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**INTERPARENTAL CONFLICT STYLES AND YOUTH PROBLEM BEHAVIORS:
THE ROLE OF SELECTED YOUTH APPRAISAL VARIABLES**

**A Dissertation
Presented for the
Doctor of Philosophy
Degree
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**Christine Marie Anthony
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DEDICATION

This dissertation is dedicated to my loving and very loved family,
Brian, Adam, and Sarah,
who remind me on a daily basis what is truly important in this life.

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ABSTRACT

The purpose of this paper was to explore the role of selected youth appraisal variables in explaining the association between interparental conflict and youth problem behaviors. Two interparental conflict variables were studied: parents' use of an overt conflict style and parents' use of a covert conflict style. The three appraisal variables considered were youth perceived self-blame, perceived threat, and perceived resolution. Two theoretical models of the relationships among interparental conflict, youth appraisals, and youth problem behaviors were examined—a moderational and a mediational model. The sample included 337 youth living in Knox County, Tennessee. Results demonstrated support for a mediational role of youth appraisal variables. None of the youth appraisal variables moderated the association between interparental conflict and youth problem behaviors. Self-blame mediated five of the six examined relationships between an interparental conflict style and youth problem behaviors and perceived threat mediated three of the six tested relationships. Perceived resolution did not serve a mediating role in any of the examined relationships. The models were examined across four subject variation characteristics—youth gender, youth age, parental marital status, and family economic hardship. The models did not vary by age. Variations in models by youth gender, parental marital status, and family economic hardship were found.

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I. Introduction and Literature Review

Introduction and Theoretical Background

There are many factors that contribute to the ongoing process of youth socialization. Experiences in several social contexts, including the family, peer group, neighborhood, and school, combine in a myriad of ways to affect child and youth development. Because youth spend most of their time in the family environment and many of their key relationships are defined by family ties, the family context seems important to consider when examining youth adjustment and adjustment problems. Indeed, in a novel exploratory study examining the aforementioned social contexts in terms of their importance to youth socialization, Barber and Olsen (1997) found that the family context was a primary and influential social context for youth, particularly with respect to the development of youth depression and antisocial behavior.

Harold and Conger (1997) have identified several stressful or aversive conditions within the family environment, across several domains of inquiry, that are related to the development of behavior problems in youth. These include family economic stress (Conger et al., 1992, 1993), parent psychopathology (Rutter, 1979), coercive family processes (Patterson, 1982), and divorce and marital conflict (Emery, 1982). The focus of the present study was on the latter domain of inquiry, marital or interparental conflict.

Exposure to interparental conflict is considered a prevalent and pervasive source of stress for children and youth, and it negatively affects many different

areas of child well-being. Empirically, interparental conflict is associated with depression, withdrawal, poor academic performance, poor social competence, and conduct-related problems in children (see as examples, Buehler, Anthony, Krishnakumar, Stone, Gerard, & Pemberton, 1997; Buehler et al., 1998; Davies & Cummings, 1998; Grych, Seid, & Fincham, 1992; Katz & Gottman, 1993, 1997; Kerig, 1998). The impact interparental conflict has on youth warrants further attention because it is important to understand the mechanisms or conditions which affect this established relationship, and the search for such mechanisms is at a rudimentary stage (Fincham, 1998).

In their groundbreaking theoretical piece, Grych and Fincham (1990) presented a cognitive-contextual model that provides a comprehensive framework for examining the mechanisms and/or conditions that account for the association between interparental conflict and youth maladjustment. Their framework outlines several processes that may affect the stressfulness of interparental conflict for youth and highlights the importance of the context and children's appraisals of interparental conflict. Grych and Fincham (1990) conceptualize interparental conflict as a stressor that leads children to attempt to understand and cope with the conflict. Youth's understanding of interparental conflict emerges from two proposed stages-- primary and secondary processing (Bradbury & Fincham, 1987).

In primary processing, youth extract information concerning the threat and self-relevance of interparental conflict (Grych & Fincham, 1990). The youth first becomes aware that a stressful event is occurring and judges whether or not it is

relevant to self. The youth further determines if the conflictual situation is threatening or benign. In essence, this level of processing involves an estimation of the threat presented by the stressor, interparental conflict (Lazarus & Folkman, 1984). Individual differences in processing at this level can arise from temperamental factors (e. g., sensitivity to environmental stimuli), past experiences (e. g., amount of conflict exposure), and/or developmental factors. Youth's perceived threat at the primary level of processing has been identified by Grych and Fincham (1990) as a potential explanatory mechanism through which interparental conflict affects youth maladjustment.

In secondary processing, Grych and Fincham (1990) hypothesize that youth will attempt to discover why the conflict is occurring and who is responsible for it. Youth can subscribe cause based on a number of dimensions, including locus (e. g., self or other), stability, and globality. Once the cause of interparental conflict has been identified, youth make judgments about whether the causal agent is responsible and should be blamed for interparental conflict. Self-blame by the youth at the second level of processing has been identified as another potential explanatory mechanism through which interparental conflict affects youth maladjustment.

An additional factor discussed by Grych and Fincham (1990) associated with youths' responses to interparental conflict is their perception of resolution. Specifically, they suggest conflict that lacks satisfactory resolution may upset children more than interparental conflict that is successfully resolved. Alternatively, interparental conflict that is resolved constructively may provide

models of effective problem solving and conflict resolution for youth. Therefore, the level of perceived resolution for interparental conflict is another potential condition which may affect or explain the relationship between interparental conflict and youth maladjustment.

In sum, the purpose of this study was to examine potential mechanisms or conditions which affect or explain the established relationship between interparental conflict and youth maladjustment. Specifically, the three mechanisms or conditions under consideration in this study were three youth appraisal variables whose choice was informed by Grych and Fincham's (1990) cognitive-contextual framework: youth self-blame, youth perceived threat, and youth's perceptions of resolution.

Interparental Conflict Concepts

The study of interparental conflict (often referred to as marital conflict) emerged from previous work which utilized the more global construct of marital functioning. The concept of marital functioning typically was measured using indices of marital satisfaction, marital quality, and/or frequency of conflict. Over time, this approach was criticized as being too global. For example, although marital satisfaction and interparental conflict are likely to be associated, marriages low in satisfaction are not always marked by conflictual interactions, and most maritally satisfied couples occasionally engage in conflict. Thus, a measure of marital quality or marital satisfaction may not be assessing interparental conflict per se. Further, in research that has included measures of

both marital satisfaction and the less global construct of frequency of conflict, frequency of conflict has had a stronger effect on youth outcomes than the more global measure of marital satisfaction (Cummings, Davies, & Simpson, 1994; Jouriles, Barling, & O'Leary, 1987; Jouriles, Murphy, Farris, Smith, Richters, & Waters, 1991; Katz & Gottman, 1993). Therefore, for the current study, utilizing a measure of interparental conflict rather than a more global rating of marital functioning was preferred.

More recently, theorists and researchers have suggested that the concept of interparental conflict is multidimensional (Cummings & Davies, 1994; Davies & Cummings, 1994; Grych & Fincham, 1990). Past research has most often examined the dimension of frequency of disagreement, but have left untested other potentially relevant dimensions, including mode of expression, intensity, content, and chronicity (Cummings & Davies 1994; Grych & Fincham, 1990). Because of this, the relative importance of other dimensions of interparental conflict is unknown. For this study, the dimension of mode of expression was explored.

Mode of expression is defined as behaviors, affect, and/or strategies used to express disagreements or oppositional interests between parents (Buehler et al., 1998). Conflict styles is the term used most frequently in the literature to denote ways of expressing disagreements, so the term conflict styles will be used hereafter instead of mode of expression.

Several conflict styles have been identified in the extant literature including avoidant strategies, cooperative strategies, covert strategies, and overt

strategies (Ahrns, 1981; Buehler, Krishnakumar, Anthony, Tittsworth, & Stone, 1994; Buehler et al., 1997; Buehler & Trotter, 1990; Camara & Resnick, 1988; Jenkins & Smith, 1991). For this study, the focus was on the latter two strategies, an overt conflict style and a covert conflict style. There is increasing speculation that hostile ways of expressing conflict (e. g., overt conflict style and covert conflict style) place youth at greater risk than does the mere experience of disagreements between parents (Buehler et al., 1997, 1998; Camara & Resnick, 1988; Jenkins & Smith, 1991). This notion will be discussed in greater detail in the next section.

An overt style is defined conceptually as behaviors and affect which indicate direct manifestations of negative connections between parents. Identifying characteristics include belligerence, contempt, derision, screaming, insulting, slapping, threatening, and hitting (Buehler et al., 1997).

A covert style is defined conceptually as behaviors and affect that engage the child in passive-aggressive ways of managing conflict between parents (Buehler & Trotter, 1990). A covert style has two components: triangling children and global covert behaviors. Identifying characteristics of the triangling component include trying to get the child to side with one parent, scapegoating the child, using the child to get information about the other parent when self does not want to ask the other parent directly, having the child carry messages to the other parent because self does not want to relay the information, denigrating the other parent in the presence of the child when the other parent is not present, and

denigrating the other parent to the child in the presence of the other parent but acting as though the other parent is not present (Buehler et al., 1997).

Identifying characteristics of the global covert component include upsettendness, resentment, or unspoken tensions manifested between parents in ways which do not involve the children. The triangling component of a covert conflict style seemed the most salient aspect to explore in the current study because it directly involves the youth. Also, Jenkins and Smith (1991) found that the tension associated with the global covert component was not associated with problem behaviors in children.

Interparental Conflict and Youth Problem Behaviors

Before examining possible mechanisms or conditions to explain the relationship between interparental conflict and youth maladjustment, it is important to establish that empirical relationships exist among the relevant conflict variables (an overt conflict style and a covert conflict style) and youth maladjustment. Youth maladjustment is defined conceptually as the relative inability of youth to engage successfully and appropriately in interpersonal relationships with relative freedom from noxious social behaviors and burdensome emotions (Trotter, 1989). This definition focuses on the youth's ability to match emotional and behavioral responses across time, people, and settings (Lorian, Cowen, & Caldwell, 1975). Maladjustment is a multidimensional construct, but was limited in this study to two dimensions: externalizing problem

behaviors (e. g., aggression) and internalizing problem behaviors (e. g., depression) (Achenbach & Edelbrock, 1987).

Past research has clearly established a positive linear relationship between interparental conflict and youth problem behaviors, including indices of externalizing and internalizing problem behaviors (e. g., Cummings & Davies, 1994; Fauber, Forehand, Thomas, & Wierson, 1990; Jenkins & Smith, 1991; Shaw & Emery, 1988). Much of this earlier work laid an important foundation for future research in this field.

In general, however, findings generated from this body of work have been compromised by the inadequate measurement of interparental conflict. Specifically, there are two primary concerns with the way interparental conflict has been measured in the past. First, as mentioned in the previous section, research in the past has used indices of marital quality and marital satisfaction as indicators of interparental conflict. The assumption is that satisfied couples engage in little or no conflict and unsatisfied couples engage in relatively more conflict (Christensen, Phillips, Glasgow, & Johnson, 1983; Howes & Markman, 1989). Because of this assumption, studies that used measures of marital satisfaction as indicators of interparental conflict provide only indirect evidence that conflict between parents is associated with youth problem behaviors.

A second problem arose more recently as researchers tried to reflect in their work the conceptual specification called for by theorists in the field. Thus, more recent research has focused primarily on the frequency of interparental conflict, but has aggregated other dimensions of the interparental conflict

construct. For example, a measure used frequently to measure interparental conflict, the O'Leary-Porter Scale (OPS; Porter & O'Leary, 1980) includes items which assess frequency of disagreement, an overt conflict style, and a covert conflict style. Because of the use of this type of measure, the important distinction between frequency of disagreements and hostile conflict styles, and the effect each of these has on youth problem behaviors, has not been drawn empirically in most studies.

A few recent studies have maintained this key distinction between frequency of disagreement and conflict styles in the assessment of the effects of conflict between parents on children. In a recent meta-analytic review of this literature, Buehler and associates (1997) found that the average effect size between frequency of disagreement and youth problem behaviors (a composite of internalizing and externalizing behaviors) was .19 ($SD = .32$; $p < .01$; number of effects = 32), between an overt conflict style and youth problem behaviors was .35 ($SD = .35$; $p < .01$; number of effects = 126), and between a covert conflict style and youth problem behaviors was .28 ($SD = .38$; $p < .01$; number of effects = 24). The findings of this study suggest that parents' use of an overt conflict style or a covert conflict style is more strongly related to youth problem behaviors than is the frequency of disagreement. Given these findings, the authors concluded that future research should assess each construct independently.

According to this meta-analytical review, the effect size between interparental conflict and youth problem behaviors was maintained despite variations in several subject characteristics. In terms of child gender, the effect

size was higher for boys (.32) than girls (.23), but this difference was not statistically significant. This finding contradicts several previous reviews of this literature that have concluded that the relationship between conflict between parents and youth problem behaviors is stronger for boys than girls (Grych & Fincham, 1990; Reid & Crisafulli, 1990). Another assertion in the literature is that, in the face of interparental conflict, boys may display more externalizing problem behaviors and girls more internalizing problem behaviors (Emery, 1982). This contention was not supported in this review.

In terms of child age, most past literature reviews have concluded that no one age group of children appears to be particularly vulnerable to the effects of interparental conflict (Emery, 1982; Grych & Fincham, 1990). The results of Buehler et al.'s (1997) meta-analysis supported this notion, but the authors concluded there was enough variability across age groups to warrant additional inquiry.

There was no statistical difference between married and divorced parents in the effect size between interparental conflict and youth problem behaviors. There was, however, a statistically significant difference in effect size based on the socioeconomic status composition of the sample. The effect size was greater in samples that were predominantly middle class than in samples that included lower, middle, and upper-middle class respondents. Also, the effect size was greater in samples that were predominantly lower class than in samples that included lower, middle, and upper-middle class respondents.

In one of the only studies that included separate measures of frequency of disagreement, an overt conflict style, and a covert conflict style, Buehler and associates (1998) found that interparental conflict accounted for over 20% of the variance in total youth problem behaviors (i. e., internalizing and externalizing problems). Parents' use of an overt conflict style and parents' use of a covert conflict style were more strongly associated with youth problem behaviors than was the mere frequency of disagreement in two samples of youth. Specifically, the frequency of conflict between parents did not uniquely explain any additional variance above and beyond that explained by overt and covert conflict styles.

In terms of subject variation, Buehler et al. (1998) found that, in both samples they examined, the associations among the interparental conflict variables and youth problem behaviors were similar for boys and girls, very poor youth and those who were better off economically, and for youth in married families and those who live with mothers only. In one of the samples, the association between an overt conflict style between parents and externalizing problem behaviors varied by youth age, with the association stronger for younger (5th grade) than older youth (8th grade).

In summary, theorists and researchers have consistently argued for the more specific measurement of interparental conflict beyond global measures of marital functioning and marital satisfaction, but that also recognize the multidimensional nature of the construct. Further, more recent research has shown that overt and covert conflict styles are better predictors of youth problem behaviors than the mere frequency of conflict between parents. It is for these

reasons the present study selected overt and covert conflict styles as indicators of conflict between parents.

A next step for this body of research is to identify and test potential explanatory factors (i. e., mediators and moderators of this robust association) to help explain why conflict between parents places youth at risk. The current study considered appraisals youth make of conflict between parents as possible factors in determining the impact such conflict has on youth. In addition, future work needs to continue to consider subject variation characteristics such as youth gender, youth age, parent marital status, and family economic status (Amato, 1993; Cummings & Davies, 1994; Emery, 1982). Many reviewers believe that the association between interparental conflict and youth problem behaviors may be influenced by such characteristics despite inconsistent empirical findings in the past.

Youth Appraisals

Theorists have highlighted the role of children's appraisals in determining the effects of stressful events (e. g., Compas, 1987; Grych & Fincham, 1990; Rutter, 1983). Several researchers have argued that youth appraisals should be considered when attempting to understand the impact of parents' conflict behaviors on youth maladjustment (Buehler et al., 1994; Fincham, 1998; Fincham, Grych, & Osborne, 1994; Grych & Fincham, 1990, 1993; MacKinnon-Lewis, Lamb, Arbuckle, Baradaran, & Volling, 1992). This notion is a central tenet of Grych and Fincham's (1990) cognitive-contextual model. In the marital

relations literature, the study of spouse's cognitions or appraisals that mediate the relationship between marital quality and behavior has been a focus of attention (Bradbury & Fincham, 1990). However, research linking the marital relationship, including interparental conflict, to child development that is informed by the marital cognition literature is extremely rare (Fincham, 1998). An exception was a study that linked marital and child attributions to family processes (Brody, Arias, & Fincham, 1996). The findings showed that husbands' and wives' conflict-promoting marital attributions were related to parenting practices, which were related to children's attributions for negative parental behavior.

Appraisals youth make in the context of conflict between parents are important to study for several reasons. First, youth play an active role in the construction of their experiences; they are not passive recipients of familial influence (Maccoby, 1992). Second, the appraisals youth make of the conflict shape the meaning of the conflict and help define its impact (Fincham et al., 1994). For example, siblings exposed to the same interparental conflict may be differentially affected by it because of their individual appraisals of the conflict.

Finally, the nature of the explanations youth make concerning the conflict may determine their immediate response to the conflict, as well as contribute to the development of more stable emotional or behavioral problems. As an example, youth who blame themselves for the conflict between their parents may respond differently than those who blame parents or some other factor. According to Cummings, Davies, and Simpson (1994), youth's appraisals of interparental conflict are more proximate to the youth's functioning than parental

perceptions of conflict because appraisals reflect youth's cognitive and emotional processing. Parents have no knowledge of such processes, unless reported to them by youth.

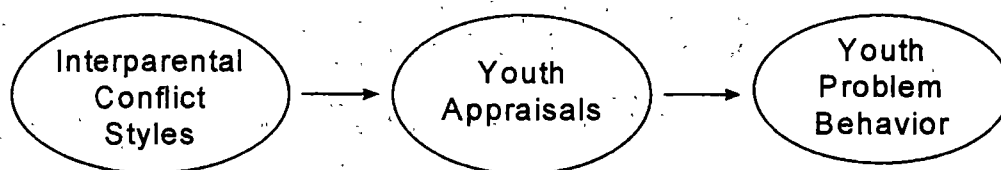
Which youth appraisals are important to study in the context of hostile conflict between parents? It seems that youth would be concerned with the following questions: (a) Who is to blame for the conflict?, (b) What will happen to me in the face of conflict?, and (c) Will the conflict be taken care of? This study addressed these questions. Specifically, youth appraisals of self-blame, expectancies of perceived threat, and perceived resolution were considered as potential moderating and/or mediating mechanisms in the association between an overt conflict style, a covert conflict style, and youth problem behaviors.

An important question to be answered is how youth appraisals impact the relationship between hostile conflict styles and youth problem behaviors. There is an inconsistency in the literature as to whether youth appraisals act as mediators (e. g., Grych & Fincham, 1990) or moderators (e. g., Rossman & Rosenberg, 1992) of the relationship between interparental conflict and youth problem behaviors. In previous empirical and theoretical work, two of the youth appraisals under consideration in this study, self-blame and perceived threat, have been conceptualized as both moderating and mediating variables (Cummings et al., 1994; Grych et al., 1992; Kerig, 1998). Perceived resolution has not been considered in either role directly, but correlational and other empirical evidence exists which suggests it might serve a moderating or mediating role (Cummings &

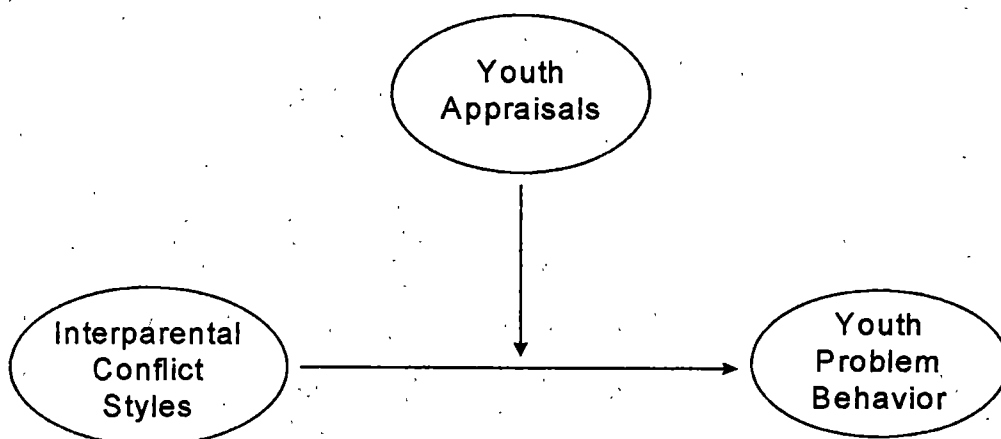
Davies, 1994; Cummings, Vogel, Cummings, & El-Shiek, 1989; Kerig, 1998; Kerig, Fedorowicz, Brown, Patenaude, & Warren, in press).

The distinction between mediating and moderating roles is important because each suggests a very different type of theoretical model (See Figure 1). A moderating explanation suggests that self-blame, perceived threat, and perceived resolution identify a condition such that when it is present (or present in greater degrees), the association between a hostile conflict style and youth problem behaviors is different than when the condition is not present. A moderator might influence the degree or direction of the relationship between interparental conflict and youth problem behaviors. A mediating explanation would suggest that the appraisal variables maintain causal linkages connecting hostile conflict styles and youth problem behaviors (Grych et al., 1992). One of the underlying assumptions of a mediating effects explanation is that a hostile conflict style causes self-blame, perceived threat, or perceived resolution in youth, which in turn, affect youth problem behaviors (Baron & Kenny, 1986). To the contrary, a moderating explanation suggests that when youth self-blame, feel threatened, or perceive nonresolution, the association between hostile conflict styles and youth problems is exacerbated, but does not suggest that hostile conflict and the youth appraisal variables are linked causally.

To date, many of the studies that have considered youth appraisal variables in either role have relied solely on correlational techniques (Cummings et al., 1994; Grych & Fincham, 1993; Kerig, 1996), rather than using the multiple regression techniques outlined by Baron and Kenny (1986). The current study



Mediation Relationship



Moderational Relationship

Figure 1. Theoretical Models for the Relationship Between Interparental Conflict Styles, Youth Appraisals, and Youth Problem Behaviors

directly compared both mediating and moderating roles for the youth appraisal variables employing the recommended statistical techniques (Baron & Kenny, 1986).

Self-Blame

Children's attempts to understand why hostile conflict is occurring between their parents involves making an attribution for the cause of the event and subsequently ascribing blame for it. Making an attribution of self-blame for interparental conflict involves attributing the event to an internal, stable and global factor, thus increasing its impact (Bradbury & Fincham, 1990). This is because a global, stable attribution of cause implies that the causes of the conflict (in this case, the youth's behavior or feelings) are more likely to recur than a cause attributed to an unstable, external factor (e. g. parent is in a bad mood). Youth who view themselves as the cause of hostile conflict episodes between their parents are likely to experience more distress than youth who attribute cause to one or both of their parents, or to outside circumstances (Grych & Fincham, 1990). These types of attributions seem to be associated more strongly with internalizing problem behaviors than externalizing problem behaviors (Grych & Fincham, 1992; Joseph, Brewin, Yule, & Williams, 1993). In the context of an overt style and a covert style between parents, children who blame themselves may experience shame, emotional distress, symptoms of depression, deficits in self-esteem, or feelings of depression (Grych et al., 1992).

To date, only one empirical study has been found which directly assessed the mediating and moderating effects of self-blame in the context of interparental

conflict and youth outcomes. Kerig (1998) found that self-blame served a moderational role (i. e., exacerbating), but did not mediate the association between interparental conflict (measured with the O'Leary-Porter scale) and youth problem behaviors. Interestingly, Kerig (1998) found a different pattern depending upon the gender of the child. Self-blame moderated the association between conflict between parents and parent reports of externalizing problem behaviors for boys, and between conflict and self-reported depression for girls. For boys and girls, self-blame was associated with an exacerbation of the effects of interparental conflict on problem behaviors. She found no significant effects associated with age of child.

Some tangential evidence, in the form of correlational research, exists which suggests a mediating role for self-blame. Grych and Fincham (1993) found that youth's perceptions of self-blame were higher for more intense conflict than less intense. In terms of the more general construct of parental anger, Covell and Abramovitch (1987) found that 40% of the 7-9 year olds and 29% of the 10-15 year olds in their study cited themselves as a major cause of their mother's anger. This evidence suggests that youth's attributions of self-blame may be important to consider when studying the effects of hostile conflict styles on youth problem behaviors. In terms of youth problem behaviors, there is evidence which suggests that self-blame is related more strongly to internalizing problems than externalizing ones (Grych et al., 1992; Joseph et al., 1993).

Perceived Threat

A second question youth may ask themselves in the face of hostile conflict concerns expectations of perceived threat. Hostile conflict may lead to youth fears that the conflict will escalate (Grych et al., 1992). This escalation can manifest itself in fear that: (a) parents may become increasingly abusive with one another, (b) a parent may take it out on one of the children in the family, (c) a parent may take it out on a family pet, and/or (d) the parents might maritally separate because of the hostile conflict. Feeling threatened may lead to youth's feelings of anxiety, worry, and preoccupation, internalizing problem behaviors. In addition to these feelings, youth may experience emotional arousal, possibly leading to aggressive behavior. This is likely to be true especially in the absence of appropriate emotional regulation skills (Katz & Gottman, 1993).

In a study examining the mediating and/or moderating role of perceived threat, Kerig's (1998) results supported a moderating model. She found that perceived threat moderated the association between interparental conflict and parent's reports of total problem behaviors (i. e., internalizing and externalizing) for boys, and between interparental conflict and parent reports of internalizing problems for girls. In contrast to expectations, perceived threat buffered the impact of interparental conflict for boys. As exposure to interparental conflict increased, boys displayed lower levels of behavior problems when they perceived interparental conflict as threatening. For girls, perceived threat was associated with an exacerbation of the effects of interparental conflict on girls' internalizing problem behaviors. No significant age of child effects were found.

Although they did not examine perceived threat directly, Davies and Cummings (1998) found tangential support for the mediating role of threat. Specifically, they found that their construct of insecure representations of interpersonal relations (including fears that conflict will escalate, become violent, or lead to divorce) mediated the association between marital discord and youth internalizing problem behaviors. Children exposed to more marital discord appraised interparental conflict as a threat to themselves and the quality of family relations, which in turn, predicted internalizing problem behaviors in youth. The authors did not examine differences based on subject variation characteristics, such as age or gender.

In terms of correlational research, Grych et al. (1992) found that perceived threat mediated the relationship between an overt conflict style and anxiety (youth report). They did not test a model with externalizing problem behaviors as the dependent variable. In another study, perceived threat mediated partially the relationship between destructive marital conflict and internalizing problem behaviors (Cummings et al., 1994). In conclusion, in research to date, perceived threat has served as a moderator and some evidence exists supporting its role as a mediator. It seems to be associated more strongly with internalizing problem behaviors than externalizing problem behaviors.

Perceived Resolution

A third question a child may ask when trying to assess his/her parent's conflict is, "Will the conflict be taken care of?" Perceived resolution involves the youth witnessing a resolution to the conflict or inferring that one has occurred

based on information gleaned from parental interactions. Past research suggests that when youth believe the conflict between their parents has been resolved, the association between an overt conflict style and youth problem behaviors is minimized (Cummings & Davies, 1994). Youth who perceive that resolution has not occurred at the end of an overt conflict interaction between parents may feel helpless, hopeless and/or irritable. In terms of a covert conflict style, youth may experience the same feelings, particularly helplessness and hopelessness, because the causes and mechanisms that maintain the conflict may be less clear to the youth, perhaps making resolution more difficult to perceive. For youth who feel a sense of hopelessness or helplessness, withdrawal or depressed affect may result.

There is no research which has directly tested a model with perceived resolution as a moderating or mediating mechanism. However, evidence of its importance in this context comes from two sources. First, research examining children's reactions to interadult conflict and anger has included conflict resolution as a key variable. This body of work has concluded that resolution greatly reduces children's negative reactions (anger and distress) to interadult conflict (Cummings & Davies, 1994). Children as young as five can perceive resolution and are sensitive to varying degrees of resolution (Cummings, Simpson, & Wilson, 1993).

The distress and arousal felt by children in the face of adult fights was a direct function of the degree to which the fights were resolved. Children responded to resolved fights (apology, compromise) in a nonnegative way, to

partially resolved fights (topic change, submission) in a moderately negative way, and to unresolved fights in a highly negative way (Cummings, Ballard, El-Shiek, & Lake, 1991).

The development and use of the Children's Perception of Interparental Conflict instrument (Grych, Seid, & Fincham, 1992) is a second avenue of tangential evidence suggesting the importance of considering youth's perceived resolution in the context of interparental conflict and youth problem behaviors. A subscale of this measure is the Conflict Properties scale, an assessment of the youth's perception of the frequency, intensity, and resolution of interparental conflict.

One study was found that examined the association between resolution and marital conflict (rather than interadult anger). It found that maritally violent families rated lower on resolution (parent report) than did nonviolent families (Kerig et al., in press). Further, it found that parent reports of resolution were related to youth reports on the Conflict Properties scale. This suggests that the use of an overt conflict style by parents may lead to perceptions of nonresolution by youth. In terms of the relationship between conflict properties and youth problem behaviors, the authors found that conflict properties were associated with youth and teacher reports of internalizing and externalizing problem behaviors for boys and girls.

Kerig (1998) examined the Conflict Properties scale as a potential moderator or mediator in the association between marital conflict and youth problem behaviors. She found that conflict properties moderated the association

between marital conflict and externalizing problem behaviors (parent report), total problem behaviors (parent report) and anxiety (youth report) in boys only. As interparental conflict increased, boys who perceived their parents' conflicts as having negative properties (including nonresolution) were more likely to demonstrate higher problem behaviors and anxiety than boys who rated their parent's quarrels low on the Conflict Properties scale. Clearly, more research is needed to determine what role youth perceptions of resolution serves in the association between interparental conflict and youth problem behaviors. A necessary step will be to disentangle the concept of perceived resolution from the broader construct of conflict properties.

Objectives

It is evident from this review that more research examining the processes and/or conditions explaining the association between interparental conflict and youth problem behaviors is needed. The choice of the variables in this study, designed to add to this body of literature, was carefully guided by theory and past research. Interparental conflict styles (i. e., overt and covert) were selected because both theory and research has called for more specification when assessing interparental conflict, above and beyond that provided by more global and multidimensional constructs employed in past research (Buehler et al., 1998; Grych & Fincham, 1990).

The selection of the specific youth appraisals as the potential explanatory factor was initially informed by Grych and Fincham's (1990) groundbreaking

theoretical piece and by subsequent research that has taken beginning steps to employ the ideas outlined by this theory (e. g., Kerig, 1998; Kerig et al., in press). The primary reason for the selection of youth problem behaviors was the established relationship existing between indices of interparental conflict and internalizing and externalizing problem behaviors (e. g., Buehler et al., 1997; Cummings & Davies, 1994). Because of this, there is an accumulated body of evidence into which findings from this study can be incorporated.

In summary, the primary purpose of this study was to examine how overt and covert conflict styles between parents affect youth problem behaviors. The moderating and mediating roles of youth perceptions (specifically, self-blame, perceived threat, and perceived resolution) in understanding this association was the focus. The present study did not attempt to identify the major set of predictor variables for externalizing and internalizing problem behaviors. Instead, it attempted to identify some of the mechanisms or conditions which explain the association between hostile conflict between parents and youth problem behaviors.

This study directly compared two theoretical models of the effects of youth appraisals on the relationship between interparental conflict styles and youth problem behaviors, the mediating model and the moderating model. Past research has shown some evidence for each model, but more work is needed to find more conclusive evidence of how youth appraisals are operating in this context. Further, the models examined in this study were considered across four subject variation characteristics: youth age, youth gender, parental marital

status, and family economic status. Kerig and associates (in press) have examined variations in results by youth age and gender, but no one has examined the proposed models by variations in parental marital status or family economic status.

This research will add to the extant literature in several ways. Although many researchers and theorists have suggested examining the role of youth's appraisals, very little research has been reported to date, especially research that employs the statistical techniques recommended by Baron and Kenny (1986) to test moderating and mediating models. The work of Grych and associates (e. g., Grych & Fincham, 1993; Grych et al., 1992), Cummings et al. (1994), and Kerig (1998) have taken beginning steps in understanding the role of youth appraisals in the context of conflict between parents. This study extends this body of work in at least three ways.

First, most of the previous work studied the potential mediating effects of youth appraisals [for an exception, see Kerig (1998)] This study examined the potential moderating effects of similar variables as well. Second, previous research primarily has most often examined global or multidimensional indices of conflict, or more recently, an overt conflict style between parents. In addition to an overt conflict style, a covert conflict style was examined in this research because of the robust relationship between a covert conflict style between parents and youth problem behaviors, especially internalizing problems (Buehler, et al., 1997, 1998).

Much of the past research that has examined youth perceptions has utilized relatively small sample sizes (e. g., $n = 45$ and 112 in Grych & Fincham, 1993) and has relied primarily on zero-order correlations with the exception of Kerig (1998). The current research employed a significantly larger sample than those used in previous work, assuring the statistical power needed for more sophisticated analyses. A larger sample size also allowed comparisons by several relevant subject variation characteristics, some not previously examined in this context.

II. Methodology

Sample

The sample and data used for this project were part of a larger, more comprehensive study designed to assess family life, with an emphasis on interparental conflict within families (Buehler et al., 1994). The youth who participated in the study were from selected middle schools in Knox County, Tennessee. Certain schools were selected for participation to ensure socioeconomic diversity. Included in the study were youth with married parents and those with divorced parents if the child resided with the mother. The target youth was the offspring of the current or most recent marriage. Youth were the primary reporters of all study variables.

The sample consisted of 337 youth in grades six through eight (ages 10 to 15, $M = 12.4$, $SD = 0.99$). Fifty-six percent of the respondents were female ($n = 190$) and 46% were male ($n = 147$). Most of the youth were Caucasian (86%) and lived with both parents (87%). The average level of formal education obtained by parents, based on youth report, was between "completed high school" and "completed some college." Eighty-seven percent of the youth paid for school lunches. The remaining 13% received federally mandated free or reduced fee school lunches.

The 1989 and 1990 Census on families and individuals living in Knox County (Slater & Hall, 1996; U. S. Bureau of Census, 1996) was used to examine representativeness of this sample (Buehler et al., 1998). In 1990,

12.5% of families were headed by a female. This percentage is close to the number of families in the current study that were divorced, mother-headed households. In 1990, 74.6% of individuals over 25 years of age had graduated from high school. About 24% of individuals had a bachelor's degree. In the current sample, the average level of education fell between these two categories. In 1989, 10.2% of families had incomes below the poverty line, a value close to the percent of families in the sample who received free school lunch. Thus, the current sample is fairly representative of the population under consideration.

The rate of couple violence in the current sample was compared to data from the second wave of the National Survey of Families and Households (NSFH2; Sweet, Bumpass, & Call, 1988). According to the NSFH2, 4% of women and 4% of men reported that both they and their partner had perpetrated one or more acts of physical violence in the previous year (Umberson, Anderson, Glick, & Shapiro, 1998). In the current sample, 6.5% of the youth reported that, when their parents disagreed, they have pushed, slapped, or hit each other at least once. Although these estimates are fairly close, caution should be used when making conclusions regarding representativeness because of the considerable underreporting of marital violence (Szinovacz & Egle, 1995).

Data Collection Procedures

Approval for this study was obtained from The University of Tennessee, Knoxville, the Internal Review Board, and the Knox County school system. Sixth, seventh, and eighth grade homeroom teachers from selected schools were

invited to participate. A little over half of the teachers were willing to participate. Students were randomly assigned to homerooms, reducing many sources of possible teacher selection bias. Letters of consent were sent home with each youth. Two follow-ups were mailed to their home, if needed. Upon return of the letter to school, children were given a small token of appreciation (e. g., a finger puppet), whether or not permission was granted to participate in the study. This was done to ensure a high return rate. Parental consent was received for 75% of the invited youth.

Questionnaires were completed by the youth in the school cafeteria in three separate groups on different days. Make-up dates were provided for absent youth. Several trained assistants were available to answer questions. Following completion of the questionnaire, youth were treated to a pizza party.

Measurement

The questionnaire completed by the youth was pilot tested on a group of fifteen youth in the fifth grade to ensure clarity and readability, and was revised accordingly. The results from this pilot work indicated an adequate distribution of scores on all items.

Youth were the sole respondents on all items. There is theoretical and empirical evidence justifying the use of youth reporters. Several researchers and theorists have argued that youth reports of interparental conflict and youth appraisal are better indicators of their experience than parent reports (Davies & Cummings, 1994; Emery & O'Leary, 1982; Fincham, 1998; Grych & Fincham,

1990; Grych, Seid, & Fincham, 1992). Youth reports represent a better estimate of what the child actually observes, hears, and/or feels. In an empirical inquiry which used both youth and parent reports, Harold and Conger (1997) concluded that the adverse influence of marital conflict and youth appraisals of the conflict on current and future youth behavior problems was completely accounted for by the youth's perceptions of these constructs. In addition, since youth have access to the whole array of their own behavior and feelings in multiple settings, they are the best reporters of their own problem behaviors.

Frequency of Use of an Overt Conflict Style

Youth assessed an overt conflict style using six items developed for this study. They were asked to report how often their parents engaged in certain behaviors during disagreements the youth could see or hear. The response scale ranged from "never" (1) to "very often" (4). The items were:

- (a) Call each other names.
- (b) Push, slap, or hit each other.
- (c) Threaten each other.
- (d) Yell at each other.
- (e) Insult (show disrespect for) each other.
- (f) Tell each other to shut up.

Frequency of Use of a Covert Conflict Style

A covert conflict style was assessed by youth reports of eight items, some developed for this study, and some adapted from Grych and associates (1992). The response scale ranged from "never" (1) to "very often" (4). The items were:

- (a) How often does one of your parents send a message to the other one through you because they don't want to talk to the other parent?
- (b) How often does one of your parents insult (show disrespect for) the other one when they are not there?
- (c) How often does one of your parents ask you what the other one is thinking, feeling, or doing because they don't want to ask the other parent?
- (d) How often does one of your parents try to get you to side with one of them?
- (e) How often do you feel if you make one parent happy, you will upset the other?
- (f) How often do you feel caught in the middle when your parents fight?
- (g) How often do you feel torn between your parents?
- (h) How often do you feel like you have to take sides when your parents fight?

To assess discriminant validity, the 14 items used in this study were factor analyzed along with 12 items measuring frequency of interparental disagreement. This analysis was performed originally by Buehler and associates (1998) and repeated for this study. A maximum likelihood extraction with an oblique rotation was used. A factor loading of at least .40 and at least a .20 difference between the primary and secondary loadings were used as criterion as evidence of an item loading on a factor. Three factors emerged which represented an overt conflict style, a covert conflict style, and interparental disagreement. Three items (one

overt and two covert) did not fit well and were excluded. The overt item was push, slap, or hit each other. The covert items were "How often does one of your parents insult (show disrespect for) the other one when they are not there?" and "How often do you feel like you have to take sides when your parents argue?" Factor analysis results can be found in Appendix A. Only the items measuring overt conflict style and covert conflict style were used in the present study because previous research showed that these hostile conflict styles were more strongly associated with youth problem behaviors than was the frequency of disagreement (Buehler et al., 1998). Cronbach's alpha for the overt conflict scale was .86 ($N = 337$). Cronbach's alpha for covert conflict style was .82 ($N = 337$).

Perceptions of Self-Blame

Youth reported on their perceptions of self-blame for interparental conflict. This construct was measured using four items selected from scales developed by Grych et al. (1992) and Kurdek and Berg (1987). A four-point response scale ranging from "never" (1) to "very often" (4) was used. The items were:

- (a) How often do you feel your parents would be happier if you hadn't been born?
- (b) How often do you believe it is your fault when your parents fight?
- (c) How often do you feel you are to blame for your parents' arguments?
- (d) How often do you believe that your parents argue more when you are with them than when you are gone?

Perceived Threat

Perceived threat was assessed by youths' responses to five items. Three of the items were developed by Grych et al. (1992) and two were developed for this study. The same 4-point response scale (never-very often) was used. The items were:

- (a) When your parents fight, how often do you worry something bad will happen to you or your sister(s) or brother(s)?
- (b) When your parents fight, how often do you worry that your pet(s) might get hurt? Leave this blank if you don't have a pet.
- (c) When your parents fight, how often do you worry they will get divorced?
- (d) How often do you get scared when your parents argue?
- (e) When your parents fight, how often do you worry that something bad will happen to them?

The nine items measuring self-blame and perceived threat were factor analyzed using maximum likelihood with an oblique rotation. Most of the items loaded on one of two factors which represented self-blame and perceived threat. The threat items addressing potential threat to self and/or siblings and potential threat to pets were excluded (see Appendix A). Cronbach's alpha was .83 ($N = 337$) for self-blame and .79 ($N = 337$) for perceived threat.

Several of the items used to measure perceptions of self-blame and perceived threat came from the Children's Perception of Interparental Conflict Scale (CPIC; Grych et al., 1992). Those authors report Cronbach's alphas of .78

to .84 for attributions of self-blame and .83 for perceived threat. Evidence of construct validity was demonstrated by empirical results that supported theoretically-based hypothesized relationships with dependent variables (Grych et al., 1992).

Perceived Resolution

Youth's perceived resolution was assessed using three items developed for this study. The three items were in separate sections of the questionnaire. Youth were asked to think about disagreements between their parents, fights between parents that included yelling and threatening, and fights between parents that included hitting or slapping. For the disagreement item, youth reported on a four-point response scale the extent to which they perceived the disagreement was solved. Response choices were: "don't get solved" (1), "get partly solved" (2), "get completely solved" (3), and "don't know" (4). For the items that assessed fights that included physical or verbal violence, a fifth response choice was "my parents don't fight that way."

The fourth option, "I don't know if their disagreements get solved or not," warranted some further analyses. A comparison of mean scores on total youth problem behaviors showed that youth who selected this response reported similar levels of problem behaviors as youth who reported complete resolution. Therefore, youth who reported that they didn't know if disagreements were solved were recoded into the "get completely solved" group.

A composite score of the three resolution items was created by taking an average, but only one response was required to receive a score. This was done

so that youth who observed parental disagreements but not verbal or physical aggression received a resolution score.

Externalizing and Internalizing Problem Behaviors

Externalizing and internalizing problem behaviors were assessed using youth reports. Each completed the Child Behavior Checklist-Youth Self-Report (Achenbach, CBC-YSR, 1991). This measure consisted of 112 statements that may describe the youth within the past six months. Thirty of the items comprised the externalizing problem behavior subscale. Sample items include "I get in many fights," "I lie or cheat," "I destroy my own things," and "I argue a lot." Thirty-one items comprised the internalizing problem behavior subscale. Sample items are "I feel lonely," "I feel worthless or inferior," "I feel that no one loves me," and "I am too fearful and anxious." Response choices for both subscales were "not true" (0), "somewhat or sometimes true" (1), and "very true or often true" (2). Cronbach's alpha was .89 ($N = 337$) for the externalizing subscale and .92 ($N = 337$) for the internalizing subscale. This instrument has extensive evidence of adequate reliability and validity (Achenbach, 1991). A list of all the items comprising the externalizing and internalizing scales is in Appendix C.

Total Problem Behaviors

The total problem behavior scale was the sum of the externalizing and internalizing problem behavior subscales. See Appendix B for frequency information on all study items.

Background Variables

Four background variables were used to contextualize the results . They were youth gender, youth age, parental marital status, and family economic status. Dummy coding was used for three of the variables. For youth gender, girls were coded as "0" and boys as "1." For marital status, divorced mother-custody households were coded as "0" and two-parent households were coded as "1." Family economic status was coded as "0" if youth paid full lunch price and as "1" if youth paid reduced or no fee for lunch. Youth age was recoded as a dummy variable for moderating and follow-up analyses. Age was split at the median to form two categories. Youth 10 to 12.9 years of age were coded as "0" and youth over 12.9 years were coded as "1."

Data Analysis

Data were analyzed using hierarchial multiple regression. This procedure is suitable for examining mediating and moderating effects.

Mediating Analysis

Baron and Kenny (1986) have outlined several criteria for mediation. The following criteria must be met to conclude that a variable functions as a mediator (see Figure 2):

- (a) a statistically significant relationship exists between the independent variable and the dependent variable (path a);
- (b) a statistically significant relationship exists between the independent variable and the proposed mediator (path b);

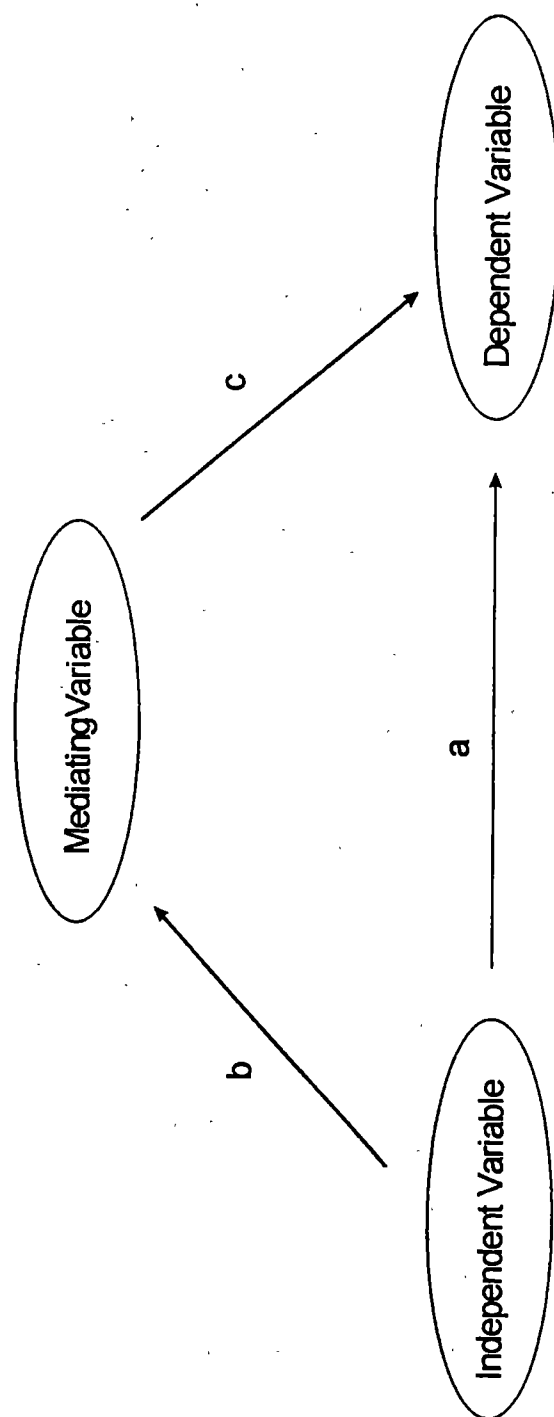


Figure 2 . Direct and Indirect Pathways of the Association Between the Independent and Dependent Variables

- (c) there is a statistically significant relationship between the proposed mediator and the dependent variable (path c);
- (d) the previously statistically significant relationship between the independent variable and the dependent variable is reduced when the mediating variable is included.

Full mediation occurs when the previously statistically significant relationship between the independent variable and the dependent variable is reduced to zero with the introduction of the mediating variable. In partial mediation, the previous significant relationship between the independent variable and the dependent variable is reduced in magnitude.

Criterion one, three, and four outlined above can be examined using one hierarchical multiple regression equation. For the present study, block one contained the background variables as controls: youth gender, youth age, parental marital status, and family economic status. Overt and covert conflict styles were entered in the second block. The mediating variable under consideration was entered in the third block. A fourth block contained interaction terms of the mediating variable and each of the four background variables for follow-up analyses. Only one youth perception variable was entered at a time. This pattern was repeated for each dependent variable. A statistically significant change in F after the entry of block three, the mediating variable, signified that a mediating relationship may exist.

To examine Baron and Kenny's (1986) criterion two, the existence of a significant relationship between the independent variable and the proposed

mediator, a separate hierarchical multiple regression analysis was conducted. In this analysis, the proposed mediator served as the dependent variable. The background variables were entered in block one, the conflict styles in block two, and the interaction terms of conflict styles and background variables were entered in block three.

In the case of partial mediation, the statistical significance of the indirect pathway (path a) can be determined by a procedure developed by Sobel (1982). The formula associated with this procedure produces a *t*-value which indicates whether the indirect path from the independent variable to dependent variable through the mediator is statistically significant. This *t*-value is based on the following formula:

$$t = \frac{bc}{\sqrt{c^2S_b^2 + b^2S_c^2 + S_b^2S_c^2}}$$

where *b* = the unstandardized beta coefficient for path *b* in figure one; *S_b* = the standardized error for *b*; *c* = the unstandardized beta coefficient for path *c* in figure one; and *S_c* = standard error for *c*. A *t*-value of 1.96 or larger indicates that a statistically significant indirect effect exists (*p* < .05).

If a statistically significant interaction was found in block four, the sample was split on the background variable under consideration, and the regression equations were re-calculated for each group to determine if the path is statistically significant for one or both groups under consideration. This allowed for a more detailed examination of the models under consideration.

Moderating Analysis

A series of hierarchical multiple regression equations were computed to test for moderating effects, as suggested by Baron and Kenny (1986). Each measure of youth problem behaviors was treated as a separate dependent variable. Each potential moderating variable warranted a new set of equations; that is, each of the three appraisal variables were considered separately. The order of block entry remained the same.

In block one, youth gender, youth age, parental marital status, and family economic status were entered as control variables. The conflict styles and the specific appraisal variable under consideration were entered in block two. In block three, interaction terms between each conflict style and the appraisal variable were entered. A statistically significant change in F for this block indicated the presence of a statistically significant moderating effect.

The interaction terms were created by multiplying the centered value of the independent variables with the centered value of the appraisal variable. Centering a variable entails subtracting the mean of a variable from the individual scores of that variable (Aiken & West, 1991). This procedure is intended to minimize problems with multicollinearity.

Following is an example illustrating these steps with three of the variables under consideration in this study—overt conflict style, self-blame, and total problem behaviors. To test for the possible mediating effects of self-blame, the first step was to calculate a hierarchical regression equation with total problem behaviors as the dependent variable. Block one contained the control or

background variables—youth gender, youth age, parental marital status, and family economic hardship. Block two contained overt and covert conflict style and block three contained youth self-blame. The fourth block contained interaction terms created by multiplying the centered values of self-blame by each control variable, resulting in four interaction terms. If the change in $\underline{E}$ after the entry of block three, self-blame, was statistically significant, this signified that a mediating relationship may exist.

If there was a statistically significant change in $\underline{E}$ after the entry of self-blame, follow-up analyses were examined. The interaction terms entered on block four were examined to determine if the mediating relationship might be different within a subgroup of the sample. For example, if the interaction term between self-blame and youth gender was statistically significant, the sample was split on youth gender and the regression equation was recalculated for each group.

Next, a second regression equation was calculated to obtain the other values needed to compute Sobel's equation. For this equation, self-blame was the dependent variable. Block one contained the control variables and block two contained overt and covert conflict styles. The interaction terms created by multiplying the centered values of overt and covert conflict with the background variables were entered in block three. These interaction terms were used to determine if the link in the mediating equation between the conflict styles and self-blame varied by the background variables, such as gender or age of youth.

Finally, Sobel's equation was calculated to determine the t -values associated with each equation—one for boys and one for girls.

To examine the moderating role of self-blame in the association between overt conflict and total problem behaviors, another hierarchical regression equation was calculated. In block one, the background variables were entered. Overt and covert conflict styles and self-blame were entered on block two. The interaction terms between overt conflict and self-blame, and covert conflict and self-blame were entered in block three. A statistically significant change in F after the entrance of the interaction terms indicated whether a moderating effect was present.

For all regression analyses, whether testing direct, mediating, or moderating effects, $p < .05$ was the probability level used to determine statistical significance. In addition, residual analyses were conducted for all regression analyses. Unless otherwise stated in the Results section, it can be assumed that regression assumptions were met.

III. Results

Zero-order correlations, means, standard deviations, and reliability coefficients for all variables used in this study are found in Table 1. At the zero-order level, both conflict variables, overt conflict style and covert conflict style, were associated with the youth problem behavior variables under consideration, with correlations ranging from .12 ($p < .05$) to .45 ($p < .001$). The conflict styles also were associated with all three appraisal variables, with correlations ranging from .41 ($p < .001$) for the relationship between youth report of covert conflict and youth perceived resolution to .71 ($p < .001$) for the association between youth report of covert conflict and youth self-blame. The three appraisal variables were associated with youth reports of the three dependent variables, with correlations ranging from .20 ($p < .001$) to .48 ($p < .001$).

To provide a general context for subsequent analyses, a regression analysis was conducted to determine the amount of variance in total problem behaviors explained by the two interparental conflict variables. The following variables were entered as controls: youth gender, youth age, parental marital status, and family economic status. These variables accounted for 5.7% of the variance in total problem behaviors. Youth reports of an overt and covert conflict style explained an additional 18% of the variance in youth total problem behaviors ($F = 43.57, p < .001$). This finding indicated that conflictual interactions between parents were associated with youth problem behaviors, laying the foundation for subsequent mediating and moderating analysis.

Table 1

Descriptive Statistics for All Variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) Youth gender												
(2) Youth age	.01											
(3) Marital status	.10	.03										
(4) Economic hardship	-.00	-.26***	-.22***									
(5) Overt conflict style	-.00	-.04	-.15**	.25***								
(6) Covert conflict style	-.02	-.05	-.12*	.18**	.52***							
(7) Youth self-blame	-.04	-.01	-.04	.14**	.46***	.71***						
(8) Youth perceived threat	-.05	-.14*	-.08	.17**	.44***	.55***	.51**					
(9) Youth perceived resolution	.07	.08	-.27***	-.15**	-.41***	-.44***	-.34***	-.28***				
(10) Youth externalizing problems	-.17**	.16**	.08	-.16**	.12*	.32***	.35***	.37***	.24***			
(11) Youth internalizing problems	-.03	.05	-.17**	.12*	.30***	.45***	.48***	.39***	-.20***	.70***		
(12) Youth total problems	.07	.07	-.18**	.13*	.34***	.43***	.46***	.35***	-.20***	.91***	.93***	
Mean	NA	NA	NA	NA	1.47	1.35	1.39	1.51	2.64	11.12	10.39	21.53
Standard Deviation	NA	NA	NA	NA	.62	.51	.58	.71	.59	8.77	9.81	17.16
Cronbach's Alpha	NA	NA	NA	NA	.86	.82	.83	.79	NA	.89	.92	.94

Note

* $p < .05$, ** $p < .01$, *** $p < .001$

Additionally, using the unstandardized regression estimates, each point increase in the five-point measure of overt conflict reported by youth resulted in an increase of 3.7 problem behaviors by youth. Each point increase in the six-point measure of covert conflict reported by youth resulted in an increase of 11.8 problem behaviors by youth.

Youth Appraisal: Self-Blame

Total Problem Behaviors

The first sets of regression equations were calculated to estimate the role self-blame played in the established relationships between hostile interparental conflict styles and youth reports of total problem behavior. Youth reports of overt and covert conflict between parents were associated positively with youth report of self-blame net of other variables in the model (Beta = .13, $p < .01$ and Beta = .64, $p < .001$, respectively). Youth perceived self-blame were associated positively with youth total problem behaviors net of other variables in the model (Beta = .31, $p < .001$) and accounted for an additional 5% of the variance in total problem behaviors ($F_{\Delta} = 21.22$, $p < .001$). Each point increase in the four-point measure of self-blame resulted in an increase of nine problem behaviors by youth.

Mediating results of self-blame. Youth perceived self-blame mediated the association between youth perceptions of overt and covert conflict styles and their self-reports of problem behaviors (see Table 2). Self-blame fully mediated

Table 2

Hierarchical Regression Analysis of Youth Reports of Interparental Conflict Styles, Self-Blame, and Total Problem Behaviors - Mediating Results

	Total Problem Behaviors					
	Background Block 1		Conflict Styles Block 2		Self-Blame Block 3	
	β	b	Standard error	β	b	Standard error
Youth gender	.08	2.89	1.85	.09	2.99	1.67
Youth age	.11	1.84	.97	.10*	1.82	.87
Parent's marital status	-.16**	-8.41	2.82	-.12*	-6.16	2.56
Family economic hardship	.12*	5.97	2.87	.03	1.66	2.66
Overt conflict style				.13*	3.71	1.59
Covert conflict style				.35***	11.84	1.92
Self-blame				.31***	9.07	1.97
Total R ² (%)	.06***			.24*		
R ² change (%)	.06***			.18***		

Note. N = 337. Youth gender is coded "0" for girls and "1" for boys. Parent's marital status is coded "0" for living with mother only and "1" for living with both parents. Family economic hardship is coded "0" for paid lunch and "1" for reduced or free lunch.

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

the weak association between overt conflict and total problem behaviors net of other variables in the model. The Beta for overt conflict dropped from .13 ($p < .05$) to .10 ($p = .09$); $F_{\Delta} = 21.22$ ($p < .001$).

Follow-up analyses, including moderated mediation and the use of Sobel's equation (refer to chapter 2 for a more detailed discussion of these processes), indicated that this path was significant for boys [$t(146) = 2.37$, $p < .01$], but not for girls [$t(189) = 1.58$, $p > .05$]. It also was significant for youth living in families with married parents [$t(293) = 2.25$, $p < .01$], but not for those who lived with their divorced mothers [$t(42) = 1.72$, $p > .05$]. The path was similar for pre- and early adolescent youth, and for poor and less poor families (see Appendix C for detailed calculations).

Youth perceived self-blame partially mediated the moderate association between interparental covert conflict and total problem behaviors. The relationship between covert conflict style and self-blame was particularly strong net of other variables in the model (Beta = .64, $p < .001$). The Beta for covert conflict style dropped from .35 ($p < .001$) to .15 ($p < .001$); $F_{\Delta} = 21.22$ ($p < .001$). Follow-up analyses indicated that this pathway described equally well boys and girls, pre- and early adolescents, youth who lived with mothers only and those who lived with both parents, and poor and less poor families.

Moderating results of self-blame. Youth perceived self-blame did not moderate the association between youth reports of overt conflict and total problem behaviors nor the association between youth reports of covert conflict and total problem behaviors (see Table 3).

Table 3
Hierarchical Regression Analysis of Youth Reports of Interparental Conflict Styles, Self-Blame, and Problem Behaviors - Moderating Results

	Total problem behaviors		Externalizing problem behaviors		Internalizing problem behaviors	
	ΔF	R^2	ΔF	R^2	ΔF	R^2
Block 1						
Youth gender, youth age, parent's marital status, family economic hardship	5.02**	.06	7.02***	.08	3.47**	.04
Block 2						
Overt conflict style, covert conflict style, self-blame	34.35**	.23	21.77***	.16	35.58***	.24
Block 3						
Overt x self-blame	.65	.00	.16	.00	1.29	.01
Covert x self-blame						
Total R^2		.29		.24		.28
Total F		14.47***		10.94***		14.19***
		β		β		β
Block 1:						
Youth gender		.10*		.19***		.01
Youth age		.10*		.10*		.07
Parent's marital status		.03		-.13**		-.11*
Family economic hardship		-.13**		.03		.02
Block 2:						
Overt conflict style		.17		.15		.16
Covert conflict style		.05		.03		.06
Self-blame		.30***		.24***		.31***
Block 3:						
Overt x self-blame		.12		.07		.15
Covert x self-blame		-.09		-.01		-.14

Note. $N = 337$. Youth gender is coded "0" for girls and "1" for boys. Parent's marital status is coded "0" for living with mother only and "1" for living with both parents. Family economic hardship is coded "0" for paid lunch and "1" for reduced or free lunch. The coefficients reported are the standardized beta weights from the final equation.

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

Externalizing Problem Behaviors

A second set of regression equations was calculated to estimate the role self-blame plays in the relationship between interparental conflict styles and youth reports of externalizing problem behaviors. Youth reports of self-blame were associated positively with youth externalizing problems net of other variables in the model (Beta = .24, $p = .001$), and accounted for 3% of the variance in youth externalizing problem behaviors [$F_{\Delta} = 12.1$, $p < .001$]. Each point increase in the four-point measure of self-blame resulted in an increase of 3.6 externalizing problem behaviors by youth.

Mediating results of self-blame. Youth perceived self-blame mediated the associations between youth reports of overt and covert conflict styles and their self-reports of externalizing problem behaviors (see Table 4). Self-blame served as a partial mediator in the association between overt conflict style and externalizing problem behaviors net of other variables in the model. The Beta for overt conflict style dropped from .17 ($p < .01$) to .14 ($p < .05$), $F_{\Delta} = 12.10$ ($p < .01$).

Follow-up analyses indicate that, in terms of youth gender, this path was significant for boys [$t(146) = 2.05$, $p < .01$], but not for girls [$t(189) = 1.3$, $p > .05$] (see Appendix C for detailed calculations). The path described equally well pre- and early adolescents, youth living with their mother only and those living with both parents, and poor and less poor families.

Youth perceived self-blame fully mediated the association between a covert style between parents and youth reports of their own externalizing problem

Table 4

Hierarchical Regression Analysis of Youth Reports of Interparental Conflict Styles, Self-Blame, and Externalizing Problem Behaviors - Mediating Results

	Externalizing Problem Behaviors								
	Background Block 1			Conflict Styles Block 2			Self-Blame Block 3		
	β	b	Standard error	β	b	Standard error	β	b	Standard error
Youth gender	.19***	3.14	.93	.18***	3.17	.87	.19***	3.30	.86
Youth age	.12*	1.04	.49	.11*	1.02	.46	.11*	.96	.45
Parent's marital status	-.16**	-4.19	1.43	-.12*	-3.18	1.34	-.14**	-3.56	1.32
Family economic hardship	.11*	2.93	1.45	.04	.93	1.39	.03	.80	1.37
Overt conflict style				.17**	2.43	.83	.14*	2.00	.83
Covert conflict style				.25***	4.23	1.00	.09	1.55	1.25
Self-blame							.24***	3.62	1.04
Total R ² (%)	.08***			.20***			.23***		
R ² change (%)	.08***			.12***			.03***		

Note. $N = 337$. Youth gender is coded "0" for girls and "1" for boys. Parent's marital status is coded "0" for living with mother only and "1" for living with both parents. Family economic hardship is coded "0" for paid lunch and "1" for reduced or free lunch.

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

behaviors net of other variables in the model. The Beta for covert conflict dropped from .25 ($p < .001$) to .09 ($p = .22$); $F_{\Delta} = 12.10$ ($p < .01$). Follow-up analyses indicated that this pathway was significant for boys [$t(146) = 3.86$, $p < .001$] but not for girls [$t(189) = 1.6$, $p > .05$]. The path described equally well pre- and early adolescents, youth who lived with both parents and those who lived with their mothers only, and for poor and less poor youth (see Appendix C for detailed calculations).

Moderating results of self-blame. The relationships between youth reports of overt and covert conflict between parents and their externalizing problem behaviors were not moderated by youth perceptions of self-blame (see Table 3).

Internalizing Problem Behaviors

Next, the role self-blame plays in explaining the association between hostile conflict styles between parents and internalizing problem behaviors was explored. An overt conflict style between parents did not predict youth reports of their internalizing problem behaviors (Beta = .08, $p = .16$). Youth reports of self-blame were associated with internalizing problems net of other variables in the model (Beta = .32, $p < .001$), and accounted for an additional 5% of the variance in internalizing problem behaviors ($F_{\Delta} = 23.12$, $p < .001$). Each point increase in the four-point self-blame measure resulted in an increase of 5.5 internalizing problem behaviors by youth.

Mediating results of self-blame. Because no relationship between overt conflict and youth internalizing problem behaviors was found, mediating analyses were not conducted. Youth perceived self-blame partially mediated the

relationship between covert conflict and internalizing problem behaviors net of other variables in the model (see Table 5). The Beta weight for covert conflict dropped from .39 ($p < .001$) to .19 ($p < .01$); $F_{\Delta} = 23.12$ ($p < .001$). Follow-up analyses indicated that this pathway described equally well boys and girls, pre- and early adolescents, youth living with both parents and those living with mothers only, and poor and less poor youth.

Moderating results of self-blame. Youth perceptions of self-blame did not moderate the association between youth reports of covert conflict and internalizing problem behaviors (see Table 3).

Youth Appraisal: Perceived Threat

Total Problem Behaviors

Next, the role of youth perceived threat was considered in explaining the relationship between hostile conflict styles and total problem behaviors. Youth reports of overt and covert conflict styles were associated positively with their reports of perceived threat net of other variables in the model (Beta = .21, $p < .001$ and Beta = .43, $p < .001$, respectively). Youth reports of perceived threat were associated positively with their self-reports of total problem behaviors net of other variables in the model (Beta = .15, $p < .01$), and accounted for an additional 2% of the variance in total problem behaviors. Each increase in the three-point measure of perceived threat resulted in an increase of 3.66 problem behaviors as reported by youth.

Table 5

Hierarchical Regression Analysis of Youth Reports of Interparental Conflict Styles, Self-Blame, and Internalizing Problem Behaviors - Mediating Results

Internalizing Problem Behaviors									
	Background Block 1			Conflict Styles Block 2			Self-Blame Block 3		
	β	b	Standard error	β	b	Standard error	β	b	Standard error
Youth gender	-.01	-.25	1.07	.01	-.17	.96	-.01	-.11	.93
Youth age	.08	.77	.56	.08	.80	.50	.08	.79	.48
Parent's marital status	-.14**	-4.22	1.63	-.10*	-2.99	1.48	-.10*	-2.89	1.43
Family economic hardship	.10	3.04	1.63	.03	.73	1.53	.04	1.23	1.53
Overt conflict style				.08	1.29	.92	.03	.51	.90
Covert conflict style				.39***	7.61	1.11	.19**	3.67	1.35
Self-blame							.32***	5.45	1.13
Total R ² (%)	.04**			.22***			.28***		
R ² change (%)	.04**			.18***			.05**		

Note. N = 337. Youth gender is coded "0" for girls and "1" for boys. Parent's marital status is coded "0" for living with mother only and "1" for living with both parents. Family economic hardship is coded "0" for paid lunch and "1" for reduced or free lunch.

*p < .05. **p < .01. ***p < .001.

Mediating results of perceived threat. Youth perceived threat mediated the association between youth reports of overt and covert conflict and total problem behaviors (see Table 6). Perceived threat fully mediated the weak association between an overt conflict style and total problem behaviors net of other variables in the model. The Beta for overt conflict dropped from .13 ($p < .05$) to .10 ($p = .08$); $F_{\Delta} = 6.60$ ($p < .01$). Follow-up analyses indicated that this pathway described equally well boys and girls, pre- and early adolescents, youth who lived with mothers only and those who lived with both parents, and poor and less poor families.

Youth perceived threat partially mediated the relationship between their reports of interparental covert conflict and total problem behaviors net of other variables in the model (see Table 6). The Beta dropped from .35 ($p < .001$) to .29 ($p < .001$); $F_{\Delta} = 6.60$ ($p < .01$). Follow-up analyses showed that this pathway was significant for less poor youth [$t(292) = 8.8$, $p < .001$], but not for poor youth [$t(43) = .65$, $p > .05$]. The path was similar for boys and girls, pre- and early adolescent youth, and for youth living in married families and those living with divorced mothers (see Appendix C for detailed calculations).

Moderating results of perceived threat. Youth perceptions of threat did not moderate the relationships between the conflict styles and youth reports of total problem behaviors (see Table 7).

Externalizing Problem Behaviors

The role of youth perceived threat was examined in explaining the association between youth reports of hostile conflict between parents and their

Table 6

Hierarchical Regression Analysis of Youth Reports of Interparental Conflict Styles, Perceived Threat, and Total Problem Behaviors - Mediating Results

	Total Problem Behaviors								
	Background Block 1			Conflict Styles Block 2			Perceived Threat Block 3		
	β	b	Standard error	β	b	Standard error	β	b	Standard error
Youth gender	.08	2.89	1.85	.09	2.99	1.67	.09	3.23	1.66
Youth age	.11	1.84	.97	.10*	1.82	.87	.12*	2.09	.87
Parent's marital status	-.16**	-8.41	2.82	-.12*	-6.16	2.56	-.12*	-6.32	2.54
Family economic hardship	.12*	5.97	2.87	.03	1.66	2.66	.03	1.50	2.64
Overt conflict style				.13*	3.71	1.60	.10	2.82	1.62
Covert conflict style				.35***	11.84	1.92	.29***	9.63	2.09
Perceived threat							.15**	3.66	1.42
Total R ² (%)	.06***			.24***			.25***		
R ² change (%)	.06***			.18***			.01*		

Note: N = 337. Youth gender is coded "0" for girls and "1" for boys. Parent's marital status is coded "0" for living with mother only and "1" for living with both parents. Family economic hardship is coded "0" for paid lunch and "1" for reduced or free lunch.

*p < .05. **p < .01. ***p < .001.

Table 7
Hierarchical Regression Analysis of Youth Reports of Interparental Conflict Styles, Perceived Threat, and Problem Behaviors - Moderating Results

	Total problem behaviors			Externalizing problem behaviors			Internalizing problem behaviors		
	ΔF	R^2		ΔF	R^2		ΔF	R^2	
Block 1									
Youth gender, youth age, parent's marital status, family economic hardship	5.02**	.06		7.02***	.08		3.46**	.04	
Block 2									
Overt conflict style, covert conflict style, perceived threat	28.34***	.19		17.47***	.13		31.39***	.21	
Block 3									
Overt x perceived threat	1.22	.01		1.00	.01		1.07	.01	
Covert x perceived threat									
Total R^2		.26			.24			.26	
Total F		12.52***			9.63***			12.67***	
			β			β			β
Block 1:									
Youth gender		.10*			.18**			.00	
Youth age		.12*			.12*			.10*	
Parent's marital status		-.12*			-.12*			.02	
Family economic hardship		.03			.04			-.10*	
Block 2:									
Overt conflict style		.21*			.28*			.11	
Covert conflict style		.35**			.25			.38**	
Perceived threat		.14*			.05			.21**	
Block 3:									
Overt x perceived threat		-.12			-.13			-.09	
Covert x perceived threat		-.07			-.04			-.09	

Note. N = 337. Youth gender is coded "0" for girls and "1" for boys. Parent's marital status is coded "0" for living with mother only and "1" for living with both parents. Family economic hardship is coded "0" for paid lunch and "1" for reduced or free lunch. The coefficients reported are the standardized beta weights from the final equation.

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

self-reports of externalizing problem behaviors. Youth perceived threat in the face of hostile conflict between parents was not associated with their reports of externalizing problem behaviors (Beta = .06, $p = .33$).

Mediating results of perceived threat. Youth perceived threat did not mediate the associations between overt or covert conflict and externalizing problem behaviors (see Table 8).

Moderating results of perceived threat. Perceived threat did not moderate the association between youth reports of interparental conflict styles and externalizing problem behaviors (see Table 7).

Internalizing Problem Behaviors

The role of perceived threat in explaining the relationship between hostile conflict between parents and youth internalizing problem behaviors was examined. As mentioned in the previous section discussing the role of youth self-blame, an overt conflict style was not associated with youth reports of internalizing problem behaviors (Beta = .08, $p = .16$). Youth reports of perceived threat were associated with internalizing problem behaviors net of the other variables in the model (Beta = .21, $p < .001$), accounting for 3% of the variance in internalizing problems. Each point increase in the three-point measure of perceived threat resulted in an increase of 2.9 problem behaviors by youth.

Mediating results of perceived threat. Because there was no relationship between overt conflict and youth internalizing problems, mediating analyses were not conducted. Youth perceived threat partially mediated the association between covert conflict and youth internalizing problem behaviors net of other

Table 8

Hierarchical Regression Analysis of Youth Reports of Interparental Conflict Styles, Perceived Threat, and Externalizing Problem Behaviors - Mediating Results

	Externalizing Problem Behaviors							
	Background Block 1			Conflict Styles Block 2			Perceived Threat Block 3	
	β	b	Standard error	β	b	Standard error	β	Standard error
Youth gender	.18***	3.14	.93	.18***	3.17	.877	.18***	3.21
Youth age	.12	1.04	.49	.11*	1.02	.46	.12*	1.89
Parent's marital status	-.16**	-4.20	1.45	-.12*	-3.18	1.34	-.12*	1.34
Family economic hardship	.11*	2.93	1.45	.04	.93	1.39	.04	1.39
Overt conflict style				.17**	2.43	.83	.16**	2.25
Covert conflict style				.25***	4.23	1.00	.22***	3.79
Perceived threat							.06	.72
Total R ² (%)	.08***			.20***			.20***	
R ² change (%)	.08***			.12***			.00*	

Note. N = 337. Youth gender is coded "0" for girls and "1" for boys. Parent's marital status is coded "0" for living with mother only and "1" for living with both parents. Family economic hardship is coded "0" for paid lunch and "1" for reduced or free lunch.

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

variables in the model (see Table 9). The Beta associated with covert conflict dropped from .39 ($p < .001$) to .30 ($p < .001$); $F_{\Delta} = 12.96$ ($p < .001$). Follow-up analyses revealed that this path was significant for less poor youth [$t(292) = 3.35$, $p < .001$], but not for poor youth [$t(43) = .64$, $p > .05$]. The pathway described equally well boys and girls, pre- and early adolescent youth, and youth who lived with both parents and those who lived with mothers only (see Appendix C for detailed calculations).

Moderating results of perceived threat. The association between youth reports of covert conflict and their internalizing problem behaviors was not moderated by youth perceived threat (see Table 7).

Youth Appraisal: Perceived Resolution

The final youth appraisal variable considered in this study was perceived resolution of interparental conflict. Youth perceived resolution did not predict youth reports of total problem behaviors (Beta = .05, $p = .40$), externalizing problem behaviors (Beta = .05, $p = .44$), or internalizing problem behaviors (Beta = .05, $p = .43$).

Total, Externalizing, and Internalizing Problem Behaviors

Mediating results of perceived resolution. Youth perceived resolution did not mediate the associations between youth reports of an overt conflict style and total, externalizing, or internalizing problem behaviors. Similarly, perceived resolution did not mediate the associations between covert conflict and total, externalizing, or internalizing problem behaviors (see Tables 10, 11, and 12).

Table 9

Hierarchical Regression Analysis of Youth Reports of Interparental Conflict Styles, Perceived Threat, and Internalizing Problem Behaviors - Mediating Results

	Internalizing Problem Behaviors					
	Background Block 1			Conflict Styles Block 2		
	β	b	Standard error	β	b	Standard error
Youth gender	-.01	-.25	1.07	-.01	-.17	.96
Youth age	.08	.80	.56	.08	.80	.50
Parent's marital status	-.14**	-4.22	1.63	-.10*	-3.00	1.48
Family economic hardship	.10	3.04	1.66	.03	.73	1.54
Overt conflict style				.08	1.29	.92
Covert conflict style				.39***	7.61	1.11
Perceived threat				.21***	2.93	.81
Total R ² (%)	.04**			.22***		
R ² change (%)	.04**			.18***		

Note. N = 337. Youth gender is coded "0" for girls and "1" for boys. Parent's marital status is coded "0" for living with mother only and "1" for living with both parents. Family economic hardship is coded "0" for paid lunch and "1" for reduced or free lunch. ^a Tolerance level too low to interpret reliably.

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

Table 10

Hierarchical Regression Analysis of Youth Reports of Interparental Conflict Styles, Perceived Resolution, and Total Problem Behaviors - Mediating Results

	Total Problem Behaviors					
	Background Block 1			Conflict Styles Block 2		
	β	b	Standard error	β	b	Standard error
Youth gender	.08	2.89	1.85	.09	2.99	1.67
Youth age	.10	1.83	.97	.10*	1.82	.87
Parent's marital status	-.16**	-8.41	2.82	-.12*	-6.16	2.56
Family economic hardship	.12*	5.97	2.87	.03	1.66	2.66
Overt conflict style				.13*	3.71	1.60
Covert conflict style				.35***	11.84	1.92
Perceived resolution						
				.05	1.42	1.66
Total R ² (%)	.06**			.24***		
R ² change (%)	.06**			.18***		

Note. N = 337. Youth gender is coded "0" for girls and "1" for boys. Parent's marital status is coded "0" for living with mother only and "1" for living with both parents. Family economic hardship is coded "0" for paid lunch and "1" for reduced or free lunch.

*p < .05. **p < .01. ***p < .001.

Table 11

Hierarchical Regression Analysis of Youth Reports of Interparental Conflict Styles, Perceived Resolution, and Externalizing Problem Behaviors - Mediating Results

	Externalizing Problem Behaviors					
	Background Block 1		Conflict Styles Block 2		Perceived Resolution Block 3	
	β	b Standard error	β	b Standard error	β	b Standard error
Youth gender	.18***	3.14 .93	.18***	3.17 .87	.18***	3.13 .87
Youth age	.12*	1.04 .49	.11*	1.02 .46	.11*	1.00 .46
Parent's marital status	-.16**	-4.19 1.43	-.12*	-3.18 1.34	-.13**	-3.41 1.38
Family economic hardship	.11*	2.93 1.45	.04	.93 1.39	.04	.91 1.39
Overt conflict style			.17**	2.43 .83	.18**	2.57 .85
Covert conflict style			.25***	4.23 1.00	.26***	4.46 1.05
Perceived resolution					.05	.66 .87
Total R ² (%)	.08***		.20***		.20***	
R ² change (%)	.08***		.12***		.00	

Note. N = 337. Youth gender is coded "0" for girls and "1" for boys. Parent's marital status is coded "0" for living with mother only and "1" for living with both parents. Family economic hardship is coded "0" for paid lunch and "1" for reduced or free lunch.

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

Table 12

Hierarchical Regression Analysis of Youth Reports of Interparental Conflict Styles, Perceived Resolution, and Internalizing Problem Behaviors - Mediating Results

	Internalizing Problem Behaviors							
	Background Block 1			Conflict Styles Block 2			Perceived Resolution Block 3	
	β	b	Standard error	β	b	Standard error	β	Standard error
Youth gender	-.01	-.25	1.07	-.01	-.17	.96	-.01	.97
Youth age	.08	.80	.56	.08	.80	.50	.08	.50
Parent's marital status	-.14**	-4.22	1.63	-.10*	-3.00	1.48	-.11*	1.52
Family economic hardship	.10	3.04	1.66	.03	.73	1.54	.02	1.54
Overt conflict style				.08	1.29	.92	.09	.94
Covert conflict style				.39***	7.61	1.11	.41***	1.16
Perceived resolution							.05	.96
Total R ² (%)	.04**			.22***			.22***	
R ² change (%)	.04**			.18***			.00	

Note. N = 337. Youth gender is coded "0" for girls and "1" for boys. Parent's marital status is coded "0" for living with mother only and "1" for living with both parents. Family economic hardship is coded "0" for paid lunch and "1" for reduced or free lunch.

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

Moderating results of perceived resolution. Youth perceptions of resolution did not moderate any of the relationships between hostile conflict styles and total, externalizing, or internalizing problem behaviors (see Table 13).

In summary, based on these results, youth appraisals acted as mediators, not moderators, in explaining the relationship between hostile interparental conflict and youth problem behaviors. Self-blame mediated five of the six examined relationships between interparental conflict styles and youth problem behaviors. Perceived threat mediated three of the six tested relationships. Perceived resolution did not serve a mediating role in any of the examined relationships. A pictorial summary of the results can be found in Appendix D.

Table 13
Hierarchical Regression Analysis of Youth Reports of Interparental Conflict Styles, Perceived Resolution, and Problem Behaviors - Moderating Results

	Total problem behaviors			Externalizing problem behaviors			Internalizing problem behaviors		
	ΔF	R^2		ΔF	R^2		ΔF	R^2	
Block 1									
Youth gender, youth age, parent's marital status, family economic hardship	5.02 ^{**}	.06		7.02 ^{***}	.08		3.46 ^{**}	.04	
Block 2									
Overt conflict style, covert conflict style, perceived resolution	25.92 ^{***}	.18		17.34 ^{***}	.13		26.30 ^{***}	.19	
Block 3									
Overt x perceived resolution	1.37	.01		.17	.00		2.82	.01	
Covert x perceived resolution									
Total R^2		.25			.21			.24	
Total F		11.71 ^{***}			9.35 ^{***}			11.40 ^{***}	
			β			β			β
Block 1:									
Youth gender		.08			.18 ^{***}				-.01
Youth age		.10 [*]			.11 [*]				.08
Parent's marital status		-.12 [*]			-.13 ^{**}				-.10
Family economic hardship		.04			.04				.03
Block 2:									
Overt conflict style		.20 [*]			.19 [*]				.18 [*]
Covert conflict style		.30 ^{***}			.23 ^{**}				.31 ^{***}
Perceived resolution		.05			.04				.05
Block 3:									
Overt x perceived resolution		-.09			-.02				-.14 ^a
Covert x perceived resolution		.11			.04				.16 ^a

Note. N = 337. Youth gender is coded "0" for girls and "1" for boys. Parent's marital status is coded "0" for living with mother only and "1" for living with both parents. Family economic hardship is coded "0" for paid lunch and "1" for reduced or free lunch. The coefficients reported are the standardized beta weights from the final equation.

^a The change in F associated with this interaction term was non-significant. Additionally, follow-up analysis indicated this is not a significant moderating effect.

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

IV. Discussion

The purpose of this study was to examine the role of selected youth appraisal variables in the established relationship between hostile interparental conflict styles and youth problem behaviors. The findings support the notion that youth appraisals are important to consider in the context of interparental conflict, particularly when assessing the impact the conflict has on youth. A primary focus of the study was to compare models regarding whether youth appraisals serve as moderators or mediators of the effects hostile interparental conflict has on youth problem behaviors. The findings clearly support a mediational role for youth appraisals.

The findings of this study suggest that youth appraisals account, in part, for the association between hostile conflict between parents and youth problem behaviors. Specifically, when parents fight in hostile ways, youth make certain appraisals regarding the conflict, including whether they are to blame for it or if they feel threatened by the conflict.

The finding of a mediational role for youth appraisals is in contrast to a similar study that directly compared mediating and moderating models (Kerig, 1998). Kerig (1998) found that self-blame and perceived threat moderated the association between interparental conflict and youth problem behaviors. In theory, both models make intuitive sense. It could be that the level of conflict is a key to determining when or if youth appraisals act as moderators or mediators. For example, youth appraisals might be more likely to interact with interparental

conflict when the conflict is frequent, violent, and/or extreme. Further research will help clarify youth appraisals' roles in this context.

Two of the three appraisal variables mediated the association between hostile conflict styles and youth problem behaviors—self-blame and perceived threat. An attempt was made to provide a complete and detailed assessment of these processes by examining these relationships across four contextual variables—youth gender, youth age, parental marital status, and family economic hardship. This type of slope comparison across groups examines differences in relationships rather than the more often reported mean differences between groups. The results of these comparisons prevent the drawing of cut-and dried conclusions, but instead point to a complicated pattern of results. Differences in relationships across these contextual variables will be discussed in turn as each appraisal variable is considered.

Self-Blame

Self-blame mediated the relationships between overt and covert conflict styles and total problem behaviors, between overt and covert conflict styles and externalizing problem behaviors, and between covert conflict and internalizing problem behaviors. Both overt and covert conflict styles were associated with youth feelings of self-blame, which in turn, were associated with problem behaviors. Before discussing each of these mediating models in detail, each of the links (e. g., conflict styles and self-blame, self-blame and problem behaviors) will be considered briefly.

The association between covert conflict and self-blame was particularly strong. Exposure to covert conflict interactions may create feelings of anxiety and confusion for youth. The triangling, resentment, and unspoken tensions that characterize covert conflict may lead to speculation about the cause or reason for the conflict, since often none is stated explicitly. This speculation by youth may lead them to blame themselves for parents' conflict rather than an outside factor or circumstance.

Overt conflict between parents also is associated with youth self-blame. This finding is in accordance with past research that has found an association between intense conflict and youth's blaming themselves (Grych & Fincham, 1993). Hostile arguments between parents might be about situations directly related to the children—such as discipline, schoolwork, or their leisure activities. When arguments are about topics not directly related to children, such as money or the marital relationship, youth may feel that their presence in the family exacerbates the problems. They may view themselves as a stressor in their parents' lives, leaving their parents more likely to argue and fight about other issues.

Youth who blame themselves for parental conflict put themselves at risk for problem behaviors. Past research has suggested that self-blame is more strongly associated with internalizing problem behaviors than externalizing problem behaviors (Grych & Fincham, 1992; Joseph et al., 1993). The findings of the present study evidence an association with both types of problem behaviors. Attribution theory suggests that youth who self-blame are likely to experience

more distress than children who blame their parents or an outside factor or circumstance (Grych & Fincham, 1990). Youth who blame themselves for parental conflict may feel guilty, ashamed, anxious, and/or helpless. These feelings may be internalized over time, leading to withdrawal, depression, or somatic problems. Another possibility is that self-blame may create feelings of anger in youth. This may be more likely if youth resent their parents for their fighting. This anger may result in aggression toward siblings and peers, especially if appropriate emotion regulation or coping mechanisms are absent (Cummings & Davies, 1994).

All of the relationships mediated by self-blame were similar for pre- and early adolescent youth and for poor and less poor youth. No previous study has examined family economic status in this context. The results of the current study suggest that self-blame operates in similar ways despite the economic status of the family. In terms of youth age, the finding of no significant effect for age of child is in accord with past research that examined self-blame in the context of interparental conflict and youth problem behaviors (Kerig, 1998; Kerig et al., in press). An interesting next step would be to consider self-blame in younger children who are more likely to be at a developmental level marked by more egocentric thinking than pre- or early adolescents.

The relationship between an overt conflict style between parents and total problem behaviors was mediated by self-blame for youth living in married families but not for those living with their mothers only. A plausible explanation for this is that children in married families might be more exposed to overt conflict. Simply

by virtue of living with both parents all the time, they may hear and/or see more conflictual interactions that give rise to feelings of blame, particularly child-related conflicts. Children living with mothers only may not be in the presence of both parents very often, if at all, leaving them somewhat shielded from observing and/or hearing their parents' arguments.

An alternative explanation might be that children from maritally separated and/or divorced may have experienced more explanation from parents regarding the causes of their conflict. Specifically, separated and/or divorced parents will often try to make it clear to children that the marital problems, including interparental conflict, are not the fault of the child. Armed with this information, youth in these families may be less likely to self-blame in the face of subsequent conflict.

In terms of youth gender, previous research has found inconsistent results when examining the role of self-blame in the relationship between marital conflict and youth outcomes. In the current study, three of the models were significant for boys but not for girls. For boys, self-blame mediated the association between an overt conflict style and externalizing problem behaviors, between a covert conflict style and externalizing problem behaviors, and between a covert conflict style and total problem behaviors. For girls only, self-blame mediated the association between a covert conflict style and internalizing problem behaviors.

The paucity of research in this area makes it impossible to incorporate and explain these specific findings with regard to an accumulated body of evidence. This being the case, there are several ways that these gender differences can be

discussed by examining the separate links and variables in the statistically significant models.

Previous research examining both self-blame and perceived threat has found that interparental conflict is associated with perceived threat in boys, and self-blame in girls (Cummings et al., 1994; Kerig, 1996, 1998). This pattern was not upheld in this study. Self-blame was associated with covert conflict for boys and girls, and with overt conflict for boys only. The inclusion of covert conflict in this study could partially account for this different pattern of findings.

It is interesting to note that the problem behavior most affected for boys was externalizing problem behaviors and for girls was internalizing problem behaviors, regardless of type of conflict style. According to Fincham (1998), boys and girls may be exposed to different models during interparental conflict episodes. Boys may act out more than girls because fathers may be more aggressive than mothers in the face of overt conflict. With respect to girls, they may internalize the model provided by mother as an emotional caregiver for the family (Kerig et al., in press), and exposure to a stressor such as interparental conflict may lead to worry about their role in maintaining the well-being of the family. Boys have been described as taking an action-oriented approach to stressors whereas girls have been described as internalizing their distress (Zahn-Waxler, 1993).

Another contention in the literature regarding differential reactions from boys and girls is that boys are less shielded from interparental conflict than girls (Hetherington, Stanley-Hagan, & Anderson, 1989; Kerig, 1998). If this is the

case, and boys are exposed to more conflict, they have more opportunity to develop perceptions of self-blame. Likewise, if they are more likely to act rather than internalize in the face of distressing feelings like self-blame, externalizing problems may result. It is clear that global generalizations cannot be made in terms of youth gender and self-blame, and how they operate in explaining the associations between conflict styles and youth problem behaviors.

Perceived Threat

Perceived threat mediated the relationships between overt and covert conflict styles and total problem behaviors, and the relationship between covert conflict between parents and internalizing problem behaviors. This suggests that youth feel threatened when their parents fight in either an overt or covert manner. They may feel physically threatened or emotionally threatened; for example, worried about a possible divorce. These feelings of threat, in turn, are associated with total problem behaviors (externalizing and internalizing problem behaviors) and internalizing problem behaviors. It is interesting to note that externalizing problem behaviors, in and of themselves, were not a statistically significant dependent variable in these models. Kerig and associates (in press) have suggested that, when youth feel threatened by overt conflict between parents, they purposefully don't act out behaviorally because they fear a spillover effect from the marital dyad into the parent-youth dyad.

The finds of the present study are in accord with past correlational research examining the mediating role of perceived threat (Grych et al., 1992;

Cummings et al., 1994). Both of these studies found perceived threat mediated the relationship between a measure of interparental conflict and internalizing problem behaviors. In contrast to the present study, Kerig (1998) found perceived threat served a moderating rather than a mediating function. Interestingly, the dependent variables associated with significant findings in that study were the same as the current one—total problem behaviors and internalizing problem behaviors.

Another interesting finding of the present study was the association between a covert conflict style and youth perceived threat. There seems to be something about the processes involved in triangling the youth into the parental conflict that is associated with feelings of threat in youth. Perhaps the denigration associated with covert conflict leads youth to feel the marriage is in jeopardy or the verbal insults will escalate to physical violence. It would be interesting for future research to examine this association more closely, attempting to determine what aspects of the covert conflict process are associated with what types of threatening feelings in youth.

In accordance with previous work, youth perceptions of threat seem to be more strongly associated with internalizing problem behaviors than externalizing problem behaviors. The development of internalizing symptoms may be a result of the anxiety, worry, and preoccupation underlying youth's appraisals of threat (Fincham, 1998). In addition, youth appraisals of threat might increase problem behaviors by intensifying emotional reactivity (Davies & Cummings, 1994; Grych & Fincham, 1990). Emotional arousal in youth, especially in the absence of

appropriate emotion regulation skills, may lead to aggressive behavior in youth in an attempt to diffuse these feelings (Katz & Gottman, 1993).

Perceived threat mediated the association between covert conflict and total problem behaviors and covert conflict and internalizing problem behaviors for boys and girls, pre- and early adolescents, youth living with both parents and youth living with mothers only, and youth living in less poor homes. These relationships were not maintained for poor youth. According to these results, poor youth did not feel threatened in the face of covert conflict and therefore, did not exhibit problem behaviors in response to threat.

Since no previous study has considered family economic status in this context, there isn't past research available to illuminate potential reasons for this finding. It could be there is something about the dynamics involved in covert conflict that leave poor youth not threatened by it. More likely, this finding might be attributable to a lack of the statistical power needed to uncover mediating effects (Aiken & West, 1991). The sample size for the poor youth group dropped considerably, to 44 youth. Future research will shed light on whether or not the finding regarding family economic status in this context is valid or due to lack of statistical power.

Perceived Resolution

Perceived resolution did not serve as a mediator or moderator in the association between interparental conflict styles and youth problem behaviors. Although it makes theoretical sense that conflict between parents, especially

overt conflict, might be associated with perceived resolution, and in turn, with youth outcomes, this study did not bear this out. Likewise, the level of resolution did not exacerbate or buffer the association between hostile conflict styles and youth problem behaviors in this sample of youth. Past research has supported indirectly a moderational role for perceived resolution (Cummings et al., 1994; Kerig, 1998).

In their theoretical piece, Grych and Fincham (1990) conceptualized resolution as one of several dimensions of conflict, rather than as an explanatory variable, as it was conceptualized in the present study. Perhaps future research addressing youth appraisals of interparental conflict should consider resolution in this manner.

A basic premise underlying this research was that the concept of marital conflict has been too broad and unspecified in previous research. Therefore, the notion of conflict styles was used in this research because recent research has suggested that specific patterns of interaction provide more specific information, above and beyond that provided by a more general construct, such as interparental disagreement (Buehler et al., 1998). In this vein, a strength of this study was the examination of a covert conflict style between parents, in addition to the more frequently studied overt conflict style.

The findings from this study suggest the importance of the continued study of covert conflict processes between parents. The use of covert conflict between parents was related to total, externalizing, and internalizing problem behaviors in this study. This result is similar to a rare study that assessed youth's feeling

caught in the middle of parental conflict (Buchanan, Maccoby, & Dornbusch, 1991). All of these associations between conflict styles and youth problem behaviors were mediated by self-blame or perceived threat, with the exception of the association between covert conflict and externalizing problem behaviors. Of the eight mediating models that were statistically significant, five had covert conflict style as the independent variable.

The paucity of research examining covert conflict processes points to the dubiousness researchers have had about its importance, and perhaps, the ability to accurately measure the ubiquitous nature of this type of conflict. The data collection process for this study suggested that youth clearly understood what triangling behaviors looked and felt like. Very few questions were asked requesting clarification or explanation. When parents' conflict management styles includes behaviors which include triangling, youth noticed and responded to these behaviors, placing them at risk for possible behavior problems.

The present study has practical value for therapists and clinicians working with families at risk. If the therapist has access to the entire family, one obvious focus of therapy might be on altering the spouses' hostile interactions. Parents should be encouraged to reduce the level of hostility, contempt, defensiveness, and criticizing in their fighting (Cummings & Davies, 1994; Gottman, 1994). If this strategy is unsuccessful, therapists should highlight the importance of insulating the children from hostile conflict interactions.

For youth exposed to covert conflict processes, it is important for parents to be sensitized to how their triangling behaviors affect their children. Therapists

could help parents learn how to keep children out of their relationship. In addition, it is important to instruct youth in covert processes, helping them to recognize when they are being inducted into interparental conflict. Strategies aimed at avoiding triangulation would be important for youth to learn (Buchanan et al., 1991).

Results from this study indicate that, in addition to the co-parental relationship, intervention directed at youth perceptions of parental conflict is an important focal point. Therapists can help youth learn to avoid blaming themselves and to accurately perceive the level of threat. The latter strategy might be particularly helpful when youth fear impending family dissolution when none is forthcoming. Youth who can avoid blaming themselves and reduce their level of perceived threat (if a true threat is not present) might be better able to protect themselves from the debilitating effects of parental hostility (Grych & Fincham, 1993).

Although this research adds to the extant literature in several ways, it is important to note several limitations and concerns of this research. In addition to youth appraisal variables, there are other potential mediators of the robust association between interparental conflict and youth problem behaviors that should be examined. Particularly important is to examine the effects of specialized aspects of parenting in mediating this association, including parental control, harsh discipline, and supportive parental behaviors.

In addition, Cummings and Davies (1994) have suggested an emotional security hypothesis to explain the association between marital conflict and youth

adjustment. The central tenet of their proposition is that children's concerns about their emotional security play a key role in their responses to marital conflict. Grych and Fincham (1990) have acknowledged the importance of affect in youth's processing of interparental conflict, but give it a more secondary role in their cognitive-contextual framework. It would be interesting to consider both affective and cognitive factors in future research.

The findings of this study are limited in their generalizability. The associations among interparental conflict, youth problem behaviors, and youth appraisals in African-American, Asian-American, and Mexican-American cannot be described by these results. In addition, the findings cannot be generalized to divorced, father custody families or remarried families. Research in these family types would be an invaluable addition to this body of literature.

The present study did not attempt to identify the major set of predictor variables for youth problem behaviors. Rather, its focus was on certain family stressors that affect youth appraisals and outcomes. The variables under consideration accounted for a significant amount of the variance in youth problem behaviors, but clearly, other factors not considered in this study are important to identify and study.

Specifically, further individual difference factors, family factors, and environmental factors need to be considered when attempting to identify what places youth at risk for the development of problem behaviors. For example, in terms of individual difference factors, child temperament is important to consider. Temperament differences can lead to differences in reactions to stressors and

may influence behavioral responses. Other family factors, including parent-child attachment, sibling relationships, and other aspects of the marital relationship, need to be considered when attempting to identify what puts youth at risk for the development of problem behaviors. Finally, neighborhood influences, such as the choice of one's peer group, could certainly be influential in whether or not a particular child or youth develops problem behaviors.

Three important issues need to be considered in future research. The first issue is to determine whether or not there are causal links between interparental conflict, youth appraisals, and youth problem behaviors. Longitudinal or experimental research is needed to address this concern. Because linkages between interparental conflict, youth appraisals, and youth problem behaviors are thought to unfold in a particular temporal order, it is important to study these phenomena across time (Harold & Conger, 1997). In addition, according to Harold and Conger (1997), longitudinal and experimental research would also improve upon a cross-sectional design in terms of reducing threats to internal validity.

Second, it remains unclear whether the associations between the variables under consideration in this study are affected by youth gender, age, parental marital status, and family economic status. Some of the findings of this study are different from those found in other research. It seems clear that the issues at hand are complicated, and future research needs to uncover patterns if they exist, especially with respect to gender and family economic status.

Finally, although youth are accurate reporters of their environments and behaviors, multiple reporters in future research might be beneficial. According to Simons and associates (1992), measuring all study variables from one source may result in inflated estimates of associations between constructs. Personality dispositions or emotional states may affect responses, so that correlations between variables are a function of respondent bias rather than substantive relationships between variables (Simons et al., 1992).

In an empirical test of the contention of respondent bias, Gerard and Buehler (in press) determined that the association between youth reports of poor parenting and their own reports of problem behaviors could not be explained by a hostile attribution bias held by youth (i. e., youth had negative beliefs about the world and social relationships). After the addition of the hostile bias attribution variable into the model, the association between poor parenting and problem behaviors barely changed. Thus, holding a negative bias doesn't necessarily mean that inflated estimates of associations will result.

In sum, the robust relationship between hostile interparental conflict and youth problem behaviors is worthy of further examination, especially determining why and how these two factors are linked. This study illuminated the importance of considering youth appraisals in this explanatory role. It indicated the importance of considering covert conflict in future research, in addition to the more often studied overt conflict between parents.

References

Achenbach, T. M. (1991). Manual for child behavior checklist and 1991 profile. Burlington, VT: University of Vermont, Department of Psychiatry.

Achenbach, T. M., & Edlebrock, C. (1987). Manual for the youth self-report and profile. Burlington, VT: University of Vermont, Department of Psychiatry.

Ahrons, C. R. (1981). The continuing coparental relationship between divorced spouses. American Journal of Orthopsychiatry, 51, 415-428.

Aiken, L. S., & West, S. G. (1991). Multiple regression: Testing and interpreting interactions. Newbury Park, CA: Sage.

Amato, P. R. (1993). Children's adjustment to divorce: Theories, hypotheses, and empirical support. Journal of Marriage and the Family, 55, 371-384.

Barber, B. K., & Olsen, J. A. (1997). Socialization in context: Connection, regulation, and autonomy in the family, school, and neighborhood, and with peers. Journal of Adolescent Research, 12, 287-315.

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

Bradbury, T. N., & Fincham, F. D. (1990). Attributions in marriage: Review and critique. Psychological Bulletin, 107, 3-33.

Buchanan, C. M., Maccoby, E. E., & Dornbusch, S. M. (1991). Caught between parents: Adolescents' experience in divorced homes. Child Development, 62, 1008-1029.

Buehler, C., Anthony, C., Krishnakumar, A., Stone, G., Gerard, J., & Pemberton, S. (1997). Interparental conflict and youth problem behaviors: A meta-analysis. Journal of Child and Family Studies, 6, 233-247.

Buehler, C., Krishnakumar, A., Anthony, C., Tittsworth, S., & Stone, G. (1994). Hostile interparental conflict and youth maladjustment. Family Relations, 43, 409-416.

Buehler, C., Krishnakumar, A., Stone, G., Anthony, C., Pemberton, S., Gerard, J., & Barber, B. K. (1998). Interparental conflict styles and youth problem behaviors: A two-sample replication study. Journal of Marriage and the Family, 60, 119-132.

Buehler, C., Tittsworth, S., Stone, G., Anthony, C., & Krishnakumar, A. (1994). The Family Life Study. Personal communication.

Buehler, C., & Trotter, B. (1990). Nonresidential and residential parents' perceptions of the former spouse relationship and children's social competence following marital separation: Theory and programmed intervention. Family Relations, 39, 395-404.

Camara, K. A., & Resnick, G. (1988). Interparental conflict and cooperation: Factors moderating children's post-divorce adjustment. In E. M. Hetherington & J. D. Aratesh (Eds.), Impact of divorce, single parenting, and stepparenting on children (pp. 169-195). Hillsdale, NJ: Erlbaum.

Christensen, A., Phillips, S., Glasgow, R. E., & Johnson, S. M. (1993). Parental characteristics and interactional dysfunction in families with child behavior problems: A preliminary investigation. Journal of Abnormal Child Psychology, 11, 153-166.

Compas, B. E. (1987). Coping with stress during childhood and adolescence. Psychological Bulletin, 101, 393-403.

Conger, R. D., Conger, K. J., Elder, G. H., Jr., Lorenz, F. O., Simons, R. L., & Whitbeck, L. B. (1992). A family process model of economic hardship and adjustment of early adolescent boys. Child Development, 63, 526-541.

Conger, R. D., Conger, K. J., Elder, G. H., Jr., Lorenz, F. O., Simons, R. L., & Whitbeck, L. B. (1993). Family economic stress and adjustment of early adolescent girls. Developmental Psychology, 29, 206-219.

Covell, K., & Abramovitch, R. (1987). Understanding emotions in the family: Children's and parents' attributions of happiness, sadness, and anger. Child Development, 58, 985-991.

Cummings, E. M., Ballard, M., El-Sheikh, & Lake, M. (1991). Resolution and child's responses to interadult anger. Developmental Psychology, 27, 462-470.

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

Cummings, E. M., Davies, P. T., & Simpson, K. S. (1994). Marital conflict, gender, and children's appraisals and coping efficacy as mediators of child adjustment. Journal of Family Psychology, 8, 141-149.

Cummings, E. M., Simpson, K. S., & Wilson, A. (1993). Children's responses to interadult anger as a function of information about resolution. Developmental Psychology, 29, 978-985.

Cummings, E. M., Vogel, D., Cummings, J., & El-Sheikh, M. (1989). Children's responses to different forms of anger between adults. Child Development, 60, 1392-1404.

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

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

Emery, R. E. (1982). Interparental conflict and the children of discord and divorce. Psychological Bulletin, 92, 310-330.

Emery, R. E., & O'Leary, K. D. (1982). Children's perceptions of marital discord and behavior problem of boys and girls. Journal of Abnormal Child Psychology, 10, 11-24.

Fauber, R. L., Forehand, R., Thomas, A. M., & Wierson, M. (1990). A mediational model of the impact of marital conflict on adolescent adjustment in intact and divorced families: The role of disrupted parenting. Child Development, 61, 1112-1123.

Fincham, F. D. (1998). Child development and marital relations. Child Development, 69, 543-574.

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

Gerard, J. M. & Buehler, C. (in press). Multiple risk factors in the family environment and youth problem behaviors. Journal of Marriage and the Family.

Gottman, J. M. (1994). What predicts divorce? The relationship between marital processes and marital outcomes. Hillsdale, NJ: Erlbaum.

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

Grych, J. H., & Fincham, F. D. (1993). Children's appraisals of marital conflict: Initial investigations of the cognitive-contextual framework. Child Development, 64, 215-230.

Grych, J. H., Seid, M., & Fincham, F. D. (1992). Assessing marital conflict from the child's perspective: The Children's Perception of Interparental Conflict Scale. Child Development, 63, 558-572.

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

Hetherington, E. M., Stanley-Hagan, M., & Anderson, E. R. (1989). Marital transitions: A child's perspective. American Psychologist, 44, 303-312.

Howes, P., & Markman, H. J. (1989). Marital quality and child functioning: A longitudinal investigation. Child Development, 60, 1044-1051.

Jenkins, J. M., & Smith, M. A. (1991). Marital disharmony and children's behavior problems: Aspects of a poor marriage that affect children adversely. Journal of Child Psychology and Psychiatry, 32, 793-810.

Joseph, S. A., Brewin, C. R., Yule, W., & Williams, R. (1993). Causal attribution and post-traumatic stress in adolescents. Journal of Child Psychology and Psychiatry, 34, 247-255.

Jouriles, E. N., Barling, J., & O'Leary, K. D. (1987). Ongoing postdivorce conflict and child disturbance. Journal of Abnormal Child Psychology, 15, 165-173.

Jouriles, E. N., Murphy, C. M., Farris, A. M., Smith, D. A., Richters, J. E., & Waters, E. (1991). Marital adjustment, parental disagreements about child rearing, and behavior problems in boys: Increasing the specificity of marital assessment. Child Development, 62, 1424-1433.

Katz, L. F., & Gottman, J. M. (1993). Patterns of marital conflict predict children's internalizing and externalizing behaviors. Developmental Psychology, 29, 940-950.

Katz, L. F., & Gottman, J. M. (1997). Buffering children from marital conflict and dissolution. Journal of Clinical Child Psychology, 26, 157-171.

Kerig, P. K. (1996). Assessing the links between marital conflict child development: The Conflicts and Problem-Solving Scales. Journal of Family Psychology, 10, 454-473.

Kerig, P. K. (1998). Moderators and mediators of the effects of interparental conflict on child adjustment. Journal of Abnormal Child Psychology, 26, 199-212.

Kerig, P. K., Fedorowicz, A. E., Brown, C. A., Patenaude, R. L., & Warren, M. (in press). When warriors are worriers: Gender and children's strategies for coping with interparental violence. Journal of Emotional Abuse.

Kurdek, L. A., & Berg, B. (1987). Children's beliefs about parental divorce scale: Psychometric characteristics and concurrent validity. Journal of Consulting and Clinical Psychology, 55, 712-718.

Lazarus, R. S., & Folkman, S. (1984). Stress, appraisal, and coping. New York, NY: Springer.

Lorian, R. P., Cowen, E. L., & Caldwell, R. A. (1975). Normative and parametric analyses of school maladjustment. American Journal of Community Psychology, 3, 291-301.

Maccoby, E. E. (1992). The role of parents in the socialization of children: A historical overview. Developmental Psychology, 28, 1006-1017.

MacKinnon-Lewis, C., Lamb, M. E., Arbuckle, B., Baradaran, L. P., & Volling, B. L. (1992). The relationship between biased maternal and filial attributions and the aggressiveness of their interactions. Development and Psychopathology, 4, 403-415.

Patterson, G. R. (1982). Coercive family processes. Eugene, OR: Castalia.

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

Reid, W., & Crisafulli, A. (1990). Marital discord and child behavior problems: A meta-analysis. Journal of Abnormal Child Psychology, 18, 105-117.

Rossmann, B. B. R., & Rosenberg, M. (1992). Family stress and functioning in children: The moderating effects of children's beliefs about their control over parental conflict. Journal of Child Psychology and Psychiatry, 33, 699-715.

Rutter, M. (1979). Maternal deprivation, 1972-1978: New findings, new concepts, new approaches. Child Development, 50, 283-305.

Rutter, M. (1983). Stress, coping, and development: Some issues and some questions. In N. Garmezy & M. Rutter (Eds.), Stress, coping, and development in children (pp. 1-41). New York: McGraw-Hill.

Shaw, D. S., & Emery, R. E. (1987). Chronic family adversity and school-age children's adjustment. Journal of the American academy of Child and Adolescent Psychiatry, 27, 200-206.

Simons, R. L., Lorenz, F. O., Conger, R. D., & Wu, C. (1992). Support from spouse as mediator and moderator of the disruptive influence of economic strain on parenting. Child Development, 63, 1282-1301.

Slater, C. M., & Hall, G. E. (Eds.). (1996). County and city extra annual metro city and county data book. Lanham, MD: Bernan.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (Ed.), Sociological methodology (pp. 290-312), San Francisco: Jossey-Bass.

Sweet, J. A., Bumpass, L. L., & Call, V. R. A. (1988). The design and content of the National Survey of Families and Households (Working Paper NSFH-1). Madison: University of Wisconsin, Center for Demography and Ecology.

Szinovacz, M. E., & Egley, L. C. (1995). Comparing one-partner and couple data on sensitive marital behaviors: The case of marital violence. Journal of Marriage and the Family, 57, 995-1010.

Trotter, B. B. (1989). Coparental conflict, competition, and cooperation and parents' perceptions of their children's social-emotional well-being following marital separation. Unpublished doctoral dissertation, The University of Tennessee, Knoxville.

Umberson, D., Anderson, K., Glick, J., & Shapiro, A. (1998). Domestic violence, personal control, and gender. Journal of Marriage and the Family, 60, 442-452.

U. S. Bureau of the Census (1996). County and city data books. Washington, DC: U. S. Government Printing Office.

Appendices

Appendix A: Factor Analysis Results

Table A-1

Questionnaire Item	Factor 1		Factor 2	
	Overt Conflict Style	Covert Conflict Style	Overt Conflict Style	Covert Conflict Style
Insult (show disrespect for) each other	0.82		0.45	
Call each other names	0.80		0.48	
Tell each other to shut up	0.77		0.44	
Yell at each other	0.73		0.53	
Threaten each other	0.69		0.41	
Push, slap, or hit each other ^a	0.57		0.40	
How often do you feel if you make one parent happy, you will upset the other?		0.46		0.73
How often does one of your parents try to get you to side with one of them?		0.47		0.72
How often do you feel caught in the middle when your parents fight?		0.40		0.71
How often do you feel torn between your parents?		0.38		0.71
How often do you feel like you have to take sides when your parents argue? ^a		0.52		0.67
How often does one of your parents ask you what the other one is thinking, feeling, or doing because they don't want to ask the other parent?		0.32		0.58
How often does one of your parents insult (show disrespect for) the other one when they are not there? ^a		0.49		0.49
How often does one of your parents send a message to the other one through you because they don't want to talk to the other parent? ^b		0.32		0.48

Note. N = 337.

^a Item dropped from further analyses because it didn't meet specified criteria.^b Item retained for further analyses for conceptual reasons.

Table A-2

Questionnaire Items	Factor 1 Overt Conflict Style	Factor 2 Frequency of Disagreement	Factor 3 Covert Conflict Style
Insult (Show disrespect for each other)	0.80	0.26	0.43
Call each other names	0.79	0.27	0.47
Tell each other to shut up	0.77	0.27	0.42
Threaten each other	0.72	0.16	0.41
Yell at each other	0.72	0.31	0.53
Push, slap, or hit each other ^a	0.60	0.17	0.40
Your mom's duties in the family	0.21	0.74	0.38
Your dad's duties in the family	0.21	0.70	0.40
Your (or one of your siblings) dress or grooming	0.17	0.69	0.27
Your dad's job	0.18	0.66	0.28
Your mom's job	0.37	0.64	0.38
Your (or one of your siblings) physical care	0.20	0.64	0.34
Your (or one of your siblings) behavior in public or at school	0.05	0.62	0.27
Money You (or one of your siblings) need	0.26	0.61	0.32
You (or one of your siblings) attending school or church functions	0.13	0.61	0.16
Money in general	0.35	0.58	0.34
You (or one of your siblings) behavior at home	0.06	0.56	0.20
Disciplining you (or one of your siblings)	0.22	0.53	0.28
How often do you feel if you make one parent happy, you will upset the other?	0.44	0.34	0.74
How often do you feel torn between your parents?	0.33	0.38	0.72
How often does one of your parents try to get you to side with one of them?	0.44	0.28	0.72
How often do you feel caught in the middle when your parents fight?	0.36	0.28	0.71
How often do you feel like you have to take sides when you parents argue? ^a	0.49	0.32	0.67
How often does one of your parents ask you what the other is thinking, feeling, or doing because they don't want to ask the other parent?	0.29	0.31	0.57
How often does one of your parents insult (show disrespect for) the other one when they aren't there? ^a	0.48	0.15	0.49
How often does one of your parents send a message to the other one through you because they don't want to talk to the other parent? ^b	0.33	0.25	0.47

Note. N = 337

^a Item dropped from further analysis because it didn't meet specified criteria.^b Item retained for further analysis for conceptual reasons.

Table A-3

Factor Analysis Results for Self-Blame and Perceived Threat

Questionnaire Item	Factor 1 Self-Blame	Factor 2 Perceived Threat
How often do you believe it is your fault when your parents fight?	0.87	0.45
How often do you feel you are to blame for your parents' arguments?	0.81	0.47
How often do you believe that your parents argue more when you are with them than when you are gone?	0.64	0.44
How often do you feel your parents would be happier if you hadn't been born?	0.62	0.42
When your parents fight, how often do you worry that your pet(s) might get hurt? ^a	0.41	0.41
When your parents fight, how often do you worry that something bad will happen to them?	0.46	0.82
How often do you get scared when your parents argue?	0.50	0.75
When your parents fight, how often do you worry they will get divorced?	0.35	0.65
When your parents fight, how often do you worry something bad will happen to you or our sister(s) or brother(s)? ^a	0.40	0.44

Note: N = 337.

^a Item dropped because it didn't meet specified criteria.

Appendix B: Item Analysis

Table B-1

Item Analysis for Interparental Conflict Style Variables

Questionnaire Item	Mean	Standard Deviation	Number of Cases
Overt Conflict Style			
Call each other names	1.43	0.78	336
Threaten each other	1.14	0.52	336
Yell at each other	1.84	0.91	336
Insult (show disrespect for) each other	1.36	0.70	336
Tell each other to shut up	1.57	0.88	337
Covert Conflict Style			
How often do you feel caught in the middle when your parents fight?	1.53	0.78	337
How often do you feel torn between your parents?	1.36	0.71	337
How often does one of your parents send a message to the other one through you because they don't want to talk to the other parent?	1.19	0.54	336
How often does one of your parents ask you what the other one is thinking, feeling, or doing because they don't want to ask the other parent?	1.25	0.63	337
How often does one of your parents try to get you to side with one of them?	1.31	0.70	337
How often do you feel if you make one parent happy, you will upset the other?	1.47	0.80	337

Note: The prompt for the overt conflict items was "When your mom and dad disagree about the things in Question2, how often do they do the following things in front of you (so you can see or hear)? The response choices for all items were: never (1), once in a while (2), fairly often (3), and very often (4)."

Table B-2

Item Analysis for Youth Appraisal Variables

Questionnaire Item	Mean	Standard Deviation	Number of Cases
Self-Blame			
How often do you feel your parents would be happier if you hadn't been born?	1.30	0.68	337
How often do you believe it is your fault when your parents fight?	1.50	0.77	337
How often do you feel you are to blame for your parents' arguments?	1.41	0.69	337
How often do you believe that your parents argue more when you are with them than when you are gone?	1.35	0.73	337
Perceived Threat			
When your parents' fight, how often do you worry they will get divorced?	1.56	0.91	335
How often do you get scared when your parents argue?	1.55	0.84	337
When your parents fight, how often do you worry that something bad will happen to them?	1.43	0.79	337
Perceived Resolution			
Which statement best tells about most of your mom and dad's disagreements?	2.89	0.84	337
Think about the times when your parents fight in a way that includes yelling or threatening. Which statement best tells about most of these fights?	4.12	1.26	337
Think about the times when your parents fight in a way that includes slapping or hitting. Which statement best tells about most of these fights?	4.64	0.99	337

Note. The response choices for the self-blame and perceived threat items were: never (1), once in a while (2), fairly often (3), and very often (4). The response choices for the perceived resolution of frequency of disagreement item were: Most of their disagreements don't get solved (1), Most of their disagreements get partly solved (2), Most of their disagreements get completely solved (3), and I don't know if their disagreements get solved or not (4). The other two perceived resolution items had a fifth response choice: They don't act this way (5).

Table B-3

Item Analysis for Youth Problem Behavior Variables

Questionnaire Item	Mean	Standard Deviation	Number of Cases
Externalizing Problem Behaviors			
I don't feel guilty after doing something I shouldn't	0.48	0.71	335
I hang out with kids who get in trouble	0.41	0.63	333
I lie or cheat	0.29	0.53	335
I would rather be with older kids than with kids my own age	0.61	0.76	337
I run away from home	0.12	0.40	337
I set fires	0.17	0.47	335
I steal at home	0.10	0.36	337
I swear or use dirty language	0.47	0.67	336
I cut classes or skip school	0.13	0.41	336
I use alcohol or drugs for nonmedical purposes	0.10	0.36	335
I argue a lot	0.82	0.68	336
I brag	0.47	0.62	333
I am mean to others	0.31	0.52	335
I try to get a lot of attention	0.57	0.69	337
I destroy my own things	0.22	0.53	336
I destroy things belonging to others	0.15	0.42	335
I disobey at school	0.29	0.55	337
I am jealous of others	0.46	0.65	336
I get in many fights	0.21	0.47	332
I physically attack people	0.13	0.42	336
I scream a lot	0.27	0.56	336
I show off or clown	0.42	0.65	336
I am stubborn	0.60	0.71	336
My moods or feelings change suddenly	0.56	0.72	335
I talk too much	0.93	0.79	336
I tease other a lot	0.48	0.66	336
I have a hot temper	0.58	0.75	336
I threaten to hurt people	0.22	0.52	336
I am louder than other kids	0.44	0.65	336
Internalizing Problem Behaviors			
I would rather be alone than with others	0.34	0.59	336
I refuse to talk	0.24	0.53	337
I am secretive or keep things to myself	0.55	0.72	337

Table B-3 (continued)

Questionnaire Item	Mean	Standard Deviation	Number of Cases
I am shy	0.61	0.71	336
I don't have much energy	0.27	0.54	336
I keep from getting involved with others	0.45	0.67	336
I feel dizzy	0.22	0.51	336
I feel overtired	0.35	0.61	336
Physical problems without known medical cause:			
Aches and pains	0.33	0.61	332
Headaches	0.64	0.70	335
Nausea, feel sick	0.31	0.56	332
Problems with eyes	0.40	0.69	333
Rashes or other skin problems	0.16	0.46	336
Stomachaches or cramps	0.49	0.67	333
Vomiting, throwing up	0.16	0.41	335
I feel lonely	0.38	0.63	336
I cry a lot	0.33	0.60	336
I deliberately try to hurt or kill myself	0.13	0.40	336
I am afraid I might think or do something bad	0.24	0.51	333
I feel that I have to be perfect	0.45	0.67	333
I feel that no one loves me	0.15	0.43	333
I feel that others are out to get me	0.15	0.44	332
I feel worthless or inferior	0.17	0.46	332
I am nervous or tense	0.44	0.61	335
I am too fearful or anxious	0.29	0.57	337
I feel too guilty	0.20	0.49	337
I am self-conscious or easily embarrassed	0.55	0.68	336
I am suspicious	0.51	0.70	336
I think about killing myself	0.18	0.48	336
I am unhappy, sad, or depressed	0.28	0.56	336
I worry a lot	0.50	0.70	331

Note. The prompt for these items was: Below is a list of items that describe kids. For each item that describes you now or within the past 6 months, please circle the 2 if the item is very true of often true of you. Circle the 1 if the item is somewhat or sometimes true of you. If the item is not true of you, circle the 0

Appendix C: Calculations of Sobel's Test

Sobel's equation was calculated as follow-up analyses for the mediating analyses. It was calculated if there was a statistically significant interaction term on block four of the mediating analyses between the mediating variable under consideration (i. e., self-blame or perceived threat) and one of the four background variables. This enabled group differences to be discerned. The equation produces a t -value based on the following formula:

$$t = \frac{bc}{\sqrt{c^2S_b^2 + b^2S_c^2 + S_b^2S_c^2}}$$

where b = the unstandardized beta coefficient for path b in figure 1 (see methodology section); S_b = the standardized error for b ; c = the unstandardized beta coefficient for path c in figure 1; and S_c = standard error for c . A t -value of 1.96 or larger indicates a statistically significant effect exists ($p < .05$).

Model: Overt conflict style, self-blame, and total problem behaviors

Equation for boys ($n = 147$):

$$b = 0.118$$

$$c = 15.43$$

$$S_b = 0.043$$

$$S_c = 3.34$$

$$t = \frac{(0.118)(15.43)}{\sqrt{(15.43)^2(0.043)^2 + (0.118)^2(3.34)^2 + (0.043)^2(3.34)^2}}$$

$$t = \frac{1.821}{0.7687}$$

$$t = 2.37^*$$

Equation for girls ($n = 190$):

$$b = 0.118$$

$$c = 4.78$$

$$S_b = 0.043$$

$$S_c = 2.35$$

$$t = \frac{(0.118)(4.78)}{\sqrt{(4.78)^2(0.043)^2 + (0.118)^2(2.35)^2 + (0.043)^2(2.35)^2}}$$

$$t = \frac{0.564}{0.356}$$

$$t = 1.58(\text{ns})$$

Equation for youth living with both parents ($n = 294$):

$$b = 0.118$$

$$c = 7.96$$

$$S_b = 0.043$$

$$S_c = 2.08$$

$$t = \frac{(0.118)(7.96)}{\sqrt{(7.96)^2(0.043)^2 + (0.118)^2(2.08)^2 + (0.043)^2(2.08)^2}}$$

$$t = \frac{0.941}{0.417}$$

$$t = 2.25^{**}$$

Equation for youth living with mothers ($n = 43$):

$$b = 0.118$$

$$c = 15.92$$

$$S_b = 0.043$$

$$S_c = 6.55$$

$$t = \frac{(0.118)(15.92)}{\sqrt{(15.92)^2(0.043)^2 + (0.118)^2(6.55)^2 + (0.043)^2(6.55)^2}}$$

$$t = \frac{1.78}{1.04}$$

$$t = 1.72(\text{ns})$$

Conclusion: The model is maintained for boys and youth living with both parents.

Model: Overt conflict style, self-blame, and externalizing problem behaviors

Equation for boys ($n = 147$):

$$b = 0.118$$

$$c = 6.06$$

$$S_b = 0.043$$

$$S_c = 1.84$$

$$t = \frac{(0.118)(6.06)}{\sqrt{(6.06)^2(0.043)^2 + (0.118)^2(1.84)^2 + (0.043)^2(1.84)^2}}$$

$$t = \frac{0.716}{0.350}$$

$$t = 2.05^{**}$$

Equation for girls (n = 190):

$$b = 0.118$$

$$c = 1.94$$

$$S_b = 0.043$$

$$S_c = 1.20$$

$$t = \frac{(0.118)(1.94)}{\sqrt{(1.94)^2(0.043)^2 + (0.118)^2(1.20)^2 + (0.043)^2(1.20)^2}}$$

$$t = \frac{0.229}{0.176}$$

$$t = 1.3(\text{ns})$$

Conclusion: The model is maintained for boys.

Model: Covert conflict style, self-blame, and externalizing problem behaviors

Equation for boys (n = 147):

$$b = 0.74$$

$$c = 6.06$$

$$S_b = 0.05$$

$$S_c = 1.84$$

$$t = \frac{(0.74)(6.06)}{\sqrt{(6.06)^2(0.05)^2 + (0.74)^2(1.84)^2 + (0.05)^2(1.84)^2}}$$

$$t = \frac{4.48}{1.16}$$

$$t = 3.86^{***}$$

Equation for girls (n = 190):

$$b = 0.74$$

$$c = 1.94$$

$$S_b = 0.05$$

$$S_c = 1.20$$

$$t = \frac{(0.74)(1.94)}{\sqrt{(1.94)^2(0.05)^2 + (0.74)^2(1.20)^2 + (0.05)^2(1.20)^2}}$$

$$t = \frac{1.44}{0.897}$$

$$t = 1.6(\text{ns})$$

Conclusion: The model is maintained for boys.

Model: Covert conflict style, perceived threat, and total problem behaviors.

Equation for less poor youth (n = 293):

$$b = 0.74$$

$$c = 3.7$$

$$S_b = 0.08$$

$$S_c = 0.15$$

$$t = \frac{(0.74)(3.7)}{\sqrt{(3.7)^2(0.08)^2 + (0.74)^2(0.15)^2 + (0.08)^2(0.15)^2}}$$

$$t = \frac{2.74}{0.31}$$

$$t = 8.83^{***}$$

Equation for poor youth (n = 44):

$$b = 0.13$$

$$c = 3.7$$

$$S_b = 0.20$$

$$S_c = 0.15$$

$$t = \frac{(0.13)(3.7)}{\sqrt{(3.7)^2(0.20)^2 + (0.13)^2(0.15)^2 + (0.20)^2(0.15)^2}}$$

$$t = \frac{0.48}{0.74}$$

$$t = 0.65(\text{ns})$$

Conclusion: The model is maintained for less poor youth.

Model: Covert conflict style, perceived threat, and internalizing problem behaviors

Equation for less poor youth (n = 293):

$$b = 0.74$$

$$c = 2.9$$

$$S_b = 0.08$$

$$S_c = 0.91$$

$$t = \frac{(0.74)(2.9)}{\sqrt{(2.9)^2(0.08)^2 + (0.74)^2(0.91)^2 + (0.08)^2(0.91)^2}}$$

$$t = \frac{2.15}{0.64}$$

$$t = 3.35^{***}$$

Equation for poor youth ($n = 44$):

$$b = 0.134$$

$$c = 2.9$$

$$S_b = 0.20$$

$$S_c = 0.81$$

$$t = \frac{(0.134)(2.9)}{\sqrt{(2.9)^2(0.20)^2 + (0.134)^2(0.81)^2 + (0.20)^2(0.81)^2}}$$

$$t = \frac{.389}{.612}$$

$$t = .64(\text{ns})$$

Conclusion: The model is maintained for less poor youth.

Appendix D: Pictorial Summary of Significant Mediating Results

Following are figures for all the statistically significant mediating models. The figures represent results for the entire sample.

Self-Blame

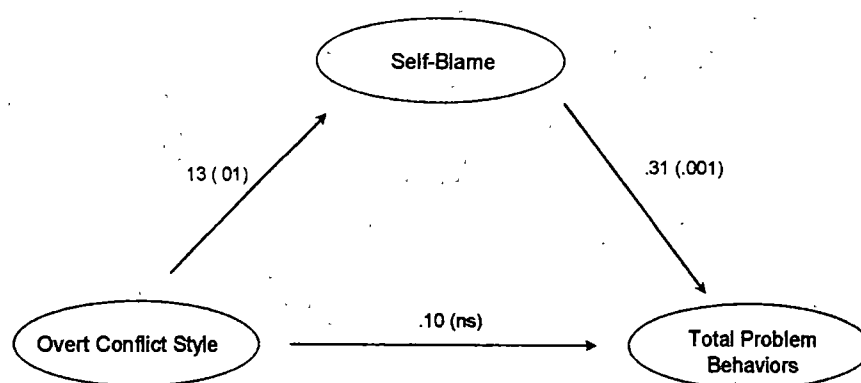


Figure D-1. Final Mediating Model for Overt Conflict Style, Self-Blame, and Total Problem Behaviors for Full Sample (n=337).

This model was not significant for girls or youth living with mothers only.

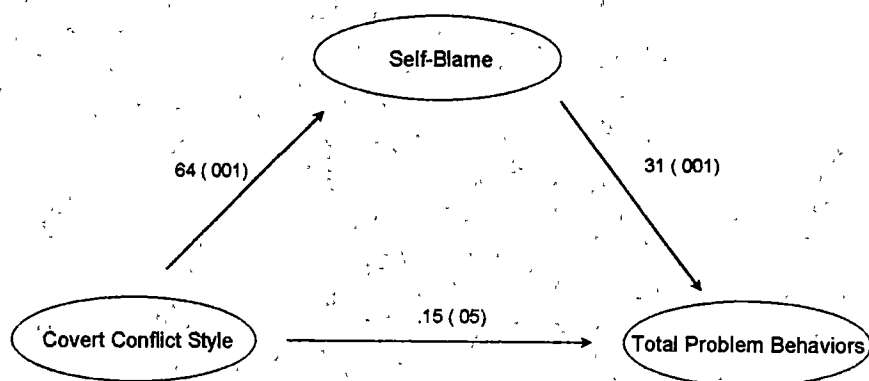


Figure D-2. Final Mediating Model for Covert Conflict Style, Self-Blame, and Total Problem Behaviors for Full Sample (n=337).

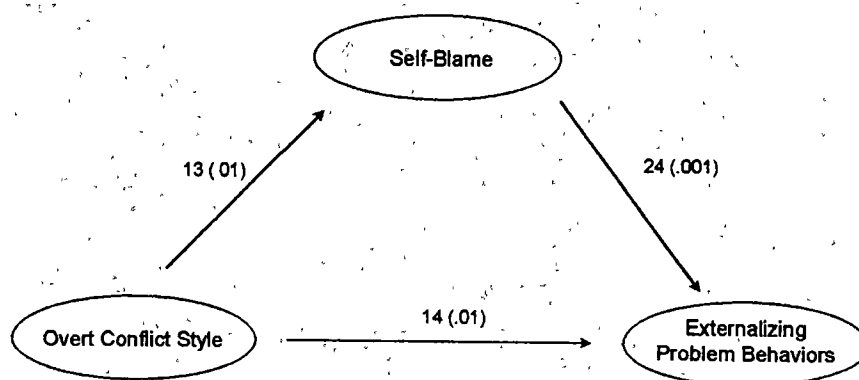


Figure D-3 Final Mediating Model for Overt Conflict Style, Self-Blame, and Externalizing Problem Behaviors for Full Sample (n=337). This model was not significant for girls.

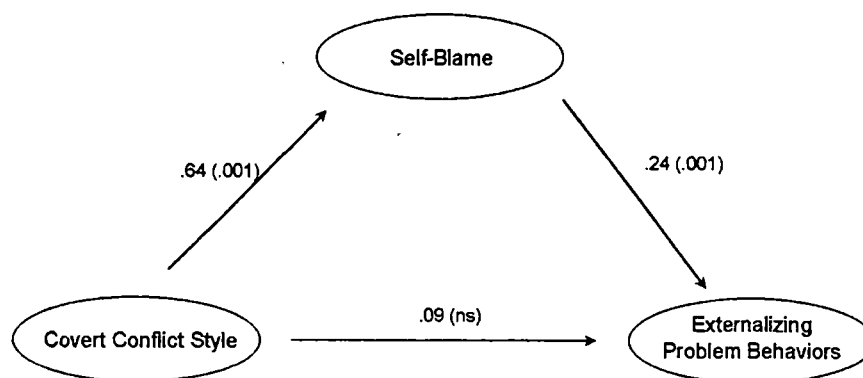


Figure D-4. Final Mediating Model for Covert Conflict Style, Self-Blame, and Externalizing Problem Behaviors for Full Sample (n=337). This model was not significant for girls.

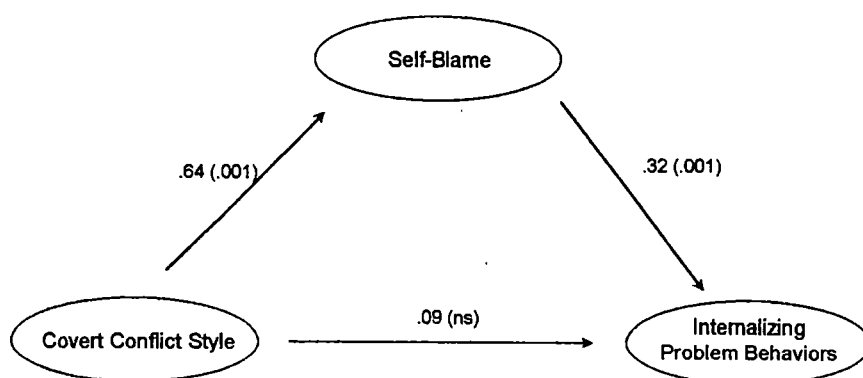


Figure D-5. Final Mediating Model for Covert Conflict Style, Self-Blame, and Internalizing Problem Behaviors for Full Sample (n=337).

Perceived Threat

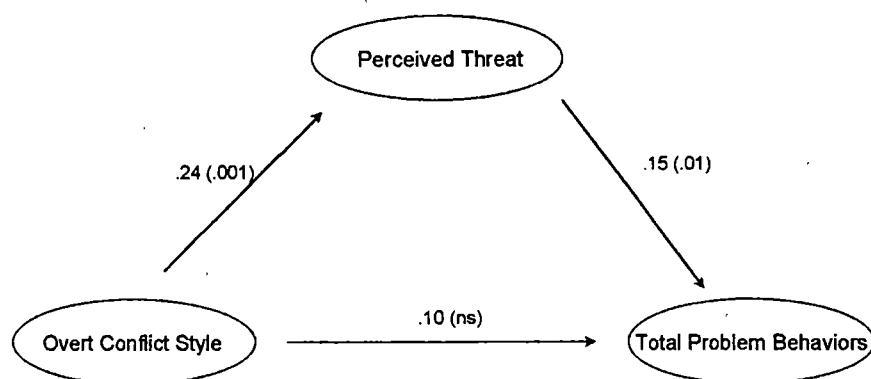


Figure D-6. Final Mediating Model for Overt Conflict Style, Perceived Threat, and Total Problem Behaviors for Full Sample ($n=337$).

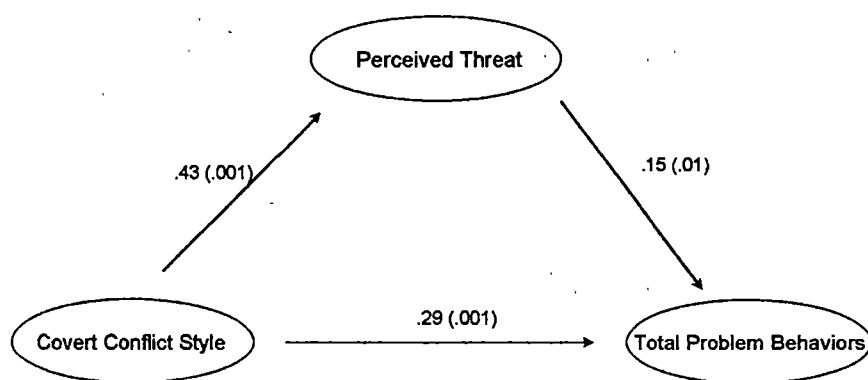


Figure D-7. Final Mediating Model for Covert Conflict Style, Perceived Threat, and Total Problem Behaviors for Full Sample ($n=337$).
This model was not significant for poor youth.

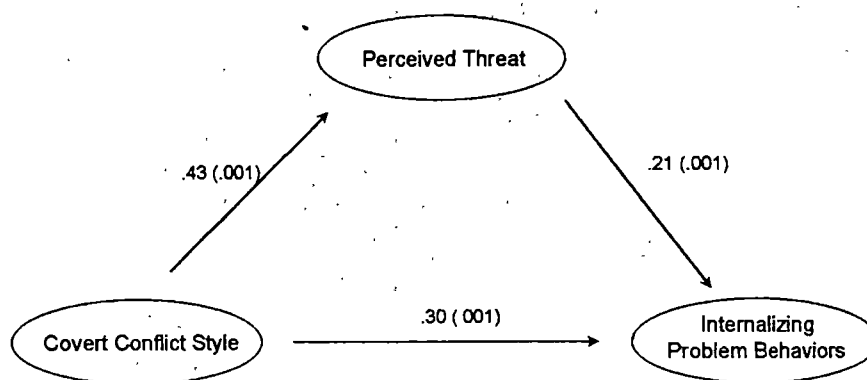


Figure D-8. Final Mediating Model for Covert Conflict Style, Perceived Threat, and Internalizing Problem Behaviors for Full Sample (n=337). This model was not significant for poor youth.

Vita

Christine Anthony was born on April 3, 1964 in Johnstown, Pennsylvania. She graduated from Taylor Allderdice High School in Pittsburgh, Pennsylvania in 1982. She earned her undergraduate degree in Individual and Family Studies from the Pennsylvania State University in December, 1986. After working as an early childhood educator for five years, she entered the graduate program in Child and Family Studies at the University of Tennessee. She was awarded a Hilton A. Smith Graduate Fellowship from the University of Tennessee for the 1993-1994 academic year. She completed the Master's program in May, 1994 and the Doctoral program in August, 1999.