

# Pathways Between Interparental Conflict and Adolescent Psychological Adjustment

## Bridging Links Through Children's Cognitive Appraisals and Coping Strategies

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Using a three-wave longitudinal design, the present study examined adolescents' cognitive appraisals and coping strategies following exposure to interparental conflict and their long-term symptoms of emotional and behavioral distress. Participants were 252 adolescents (122 boys, 130 girls; ages 11 to 12 years in the 1st year of the study), their parents, and their teachers. Controlling for initial symptom levels (Time 1), the proposed theoretical model linked parent reports of interparental conflict at Time 1 (1999) to children's appraisals of self-blame and threat relating to marital conflict at Time 2 (2000) and their coping strategies as indexed by proactive mediation, avoidance, overinvolvement, and masking behavior at Time 3 (2001). Children's appraisals and coping strategies were in turn related to their internalizing symptoms and externalizing problems, assessed at Time 3. Gender differences were found whereby marital conflict exerted direct effects on boys' coping behavior, while for girls, effects were indirect through their self-blame and threat appraisals. Implications for interventions aimed at ameliorating the effects of interparental conflict on children are discussed.

**Keywords:** *marital conflict; child cognition; coping strategies; internalizing; externalizing; gender; longitudinal analysis*

Exposure to interparental conflict is associated with negative psychological symptoms among children (e.g., Davies & Cummings, 1998; Nicolotti, El-Sheikh, & Whitson, 2003) and adolescents (e.g., Davies & Lindsay, 2004; Harold & Conger, 1997; Harold, Shelton, Goeke-Morey, & Cummings, 2004),

with evidence suggesting that children who are exposed to frequent, intense, and poorly resolved conflicts between parents are at greater risk for heightened internalizing symptoms (e.g., Dadds, Atkinson, Turner, Blums, & Lendich, 1999; Harold, Fincham, Osbourne, & Conger, 1997), externalizing problems (e.g., Grych, Fincham, Jouriles, & McDonald, 2000; Harold & Conger, 1997), and poor academic achievement (e.g., Forehand & Wierson, 1993; Harold, Aitken, & Shelton, 2007). Recently, researchers have highlighted several mechanisms that underlie children's adaptation to interparental conflict suggesting that conflict occurring between adults adversely affects children through two primary mechanisms: (a) disruptions in the parent-child relationship and (b) the negative emotions, cognitions, and representations of family relationships engendered in children who are exposed to hostile exchanges between their parents (Erel & Burman, 1995; Davies & Cummings, 1994; Grych & Fincham, 1990; Harold & Conger, 1997). Each of these perspectives highlights the active role of conflict between adults as a context for understanding adverse family effects on children's development, emphasizing the underlying role of children's cognitive appraisals, emotional security, and representations of family relationships (e.g., the parent-child relationship) as well as children's own ability to cope with their parents' marital arguments. Few studies, however, have explicitly considered the role of children's coping with interparental conflict as a factor that may explain additional variation in their psychological adaptation, and none have done so within the context of a prospective longitudinal design. The present study advances insight into the marital conflict-child adjustment link by assessing the role of children's specific coping strategies as a response to parent reports of interparental conflict and children's own appraisals of threat and self-blame emanating from their parents' marital arguments.

A theoretical perspective that places particular emphasis on the interplay between children's cognitive appraisals and coping efficacy in the context of interparental conflict is the cognitive-contextual framework (Grych & Fincham, 1990). Based on principles derived from relationship attribution theory and the stress and coping framework outlined by Lazarus and Folkman (1984), the theory draws attention to the role of children's social cognition as one mediating process in the relationship between interparental conflict and children's adjustment problems. According to the cognitive contextual

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framework, the specific appraisals children assign to the expression and management of conflict between parents, as well as their perceived ability to cope with the conflict, determine variation in their symptoms of emotional and behavioral distress (Grych & Fincham, 1990). Tests have identified children's appraisals of threat and attributions of self-blame as important mediators in the link between interparental conflict and children's psychological adjustment (e.g., Dadds et al., 1999; Grych et al., 2000). In a longitudinal study of the role of children's threat and self-blame appraisals, Grych, Harold, and Miles (2003) showed that children's specific attributions of threat and self-blame differentially mediated the relationship between marital conflict and children's internalizing symptoms and their externalizing problems, with threat appraisals associated with internalizing symptoms and self-blame appraisals associated with externalizing problems. Having identified the role that children's specific appraisals play in the link between marital conflict and adolescents' psychological distress, questions remain regarding how children's subjective evaluations of parents' conflict lead to increased adjustment problems and, in particular, how children's coping strategies relating to parents' marital arguments explain variation in their psychological adaptation.

Coping, in both the adult and child psychological literatures, has been defined as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984, p. 141). Coping is conceptualized as the implementation of responses to stress without reference to their efficacy; in other words, coping efforts may be effective or ineffective in promoting adaptation (Compas, Connor-Smith, Saltzman, Harding Thomsen, & Wadsworth, 2001). Coping as a construct features in the primary theoretical models aimed at highlighting underlying mechanisms relating to variation in children's adaptation to interparental conflict. According to Grych and Fincham (1990), coping behavior is informed by prior experience of interparental conflict and whether previous coping efforts have been successful. A complementary perspective offered to account for the effects of interparental conflict on children is the emotional security hypothesis proposed by Davies and Cummings (1994). Derived from attachment theory, these authors propose that the effects of destructive and badly managed conflict between parents are determined through disruptions in three areas of children's emotional functioning. First, feelings of emotional reactivity may be affected such that children feel angry, sad, or scared in the context of conflict. Second, their representations of family relationships may be affected such that conflict between parents affects children's expectations that conflict will occur elsewhere in the family system. Third, children may

feel motivated to regulate exposure to marital emotion so that they directly intervene in, or actively withdraw from, the immediate vicinity of conflict. The impact of conflict on children is determined by the extent to which one or more of these aspects of emotional security are adversely affected and how well children can manage to regulate such emotional disruption. Insecurity is expressed in the coping responses employed by children as overregulation of exposure through overinvolvement in interparental conflict or prolonged avoidance of conflict (Davies & Cummings, 1994). Initial findings suggest that behavior regulation (involvement and avoidance attempts) may link the relationship between marital conflict and adjustment problems (Davies & Cummings, 1998; Harold et al., 2004). Recent work that tested the role of both cognitive appraisals and emotional insecurity in accounting for the relationship between marital conflict and adolescent adjustment concluded that emotional security could, in part, account for pathways between interparental conflict, children's cognitive appraisals, and their long-term internalizing and externalizing problems (Harold, Shelton, Goeke-Morey, & Cummings, 2002). The explicit role of coping, however, as a construct influenced both by the occurrence or presence of interparental conflict and children's cognitive appraisals of this conflict, is relatively absent from this literature, a limitation directly addressed in the present study.

Efforts made by children to cope with or modulate the effects of marital conflict are often conceptualized as either engagement or disengagement from the stressor, for example, involvement and avoidance (e.g., Laumakis, Margolin, & John, 1998; O'Brien, Bahadur, Gee, Balto, & Erber, 1997). Intervention in conflict can be defined as action on the part of the child to distract the parent or otherwise influence the course of parents' negative exchanges. Alternatively, the child may seek to escape or else disengage completely from parents' marital arguments (e.g., Jenkins, Smith, & Graham, 1989; Kerig, 2001). While coping efforts that involve direct intervention or avoidance can be adaptive in the short term (by interrupting or removing the child from parents' marital arguments), such efforts are likely to be maladaptive in the longer term (Cummings & Davies, 1994). Available evidence suggests that overinvolvement in parents' arguments is associated with psychological distress over and above the effects of interparental conflict (e.g., Jenkins et al., 1989; O'Brien, Margolin, & John, 1995). Those who are more forceful in their interventions or side with one parent over another are also more symptomatic (e.g., Jenkins et al., 1989; Kerig, 2001). Thus, while mediation (problem-solving efforts) could possibly be effective in bringing an end to conflict, overinvolvement may only serve to triangulate the child in conflict and accentuate distress.

Avoidance as a conflict management strategy has also been associated with increased adjustment problems for children and adolescents, particularly,

anxiety and depression (Davies, Forman, Rasi, & Stevens, 2002; Nicolotti et al., 2003; O'Brien et al., 1997). Other research, however, has found that when accompanied by self-calming and distraction, avoidance coping is associated with lower levels of anxiety (e.g., O'Brien et al., 1995). In addition, Davies and Forman (2002) propose that some children may actually cope better with conflict by masking their distress in an effort to inhibit overt expressions of distress and reduce the motivation to intervene in marital conflict. Masking distress may be immediately adaptive because it reduces the possibility of the child's becoming a target of parent hostility, but in the long term, the inhibition of emotional expression is hypothesized to be associated with adjustment problems, including internalizing symptoms and externalizing problems (Davies & Forman, 2002). Involvement in marital conflict therefore appears to place children at risk for psychological maladjustment, while strategies that reflect avoidance of marital arguments may be differentially adaptive for children, depending on the cognitive processes underlying these strategies (e.g., use of self-calming or distraction activity).

A factor that has also been shown to be important in explaining differences in children's coping with marital conflict, but that has received limited attention, is child gender (for exceptions, see Grych et al., 2003; Kerig, Fedorowicz, Brown, Patenaude, & Warren, 1998). Existing research suggests that boys from high-conflict homes report more intervention-based responses (e.g., telling parents to stop arguing) to instances of marital conflict compared to girls, while girls report more child-directed solutions (e.g., help tidy up) compared to boys (Laumakis et al., 1998). Explanations for why boys are more motivated to involve themselves range from the different socialization experiences of boys and girls (e.g., boys perceive that it is wrong to fight with the opposite sex; Laumakis et al., 1998) to those that focus on the increasing physical strength of early adolescent boys, which promotes their perception that they can (a) end the argument and (b) act as their mother's protector (Jaffe, Wolfe, & Wilson, 1990). The complexity surrounding gender differences in sensitivity to interparental conflict may be the result of changes across the life span (Davies, Myers, Heindel, & Cummings, 1999). While boys were found to report greater mediation strategies than girls (who used avoidant strategies), this was limited to a preadolescent group. In support of a hypothesis whereby girls become increasingly sensitive to interpersonal stress as they progress through adolescence, girls were found to respond to disputes with greater sadness and expectations of future interadult sadness than boys only in late adolescence (Davies et al., 1999).

There is limited knowledge of whether the strategies used by boys and girls to cope with marital conflict are related to different adjustment outcomes. In a study of the effects of marital violence, girls' intervention was

associated with internalizing symptoms, while avoidance coping was associated with a decrease in these symptoms; for boys, the opposite pattern emerged, with intervention associated with lower internalizing and externalizing problems and avoidance with internalizing symptoms (Kerig et al., 1998). Girls may find involvement in interparental conflict distressing, whereas boys become distressed when they feel helpless to intervene (Kerig, 2001). These results suggest that although the strategies that boys and girls use to cope with conflict may be similar, the relative efficacy of these strategies for boys' and girls' psychological adaptation may vary.

## The Present Study

Using the benefits of a three-wave longitudinal design, the present study assessed the impact of interparental conflict on children's internalizing symptoms and externalizing problems among a sample of 252 schoolchildren (ages 11 to 13 years), parents, and their teachers living in the United Kingdom. Specifically, the proposed theoretical model linked parent reports of interparental conflict at Time 1 to children's perceptions of threat and self-blame emanating from parents' marital arguments at Time 2 and children's coping strategies (mediation, avoidance, overinvolvement, masking) at Time 3. Children's threat and self-blame appraisals (Time 2) and coping strategies (Time 3) in turn were linked to internalizing symptoms and externalizing problems, respectively, at Time 3. Children's initial symptom levels (Time 1) were controlled across all analyses. Including a measure of children's symptom levels at Time 1 allows assessment of change in the dependent variable as a function of children's appraisals of threat and self-blame and their specific coping strategies (Kessler & Greenberg, 1981) while also allowing the potential confounding presence of trait negative affectivity biases on children's appraisals and reported coping strategies to be controlled across all analyses (see Harold & Conger, 1997). Subgroup comparisons were conducted for boys and girls, respectively, across all models tested.

## Method

### Sample

The sample for the present study was derived from a 3-year longitudinal study of 387 schoolchildren, parents, and teachers living in the United Kingdom (83% response from total sample contacted). Participating

families and teachers completed assessments at three time points separated by 12 months (1999, 2000, 2001). Overall retention of the sample across the three assessments was good, with 91% and 87% of the initial panel of adolescents providing information at Wave 2 and 3, respectively. Demographic statistics suggest that the overall sample is representative of British families living in England and Wales with respect to family constitution, parent education, and ethnic representation (Office for National Statistics, 2002).

Given the primary focus on interparental conflict investigated in these analyses, adolescents from all family types other than two-parent families were excluded from the present study. The eligible sample for the present study was therefore 342 families. Participating adolescents lived in homes where both a male and female guardian were resident and at least one of these adults was the child's biological parent (90.5% adolescents lived with their biological parents, 7.9% with their mother and stepfather, and 1.6% with their father and stepmother). Data derive from 252 families (mother, father, and target adolescent) and teachers living in Wales, United Kingdom, with complete information across study variables. Families who completed the study at all time points did not significantly differ from families who participated only in the 1st or 2nd year of the study on any variables measured. Adolescents were recruited through nine schools and were between 11 and 13 years old ( $\bar{X}$  age = 11.67,  $SD$  = 0.48) in the 1st year of the study, 12 to 13 years old at Wave 2 ( $\bar{X}$  age = 12.68,  $SD$  = 0.47), and 13 to 15 years old at Wave 3 ( $\bar{X}$  age = 13.78,  $SD$  = 0.45). The sample consisted of approximately equal numbers of boys (122) and girls (130). The sample was predominantly White European (99.2%), with smaller proportions of other groups (0.8% other Commonwealth nations, e.g., India, Sri Lanka). Approximately 37.3% of mothers completed secondary education, 33% of mothers completed technical or vocational training, and 29.7% of mothers completed university. Of the fathers, 33.2% completed secondary education, 29.7% completed technical or vocational training, and 36.1% completed university.

## Procedure

Following initial contact with area secondary schools, parents received a letter inviting them and their children to participate in a research project focusing on the link between everyday family life and children's development. Parents were then further informed about the study during a presentation at a scheduled parent-teacher evening and given a second letter and a consent form describing the goals and each stage of the project in more detail. No payment was made to families, but parents were informed that a



summary booklet outlining key research findings would be distributed to all families upon completion of the study.

Parents received their questionnaires through the post, along with instructions for completing the measures and stamped addressed envelopes for each parent to return their questionnaires. Parent questionnaires contained a variety of measures relating to the quality of family interaction, parenting, marital satisfaction, parent and child psychological health, economic conditions, and family demographics. Parents were asked to complete their questionnaires independently, and a contact number for concerns or queries was provided. Children completed questionnaires during the course of the normal school day. Their questionnaire packets contained a variety of measures relating to the quality of family interaction, parent-child relations, marital conflict, children's psychological health, economic conditions, and family demographics. Teachers also completed questionnaires assessing child psychological functioning. As part of an overall debriefing, researchers and children discussed the benefits of successfully negotiating and resolving conflicts between individuals. Children were encouraged to speak about how they felt after completing their questionnaires. No concerns were raised by any children participating in the study.

## Measures

*Interparental conflict.* Mothers and fathers completed three measures of marital discord. Interparental conflict occurring in front of the child was measured with the O'Leary-Porter Scale (Porter & O'Leary, 1980). Items include "How often do you complain to your spouse/partner about his/her behavior in front of the child?" and "How often do you and your spouse/partner display verbal hostility in front of this child?" Responses range from *never* (1) to *very often* (5). Both husband and wife estimates of reliability for this scale were good ( $\alpha = .78$  and  $\alpha = .81$ ). A measure of marital hostility was derived from a subset of items contained in the Iowa Youth and Families Project Rating Scales (Melby, Conger, Ge, & Warner, 1995). This scale focused on interparental conflict that exists between mothers and fathers and was measured by information received from both sources. Each spouse answered a set of questionnaire items that included questions such as "During the past month, how often has your spouse gotten angry at you?" "Shouted at you because s/he was angry at you?" and "Argued with you whenever you disagreed about something?" Possible responses to these items ranged from *always* (1) to *never* (7). Both husbands' and wives' reports were shown to have good reliability (husband,  $\alpha = .89$ ; wife,  $\alpha = .89$ ). The third measure of marital discord was the Short



Marital Adjustment Test (Locke & Wallace, 1959), which assesses overall marital adjustment and consensus and has excellent reliability and discriminant validity. This global index was included to tap more subtle ways of expressing conflict (e.g., avoidance, stonewalling) that may not be picked up by the measures of overt hostility. Parent responses were coded so that higher scores reflected greater interparental distress. Internal consistency estimates for the current sample were  $\alpha = .81$  for husbands and  $\alpha = .79$  for wives. Husband and wife responses were summed for all three respective measures so as to represent composite estimates of parent's marital dissatisfaction ( $\alpha = .88$ ), hostility ( $\alpha = .89$ ), and discord ( $\alpha = .87$ ).

*Children's appraisals of threat and self-blame.* The Perceived Threat and Self-Blame subscales of the Children's Perceptions of Interparental Conflict questionnaire (Grych, Seid, & Fincham, 1992) were used to assess these respective appraisals. Twelve items compose the Perceived Threat scale and include items tapping children's fears and worries when conflict occurs (e.g., "When my parents argue I worry what will happen to me") and items reflecting children's confidence in their ability to cope with the conflict (e.g., "When my parents argue I can do something to make myself feel better"). One item, "When my parents argue I'm afraid one of them will get hurt," was also omitted from this scale due to concerns raised during the process of receiving ethical approval. Nine items compose the Self-Blame scale and include items such as "It is usually my fault when my parents argue" and "My parents blame me when they have arguments." Both measures provided good estimates of internal consistency (Perceived Threat,  $\alpha = .87$ ; Self-Blame,  $\alpha = .90$ ). Children's reports on these scales have been found to correlate with the degree of threat and self-blame they report in response to specific instances of conflict (Grych et al., 1992).

*Children's coping strategies.* Adolescent reports of their behavioral strategies for coping with interparental conflict were measured using four subscales of the Security in the Interparental Subsystem Scale (SIS; Davies et al., 2002). The published version of the SIS by Davies and colleagues (2002) includes two subscales (Avoidance and Involvement), which together are theorized to compose children's regulation of exposure to marital emotion. This dimension forms a component of children's attempts to preserve emotional security in the interparental relationship. The present study used an earlier, longer version of the SIS (P.T. Davies, personal communication, 2000), which was included in the third wave of assessment (2001). This longer version included four additional items designed to assess overinvolvement in conflict and three items assessing masking

behavior. Given the focus of the present study on adolescent coping strategies (rather than emotional security, *per se*), those original items that do not appear in the published version of the measure were retained. Response options ranged from 1 = *not at all true of me* to 4 = *very true of me*.

*Mediation.* This subscale consisted of six items assessing mediation by the adolescent in parents' arguments, for example, "I try to solve the problem for them." This subscale is referred to as Involvement by Davies et al. (2002) but is labeled Mediation here to distinguish it from overinvolved coping. These items assess attempts at problem solving by children, including efforts to bring an end to the disagreement. One additional item to the published version was included "I tell them to stop fighting." One item that appears in the published version of the SIS, "I try to pretend that things are better," was not included. The internal consistency estimate for the current sample was acceptable ( $\alpha = .68$ ).

*Overinvolvement.* The second subscale comprised four items not included in the published SIS that assess overinvolvement in parents' arguments. This subscale, in contrast to Mediation, includes items that assess triangulation of the child in conflict: "I end up taking sides with one of them," "I try to protect one parent from the other," "I tell one of my parents that he or she is wrong," and "I argue with one or both of them." The internal consistency estimate was good in the current sample ( $\alpha = .72$ ).

*Avoidance.* This seven-item subscale relates to avoidance of conflict, for example, "I try to get away from them." One item that appeared in the published subscale, "I don't know what to do," was not included in the present study. An additional item not part of the published measure was included, "I go off by myself." The internal consistency estimate was good ( $\alpha = .84$ ).

*Masking.* The fourth subscale relates to masking behavior. The three items composing this subscale, not included in the published SIS, were "I don't let anyone know that it bothers me," "I don't like it but act as if I don't care," and "I act like it's no big deal, even though it is." These three items had good internal consistency in the current sample ( $\alpha = .80$ ).

## Children's Psychological Adjustment

*Internalizing symptoms.* Because children tend to be the best reporters of their own internalized states (Achenbach, 1991b), three self-report scales

were used to assess internalizing symptoms. The Children's Depression Inventory (Kovacs, 1981) is a 26-item measure of depressive symptoms. One item regarding suicidal thoughts was omitted because of concerns raised during the process of receiving ethical approval. This measure had good internal consistency in the current sample ( $\alpha = .86$  and  $.88$ ). The two other measures were the Withdrawn and Anxious-Depressed subscales of the Youth Self-Report Form of the Child Behavior Checklist (Achenbach, 1991b). The Anxious-Depressed subscale had good internal consistency at both time points in the current sample ( $\alpha = .83$  and  $.89$ ). Although the internal consistency estimate for the Withdrawn subscale at Time 1 ( $\alpha = .48$ ) was lower than that normally considered acceptable ( $\alpha > .60$ ; Nunnally, 1978), we retained this measure in the analyses so as to provide an overall index of internalizing symptoms. The internal consistency estimate for the Withdrawn subscale at Time 3 was acceptable ( $\alpha = .69$ ).

*Externalizing problems.* Externalizing problems were assessed using the Aggression subscale of the Youth Self-Report (Achenbach, 1991b) and the trait hostility measure of antisocial behavior (Buss & Durkee, 1957). The Aggression subscale had good internal consistency at both time points ( $\alpha = .84$  and  $\alpha = .86$ ). Items from the trait hostility measure include "If I have to use physical violence to defend myself I will." The internal consistency in the current sample for this measure was good at both time points ( $\alpha = .84$  and  $\alpha = .84$ ). The third measure of externalizing behavior was the Aggression subscale of the Teacher Report Form of the Child Behavior Checklist (Achenbach, 1991a). This measure demonstrated good internal consistency in the current sample ( $\alpha = .95$  and  $\alpha = .95$ ).

## Results

The means, standard deviations, and intercorrelations for all study variables are presented in Table 1. Correlations between construct indicators were generally consistent with the proposed theoretical model. Parents' reports of marital conflict were positively correlated with both threat and self-blame appraisals ( $r = .17, p < .05$ ) as well as with some coping strategies (masking behavior,  $r = .13$ ; and overinvolvement,  $r = .16$ ). Marital conflict was not correlated with mediation or avoidance. When relationships between measures of cognitive appraisals and coping strategies were considered, 6 of a possible 8 associations were significant ( $r = .05, p > .10$ , to  $r = .33, p < .01$ ). Nine of a possible 12 associations were observed between appraisals of threat and

self-blame and indices of adjustment problems assessed 12 months later ( $r = .01, p > .10$ , to  $r = .40, p < .01$ ). Positive associations were observed for overinvolvement, avoidance, and masking with adjustment problems ( $r = .14, p < .05$ , to  $r = .43, p < .01$ ). Nonsignificant associations were observed between proactive mediation and adjustment outcomes.

The validity of the indicators of each latent theoretical construct included in the model can be demonstrated by noting the magnitude of correlations between construct indicators. The three measures of marital conflict were strongly correlated, indicating that they measure related aspects of negativity in the marital relationship ( $r = .65, p < .01$ ). Measures representative of each set of adjustment problems reported by adolescents and teachers at both time points demonstrated moderate to strong positive relations (e.g., externalizing problems at time 1,  $r = .31$  to  $.62, p < .01$ ). Adolescent appraisals of threat and self-blame assessed at Time 2 were moderately positively correlated ( $r = .44, p < .01$ ). Finally, the four coping strategies assessed at Time 3 were positively correlated, but the values suggest that each construct measured a conceptually distinct form of coping ( $r = .11, p < .10$ , to  $r = .55, p < .01$ ).

## Structural Equation Modeling

Structural equation modeling (SEM; LISREL 8.50, Joreskog & Sorbom, 1996) using maximum likelihood estimation was used to test the proposed theoretical model. The hypothesized pathways outlined in Figure 1 were first estimated for the full sample and then separately for boys and girls. Differences in the magnitude of individual pathways in the boys' and girls' models were then tested for significance using stacked modeling procedures. This procedure involves comparing the chi-square statistic derived from a model where a specific pathway is treated as equivalent across groups to that derived from a model where the path in each subgroup model (i.e., boys vs. girls) is allowed to vary freely. The difference in these chi-square statistics provides an estimate of the statistical significance of any gender differences in the specific pathways considered.

Preliminary analyses revealed that a nonsignificant association existed between latent estimates of interparental conflict (Time 1) and children's internalizing symptoms and externalizing problems (Time 3) when initial symptom levels were controlled (Time 1) (internalizing symptoms,  $\beta = .03, p > .10$ ; externalizing problems,  $\beta = .10, p > .10$ ). This finding replicates previous research relating to the longitudinal association between these measures when parent reports of conflict and independent reporters of child

**Table 1**  
**Intercorrelations Among All Indicators of Theoretical Constructs**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
<b>1999</b>																						
1 Marital dissatisfaction (PR)	—																					
2 Marital hostility (PR)	.61**	—																				
3 Overt discord (PR)	.62**	.71**	—																			
4 Withdrawn behavior (AR)	.05	.08	.03	—																		
5 Anxiety-depression (AR)	.11	.07	.07	.52**	—																	
6 Depression (AR)	.12	.14*	.15*	.35**	.52**	—																
7 Aggression (AR)	.12	.13*	.15*	.27**	.42**	.42**	—															
8 Antisocial behavior (AR)	.12	.12	.17**	.10	.17**	.28**	.62**	—														
9 Aggression (TR)	.05	.04	.11	.05	.02	.12	.36**	.31**	—													
<b>2000</b>																						
10 Threat appraisals (AR)	.14*	.23**	.13*	.19**	.31**	.36**	.20**	.11	.07	—												
11 Self-blame appraisals (AR)	.14*	.19**	.18**	.07	.06	.32**	.32**	.18**	.23**	.44**	—											
<b>2001</b>																						
12 Proactive mediation (AR)	.03	.05	.08	.04	.11	.02	.06	.05	.12	.05	.06	—										
13 Avoidance (AR)	.02	.03	.02	.24**	.27**	.22**	.11	.17**	.07	.32**	.14*	.19**	—									

(continued)

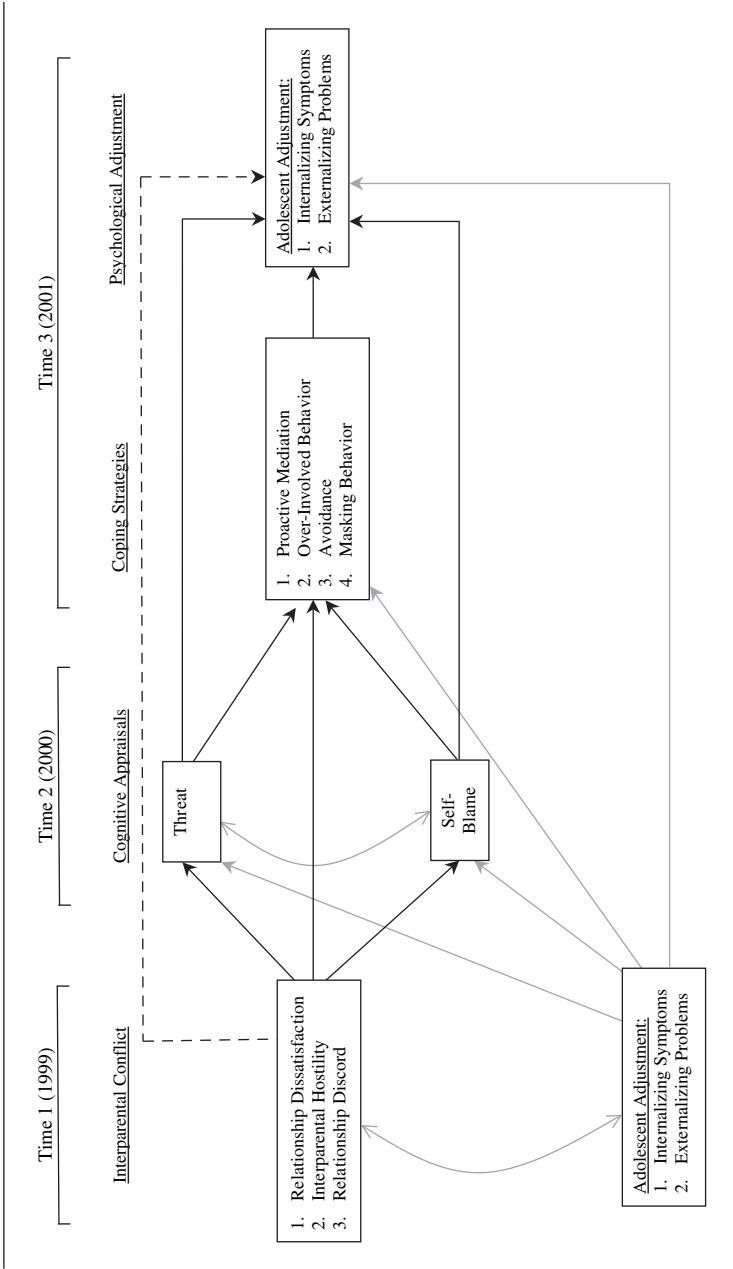
**Table 1 (continued)**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
14 Overinvolvement (AR)	.07	.20**	.20**	.00	.17**	.22**	.21**	.17**	.19**	.25**	.33**	.35**	.22**	—	—	—	—	—	—	—	—
15 Masking (AR)	.13*	.14*	.11	.17**	.13*	.16*	.18**	.22**	.07	.14*	.19**	.11	.55**	.23**	—	—	—	—	—	—	—
16 Withdrawn behavior (AR)	.04	.06	.01	.38**	.33**	.27**	.12	.08	.06	.17**	.01	.03	.38**	.14*	.22**	—	—	—	—	—	—
17 Anxiety-depression (AR)	.01	.01	.02	.28**	.52**	.40**	.20**	.01	.10	.27**	.09	.06	.42**	.34**	.21**	.69**	—	—	—	—	—
18 Depression (AR)	.11	.17**	.17**	.20**	.38**	.60**	.30**	.17**	.06	.28**	.29**	.02	.37**	.34**	.31**	.51**	.68**	—	—	—	—
19 Aggression (AR)	.11	.17**	.20**	.17**	.29**	.40**	.55**	.42**	.23**	.24**	.35**	.06	.27**	.42**	.21**	.34**	.48**	.53**	—	—	—
20 Antisocial behavior (AR)	.12	.12	.12	.15*	.08	.04	.18**	.38**	.50**	.22**	.17**	.30**	.10	.19**	.31**	.17**	.12	.12	.27**	.65**	—
21 Aggression (TR)	.05	.11	.09	.03	.02	.17**	.32**	.24**	.49**	.12	.40**	.02	.06	.14*	.06	.04	.01	.15*	.29**	.27**	—
Mean	59.17	21.71	31.04	2.79	7.24	8.92	8.92	23.27	2.77	18.55	12.48	14.02	22.98	6.81	6.29	2.90	7.05	10.03	9.33	23.71	3.19
Standard deviation	31.54	7.42	7.66	1.82	4.69	6.75	5.68	7.47	5.89	5.50	4.09	3.63	6.28	2.63	2.51	2.33	5.80	7.63	6.04	7.08	6.11

Note:  $N = 252$ . PR = parent report; AR = adolescent report; TR = teacher report.

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

**Figure 1**  
**The Theoretical Model**





functioning are employed (Grych et al., 2003; Harold et al., 1997, 2002). Because there was no initial association between Time 1 interparental conflict and Time 3 psychological adjustment, these data do not meet the criteria that Baron and Kenny (1986) described as necessary to define a mediational pathway. However, an independent variable can have an indirect effect on a dependent variable even if they are not correlated, if the independent variable influences a third (or intervening) variable, which in turn affects the dependent variable (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). If the independent and dependent variables are each related to the proposed intervening variable, the significance of the indirect association between the independent and dependent variables can be assessed statistically.

Tests of the full theoretical model linking interparental conflict at Time 1 to children's internalizing symptoms and externalizing problems at Time 3 through their appraisals of self-blame and threat (Time 2) and their coping strategies (Time 3), controlling for initial symptom levels of psychological distress (Time 1), revealed distinct pathways for each respective index of adjustment considered. Results for each respective model (internalizing, externalizing) and associated subgroup comparisons are presented separately. Because estimates of relations between constructs measured from a single informant may be upwardly biased, error terms for children's reports of similar constructs (e.g., depression at Time 1 and the same indicator at Time 2) were allowed to covary (Thompson & Williams, 1984). To simplify our presentation of findings, correlations among residuals are not shown in the figures.

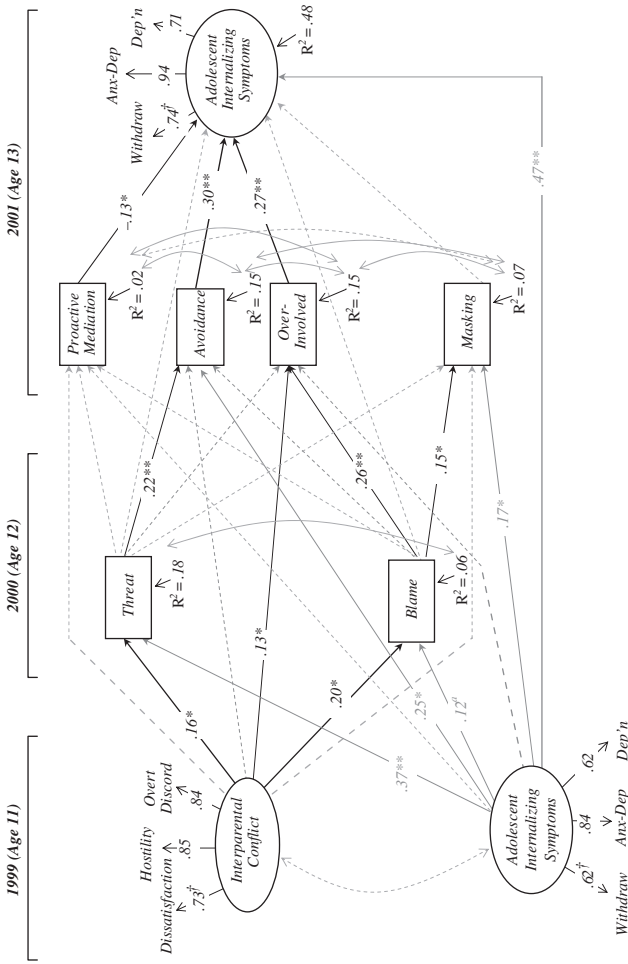
*Internalizing symptoms.* Marital conflict exerted direct effects on adolescent appraisals of threat, self-blame, and their overinvolvement in conflict ( $\beta = .13$  to  $.20$ ,  $p < .05$ ). Appraisals of threat were associated with increased avoidance of conflict, while self-blame was associated with increased overinvolvement ( $\beta = .22$ ,  $p < .05$ , and  $\beta = .26$ ,  $p < .01$ , respectively). Overinvolvement in and avoidance of conflict were in turn both related to increased internalizing symptoms ( $\beta = .27$  and  $.30$ ,  $p < .01$ , respectively). This pattern of findings indicated that avoidance coping acted as an intervening variable between threat appraisals and internalizing symptoms assessed 12 months later. Similarly, overinvolved behavior acted as an intervening variable between self-blame and internalizing symptoms, whereby self-blame predicted later overinvolved coping, which in turn predicted internalizing symptoms. Self-blame predicted masking behavior ( $\beta = .15$ ,  $p < .05$ ), but masking behaviour was not related to internalizing symptoms ( $\beta = .02$ ,  $p > .10$ ).

Proactive mediation in conflict was negatively related to internalizing symptoms ( $\beta = -.13, p < .05$ ). The original associations between proactive mediation and each indicator of internalizing symptoms were not significant, suggesting possible suppression of this initial relationship. A suppressor variable increases the predictive validity of another variable (or set of variables) by its inclusion in a regression equation (MacKinnon, Krull, & Lockwood, 2000). To detect which variables (overinvolvement, avoidance, and/or masking) served to increase the magnitude of the relationship between proactive mediation and internalizing symptoms, analyses proceeded in the following way. The model was respecified, systematically including the path between each of the three coping strategies and internalizing symptoms and the correlation between the coping strategy and proactive mediation. This step was repeated when each pair of coping strategies (overinvolvement and avoidance, overinvolvement and masking, avoidance and masking), including each path to internalizing symptoms and the correlations between coping strategies, were specified as part of the model. The results indicated that the path between proactive mediation and internalizing symptoms was statistically significant only when overinvolvement and avoidance coping strategies were included in the model specification, suggesting that these two variables acted as suppressors. Goodness-of-fit (GFI) statistics suggested that the model provided a good fit to the data,  $\chi^2(58) = 107.55$ , GFI = .95, adjusted GFI (AGFI) = .90, root mean square error of approximation (RMSEA) = 0.054 (see Figure 2).

Subgroup comparison tests indicated that the direct path between marital conflict and overinvolved behavior was significant for boys ( $\beta = .23, p < .05$ ) but not for girls ( $\beta = .03, p > .10$ ;  $\Delta\chi^2 = 3.74, \Delta df = 1, p < .10$ ). In addition, the path between self-blame and masking behavior was significant for girls ( $\beta = .29, p < .05$ ) but not for boys ( $\beta = .00, p > .10$ ;  $\Delta\chi^2 = 4.60, \Delta df = 1, p < .05$ ), suggesting that girls' appraisals of self-blame lead to greater inhibition of expressions of distress compared to boys.

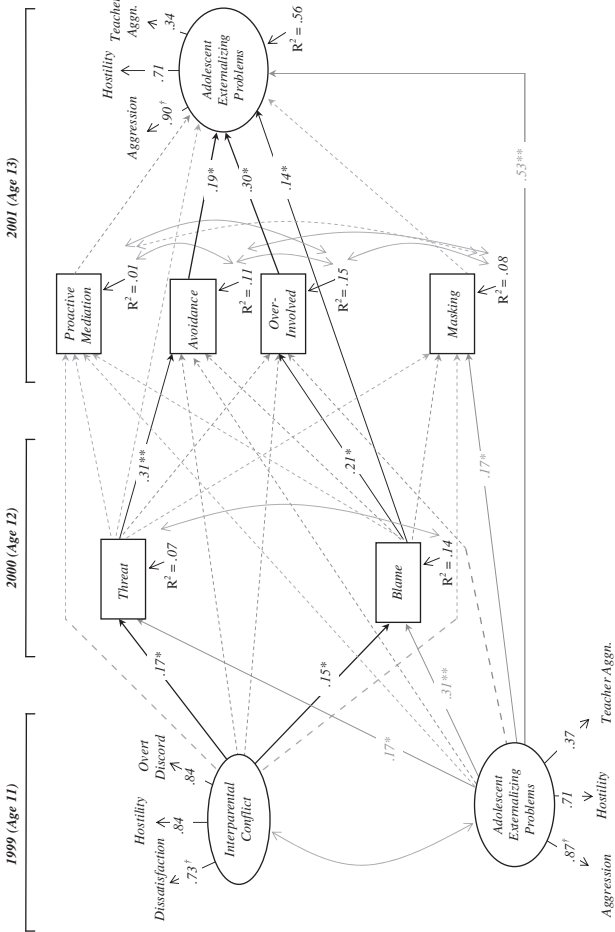
*Externalizing problems.* For the externalizing problems model, marital conflict predicted threat and self-blame while controlling for symptom levels at Time 1 ( $\beta = .11, p < .10$ , to  $\beta = .17, p < .05$ ). Appraisals of self-blame were related to overinvolvement ( $\beta = .21, p < .05$ ) but also continued to exert a direct effect on child externalizing problems ( $\beta = .14, p < .05$ ), suggesting that self-blame is a robust predictor of externalizing problems. Overinvolvement also influenced externalizing problems ( $\beta = .30, p < .01$ ). Appraisals of threat were associated with increased avoidance, ( $\beta = .31,$

**Figure 2**  
**Maximum Likelihood Estimation of Relationships Between Marital Conflict, Adolescent Appraisals of Threat and Self-Blame, Coping Strategies, and Their Internalizing Symptoms**



Note:  $N = 252$ ,  $df = 58$ ,  $\chi^2 = 107.55$ ,  $p < .01$ , goodness-of-fit index (GFI) = .95, adjusted GFI = .90, root mean square error of approximation = .054 (confidence interval = 0.035 to 0.071). † denotes fixed parameter estimate.  
 \* $p < .05$ . \*\* $p < .01$ .

**Figure 3**  
**Maximum Likelihood Estimation of Relationships Between Marital Conflict, Adolescent Appraisals of Threat and Self-Blame, Coping Strategies, and Their Externalizing Problems**



Note:  $N = 252$ ,  $df = 58$ ,  $\chi^2 = 75.92$ ,  $p = .057$ , goodness-of-fit index (GFI) = .96, adjusted GFI = .92, root mean square error of approximation = .033 (confidence interval = 0.0 to 0.054). † denotes fixed parameter estimate.  
 \* $p < .05$ . \*\* $p < .01$ .

$p < .01$ ), which in turn was associated with increased externalizing problems ( $\beta = .19, p < .05$ ). Appraisals of threat therefore were indirectly related to subsequent externalizing problems via avoidance coping. Proactive mediation was not related to externalizing problems. GFI statistics suggested that the model provided a good fit to the data,  $\chi^2(58) = 75.92$ , GFI = .96, AGFI = .92, RMSEA = 0.033 (see Figure 3).

Finally, subgroup comparisons indicated that the path between marital conflict and overinvolved behavior was significant for boys ( $\beta = .21, p < .05$ ) but not for girls ( $\beta = .03, p > .10; \Delta\chi^2 = 2.83, \Delta df = 1, p < .10$ ). The path between self-blame and masking behavior was significant for girls ( $\beta = .26, p < .05$ ) but not for boys ( $\beta = .05, p > .10; \Delta\chi^2 = 5.06, \Delta df = 1, p < .05$ ), replicating the effects noted for the internalizing symptoms model.

## Discussion

The present longitudinal study extends work investigating the impact of interparental conflict on children's psychological adjustment. Specifically, the present study highlights the association between children's attributions of threat and self-blame and their avoidant and overinvolved coping responses emanating from parents' marital arguments as respective mechanisms through which variation in children's long-term internalizing symptoms and externalizing problems may be explained.

Results from tests of the full theoretical model showed that threat appraisals predicted increased avoidance, while self-blame appraisals predicted increased overinvolvement in conflict. The relationship between self-blame and later overinvolvement is consistent with previous research suggesting that feeling responsible for marital conflict provides children with a sense of coping efficacy and perceived control over conflict, which increases the likelihood of involvement (Grych, 1998). Interestingly, however, self-blame continued to exert direct effects on externalizing problems 12 months later when estimated in the context of coping strategies. While this finding indicates that self-blame is an important predictor of behavior problems in adolescents exposed to conflict, it also suggests that mechanisms other than increased overinvolvement in conflict account for why adolescents who feel at fault for parents' arguments go on to manifest heightened externalizing problems. For instance, adolescents who feel responsible for parents' arguments, yet are unable or perhaps prevented from intervening, may express their frustration and distress in the form of anger and acting out.

In addition to the indirect effect of marital conflict on overinvolvement operating through self-blame, the direct path between marital conflict and overinvolvement suggests that other mechanisms, in addition to self-blame, prompt intervention by adolescents. For example, children may attempt to involve themselves in an effort to restore harmonious family relations and to preserve a sense of emotional security (Davies & Cummings, 1994). Overinvolvement in conflict may also reflect the weakening of boundaries between marital and parent-child subsystems whereby children become enmeshed in marital interactions (Minuchin, 1974). When children involve themselves in conflict, they may use coercive and aggressive tactics in an attempt to distract or bring an end to parents' marital arguments, with research suggesting that such approaches to marital conflict are related to long-term externalizing problems (Davis, Hops, Alpert, & Sheeber, 1998; O'Brien et al., 1995). The pattern of relations found between marital conflict, overinvolvement, and externalizing problems supports this interpretation.

For boys, marital conflict influenced overinvolved behavior directly; an effect not found for girls. The effect of conflict on overinvolvement was indirect for girls, with effects exerted via appraisals of self-blame. It is possible that girls are more likely to overinvolve themselves in conflict when they feel responsible for restoring harmony in the family, consistent with the view that girls are socialized to be concerned for the welfare of others (Davies & Lindsay, 2004). The direct relationship between marital conflict and boys' overinvolvement supports the hypothesis that boys are less shielded from interparental conflict than girls and are more likely to be drawn into parents' arguments with one another (e.g., Cummings, Davies, & Simpson, 1994).

Interparental conflict was indirectly related to avoidance coping through threat appraisals. Avoidance coping in turn predicted increased internalizing symptoms and externalizing problems, thereby acting as a linking mechanism in the relationship between threat appraisals and internalizing symptoms. In contrast to previous findings using this sample (Grych et al., 2003), threat appraisals were not directly related to internalizing symptoms; rather, effects appeared indirect via avoidance coping. The relationship between threat and avoidance suggests that when adolescents feel threatened by conflict and perceive themselves as unable to cope effectively, they are more likely to use distancing strategies in response to marital conflict. The positive relationship in turn between avoidance and adjustment problems concurs with findings that disengagement coping is a maladaptive response to stress (Compas et al., 2001). It is possible that an older age group might be more effective in their use of avoidance. Older adolescents would have greater autonomy to leave the house or call their friends, for

example, and may also be more capable of cognitively disengaging themselves from parents' marital arguments. Further research is required that captures the role of avoidance strategies across different ages groups and the cognitive-based processes that underlie this form of coping.

Evidence was found to suggest that adolescent reports of overinvolvement and avoidance of interparental conflict acted as suppresser variables in the relationship between proactive mediation and internalizing symptoms (MacKinnon et al., 2000). In other words, only when assessed in the context of both of these forms of coping was proactive mediation associated with decreased adjustment problems. This effect may be conceptually important because it lends support to the argument that adolescents' efforts to involve themselves in conflict are varied, reflecting both effective and less effective methods for coping with exposure to interparental conflict. This study suggests that efforts to cope with conflict using proactive mediation (problem solving, helping behavior) are an adaptive response when considered in the context of other coping strategies, specifically, overinvolvement and avoidance. Future research should assess the range of coping strategies used by adolescents and further distinguish between strategies that aim to help parents resolve conflict using problem solving and those that reflect attempts to argue and remonstrate with one or both parents.

This study is among the first to examine the role of masking as a coping response to marital conflict. Masking has been described as an attempt by children, when threatened by marital conflict, to inhibit overt expressions of distress and thereby reduce their presence in the conflict setting (Davies & Forman, 2002). In the long term, this inhibition of emotion expression is hypothesized to lead to adjustment problems. Marital conflict was found to increase masking behavior when adolescents felt they were to blame for parents' arguments. In contrast, no effects were found from threat to masking behavior. When children feel responsible for conflict, they may disguise or mask their distress in an attempt to reduce their salience as a potential target of parents' hostility (Shipman, Zeman, Penza, & Champion, 2000). That this effect was significantly stronger for girls compared to boys indicates that girls make greater efforts to hide their distress when they feel responsible for parents' arguments. This is indicative of different cognitive and behavioral processes operating for boys and girls in their efforts to adapt to conflict in the home and warrants further investigation.

By estimating stability in adjustment problems over time and the influence of existing symptom levels on adolescent appraisals of interparental conflict and coping behavior, these analyses represent a relatively conservative test of the effects of marital conflict on adolescent appraisals, coping



behavior, and long-term adjustment problems. Noteworthy is the stability in symptoms across the 2-year period and the significant effects of initial symptom levels on adolescent appraisals of threat, self-blame, and coping behavior. Such findings highlight the importance of considering such influences in prospective tests of the effects of marital conflict on child and adolescent adjustment. The absence of direct effects between marital conflict and later child adjustment is consistent with previous research in this area, with effects appearing to operate indirectly through children's perceptions of interparental conflict and the parent-child relationship, their emotional security, and coping responses to conflict (e.g., Davies & Cummings, 1998; Grych et al., 2003; Harold et al., 2004).

## Limitations

Some limitations can be noted. First, the concurrent assessment of coping behavior and adjustment problems at Time 3 makes it difficult to infer the direction of effects operating between these constructs. In order to unambiguously infer that coping behavior exerts effects on adjustment problems, a model would need to be tested in which both coping strategies and adjustment problems were measured at two or more time points and the stability in each construct controlled. The pattern of effects found in the present study demonstrates, however, that coping strategies characterized by overinvolvement in and avoidance of interparental conflict was associated with increased adjustment problems over and above the effects of initial levels of psychological adjustment, a finding not previously demonstrated.

A second potential limitation of the present study is a reliance on adolescent reports of coping strategies. When adolescents report on their coping behavior, they may be unwilling to report unsuccessful coping strategies, may be overconfident in their perceived ability to cope with marital conflict, and may have difficulty recalling how they coped with interparental conflict in the past (Grych & Fincham, 1993). An alternative approach would be to use different reporters of coping strategies, including adolescents, siblings, and parents, to gain further insights into how children respond to marital conflict.

Third, the measure of coping included in the study assessed adolescent coping strategies in response to experiencing interparental conflict. In this way, it offered advantages over generic measures of coping by orienting adolescents to their own parents' marital arguments. A potential limitation of the measure, however, was that it assessed only four coping strategies. Items were developed to capture the regulation of marital emotion component of

the emotional security hypothesis, theorized to comprise mediation and avoidance behavior (Davies et al., 2002; Davies & Cummings, 1994). Recent work has highlighted the multidimensional nature of coping in childhood and adolescence. A factor analysis of 10 coping scales by Ayers, Sandler, West, and Roosa (1996) found that they comprised four factors: active coping (e.g., problem solving, cognitive reappraisal), social support (emotion and problem focused), distraction (e.g., physical release of energy), and avoidance (cognitive and behavioral). These factors themselves subsume a wide variety of possible responses by children to stress. A broader assessment of possible coping strategies might have highlighted actions that are adaptive responses to conflict occurring in the home. Further work would likely benefit from using coping measures developed for use with older children and adolescents that assess a greater range of possible responses (e.g., the Responses to Stress Questionnaire; Connor-Smith, Compas, Wadsworth, Harding Thomsen, & Saltzman, 2000).

Fourth, while the present study highlights interesting relationships between interparental conflict, adolescent appraisals, coping, and adjustment problems, there remain unanswered questions regarding the causal relations that exist between these constructs. Thus, a third unmeasured variable (e.g., parental mental ill health) may account for the pattern of associations identified in these analyses. At a minimum, further research that assesses each of these constructs across three or more time points is required. In addition, research increasingly draws attention to the impact of interparental conflict on well-defined indices of child and adolescent psychological distress and dysregulation (e.g., sleep; El-Sheikh, Buckhalt, Mize, & Acebo, 2006). The present study used broad measures of internalizing and externalizing problems. A potentially interesting and informative direction for future research would be to examine other well-specified indices of adjustment to gauge how appraisals and coping responses to interparental conflict affect children's psychological and physical health.

Finally, these results derive from a sample of British families that are predominantly White European. While the findings are interesting and extend the study of adolescent coping with marital conflict beyond North America, the conclusions that can be drawn are necessarily limited to a White European group. With regard to coping with stress, differences might be expected between cultures as a function of their orientation toward either individualism (emphasizing autonomy and independence) or collectivism (emphasizing interdependence). These differences could have implications for the use of particular coping strategies by adolescents; for example, an orientation toward interdependence might foster the use of social support in

the extended family (e.g., grandparents, aunts) during times of conflict in the home (McLoyd, Harper, & Copeland, 2001). Extending the study of coping with marital conflict to other ethnic groups would shed light on whether adolescents implement the same coping strategies in response to interparental conflict irrespective of cultural norms.

Notwithstanding these limitations, the present extends recent research (Grych et al., 2003; Harold et al., 2002) by highlighting the need for greater specificity regarding adolescent appraisals or what they “think” about conflict and their coping strategies and what they “do” in response to conflict. Finding that both avoidance and overinvolvement, as a result of elevated perceptions of threat and self-blame following exposure to interparental conflict, were associated with increased emotional and behavioral problems for adolescents suggests that they struggle to adapt to conflict occurring in the home, even when attempting to withdraw from the vicinity of conflict. Developing intervention programs that convey to parents how their children are adversely affected by marital conflict will not only assist parents understand why, when, and how adolescents are at risk but will also potentially equip them with conflict management strategies that enable adolescents to more adaptively contend with their parents’ marital arguments.

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