model can be tested using a fully autoregressive SEM approach or sophisticated growth curve modeling techniques. For example, results we describe as indicative of child effects may, in fact, be explained by prior levels of parenting quality (which were not accounted for in our study).

In addition, children's reports of parental warmth showed marginal reliability, bivariate relations among marital and parenting variables were somewhat weaker than in previous research, and several key constructs appeared to be linked with attrition. Also, the use of a community sample limits the generalizability of our findings to high-risk or clinical samples. For example, the lack of association between behavioral control and externalizing symptoms in the present study may not hold for families living in dangerous environments, for whom more variability in behavioral control may exist.

Moreover, although we employed a multidimensional conceptualization of parenting in this study, our conceptualization of marital conflict focused specifically on hostile marital conflict, which may have obscured important differences in the processes linking various types (destructive and constructive) of marital conflict, parenting, and children's adjustment (Cummings & Davies, 2002). Few studies have considered the potential effects of different aspects of marital conflict within the parenting process model (e.g., Gonzales et al., 2000; Sturge-Apple, Davies, & Cummings, 2006), and this is an important direction for future research. Furthermore, although we included

several key dimensions of parenting identified by previous investigations, our conceptualization of parenting did not include other dimensions of parent-child interaction such as harsh discipline (e.g., Chang et al., 2004) or parent-child hostility or conflict (e.g., Harold et al., 1997; Krishnakumar et al., 2003).

Notwithstanding these limitations, the current study has advanced our understanding of the processes through which marital conflict affects children's functioning. In particular, results presented here provide evidence that some of the influence of marital conflict on children's adjustment over time is conveyed indirectly through parenting, at the same time motivating the expansion of parenting process models to account for direct and child effects. As such, interparental conflict continues to be implicated as more than a distal influence on children's functioning but one central to processes within families.

NOTE

This research was supported in part by a grant from the National Institute of Child Health and Human Development (HD 036261) to the third author. Portions of this work were presented at the 2006 Society for Research on Adolescence biennial meeting, San Francisco, CA. We gratefully acknowledge the assistance of Scott Maxwell, PhD, for consultation on advanced statistical matters.

REFERENCES

- Achenbach, T. M. (1991). *Manual for the Child Behavior Checklist/4-18 and 1991 profile*. Burlington: University of Vermont, Department of Psychiatry.
- Acock, A. C. (2005). Working with missing values. *Journal of Marriage and Family, 67*, 1012 – 1028.
- Arbuckle, J. L., & Wothke, W. (1999). *Amos 4.0 user's guide*. Chicago: SmallWaters.
- 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.
- 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). Thousand Oaks, CA: Sage.
- Buehler, C., Anthony, C., Krishnakumar, A., Stone, G., Gerard, J., & Pemberton, S. (1997). Interparental conflict and youth problem behaviors: A

- meta-analysis. *Journal of Child and Family Studies*, 6, 233 – 247.
- Buehler, C., & Gerard, J. M. (2002). Marital conflict, ineffective parenting, and children's and adolescents' maladjustment. *Journal of Marriage and Family*, 64, 78 – 92.
- Buehler, C., Krishnakumar, A., Anthony, C., Tittsworth, S., & Stone, G. (1994). Hostile interparental conflict and youth maladjustment. *Family Relations*, 43, 409 – 416.
- Chang, L., Lansford, J. E., Schwartz, D., & Farver, J. M. (2004). Marital quality, maternal depressed affect, harsh parenting, and child externalizing in Hong Kong Chinese families. *International Journal of Behavioral Development*, 28, 311 – 318.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Erlbaum.
- 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., & Covey, S. L. (1991). Marital conflict and externalizing behavior in children. In D. Cicchetti & S. L. Toth (Eds.), *Rochester symposium on developmental psychopathology, Vol. 3: Models and integrations* (pp. 235 – 260). Rochester, NY: University of Rochester Press.
- 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., Schermerhorn, A. C., Davies, P. T., Goeke-Morey, M. C., & Cummings, J. S. (2006). Interparental discord and child adjustment: Prospective investigations of emotional security as an explanatory mechanism. *Child Development*, 77, 132 – 152.
- Davies, P. T., & Cummings, E. M. (1994). Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin*, 116, 387 – 411.
- 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, 1 – 129.
- Davies, P. T., Sturge-Apple, M. L., & Cummings, E. M. (2004). Interdependencies among interparental discord and parenting practices: The role of adult vulnerability and relationship perturbations. *Development and Psychopathology*, 16, 773 – 797.
- Doyle, A. B., & Markiewicz, D. (2005). Parenting, marital conflict, and adjustment from early- to mid-adolescence: Mediated by adolescent attachment style? *Journal of Youth and Adolescence*, 34, 97 – 110.
- Emery, R. E. (1982). Interparental conflict and the children of discord and divorce. *Psychological Bulletin*, 92, 310 – 330.
- Erel, O., & Burman, B. (1995). Interrelations of marital relations and parent-child relations: A meta-analytic review. *Psychological Bulletin*, 118, 108 – 132.
- Fauber, R., Forehand, R., Thomas, A. M., & Wierson, M. (1990). A mediational model of the impact of marital conflict on adolescent adjustment in intact and divorced families: The role of disrupted parenting. *Child Development*, 61, 1112 – 1123.
- 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.
- Frosch, C. A., & Mangelsdorf, S. C. (2001). Marital behavior, parenting behavior, and multiple reports of preschoolers' behavior problems: Mediation or moderation? *Developmental Psychology*, 37, 502 – 519.
- Gonzales, N. A., Pitts, S. C., Hill, N. E., & Roosa, M. W. (2000). A mediational model of the impact of interparental conflict on child adjustment in a multiethnic, low-income sample. *Journal of Family Psychology*, 14, 365 – 379.
- 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.
- Jenkins, J., Dunn, J., O'Connor, T. G., Rasbash, J., & Simpson, A. (2005). Mutual influence of marital conflict and children's behavior problems: Shared and nonshared family risks. *Child Development*, 76, 24 – 39.
- Kaczynski, K. J., Lindahl, K. M., Malik, N. M., & Laurenceau, J. P. (2006). Marital conflict, maternal and paternal parenting, and child adjustment: A test of mediation and moderation. *Journal of Family Psychology*, 20, 199 – 208.

- Keller, P. S., Cummings, E. M., Davies, P. T., & Mitchell, P. M. (in press). Longitudinal relations between parental drinking problems, family functioning, and child adjustment. *Development and Psychopathology*.
- Kovacs, M. (1981). Rating scale to assess depression in school-age children. *Acta Paedopsychiatrica*, 46, 305 – 315.
- Krishnakumar, A., & Buehler, C. (2000). Interparental conflict and parenting behaviors: A meta-analytic review. *Family Relations*, 49, 25 – 44.
- Krishnakumar, A., Buehler, C., & Barber, B. K. (2003). Youth perceptions of interparental conflict, ineffective parenting, and youth problem behaviors in European-American and African-American families. *Journal of Social and Personal Relationships*, 20, 239 – 260.
- Lamborn, S. D., Mounts, N. S., Steinberg, L., & Dornbusch, S. M. (1991). Patterns of competence and adjustment among adolescents from authoritative, authoritarian, indulgent, and neglectful families. *Child Development*, 62, 1049 – 1065.
- 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.
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research*, 39, 99 – 128.
- Mann, B. J., & MacKenzie, E. P. (1996). Pathways among marital functioning, parental behaviors, and child behavior problems in school-age boys. *Journal of Clinical Child Psychology*, 25, 183 – 191.
- Marcoulides, G. A., & Schumacker, R. E. (Eds.). (1996). *Advanced structural equation modeling: Issues and techniques*. Hillsdale, NJ: Erlbaum.
- Margolies, P. J., & Weintraub, S. (1977). The revised 56-item CRPBI as a research instrument: Reliability and factor structure. *Journal of Clinical Psychology*, 33, 472 – 476.
- Marsh, H. W., Wen, Z., & Hau, K. T. (2004). Structural equation models of latent interactions: Evaluations of alternative estimation strategies and indicator construction. *Psychological Bulletin*, 9, 275 – 300.
- 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.
- Porter, B., & O'Leary, K. D. (1980). Marital discord and child behavior problems. *Journal of Abnormal Child Psychology*, 8, 287 – 295.
- Schermerhorn, A. C., Cummings, E. M., DeCarlo, C. A., & Davies, P. T. (2007). Children's influence in the marital relationship. *Journal of Family Psychology*, 21, 259 – 269.
- Stocker, C. M., Richmond, M. K., Low, S. M., Alexander, E. K., & Elias, N. M. (2003). Marital conflict and children's adjustment: Parental hostility and children's interpretations as mediators. *Social Development*, 12, 149 – 161.
- Stone, G., Buehler, C., & Barber, B. K. (2002). Interparental conflict, parental psychological control, and youth problem behavior. In B. K. Barber (Ed.), *Intrusive parenting: How psychological control affects children and adolescents* (pp. 53 – 95). Washington, DC: American Psychological Association.
- 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., & Cummings, E. M. (2006). The impact of hostility and withdrawal in interparental conflict on parental emotional unavailability and children's adjustment difficulties. *Child Development*, 77, 1623 – 1641.
- U.S. Census Bureau. (2000). United States Census 2000 (data file). Retrieved March 29, 2006, from <http://www.census.gov/>
- Verlaan, P., & Schwartzman, A. E. (2002). Mother's and father's parental adjustment: Links to externalising behaviour problems in sons and daughters. *International Journal of Behavioral Development*, 26, 214 – 224.