

Interparental Conflict and Child Adjustment: Testing the Mediational Role of Appraisals in the Cognitive-Contextual Framework

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Children's appraisals of interparental conflict consistently have been associated with adjustment problems, but the processes that give rise to this association are not well understood. This paper proposes that appraisals of threat and self-blame mediate the association between children's reports of interparental conflict and internalizing problems, and tests this mediational hypothesis in two samples of children, one drawn from the community (317 ten- to fourteen-year-olds) and the other from battered women's shelters (145 ten- to twelve-year-olds). Results indicate that perceived threat mediates the association between interparental conflict and internalizing problems for boys and girls in both samples, and self-blame mediates this association for boys in both samples and girls in the shelter sample. Perceived threat and self-blame do not mediate links with externalizing problems, and there is no evidence of a moderating effect of appraisals on the association between conflict and child adjustment. Implications for understanding the mechanism by which exposure to interparental conflict could lead to child maladjustment are discussed.

INTRODUCTION

Research on the relation between interparental conflict and child adjustment has expanded exponentially in recent years and numerous studies now show that children living in homes marked by frequent, hostile, and poorly resolved interparental conflict exhibit elevated levels of emotional and behavioral problems (for reviews see Buehler et al., 1997; Cummings & Davies, 1994; Grych & Fincham, 1990; Jouriles, Farris, & McDonald, 1991). Although the association between conflict and adjustment is firmly established, little is known about the processes that give rise to this association. Continued progress in understanding how interparental conflict may affect children depends on developing and testing conceptual models that clearly specify mechanisms by which conflict can lead to different developmental outcomes (Fincham, 1994; Holmbeck, 1997).

Theoretical models proposing such mechanisms (Crockenberg & Forgays, 1996; Davies & Cummings, 1994; Grych & Fincham, 1990) argue that children's appraisals or evaluations of conflict play a significant role in determining the impact of parental disagreements. One of the models, the cognitive-contextual framework (Grych & Fincham, 1990), emphasizes the cognitive aspects of the appraisal process. In this model, children's perceptions of the threat posed by the conflict, beliefs in their ability to cope effectively, and attributions regarding the cause of the conflict are viewed as particularly important for shaping their immediate emotional and behavioral responses (Grych & Fincham, 1990). Lazarus (1991) argued that the evaluation of threat captures the personal rele-

vance of an event and provides the "emotional heat" of the encounter. Children who perceive that a conflict may be harmful to them, their parents, or their families therefore are likely to be more distressed than children who view conflict as more benign. Children's beliefs in their ability to cope with the situation can modulate their perceptions of threat, with conflict becoming less threatening when children feel able to respond effectively and more threatening when they do not (Grych, Seid, & Fincham, 1992). Attributions of self-blame are a particularly important element of children's efforts to explain why a conflict is occurring because of their potential to involve the child in the conflict emotionally and behaviorally. Children who believe that they are the cause of parental discord may feel shame, guilt, and a strong desire to help resolve conflicts when they arise (Grych & Fincham, 1990), and intervening in the conflict is likely to have adverse consequences for the child and family as a whole (Emery, 1982).

Although Grych and Fincham (1990) suggested that these appraisals also could affect children's broader functioning, they did not describe a mechanism by which this occurs. As Holmbeck (1997) has noted, research examining links between experiences such as marital conflict and child adjustment problems often has failed to be specific about how these constructs are related, and as a result there is a lack of clarity regarding how exposure to interparental conflict may affect children. Our goal in this paper is to

expand on the cognitive-contextual framework by proposing a process by which children's appraisals of threat and self-blame could affect their adjustment. Specifically, it is proposed that children's appraisals of threat and self-blame mediate the association between children's observation of conflict and internalizing problems; that is, when interparental conflict results in high levels of perceived threat or attributions of self-blame, children are more likely to develop internalizing problems such as anxiety and depression. Although these appraisals also may be correlated with externalizing problems, we do not expect them to mediate the association between conflict and externalizing problems. Rather, we believe that other processes associated with interparental conflict (e.g., modeling, disrupted parent-child relationships, emotional dysregulation) are primarily responsible for the development of aggressive, disruptive behavior in children from highly conflictual families. This proposed mediational pathway was tested in two large samples of children that differ in the level of interparental conflict they have witnessed; it then is contrasted with an alternative pathway in which appraisals moderate the association between conflict and adjustment.

Appraisals as Mediators of the Link between Conflict and Adjustment

According to Baron and Kenny (1986, p. 1176), a mediational model "explain[s] how external physical events take on internal psychological significance" and thus is consistent with our conceptualization of appraisal as a process of interpreting and evaluating interparental conflict. Mediation implies that there are temporal and causal relations among the elements in the model, and investigators proposing such models need to describe how the predictor is believed to affect the mediator and how the mediator in turn affects the criterion (Baron & Kenny, 1986; Holmbeck, 1997; James & Brett, 1984). The mediational pathway we propose is presented in Figure 1.

In the cognitive-contextual framework, appraisals are proposed to be influenced by particular proper-

ties or dimensions of interparental conflict (e.g., intensity, content); see paths 2a and 2b in Figure 1. Specifically, conflict that is hostile and aggressive is likely to be perceived as threatening to children because they may fear that their parents will become angry or aggressive toward them as well, that a parent will be hurt, or that their parents will separate or divorce. Conflict about child-related topics is proposed to lead to self-blame because of the implication that the child did or failed to do something that created discord between the parents. Although such conflicts may actually reflect problems in the marriage (e.g., communication difficulties), children may have difficulty distinguishing the manifest content of a disagreement from underlying factors that give rise to it.

Experimental studies of children's responses to conflict support the hypothesized effects of conflict intensity on children's perception of threat and child-related content on their attributions of blame (Grych, 1998; Grych & Fincham, 1993). Child-blaming attributions also have been found to increase when conflicts are more intense (Grych & Fincham, 1993). Although the link between intensity and self-blame is not as intuitively clear as that with threat, two factors may be important for understanding this association. First, as parental disagreements become more hostile, children are likely to be increasingly motivated to end them and may feel responsible for doing so. They may wish that they could stop the conflict (or perhaps protect one of their parents) but blame themselves for their inability to do so (e.g., because of insufficient size or strength). Moreover, if parental disagreements have tended to escalate in the past, children may feel responsible for "keeping the peace" by preventing disagreements from recurring (Jouriles & Norwood, 1995). This idea is consistent with the work of investigators who have conceptualized self-blame for conflict and responsibility for intervening in parents' conflict as part of the same construct (O'Brien, Margolin, & John, 1995). Second, high levels of physiological arousal associated with intense conflicts may disrupt children's cognitive processing and lead to distorted thinking about the causes of parental disagreements (Grych & Fincham, 1990).

Even though properties of interparental conflict affect children's appraisals of threat and self-blame, they do not wholly determine these appraisals. Children differ in their evaluations of identical conflict stimuli, which suggests that other factors also are important in shaping their perceptions and interpretations of conflict. In the cognitive-contextual framework, children's appraisals are proposed to be influenced by contextual factors, which include child characteristics, prior expe-

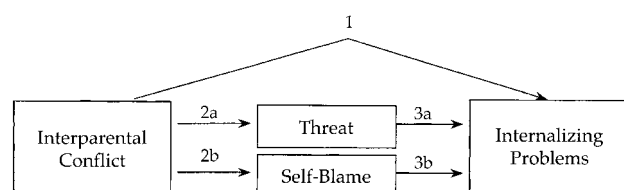


Figure 1 Mediational model for children's appraisals of conflict.

periences with conflict in the family, and the nature of family relationships (Grych & Fincham, 1990, 1993). Accordingly, a recent study by Grych (1998) found that children exposed to higher levels of interparental and parent-child aggression reported greater perceived threat and lower coping efficacy in response to taped conflicts and that younger children (ages 7–9) tended to make more child-blaming attributions and experience more threat than older children (ages 10–12). Thus, individual differences play a role in this framework by influencing the nature of the appraisals children make in response to a particular conflict.

Appraisals of threat and self-blame, in turn, are proposed to contribute to the development of child internalizing problems such as anxiety and depression (Paths 3a and 3b in Figure 1). These appraisals may affect children's longer term adjustment in several ways. First, children who perceive conflict as threatening and frequently observe such conflict may develop persistent worries about their well-being, their parents, or the future of their family. Second, blaming themselves for causing parental conflict may lead to guilt, shame, or diminished self-esteem. Third, children who feel threatened by or responsible for parental conflict and are unable to stop it from occurring might develop a sense of helplessness that elicits other symptoms of internalizing problems.

Several studies have documented relations between children's appraisals of threat and self-blame for interparental conflict and internalizing problems (e.g., Cummings, Davies, & Simpson, 1994; Grych et al., 1992; Harold, Fincham, Osborne, & Conger, 1997; Jouriles, Spiller, Stephens, McDonald, & Swank, 2000). Others have tested mediational roles for other types of appraisals (e.g., Harold et al., 1997). There have been only two direct tests of the mediational pathway proposed in this paper, and the results of those studies are inconsistent. In a study of children whose mothers reported that physical aggression had occurred in the marriage, Kerig (1998b) reported that boys' perceptions of threat mediated the association between interparental physical aggression and anxiety and girls' ratings of self-blame mediated the association between physical aggression and internalizing problems. A second study with an unselected community sample failed, however, to replicate these findings (Kerig, 1998a).

An Alternative Model: Appraisals as Moderators

In contrast to the mediational pathway proposed in this paper, other theorists have argued that children's appraisals are best considered moderators of the effects of conflict on child adjustment (e.g., Rogers &

Holmbeck, 1997). The terms *mediator* and *moderator* often have been used imprecisely in this literature (see Holmbeck, 1997), and it is important to be clear concerning what each implies about the process by which interparental conflict may affect children. Whereas a mediator model proposes that appraisals play a causal role in the development of internalizing problems, a moderator model holds that appraisals influence the strength of the association between conflict and adjustment or the conditions under which it holds. As moderators, appraisals are not seen as a response to or function of the kind of conflict that occurs; rather, they are better understood as reflecting individual differences in how children perceive conflict, which in turn may reflect more stable cognitive styles. In the cognitive-contextual framework, appraisals are proposed to be a function of *both* the conflict that is observed and characteristic ways of perceiving such interactions, and therefore it is conceivable that both moderational and mediational pathways may fit a given data set.

Moderating hypotheses for the role of children's conflict appraisals also have received few empirical tests, and the findings are inconclusive. Kerig (1998a) found that perceptions of self-blame and threat moderated relations between interparental conflict and externalizing problems for boys and internalizing problems for girls in a community sample. Rogers and Holmbeck (1997), however, failed to find moderational effects of a measure of appraisal that assessed children's fear of abandonment, paternal and maternal blame, and peer avoidance.

It is difficult to draw any firm conclusions from the limited research on the role that threat and self-blame appraisals may play in the link between children's exposure to conflict and their adjustment. In addition to producing conflicting results, the studies differ on important dimensions. For example, sample sizes vary across studies, which influences their power to detect mediating and moderating relations. Moderating effects are particularly difficult to detect in nonexperimental research (Jaccard & Wan, 1995; McClelland & Judd, 1993), and the studies that have tested for moderation may not have had sufficient power to reliably document these effects. In addition, some studies included volunteer families who reported relatively low levels of interparental discord, whereas others selected families reporting aggression in the marital relationship, and it is possible that appraisals may operate differently in low versus high conflict families. Finally, only one study (Kerig, 1998a) has directly compared mediating and moderating hypotheses in the same data set, and so the relative ability of these models to account for relations among conflict, appraisals, and adjustment rarely has been examined.

Table 1 Means (and Standard Deviations) for Conflict and Adjustment Variables in Each Sample

Variable	Community (<i>n</i> = 319)		Shelter (<i>n</i> = 145)	
	Boys	Girls	Boys	Girls
Conflict Properties	10.98 (8.16)	11.35 (8.94)	25.33 (8.30)	26.25 (8.73)
Perceived Threat	6.75 (4.80)	7.24 (5.67)	14.24 (5.72)	13.44 (5.32)
Self-Blame	2.85 (3.48)	2.16 (3.19)	3.82 (3.86)	2.32 (3.15)
Adjustment (child report)				
CDI (Depression)	8.55 (8.48)	6.98 (7.85)	9.31 (6.29)	8.04 (5.63)
RCMAS (Anxiety)	36.46 (6.89)	37.24 (6.69)	39.73 (7.16)	39.00 (6.36)
YSR-Aggression	10.56 (7.53)	9.29 (6.35)	—	—
Adjustment (adult report)				
TRF-Anxiety/Depression	2.76 (3.55)	2.16 (2.46)	—	—
TRF-Withdrawn	2.53 (3.18)	1.88 (2.34)	—	—
TRF-Aggression	5.85 (8.03)	2.94 (5.94)	—	—
CBCL-Internalizing	—	—	59.33 (11.76)	58.26 (13.08)
CBCL-Externalizing	—	—	57.82 (14.23)	54.20 (11.30)

Note: Conflict Properties, Perceived Threat, and Self-Blame are from the Children's Perception of Interparental Conflict scale; raw scores are used for the TRF subscales in the community sample, whereas T scores are used for the CBCL internalizing and externalizing scales in the shelter sample. CDI = Child Depression Inventor; RCMAS = Revised Children's Manifest Anxiety Scale; YSR = Youth Self-Report; TRF = Teacher Report Form; CBCL = Child Behavior Checklist. Dashes indicate that a measure was not obtained in that sample.

The Present Study

The present study was designed to investigate the role of children's appraisals of threat and self-blame in understanding the link between interparental conflict and adjustment problems. Consistent with our elaboration of the cognitive-contextual framework, it was hypothesized that children's threat and self-blame appraisals mediate the relation between interparental conflict and children's internalizing problems, but not externalizing problems. This model was tested in two samples of children—one drawn from the community and the other from battered women's shelters—to evaluate the generalizability of a mediational pathway for families experiencing different levels of conflict. We then examined if appraisals fit a moderational model in which they alter the strength or direction of the relation between conflict and adjustment. Because prior research suggests that gender may influence how children respond to interparental conflict, the findings for each model were evaluated for similarities between boys and girls.

METHODS

Participants and Procedure

Community sample. The children in the community sample came from several elementary schools located in and around a small city (population 100,000) in the Midwest. It included 319 ten- to fourteen-year-old children (156 girls, 163 boys) from predominantly

White, middle-class families. Children in grades 6 through 8 were invited to participate in the study, and those who received parental permission to take part completed a packet of questionnaires in their classrooms during the regular school day. Over 90% of the children eligible to participate in the study did so. The questionnaire packet included measures of interparental conflict, anxiety, depression, and aggression. In addition, the children's teachers rated children's depressive, anxious, withdrawn, and aggressive behavior (Table 1).

Shelter sample. The participants from the shelter sample included 145 ten- to twelve-year-old children (72 boys, 73 girls) and their mothers. At the time of participation, all children and their mothers resided in one of six shelters for battered women; these shelters served women from urban, suburban, and rural areas in the Southwest. Criteria for participation in the study were that (1) the mothers and the children spoke English, and (2) the mothers reported on the Conflict Tactics Scale (CTS; Straus, 1979) that one or more incidents of physical violence had been directed toward them by an intimate male partner during the past 12 months. In families with more than one child, the youngest child between 10 and 12 was selected to participate in this study. This sample was 33% White, 32% African American, 32% Hispanic, and 1% other ethnicity. Mothers' average age was 34.1 years ($SD = 4.75$). Mean level of mothers' education was 11.5 years ($SD = 3.57$) and mean family income before shelter entry was approximately \$22,000; the median income

was \$18,000. For some families the income figures reflect total family income, but in other families mothers did not know the batterer's income and reported only their own. All of the children in the study had been living with their mother and their mother's spouse or partner before shelter entry. The mother's batterer was the biological father of 46% of the children and in the remainder the batterers were either stepfathers or were cohabiting with (but not married to) the mothers of the children. Of the families eligible for the study and who resided at a participating shelter for at least 5 days, approximately 82% participated. The majority of participating families (72%) provided data for this study during their first week of residence at the shelter. Mothers and children were interviewed separately and were given the option of completing the instruments on their own (with the investigator present in the room to answer questions) or having the questions read aloud to them.¹

Measures

Interparental conflict. Children's reports on the Conflict Properties subscale of the Children's Perception of Interparental Conflict scale (CPIC; Grych et al., 1992) were used to assess their exposure to interparental conflict. This scale includes 19 items indicating the frequency, intensity, and resolution of interparental conflict (e.g., "my parents have broken or thrown things during an argument"; "even after my parents stop arguing they stay mad at each other"). Children respond to each item by circling "true," "sort of true," or "false"; higher scores on the scale indicate conflict that is more frequent, aggressive, and poorly resolved. Reports on the CPIC from children as young as 8 years old have been shown to be internally consistent and reliable over time (Grych et al., 1992) and to correlate significantly (between .50 and .60) with maternal reports of interparental conflict and aggression (Cummings et al., 1994; Kerig, 1998a, 1998b). Coefficient α for this measure was high in both the community (.92) and shelter (.89) samples.

Previous studies investigating mediational and moderational models of appraisals have tended to rely on parental (usually maternal) reports of conflict, but children's reports were employed here because the mediational hypothesis rests on the assumption that children have witnessed conflict between their parents, and child reports of interparental conflict are

likely to provide more valid estimates of the conflict that children have seen and heard than are parent reports. Although children's ratings of the kinds of conflict they have witnessed also can be considered to be appraisals because they reflect their perceptions of parental disagreements, there are important distinctions between the Conflict Properties scale and the Threat and Self-Blame scales of the CPIC. The items on the Conflict Properties scale generally consist of behaviorally based descriptions of conflictual interactions (see examples above), whereas the Threat and Self-Blame scales inquire about children's subjective interpretations and responses to conflict ("I get scared when my parents argue," "It's usually my fault when my parents argue"). Empirical evidence also indicates that the Conflict Properties scale is distinct from the other appraisal scales. Factor analyses conducted with elementary-school-aged children and adolescents consistently distinguished among the three scales and showed that a single-factor solution combining the scales did not adequately represent children's responses on the CPIC (Bickham & Fiese, 1996; Grych et al., 1992). In addition, the Conflict Properties scale correlates more highly than the Threat and Self-Blame scales with maternal reports of interparental conflict and exhibits different patterns of correlations with measures of children's adjustment (e.g., Cummings, Davies, & Simpson, 1994; Grych et al., 1992).

Appraisals of threat and self-blame. The Perceived Threat and Self-Blame scales from the CPIC (Grych et al., 1992) were used to assess these appraisals. The 12-item Threat scale assesses the extent to which children feel threatened by and unable to cope with their parents' marital conflict. The items reflect different kinds of adverse outcomes, including escalation of conflict into physical aggression, the child being drawn into the conflict, and parental divorce, as well as children's beliefs in their ability to soothe themselves or help resolve the conflict (e.g., "when my parents argue I'm afraid that one of them will get hurt," "I don't know what to do when my parents have arguments"). The 9-item Self-Blame scale assesses the degree to which children blame themselves for their parents' conflict and perceive conflicts as concerning child-related issues. Sample items include "even if they don't say it, I know I'm to blame when my parents argue" and "my parents' arguments are usually about me." The α coefficients for the Threat (community = .86; shelter = .79) and Self-Blame (community = .87; shelter = .79) scales were comparable to those reported by Grych et al. (1992).

Child internalizing problems. In the community sample, children and their teachers reported on internalizing problems, whereas children and their mothers

¹ Some of the participants in this study also were participants in research conducted by Grych, Jouriles, McDonald, Norwood, and Swank (2000); Jouriles, McDonald, Norwood, Ware, Spiller, and Swank (1998); and Jouriles, Spiller, Stephens, McDonald, and Swank (2000)

rated these problems in the shelter sample. Children in both samples completed the 37-item Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978) and the 27-item Child Depression Inventory (CDI; Kovacs, 1981). Both measures have excellent psychometric properties and are widely used in research on children's responses to stressful events. Coefficient α for the CDI was .92 in the community sample and .78 in the shelter sample. For the RCMAS, coefficient α was .87 in the community sample and .89 in the shelter sample. In the community sample, teachers completed the Anxiety/Depression and Withdrawn scales of the Teacher Report Form (TRF), a version of the Child Behavior Checklist designed for use by teachers (Achenbach, 1991). The TRF is a widely used measure with well-established psychometric properties (Achenbach, 1991). As recommended by Achenbach (1991), raw scores were used for these measures because they are more sensitive than T-scores at the level of individual subscales. The α coefficients for these scales in the present sample were .81 and .85, respectively. In the shelter sample, mothers completed the full Internalizing scale from the CBCL, which includes a somatic complaints subscale in addition to the Anxiety/Depression and Withdrawn subscales. T-scores were used for this measure because at the scale level they are psychometrically equivalent to raw scores but provide a clearer metric for comparing children's functioning with peers of the same age and gender (Achenbach, 1991). Coefficient α for the Internalizing scale was .87.

Child externalizing problems. In the community sample, aggressive and disruptive behavior was assessed with both child and teacher reports. Teachers completed the 25-item Aggression subscale of the Teacher Report Form (Achenbach, 1991). Teachers were asked to indicate how often each child engages in a series of behaviors including arguing, fighting, and threatening others. Coefficient α for this measure was .95. Children completed the 19-item aggression subscale from the Youth Self-Report (Achenbach, 1991). It is similar in format to the CBCL and TRF and focuses on children's reports of angry, disruptive, and aggressive behavior. Coefficient α in this sample was .88. In the shelter sample, only a single rating of externalizing problems was obtained: Mothers' reports of Externalizing behavior on the CBCL were used to assess aggressive and delinquent behavior. Coefficient α in the shelter sample was .94.

RESULTS

The means and standard deviations of the variables included in the analyses are presented in Table 1.

Children in the shelter sample reported considerably higher levels of frequent, aggressive, and poorly resolved interparental conflict, $t(462) = 17.64, p < .01$, and reported that they were more threatened by interparental conflict than children in the community sample, $t(462) = 12.75, p < .01$, but the two groups reported fairly similar levels of self-blame, $t(462) = 1.57, p > .10$. The means for the Conflict Properties scale ($range = 0-38$) and Perceived Threat scale ($range = 0-24$) in the community sample are comparable to those reported in previous studies using unselected families from the general population (e.g., Kerig, 1998a), whereas those for the shelter sample are even higher than those Kerig reported in a sample of community families selected on the basis of reporting physical violence in the marriage (Kerig, 1998b).

Within each sample, boys and girls did not differ significantly in their reported levels of conflict or threat. Boys, however, reported significantly more self-blame than girls in the shelter sample, $t(143) = 2.58, p < .05$, and marginally more self-blame in the community sample, $t(293) = 1.78, p < .08$. In the community sample, teachers rated boys to be significantly more aggressive, $t(308) = 3.63, p < .05$, and withdrawn, $t(308) = 2.02, p < .05$, and marginally more anxious, $t(308) = 1.75, p < .10$, than girls, and boys reported more depressive symptoms on the CDI, $t(308) = 1.68, p < .10$. Next we present the mediational and moderational analyses for the community sample, followed by the same set of analyses for the shelter sample. Note that degrees of freedom vary across analyses because of missing data on some variables.

Community Sample

Mediator analyses. Multiple raters and multiple measures were used to obtain a broad assessment of children's adjustment. Child and teacher reports on each measure were treated as separate indicators of adjustment and examined simultaneously with multivariate analyses. These analyses were conducted separately for internalizing and externalizing problems: Internalizing problems were indexed by children's ratings of anxiety (RCMAS) and depression (CDI) and teacher reports of anxiety/depression and withdrawal (TRF), and externalizing problems were indexed by children's (YSR) and teachers' (TRF) reports of aggression. Child and teacher reports of the same types of problems generally converged. Children and teachers agreed to a greater extent on their ratings of externalizing behaviors, $r(293) = .33, p < .01$, which are more easily observed, than their reports of internalizing problems. Whereas children's

CDI scores were significantly correlated with teachers' scores on the Withdrawn, $r(293) = .28, p < .01$, and Anxiety/Depression scales, $r(293) = .12, p < .05$, their RCMAS scores were not associated with teachers' ratings on either the Withdrawn scale, $r(293) = .06$, or the Anxiety/Depression scale, $r(293) = .02$. The teacher reports on the Withdrawn and Anxiety/Depression scales were correlated with each other, $r(293) = .59, p < .01$, as were the child reports on the CDI and RCMAS, $r(293) = .68, p < .01$.

To meet criteria for mediation, Conflict Properties and the set of adjustment measures must be associated (Figure 1, Path 1); Conflict Properties must be significantly correlated with appraisals of Threat and Self-Blame (Figure 1, Paths 2a and 2b); Threat and Self-Blame must be associated with the sets of adjustment measures (Figure 1, Paths 3a and 3b); and the association between Conflict Properties and adjustment must become nonsignificant (complete mediation) or be significantly reduced (partial mediation) when appraisals of Threat and Self-Blame are taken into account, whereas the appraisals continue to significantly predict adjustment (see Baron & Kenny, 1986).

Because internalizing and externalizing problems were assessed, with multiple measures associations between each set of adjustment indices and Conflict Properties, Threat, and Self-Blame were examined by using multivariate multiple regression. In the analysis of internalizing problems, the dependent variables were teacher reports of Anxiety/Depression and Withdrawal on the TRF and children's ratings on the RCMAS and CDI. For externalizing analyses, the dependent variables were teacher and child reports of

aggression on the TRF and YSR, respectively. As Table 2 shows, the Conflict Properties scale was related to both internalizing and externalizing problems, Wilks's $\lambda = .85, F(4, 269) = 11.66, p < .01$, Wilks's $\lambda = .92, F(2, 262) = 10.67, p < .01$, respectively. Correlational analyses indicated that Conflict Properties was significantly related to children's reports of Threat, $r(292) = .64$, and Self-Blame, $r(293) = .40$. Appraisals of Threat and Self-Blame in turn were associated with internalizing, Wilks's $\lambda = .75, F(4, 269) = 22.39, p < .01$; Wilks's $\lambda = .84, F(4, 269) = 13.07, p < .01$, respectively, and externalizing, Wilks's $\lambda = .95, F(2, 264) = 4.54, p < .05$, Wilks's $\lambda = .90, F(2, 264) = 15.15, p < .01$, respectively.

Mediation can be tested with regression analyses by examining the change in magnitude of the relation between the predictor variable (interparental conflict) and criterion variables (adjustment indices) when the hypothesized mediators (threat and self-blame) are added to the equation. Multivariate multiple regression equations were conducted to incorporate both teacher and child reports of adjustment in the mediational analyses. Threat and self-blame appraisals were entered simultaneously rather than in separate equations to examine their joint and unique contributions to predicting adjustment. As noted above, the Conflict Properties subscale was significantly related to the set of internalizing measures when entered into the equation first. When Threat and Self-Blame appraisals were added to the equation, Conflict Properties no longer predicted internalizing problems, $F(4, 267) = 1.33, p > .10$. Both Threat, $F(4, 267) = 10.53, p < .01$, and Self-Blame, $F(4, 267) = 5.73, p < .01$, how-

Table 2 Tests of Individual Paths of Mediational Model in Community Sample

Path	Predictor	Criterion	Test of Association
Internalizing Problems			
1	Conflict Properties	Internalizing	Wilks's $\lambda = .85, F(4, 269) = 11.66^{**}$
2a	Conflict Properties	Perceived Threat	$r(292) = .64^{**}$
2b	Conflict Properties	Self-Blame	$r(293) = .40^{**}$
3a	Perceived Threat	Internalizing	Wilks's $\lambda = .75, F(4, 269) = 22.39^{**}$
3b	Self-Blame	Internalizing	Wilks's $\lambda = .84, F(4, 269) = 13.07^{**}$
Externalizing Problems			
1	Conflict Properties	Externalizing	Wilks's $\lambda = .92, F(2, 262) = 10.67^{**}$
2a	Conflict Properties	Perceived Threat	$r(292) = .64^{**}$
2b	Conflict Properties	Self-Blame	$r(293) = .40^{**}$
3a	Perceived Threat	Externalizing	Wilks's $\lambda = .95, F(2, 264) = 4.54^*$
3b	Self-Blame	Externalizing	Wilks's $\lambda = .90, F(2, 264) = 15.15^{**}$

Note: The Internalizing measure comprises children's reports on the CDI and RCMAS and teachers' reports on the TRF Anxiety/Depression and Withdrawn scales. The Externalizing measure comprises children's reports on the YSR Aggression scale and teachers' reports on the TRF Aggression scale. $n = 292$.

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

ever, continued to be significantly related to the set of Internalizing measures.

We then tested whether this mediational pathway differed for boys and girls. The final step of the multivariate multiple regression analyses was repeated with gender and the interactions between gender and Conflict Properties, Threat, and Self-Blame added to the equation. Significant interactions with gender would indicate that the mediational pathway was moderated by children's gender. For internalizing problems, this analysis revealed a significant interaction between gender and Self-Blame, Wilks's $\lambda = .96$, $F(4, 263) = 2.64$, $p < .05$. The nature of this interaction was examined by conducting regression equations separately for boys and girls (see Table 3). For boys, the relation between Conflict Properties and internalizing problems became nonsignificant when Threat and Self-Blame were added to the equation, and both Threat and Self-Blame accounted for unique variance on the set of internalizing measures. For girls, Conflict Properties again became nonsignificant when Threat and Self-Blame were added to the equation, but in this case only Threat accounted for significant unique variance in internalizing problems.

Turning to the analysis of externalizing problems, Conflict Properties was a significant predictor when it was entered first in the equation, but in contrast to internalizing problems, it remained a significant predictor after the addition of Threat and Self-Blame, Wilks's $\lambda = .96$, $F(2, 262) = 5.16$, $p < .006$. Self-Blame also uniquely predicted externalizing problems, Wilks's $\lambda = .95$, $F(2, 262) = 7.41$, $p < .01$, whereas the relation between Threat and externalizing problems was mar-

ginally significant, Wilks's $\lambda = .98$, $F(2, 262) = 2.73$, $p < .10$.

We examined whether gender moderated these findings by adding gender and its interactions with Conflict Properties, Threat, and Self-Blame into the regression equation. As with internalizing problems, the only significant interaction was between Gender and Self-Blame, Wilks's $\lambda = .99$, $F(2, 258) = 3.16$, $p < .05$. The regression analyses were then conducted separately for boys and girls to better describe the nature of the interaction. Table 3 shows that for boys, Conflict Properties remained a significant predictor after the addition of the appraisals and that Self-Blame, but not Threat, also uniquely predicted externalizing problems. For girls, Conflict Properties remained marginally significant after Threat and Self-Blame were added, but neither appraisal accounted for significant unique variance.

Thus, as predicted, consistent evidence for a mediational role of appraisals was found only for internalizing problems; both Threat and Self-Blame acted as mediators of internalizing problems for boys, but only Threat mediated the association between conflict and internalizing problems for girls. For externalizing problems, Self-Blame and Conflict Properties were additive predictors for boys, and although the same pattern was found for girls, each variable was only marginally significant.

Moderator analyses. Following guidelines described by Baron and Kenny (1986), tests for support of a moderating role for appraisals of Threat and Self-Blame were conducted. Moderation can be tested with regression analyses in which the predic-

Table 3 Multivariate Multiple Regression Analyses Testing Mediation in Community Sample

Equation	Variable Entered	Internalizing			Externalizing		
		Wilks's λ	<i>F</i>	<i>p</i>	Wilks's λ	<i>F</i>	<i>p</i>
Boys							
1.	Conflict Properties	.87	4.99	.001	.90	7.39	.001
2.	Conflict Properties	.96	1.36	.250	.93	4.86	.009
	Perceived Threat	.86	5.37	.000	.97	1.93	.149
	Self-Blame	.84	6.22	.000	.90	7.07	.001
Girls							
1.	Conflict Properties	.80	8.30	.000	.92	5.96	.003
2.	Conflict Properties	.97	1.10	.358	.96	2.62	.077
	Perceived Threat	.83	6.82	.000	.98	1.60	.205
	Self-Blame	.98	.65	.636	.96	2.51	.085

Note: The Internalizing measure comprises children's reports on the CDI and RCMA5 and teachers' reports on the CBCL Anxiety/Depression and Withdrawn scales; The Externalizing measure comprises children's reports on the YSR Aggression scale and teachers' reports on the CBCL Aggression scale. $N = 134$ girls, 139 boys.

tor and proposed moderator are entered in a first step and the product (interaction) of these variables is entered in the second step. If the product term accounts for significant unique variance, a moderational hypothesis is supported. Multivariate multiple regression analyses were conducted for each type of adjustment problem, and the interactions of Conflict Properties with Threat and with Self-Blame were tested in separate equations. When variables are multiplied together to form an interaction term, that term generally is highly correlated with one or both of its component variables, and so the components of the interaction term were centered around their means by subtracting the mean from scores on each measure before forming the composite term (Aiken & West, 1991).

The analyses for internalizing and externalizing problems showed that neither Threat nor Self-Blame interacted with Conflict Properties to predict children's adjustment. Therefore, a moderator model for children's appraisals was not supported. To examine whether boys and girls might have demonstrated different patterns of results, gender was added as a variable in the multivariate multiple regression analyses. Specifically, gender was entered in the first step of each analysis, two-way interactions between gender and each of the CPIC measures were added in the second step, and finally the three-way interaction of gender with the interaction terms involving Conflict Properties and each appraisal were entered in a final step. The three-way interaction, which would have been evidence that the proposed moderational pathway differed according to child gender, was not significant

in any of the equations, which indicates that the results were consistent for boys and girls.

Shelter Sample

Mediator analyses. In the shelter sample, children's reports of anxiety (RCMAS) and depression (CDI) and mothers' reports of children's internalizing problems (CBCL-INT) were used as indices of children's internalizing problems. Mothers' ratings correlated significantly with both the CDI, $r = .17, p < .05$, and the RCMAS, $r = .23, p < .05$. Children's self-reports of aggression were not obtained in this sample, and so only maternal reports (CBCL-EXT) were used to index children's externalizing problems. As Table 4 shows, Conflict Properties was associated with the set of internalizing problems, Wilks's $\lambda = .92, F(3, 141) = 3.89, p < .05$, but was not correlated with externalizing problems, $r(145) = -.06$. Conflict Properties was significantly associated with Threat, $r(145) = .54, p < .01$, and Self-Blame, $r(145) = .17, p < .05$. Threat and Self-Blame were associated with internalizing problems, Wilks's $\lambda = .66, F(3, 140) = 23.69, p < .05$, Wilks's $\lambda = .87, F(3, 140) = 6.91, p < .05$, respectively. Children's externalizing problems were correlated with Self-Blame, $r(145) = .17, p < .05$, but not Threat, $r(145) = -.02$. Because the criteria for mediation were not met for externalizing problems, mediation was tested only for internalizing problems in this sample.

Mediation was assessed with multivariate multiple regression in which child (RCMAS, CDI) and maternal (CBCL-Internalizing) were the dependent variables. As in the community sample, the significant

Table 4 Tests of Individual Paths of Mediation Model in Shelter Sample

Path	Predictor	Criterion	Test of Association
Internalizing Problems			
1	Conflict Properties	Internalizing	Wilks's $\lambda = .92, F(3, 141) = 3.89^*$
2a	Conflict Properties	Perceived Threat	$r(145) = .54^{**}$
2b	Conflict Properties	Self-Blame	$r(145) = .17^*$
3a	Perceived Threat	Internalizing	Wilks's $\lambda = .66, F(3, 140) = 23.69^{**}$
3b	Self-Blame	Internalizing	Wilks's $\lambda = .87, F(3, 140) = 6.91^*$
Externalizing Problems			
1	Conflict Properties	Externalizing	$r(145) = -.06$
2a	Conflict Properties	Perceived Threat	$r(145) = .54^{**}$
2b	Conflict Properties	Self-Blame	$r(145) = .17^*$
3a	Perceived Threat	Externalizing	$r(145) = -.02$
3b	Self-Blame	Externalizing	$r(145) = .17^*$

Note: The Internalizing measure comprises children's reports on the CDI and RCMAS and mothers' reports on the CBCL Internalizing scale; The Externalizing measure comprises mothers' reports on the CBCL Aggression scale. $n = 145$.

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

association between Conflict Properties and the set of internalizing problems became nonsignificant when Threat and Self-Blame were added to the model, Wilks's $\lambda = .98$, $F(3, 139) = .53$, $p > .05$. Both Threat, Wilks's $\lambda = .69$, $F(3, 139) = 20.41$, $p < .05$, and Self-Blame, Wilks's $\lambda = .87$, $F(3, 139) = 6.85$, $p < .05$, however, remained significant, unique predictors of the internalizing measures (see Table 5). This pattern of results indicates that both Self-Blame and Threat appraisals mediate the relation between Conflict Properties and children's internalizing problems.

Child gender and the two-way interaction terms of gender with Conflict Properties, Threat, and Self-Blame were then added to the regression equation to determine whether this mediational pathway differed for boys and girls. None of the interaction terms accounted for significant unique variance, which indicates that the mediational findings were consistent for boys and girls.

Moderator analyses. Multiple regression analyses were conducted to test whether Threat and Self-Blame moderated the relation between Conflict Properties and measures of children's internalizing and externalizing problems. As in the community sample, separate analyses were conducted to evaluate the interactions of Conflict Properties with Threat and Conflict Properties with Self-Blame. Conflict Properties, Threat, and Self-Blame were each centered before forming the interaction terms. Results of multivariate multiple regression analyses indicated that neither the interaction of Conflict Properties with Threat nor the interaction of Conflict Properties with Self-Blame was significantly associated with the set of internalizing measures. Similarly, univariate multiple regression analyses indicated that neither interaction term was significantly associated with mothers' ratings of externalizing problems. Thus, children's appraisals of threat and self-blame did not moderate the association between conflict and children's adjustment.

Finally, we tested whether the moderator results

differed for boys and girls by adding gender, its two-way interactions with Conflict Properties, Threat, and Self-Blame, and three-way interactions of gender and the two-way interactions involving Conflict Properties and each appraisal. There were no significant findings for any of the terms involving gender for either internalizing or externalizing problems.

DISCUSSION

This study was designed to investigate processes that may help explain how interparental conflict affects children's adjustment. We expanded on Grych and Fincham's (1990) cognitive-contextual framework in two ways. First, we proposed that children's appraisals of threat and self-blame would act as mediators of the association between their exposure to interparental conflict and adjustment problems, rather than moderators as hypothesized by other investigators. Second, we proposed that this mediational pathway would be specific to internalizing problems. We tested these hypotheses in two very different samples of children, samples that varied in their exposure to aggressive parental conflict, sociodemographic variables (ethnicity, income), and current living situation. Appraisals were found to mediate the relation between interparental conflict and internalizing problems for boys and girls in both samples. In contrast, externalizing problems were not mediated by appraisals in either sample.

The support for a mediational role for children's appraisals is consistent with stress and coping research indicating that individuals' perceptions of stressful events shape the impact of those events (e.g., Compas, 1987; Rutter, 1983), and, more specifically, suggests that children's evaluation of the meaning of interparental conflict plays a key role in understanding how exposure to conflict may contribute to the development of internalizing problems. Children's threat appraisals were a significant mediator for boys and girls in both samples, which suggests that feeling threatened by and unable to cope with parental disagreements may lead to persistent feelings of sadness and anxiety if children are frequently exposed to such conflict. The exact nature of their internalizing symptoms may depend on what children view as threatening about conflict. If conflict has involved physical aggression, children may worry for the health and safety of one or both parents. They also may fear being drawn into parental disagreements and becoming a recipient of verbal or physical aggression themselves or being put into the untenable position of choosing sides in the disagreement. Perceiving conflict as a threat to the harmony and stability of the family may produce

Table 5 Multivariate Multiple Regression Analyses Testing Mediator Model in Shelter Sample

Equation	Variable Entered	Internalizing Problems		
		Wilks's λ	F	p
1.	Conflict Properties	.92	3.89	.001
2.	Conflict Properties	.98	.53	.659
	Perceived Threat	.69	20.41	.001
	Self-Blame	.87	6.85	.001

Note: The Internalizing measure comprises children's reports on the CDI and RCMA5 and mothers' reports on the CBCL Internalizing scale. The Externalizing measure comprises mothers' reports on the CBCL Aggression scale. $N = 145$.

fears of being separated from attachment figures and is likely to be very distressing for children (Davies & Cummings, 1994).

For boys in both samples and girls in the shelter sample, self-blame independently mediated the relation between exposure to interparental conflict and internalizing problems. Children who believe that they are responsible for causing parental discord, especially when that discord leads to verbal or physical aggression, may experience guilt, sadness, and diminished self-worth. Given that childrearing is often a source of disagreement in families and that children are more likely to infer responsibility when the content of conflicts concerns the child (Grych, 1998; Grych & Fincham, 1993), there may be ample opportunities for children to make this kind of appraisal. In addition, self-blame may reflect the belief that children are responsible for ending or preventing interparental conflict (O'Brien et al., 1995); indeed, children report believing that they are more able to help resolve parental disagreements when they involve child-related issues than when they concern adult topics (Grych, 1998; Grych & Fincham, 1993). Children who attempt to intervene, however, may find that involvement comes at a significant cost (Emery, 1982) and ultimately discover that the burden to help their parents resolve their conflicts is a difficult one to carry.

The reason that girls in the community sample did not show a mediating effect for self-blame is not clear, but this result is consistent with Kerig's (1998a, 1998b) findings that girls' self-blame mediated links between conflict and internalizing problems in a physically aggressive sample but not in an unselected community sample. In contrast, Cummings et al. (1994) reported a significant relation between self-blame and internalizing problems in girls but not boys in a small sample of community volunteers (also see Kerig, 1998b). Inconsistencies in findings pertaining to gender are common in this literature but are poorly understood and underscore the need to develop theory regarding how or under what conditions interparental conflict may affect boys and girls differently (see Davies & Lindsay, *in press*). In this study, boys reported higher levels of self-blame than girls in both samples and demonstrated consistent relations between self-blame and internalizing problems. These findings suggest that boys' socialization experiences, which emphasize action and assertiveness in the face of stress (Davies & Lindsay, *in press*), may lead them to feel more responsible for stopping interparental disagreements and to experience dysphoria when they are unable to do so. Girls, in contrast, may be better able than boys to recognize that they are not responsible for causing or resolving interparental disagreements; however, such mean

differences do not explain why self-blame would function differently in relation to internalizing problems. Perhaps the potential for more serious consequences to arise from interparental violence as opposed to normative levels of conflict led girls in the shelter sample to experience more distress in those cases where they did attribute some responsibility for conflict to themselves.

No evidence for a moderating effect of children's appraisals was found in either sample. The few investigations of moderating pathways have produced inconsistent results, which range from finding moderation for certain variables but not others (Kerig, 1998a; Rossman & Rosenberg, 1992) to failing to find any moderation at all (Rogers & Holmbeck, 1997). The differences between studies may in part reflect differences in the size and nature of the samples studied and the specific constructs assessed. Another factor that may be particularly relevant for understanding differences among the studies testing mediating and moderating models is the source of information regarding children's exposure to conflict. Studies finding evidence of moderation (e.g., Kerig, 1998a; Rossman & Rosenberg, 1992) obtained reports of interparental conflict from mothers, whereas children reported on conflict here. Although parent and child reports typically are significantly correlated, they provide somewhat different information. The ratings of both parents and children are filtered through their own experiences and reflect what has been most salient to them; parents and children may be aware of, attend to, and remember different aspects of parental interactions, and their reports may well have different relations to children's appraisals of threat and blame.

Support for a mediational role for children's appraisals does not imply that other factors are not important for understanding the association between conflict and internalizing problems. Other research has shown that parent-child relationships, particularly the expression of hostility and aggression in these relationships, also mediates the link between conflict and adjustment (e.g., Fauber, Forehand, Thomas, & Wierson, 1991; Harold et al., 1997; Osborne & Fincham, 1996). An important goal for theoretical development in this area is the integration of direct and indirect pathways between interparental conflict and child development. There are a number of ways in which children's appraisals may be related to parent-child relationships. For example, the quality of parent-child relationships may affect the degree of threat children perceive when conflict occurs. Grych (1998) recently reported that children's exposure to parent-child aggression interacted with interparental physical aggression to predict their appraisals of nonaggressive

interparental conflict, which suggests that experiencing threatening interactions in one family relationship affects how children perceive other relationships (also see Harold et al., 1997). Similarly, Davies and Cummings (1994) argued that both poor parent-child and poor interparental relationships can adversely affect children's emotional security, which in turn makes interparental conflicts more threatening to their sense of family stability. Appraisals may also affect parent-child relationships. For example, children who are threatened by their fathers' behavior during parental disputes may perceive their own interactions with their fathers more negatively, and this relationship may become more distant or conflictual as a result (Osborne & Fincham, 1996).

Another important focus for future investigations are the links between children's cognitions and their emotional and behavioral responses to interparental conflict. Although we have emphasized cognition in this paper, cognition and affect are both viewed as important aspects of the appraisal process in the cognitive-contextual framework. Research examining how cognition and emotion jointly influence the short- and long-term effects of conflict on children is needed. Similarly, appraisals have been associated with coping strategies that children describe for responding to interparental conflict (e.g., Grych & Fincham, 1993; Kerig, Fedorowicz, Brown, Patenaude, & Warren, 1998), but we know little about how they affect children's actual behavior when interparental conflict occurs or about the effect that children's behavior may have on later appraisals.

Some limitations of the present study also must be noted. First, mediational models assume a causal relationship between the predictor, mediator, and criterion variable. Because the data in this study are cross-sectional, we do not know if particular appraisals actually lead to later maladjustment. Longitudinal research is needed to investigate the temporal and causal relations between these constructs.

Second, these findings reflect the nature of the relations between children's perceptions of conflict, their appraisals, and child, maternal, and teacher reports of adjustment problems, and it will be important to examine whether the pattern of results is similar when other reporters (e.g., peer ratings of aggression) and methods (e.g., observation of interparental conflict) are employed. Because children's reports were used to assess interparental conflict, appraisals, and adjustment, the potential for method variance to influence the results also is a significant concern. Including multiple raters of children's internalizing and externalizing problems in the multivariate analyses reduces but does not eliminate the impact of rater effects. There

is, however, evidence that the results do not simply reflect method variance. Although using the same rater for conflict, appraisals, and adjustment inflates the zero order correlations between the variables, common method variance mitigates *against* finding a unique contribution of appraisals to the prediction of child internalizing problems. In addition, finding a different pattern of results for internalizing and externalizing problems and for boys and girls in the community sample suggests that method variance cannot wholly account for the data.

Finally, the generalizability of these results to children of different ages and from different family situations is not known. These samples included only children from the ages of 10 through 14 years, and prior research suggests that cognitive processes do not become salient predictors of children's functioning until middle to late elementary school (Jouriles, Spiller, Stephens, McDonald, & Swank, 2000; Nolen-Hoeksema, Girgus, & Seligman, 1992; Turner & Cole, 1994). Because of their greater cognitive sophistication and understanding of relationships, adolescents may perceive and think about conflict differently than younger children. Studies of both older and younger children are needed to examine whether appraisals function differently for children of different ages. Similarly, although the consistency of the findings across two samples differing substantially in demographic characteristics and children's exposure to conflict supports their generalizability, it is possible that other populations (e.g., physically violent families residing in the community) may show a different pattern of results.

Taken together with experimental studies showing that appraisals are systematically affected by the manner in which conflict is expressed (Grych, 1998; Grych & Fincham, 1993), these data provide strong support for a mediational role for children's appraisals of threat and boys' attributions of self-blame. The consistency in these findings across two large samples of children varying on a number of dimensions lends greater confidence to their reliability and generalizability. This study thus provides evidence for a process by which exposure to interparental conflict may lead to internalizing problems in children and hopefully will promote investigation of the causal relations among these variables as well as further development of theoretical models designed to explain how conflict affects children's development.

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