Adolescents’ Cognitive and Emotional Responses to Marital Hostility

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Early adolescents’ (11–14 years) responses to marital hostility were examined in a sample of 416 families. The cognitive-contextual perspective and emotional security hypothesis guided the study and 9 adolescent responses were identified. Prospective associations were examined in several structural equation models that included adolescent problems as outcomes. Self-blame and perceived threat uniquely mediated the association between Year 1 marital hostility and Year 3 adolescent externalizing problems (p < .05). Self-blame, lower constructive representations, internalization of feelings, avoidance, and emotional dysregulation uniquely mediated the association between Year 1 marital hostility and Year 3 internalizing problems. Specific cognitive and emotionally based responses are important to understanding how marital hostility affects youth and need to be considered within an integrated model.

Marital hostility places children and adolescents at risk for concurrent and prospective psychosocial difficulties (Buehler et al., 1997; Davies, Harold, Goeke-Morey, & Cummings, 2002; Doyle & Markiewicz, 2005; Grych & Fincham, 1990). In addition to disrupting parenting (Buehler, Benson, & Gerard, 2006) and children’s psychophysiological functioning (Katz, 2001), recent advances in understanding the explanatory mechanisms of this risk factor have focused on two complementary explanations: (a) the role of children’s potentially problematic cognitive appraisals (Grych & Fincham, 1993) and (b) the role of children’s emotional insecurity (Davies et al., 2002).

The present study addressed these two explanations by examining the conjoint and integrative roles of cognitive appraisals and emotional insecurity during early adolescence. A conjoint explanation suggests that when considered in the same model, problematic cognitive appraisals and emotional insecurity regarding marital hostility each have unique associations with adolescent problem behavior. An integrative explanation suggests that specific aspects of the cognitive and emotional response systems overlap, and that once this overlap is considered, cognitively and emotionally oriented responses are both needed to understand youths’ processing of marital hostility. The study examines early adolescents’ responses to marital hostility in a sample of 416 families using a three-wave, prospective, multimethod research design.

Early adolescence is an important juncture for this examination because youth are transforming their relationships with parents and peers (Steinberg, 2001). Marital hostility that occurs during this developmental transition might create additional demands on the youth because they often are compelled to devote psychological resources to processing parents’ disputes. This diversion of psychological resources creates potential vulnerabilities because youth in early adolescence are also experiencing changes in physical development, schools, and social networks. This is a demanding period of development and the concurrent experience of marital hostility inhibits youth from finding refuge within the family domain. Call and Mortimer (2001) suggest that the family domain is a potentially important “arena of comfort” for adolescents undergoing a multitude of change and marital hostility might endanger some of the salutary benefits of family life. Early adolescence is also an important time to examine youths’ perceptions regarding marital hostility because they are exploring their own identity as a partner in close friendships and romantic pairings (Parke et al., 2001). Youths’ perceptions regarding parents’ interactions might shape their relational templates that serve as interpretive schemas for developing and maintaining close relationships during adolescence and early adulthood (Linder & Collins, 2005).

This research was supported by a grant from The National Institute of Mental Health, R01-MH59248. We thank the staff of the Family Life Project for their unending contributions to this work and the youth, parents, teachers, and school administrators who made this research possible.

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Theoretical Foundation

Cognitive Appraisals

The potential role of cognitive appraisals in shaping children’s responses to witnessing marital hostility is detailed theoretically in the cognitive-contextual framework (Grych & Fincham, 1990). In their original formulations, Grych and Fincham use work by Campos, Campos, and Barrett (1989) to define marital hostility as a “significant event” for children and youth. Defining marital hostility as a significant event suggests that hostility between parents is relevant to youth, involves emotional communication among significant others, and is arousing (Campos et al., 1989). Grych and Fincham propose that youths’ evaluation of the significance of interparental hostility involves both emotion and cognition. Various emotional responses shape the appraisals of threat and prompt coping behavior. Appraisals also shape affect and coping behaviors. We suggest that coping, in this case, often deals with emotional arousal, trying to reduce the marital hostility itself, and/or minimizing exposure to the hostility (Lazarus & Folkman, 1984).

Cognitive responses involve appraisals of the hostile interactions (e.g., how bad is it, will parents contain it, whose fault is it) and estimations of one’s ability to handle a potentially stressful situation. The cognitive-contextual framework suggests that three types of cognitions are particularly salient: perceived threat, self-blame, and coping efficacy. Conceptually, perceived threat focuses on specific fears and worries regarding parents getting hurt, parents separating, and the spillover of hostility into parent–child relations. Self-blame focuses on attributions regarding the youths’ cause of or responsibility for the conflict and parental distress. Coping efficacy focuses on the youths’ appraisals of their ability to stop parents’ hostile interactions or manage their own distress. Theoretically, these three appraisals are interrelated and Grych and Fincham (1990) speculate that they shape coping responses, particularly whether to get involved in the dispute.

Emotional Security

The emotional security hypothesis suggests that youths’ responses to marital hostility focus on the implications of the acrimony for their own emotional security (Davies & Cummings, 1994). This hypothesis proposes that the attainment of emotional security is shaped, in part, by parents’ interactions with one another and the quality of the marital relationship. Consistent with the cognitive-contextual framework, the emotional security hypothesis suggests that youths’ responses involve both emotion and cognition. Davies and Cummings (1994) theorize that “when conflicts are appraised as destructive and reflective of significant marital disharmony, children’s negative emotional arousal becomes elevated and they are motivated to act to decrease their feelings of emotional insecurity” (p. 389).

In their elaboration of the emotional security hypothesis, Davies and Cummings (1998) outline how this process mechanism is consistent with a functionalist perspective of emotion that considers feelings, response motivations, and appraisals (Campos, Mumme, Kermoian, & Campos, 1994). They propose three process components: emotional reactivity, behavioral regulation, and internal representations (Davies & Cummings, 1994, 1998). Emotional reactivity focuses on the feeling manifestation of insecurity—specifically fear and distress. Regulation focuses on the behavioral manifestation of insecurity by including avoidant and involvement coping behaviors. Internal representations focus on the appraisal manifestation of insecurity by including youths’ concerns of parental separation and the spillover of hostility into parent–child relations. Theoretically, these three components are interdependent, but distinct, indicators of youths’ need for emotional security within the context of interparental hostility.

A Comparative Framework

Clearly, these two perspectives regarding how marital hostility affects youth are complementary. Both view emotion and cognition as being interdependent, integral elements of youths’ responses to marital hostility. For example, Grych and Fincham (1990) acknowledge the role of emotion-focused responses by theorizing that “affect is involved in evaluating the significance of the conflict and in guiding subsequent behavior” (p. 241). Davies et al. (2002) detail some of the interdependencies when stating “the emotional security hypothesis posits that preserving a sense of security is an important goal that organizes a child’s emotional experiences (e.g., fear), action tendencies (e.g., withdraw, intervene), and appraisals of self and interpersonal relationships (e.g., perceptions of threat to the self)” (p. 6). Both begin their theorizing regarding the effects of the negative aspects of marital conflict (e.g., hostile, frequent, unresolved) when youth are distressed, aware, and upset. Both describe perceived threat as a motivational force that compels a behavioral response. Both also define threat in terms of broader
implications for concerns regarding marital instability and parent–child difficulties. Both consider coping as an integral aspect of the response system.

A major difference between the two perspectives is that the cognitive-contextual framework accentuates the appraisal aspects of the process mechanisms (Grych & Fincham, 1990) and the emotional security hypothesis highlights the defining role of emotions and emotion-focused responses (Davies & Cummings, 1994). This difference in emphasis centers, in part, on the motivational aspects of arousal and threat. The emotional security hypothesis stresses the importance of preserving emotional security in the face of a potentially disruptive stressor in the family system. The cognitive-contextual perspective stresses the importance of meaning making in shaping youths’ immediate and longer term responses to marital hostility. As stated by Davies et al. (2002), “The cognitive-contextual framework differs from the emotional security hypothesis in placing heavier emphasis on understanding how the cognitive dimensions of the child’s appraisals shape the impact of conflict on child adjustment” (p. 17).

Theoretically, the idea of a complex, integrated cognitive and emotional response system is not unique to the literature on youths’ responses to marital conflict. Recent researchers of development in early and middle childhood have argued that emotion and cognition are inextricably linked and function together in a dynamic manner to organize and direct information processing and action execution (Bell & Wolfe, 2004). Circumstantial evidence for this view is found in the recent literature showing systematic relations between emotional and cognitive processes and developmental outcomes. For example, research by Nigg and Huang-Pollock (2003) on early childhood psychopathology has shown that young children’s adjustment difficulties are often characterized by parallel deficits in both cognitive and emotion processes. Moreover, Blair (2002) elucidated the reciprocal nature of cognitive and emotion processes for children’s behavioral self-regulation such that emotion plays a functional role in organizing and directing cognition. He also argued that negative emotionality has a disruptive role for adults’ higher order cognitive processes of attention, memory, executive function, and goal-directed problem-solving activity (also see Mathews & Wells, 1999; Mogg & Bradley, 1999). Perhaps the most compelling argument for examining emotion and cognition together comes from the neuroscience literature. Blair (2002) describes numerous neuroanatomical investigations (e.g., Derryberry & Tucker, 1994) that have provided evidence of neural pathway interconnections between the prefrontal cortex that is associated with attentional processes and working memory and the subcortical limbic structures that are associated with emotion. Bell and Wolfe (2004) also provide a recent summary of developmental neuroscience studies suggesting that the neural mechanisms influencing emotional regulation might be the same as those that influence volitional cognitive processes.

Empirical Contributions

Cognitive Appraisals

Cross-sectional research has demonstrated that the cognitive appraisals of perceived threat, self-blame, and coping efficacy help explain the association between marital hostility and youth problem behavior, particularly internalizing problems (Dadds, Atkinson, Turner, Blums, & Lendich, 1999; Gerard, Buehler, Franck, & Anderson, 2005; Grych, Fincham, Jouriles, & McDonald, 2000). The theoretical assertion that these three appraisals are related, but distinct elements of the process mechanism has been supported across these studies. Perceived threat seems to be a particularly salient aspect of this process mechanism (Gerard et al., 2005).

There also is evidence that cognitive appraisals partially mediate the prospective association between marital hostility and early adolescent problem behavior (Grych, Harold, & Miles, 2003). Grych et al. studied 298 two-parent families in the United Kingdom (youth average age was 11.67 at Time 1 (T1) and 91% had two biological parents). At T1, they assessed youths’ and parents’ perceptions of marital conflict, youth conflict appraisals of threat and self-blame, and youth problem behavior. A year later they assessed conflict appraisals and youth problem behavior. Youth and parent reports of marital conflict were analyzed in separate models, as were youth internalizing and externalizing problem behavior. Perceived threat partially mediated the 1-year, prospective association between youths’ and parents’ reports of marital conflict and youth problem behavior. Conversely, self-blame partially mediated the 1-year, prospective association between youths’ and parents’ reports of marital conflict and externalizing problems.

These findings suggest that the conflict appraisals of threat and self-blame helped explain part of the prospective association between marital hostility and future problem behavior during early adolescence. They also suggest some specialized effects in that perceived threat was associated with internalizing problems and self-blame with externalizing
Emotional Security

As with cognitive appraisals, components of emotional insecurity mediate the contemporaneous association between marital hostility and adolescent problem behavior (Davies & Cummings, 1998). The theoretical contention that the components are interrelated but distinct aspects of emotional insecurity was supported. Emotional reactivity and negative internal representations were particularly salient components and associations with both internalizing and externalizing problems were partially explained. These findings demonstrated some specialized and unique associations because both internalizing and externalizing problems were included in the same analytic model.

There also is evidence that emotional insecurity partially mediates the prospective association between marital hostility and early adolescent problem behavior (Harold, Shelton, Goeke-Morey, & Cummings, 2004). Harold and associates studied 181 families in the United Kingdom the (average age of youth was 11.65 years and 87% lived with both biological parents). Marital conflict (parent reports) and emotional reactivity, behavioral regulation, and internal representations (youth interview) were assessed at T1. One year later, emotional security about parenting and adolescent problem behavior was assessed. Emotional reactivity and behavioral regulation mediated the prospective association between marital discord and adolescent externalizing problems, controlling for emotional security about parenting. Negative internal representations were associated positively with marital discord and youth internalizing and externalizing problems through emotional insecurity about parenting.

Conjoint Examinations

Using the previously described sample from the United Kingdom, Davies et al. (2002) examined the conjoint, prospective associations among interparental conflict, perceived threat appraisals, self-blame appraisals, perceptions of emotional insecurity, and adolescent problem behavior. Interparental conflict and adolescent problem behavior were assessed at T1 and cognitive appraisals, emotional insecurity, and problem behavior were assessed 1 year later. Youth emotional insecurity completely mediated the association between interparental conflict and increases in internalizing and externalizing problems over the 1 year. Self-blame was not a mediator because T1 interparental conflict was not associated with T2 self-blame. Perceived threat was not a mediator because T2 perceived threat was not associated with changes in T2 adolescent problems.

Although these findings suggest that emotional insecurity might be a unique mediator when considered conjointly with cognitive appraisals, three aspects of the study limit this conclusion. First, although emotional insecurity was modeled as a latent construct, perceived threat and self-blame were included as separate manifest variables. This might have fragmented the role of cognitive appraisals when contrasting the unique contributions of appraisals and emotional insecurity. Second, internalizing and externalizing problems were modeled separately and so the unique and specialized processes for explaining interparental conflict processes could not be addressed. Finally, some of the overlapping items from the measures of cognitive appraisals and emotional security were not taken into account.

The present study builds on these studies of U.K. families by (a) examining these theoretical propositions in a sample of families from the United States, (b) including the cognitive appraisal of coping efficacy, (c) examining internalizing and externalizing problem behavior in the same model to control for their moderate association and identify specialized and unique associations, (d) treating indicators of cognitive appraisals and emotional insecurity similarly in the analytic model, (e) including observer ratings of marital hostility to help reduce shared method variance, and (f) including three waves of data so that marital hostility, youth responses, and adolescent problem behavior are assessed at different time periods. In addition to these contributions, the present study strengthens this literature by examining youths’ independent and interrelated emotional and cognitive responses to marital hostility. This is done by examining the unique and overlapping aspects in the self-report measurement of youths’ cognitive appraisals and emotional insecurity. A major contribution of this work is that theoretical models are examined that identify the mediating functions of specific, explanatory cognitive, and emotional responses to parents’ marital hostility.
Four research questions are addressed as follows:

1. Do cognitive appraisals uniquely mediate the prospective associations between marital hostility and adolescent problem behavior?
2. Do indicators of emotional insecurity uniquely mediate the prospective associations between marital hostility and adolescent problem behavior?
3. Does a conjoint model of adolescents' emotional and cognitive responses mediate the prospective associations between marital hostility and adolescent problem behavior?
4. Does an integrated emotional and cognitive process mechanism mediate the prospective associations between marital hostility and adolescent problem behavior?

Method

Sampling Procedures and Characteristics

The sample used for this study was taken from a larger study of the effects of marital conflict on the transition from childhood into adolescence. For the larger study, sixth-grade youth in 13 middle schools in a large county in the Southeastern United States during the 2001 school year were invited to participate. Children in sixth grade were selected because they are beginning the transition from childhood into adolescence. Ninety-six percent of the teachers participated. Youth were given their invitation in the form of a letter during homeroom to take home to parents. Two additional direct mailings to parents were carried out. Approximately 71% of the families returned the consent form and 80% of the youth received parental permission to participate. This sample was representative of families in the county on race, parents' marital status, and family poverty status (contact the corresponding author for details using census information).

Youth ranged in age from 11 to 14 years ($M = 11.86, SD = 0.69$). There were 211 daughters (51%). Ninety-one percent of the families were European American and 3% were African American. Our African American sample underrepresented the percentage of married African American couples with their own children younger than 18 in the county (4.5%) and in the United States (7.8%) (U.S. Census Bureau, 2000a, Table PCT27 of SF4). The median level of parents' education in this sample was 2 years of college, similar to that of European American adults in the county who were older than 24 (county mean category was some college; U.S. Census Bureau, 2000b, Table P148A of SF4). The median level of 2001 household income for families in this study was approximately $70,000, which was higher than the median 1999 income for married-couple families in the county ($59,548, U.S. Census Bureau, 2000c, Table PCT40 of SF3).

Data Collection Procedures

Youth completed a questionnaire during school. They had as much time as needed to finish, and several trained researchers were available to answer questions. One of the youth's teachers also completed a questionnaire that focused on the child's behavior. Family members were mailed a questionnaire and asked to complete each independently. The completed questionnaires were collected during a home visit. Parents and youth completed another brief questionnaire during the home visit. This second questionnaire contained the most sensitive information (e.g., assessment of marital hostility) and a researcher's presence ensured privacy.

Family members participated in two observational tasks during the home visit that were videotaped and coded later by trained observers. The first was a 20-min problem-solving activity and mother, father, and youth participated. Each person completed the Issues Checklist before the interaction task (Conger et al., 1992), and based on this information, the home visitors selected several salient topics. Participants were asked to elaborate the issue, identify who is usually involved, and suggest possible solutions. The second 20-min task included only the wife and husband and focused on the marital relationship, daily interaction patterns, and coparenting. Within each participating family, different coders rated the interaction from the two tasks to minimize coder carryover effects.
For the longitudinal component of this study, family members completed questionnaires two more times at yearly intervals. There were 366 participating families at Year 2 (Y2) (88% retention) and 340 families at Y3 (82% retention of Y1 families). Attrition analyses using MANOVA were conducted using the Y1 data and there were no differences between the retained and attrited families on any of the study variables (contact corresponding author for statistical details).

Measures

The analytic models included (a) Y1 marital hostility and Y1 adolescent internalizing and externalizing problem behavior, (b) Y2 problematic youth emotional and cognitive conflict responses, and (c) Y3 adolescent internalizing and externalizing problem behavior.

Adolescent problem behavior. Youth reports of problem behavior were measured using the Child Behavior Checklist–Youth Self-Report (CBCL–YSR, Achenbach, 1991b). This measure consisted of a series of statements that might describe the youth during the previous 6 months. The response format was 0 (not true), 1 (somewhat or sometimes true), and 2 (very true or often true). Thirty items measured externalizing problems (Y1 \( \alpha = .85 \); Y3 \( \alpha = .89 \)), and 31 items measured internalizing problems (Y1 \( \alpha = .88 \); Y3 \( \alpha = .89 \)). Examples of externalizing items were “I lie or cheat” and “I disobey at school.” Examples of internalizing items were “I feel worthless or inferior” and “I am unhappy, sad, or depressed.” Raw scores were used (Achenbach, 1991b).

As a second indicator of adolescent externalizing problems, a teacher also completed the externalizing subscale of the Teacher Report Form each year in March or April (Achenbach, 1991a). Cronbach’s \( \alpha \) was .95 for Y1 and .91 for Y3. Youth also completed the short version of the Children’s Depression Inventory as a second indicator of adolescent internalizing problems (Kovacs, 1992). This includes 10 items that ask about feelings and behavior during the previous 2 weeks (e.g., frequency of sadness; Y1 \( \alpha = .72 \); Y3 \( \alpha = .79 \)).

Marital hostility. At Y1, spouses completed an 18-item measure of marital hostility (13 items from the verbal and physical aggression subscales of the Conflicts and Problem Solving Strategies questionnaire [Kerig, 1996], and 5 items from Buehler et al.’s, 1998 measure of overt conflict). Sample items were “I tell my spouse to shut up,” “I slap my spouse,” and “I criticize my spouse.” The response format ranged from 1 (never) to 5 (always). Cronbach’s \( \alpha \) was .89 for both wives and husbands. For the observational measure, coders rated wife’s behavior toward husband and husband’s behavior toward wife during the two interaction tasks. The following scales were used from the Iowa Family Interaction Rating scales: hostility, angry coercion, verbal attack, and antisocial (Melby et al., 1993). Verbal attack includes critical, demeaning, global comments that transcend specific situations. Angry coercion includes control attempts that are hostile in nature. Hostility is a composite scale that includes situationally specific criticisms and sarcasm. Antisocial is a composite negativity rating that also includes uncooperativeness and rudeness. In addition, two rating scales were developed for this study: personal attack and yelling. Personal attack includes global criticisms that are directed toward the partner’s character. Yelling includes intense, expressed negative affect. Behavior is rated using a 1 (not present) to 9 (mostly characteristic) response format. Cronbach’s \( \alpha \) was .85 for the observed rating composite. Twenty percent of the tasks were selected randomly to be coded by a second coder and the average agreement across raters was .79. Interrater reliability was assessed by calculating single-item intraclass correlation coefficients (ICCs) based on a one-way random effects ANOVA (Melby & Conger, 2001). The average ICC for this composite measure was .51, which is adequate for these rating scales and comparable to other studies that have used IFIRS ratings (Melby & Conger, 2001).

Youths’ marital conflict responses. Youth completed two measures that assess perceptions of or responses to parents’ disputes. The Children’s Perceptions of Interv parental Conflict scale (CPIC) includes three cognitive appraisal subscales (Grych, Seid, & Finchham, 1992) and uses a 3-point response format. The perceived threat subscale has 6 items (e.g., When my parents argue I’m afraid that something bad will happen; Y2 \( \alpha = .85 \)). The coping efficacy subscale has 6 items (e.g., When my parents argue they don’t listen to anything I say; Y2 \( \alpha = .67 \)). A higher score represented perceived efficacy. The self-blame subscale has 5 items (e.g., It’s usually my fault when my parents argue; Y2 \( \alpha = .86 \)).

Youth completed the Security in the Interparental Subsystem scale to assess emotional security associated with marital conflict (SIS; Davies, Forman, Rasi, & Stevens, 2002). Items use a 4-point response format. The emotional reactivity subscale has 12 items (e.g., When my parents argue I feel upset; Y2 \( \alpha = .87 \)). The behavioral regulation subscale has 12 items (e.g., When my parents have an argument I try to solve the problem for them; Y2 \( \alpha = .84 \)). The internal repre-
sentation subscale has 12 items (e.g., When my parents have an argument I worry about my family’s future; Y2 $\alpha = .80$).

**Analytic Strategy**

Two different sets of longitudinal models were estimated. The first set includes time-ordered data so that the prospective patterning could be examined. These models included Y1 marital hostility, Y2 youth responses to marital hostility, Y3 adolescent problem behavior, and controls for Y1 adolescent problem behavior. The second model included Y1 marital hostility, a reduced set of youth responses, Y3 adolescent problem behavior, and controls for Y1 adolescent problem behavior. This second theoretical model was examined to determine whether a more parsimonious set of cognitive and emotional variables could better account for youth responses to marital hostility. Data were examined using structural equation modeling (Amos 5) with the significance threshold set at $p < .05$. Error covariances were estimated for internalizing and externalizing problems that were assessed using the same form (e.g., youth report of internalizing and externalizing). This was done because we expected shared method variance when using a given version of the Achenbach assessment (Bollen, 1989; Kenny & Kashy, 1992). Model fit was evaluated using the chi-square statistic and two fit indexes. A nonsignificant chi-square indicated a good model fit. However, because of the large sample size, a significant chi-square was expected for most models and additional fit indexes were examined (Byrne, 2001). Fit indexes such as the comparative fit index (CFI) range from 0 to 1.00, with a cutoff of .95 or higher indicating a well-fitting model and .90 indicating an adequate fit (Hu & Bentler, 1999). Values for the root mean square error of approximation (RMSEA) below .05 indicate a good model fit and between .06 and .08 indicate an adequate fit (Browne & Cudeck, 1993). Missing data were treated using a full information maximum likelihood estimation procedure (FIML). FIML produces estimates that are less biased than do other procedures such as deleting cases (Acock, 2005).

**Results**

Correlations for all variables at Y1 are shown above the diagonal in Table 1. Data below the diagonal are correlations among the variables across the 3 years. All coefficients were in the expected directions. Using latent constructs, Y1 marital hostility was associated uniquely with Y3 adolescent externalizing (.25, $p < .01$) and internalizing problem behavior (.23, $p < .01$).

**Preliminary Analyses**

Separate cognitive and emotional models. Before conducting conjoint analyses that included both cognitive appraisals and emotional insecurity, two independent, time-ordered models were examined. The first model focused on youths’ cognitive appraisals. Y1 marital hostility was a latent construct with three manifest indicators: wife self-report, husband self-report, and observed ratings. One latent Y2 youth response construct was specified with three manifest indicators: perceived threat, coping efficacy, and self-blame. Y3 adolescent externalizing was a latent construct with two indicators: youth and teacher reports. Y3 adolescent internalizing was a latent construct with two indicators: youth reports using the YSR and the CDI. Y1 marital externalizing and internalizing were controlled. Y1 marital hostility was associated positively with Y2 problematic cognitive appraisals (.66, $p < .01$). Y2 cognitive appraisals were associated uniquely with increases in adolescent externalizing (.26, $p < .05$) and internalizing problems (.31, $p < .05$). These findings replicated previous research that suggested that youth cognitive appraisals mediate the prospective association between marital hostility and adolescent problem behavior (Grych et al., 2003).

The second preliminary model focused on youths’ perceptions of emotional insecurity. The same latent constructs were used for marital hostility and adolescent problem behaviors as described in the previous paragraph. One latent Y2 youth response construct was specified with three manifest indicators: emotional reactivity, behavior regulation, and internal representations. Y1 marital hostility was associated positively with Y2 youth perceptions of emotional insecurity (.46, $p < .01$). Y2 perceptions of emotional insecurity regarding marital hostility were associated uniquely with increases in adolescent externalizing (.27, $p < .01$) and internalizing problems (.38, $p < .01$). These findings replicated previous research that suggested that youth cognitive appraisals mediate the prospective association between marital hostility and adolescent problems (Harold et al., 2004).

Conjoint model. Two intervening latent constructs were specified to examine youth responses to marital hostility. Cognitive appraisals had three manifest
## Table 1

**Marital Hostility, Youth Conflict Responses, and Adolescent Problem Behavior: Correlations and Descriptive Statistics**

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<td>.01</td>
<td>—</td>
<td>.58</td>
</tr>
<tr>
<td>12. A. Depression—<strong>YR</strong></td>
<td>.10</td>
<td>.08</td>
<td>.13</td>
<td>.38</td>
<td>.24</td>
<td>.36</td>
<td>.27</td>
<td>.20</td>
<td>.30</td>
<td>.37</td>
<td>.16</td>
<td>.61</td>
<td>.61</td>
</tr>
</tbody>
</table>

**Mean**

|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|

**SD**

| SD     | W1: 0.41 | W1: 0.39 | W2: 0.89 | W2: 0.44 | W2: 0.44 | W2: 0.37 | W2: 0.45 | W2: 0.58 | W2: 0.59 | W1: 5.98 | W3: 7.36 | W1: 5.89 | W3: 5.35 | W1: 7.5 | W3: 7.44 | W1: 2.2 | W3: 2.6 |
|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|

**Range**

|---------|-------------|-------------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|

| α       | 0.89        | 0.89        | 0.81        | 0.86     | 0.67     | 0.86     | 0.87     | 0.84     | 0.80     | 0.85     | 0.89     | 0.87     | 0.83     | 0.89     | 0.88     | 0.89     | 0.72     | 0.79     |

**Note.** FR = father report; MR = mother report; TR = teacher report; YR = youth report.

Correlations for Wave 1 data are above the diagonal and for the prospective analyses below the diagonal. Bolded correlations are significant at \( p < .05 \).

*Marital hostility.

*Cognitive appraisals.

*Emotional security.

*Adolescent externalizing.

*Adolescent internalizing.
indicators: perceived threat, coping efficacy, and self-blame. Emotional insecurity also had three manifest indicators: emotional reactivity, internal representations, and behavioral regulation. As with the above analyses, marital hostility was measured at Y1 and adolescent problem behavior was measured at Y3 with Y1 problems controlled.

This conjoint model did not provide useful information because the correlation between Y2 cognitive appraisals and Y2 emotional insecurity was too high (.90). This created multicollinearity that led to inaccurate estimates for the associations between Y2 youth responses and Y3 adolescent problems. The inaccurate estimates included artificially inflated coefficients between Y2 cognitive appraisals and Y3 adolescent problems and inverse associations between Y2 emotional insecurity and Y3 adolescent problems. None of these strong paths were statistically significant. The estimation problems for associations with adolescent problems that resulted from the lack of discrimination between cognitive appraisals and emotional insecurity did not affect the associations for the front half of the model. Y1 marital hostility was uniquely associated with both problematic cognitive appraisals (.46, p < .01) and emotional insecurity (.49, p < .01).

**An Integrated Youth Response System: Measurement**

The results from the conjoint examination of the intervening roles of cognitive appraisals and emotional insecurity suggested that youth responses help explain the association between marital hostility and adolescent problem behavior because the associations between marital hostility and adolescent problems became nonsignificant. However, the findings also indicated that some of the explanatory effects of cognitive appraisals and emotional insecurity are overlapping and redundant. The high correlation between the constructs of cognitive appraisals and emotional insecurity suggested that the CPIC and SIS do not have adequate discriminant validity. Thus, an integrated conceptualization of youth cognitive and emotional responses was considered by conducting an exploratory factor analysis of the Y1 items from the CPIC and the SIS. MPLUS was used. The items were treated as categorical variables because the frequency distributions suggested an ordinal rather interval level of measurement. A promax rotation was used because this is an oblique rotation that allows for nonorthogonal factors. A nonorthogonal factor structure is a reasonable assumption, given youth responses are correlated (Davies et al., 2002; Grych et al., 1992). MPLUS conducts exploratory factor analysis by asking for a possible number of factors and then provides a series of factor analyses, one for each of the preselected number of factors. The RMSEA statistic is provided for each factor analysis, and as described above, an RMSEA < .05 indicates a good fit. We requested 1–10 factors. Once an acceptable factor solution was determined, this factor structure was confirmed using the Y2 data.

The RMSEA fell below .05 with 7 factors (.047). Thus, we examined the factor structure for 7 factors, 8 factors, 9 factors, and 10 factors. The 9-factor solution was selected (RMSEA = .032). This solution had item loadings that made sense conceptually, had more primary factor loadings > .40, and had fewer split factor loadings (a difference in primary and secondary factor loadings of .20 was desired). Ten items were eliminated due to low primary loadings (< .40) or due to strong loadings on the primary and secondary factors (suggesting low discriminant validity). Forty-six items remained. The 9 factors are emotional dysregulation (11 items), perceived threat to self and family (4 items), constructive representations (4) (reverse coded in the model), coping efficacy (4 items), self-blame (7 items), avoidance (5 items), behavioral dysregulation (3 items), internalization of feelings (4 items), and involvement (4 items). The primary factor loadings were high (78% above .60), and the differences between primary and secondary loadings were large for most items (contact corresponding author for detailed table). Using Y2 data, these 46 items were analyzed with confirmatory factor analysis and 96% of the items had factor loadings above .60.

**An Integrated Youth Response System: Mediating Processes**

Most of the youth response variables were moderately correlated (Table 2). The strongest associations were among emotional dysregulation and perceived threat to self or family members, emotional dysregulation and involvement of parental disputes, avoidance and internalizing feelings, and perceived threat and self-blame. A preliminary analysis was conducted in which one latent construct was specified that represented Y2 adolescent cognitive and emotional responses to marital hostility. As hypothesized, Y1 marital hostility was associated positively with Y2 problematic youth responses (.55, p < .01). Both externalizing (.66, p < .01) and internalizing problems (.43, p < .01) were stable over the 2-year period. Y2 youth responses were associated
with increases in adolescent externalizing (.28, \(p < .01\)) and internalizing problems (.47, \(p < .01\)).

The next set of analyses examined the unique effects of the nine youth response variables. Given there were moderate correlations among the youth response variables (Table 2), the purpose of this analysis was to see whether there was a set of specific, unique responses that helped explain the prospective association between marital hostility and adolescent problem behavior.

Two Y2 youth responses mediated the association between Y1 marital hostility and changes in adolescent externalizing problems: self-blame and perceived threat (Figure 1). Contrary to the hypothesis, perceived threat was associated with decreases in adolescent externalizing problems. Five Y2 youth responses mediated the association between Y1 marital hostility and increases in adolescent internalizing problems: emotional dysregulation, self-blame, lower constructive representations, .74, \(r = .35\), .11, .32, .29, .11

Table 2

<table>
<thead>
<tr>
<th>Y2 adolescent response variables</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Emotional dysregulation</td>
<td>.45</td>
<td>.14</td>
<td>– .28</td>
<td>.16</td>
<td>.29</td>
<td>.34</td>
<td>.38</td>
<td>.43</td>
</tr>
<tr>
<td>2. Threat to self/family</td>
<td>.27</td>
<td>– .27</td>
<td>.45</td>
<td>.04</td>
<td>.15</td>
<td>.11</td>
<td>.13</td>
<td></td>
</tr>
<tr>
<td>5. Self-blame</td>
<td>– .06</td>
<td>.35</td>
<td>.09</td>
<td>– .05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Avoidance</td>
<td>.04</td>
<td>.40</td>
<td>.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Behavioral dysregulation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.19</td>
<td>.16</td>
<td></td>
</tr>
<tr>
<td>8. Internalizing feelings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.21</td>
<td></td>
</tr>
</tbody>
</table>

Note. A significant correlation is bolded. Estimates are for the response variables shown in Figure 1.
internalization of feelings, and avoidance. Coping efficacy, behavioral dysregulation, and involvement in parents’ disputes were not unique explanatory mechanisms.

One final analysis was conducted. The purpose of this analysis was to generate an autoregressive, theoretical model of youth cognitive and emotional responses that pared down the nine response variables to a more parsimonious model. Based on prior theorizing (Davies & Cummings, 1994; Grych & Fincham, 1990), it was hypothesized that youth who witness marital hostility might become upset because they perceive the hostility as self-relevant and frightening (Figure 2). Informed by the results from the analysis with the nine manifest responses, it was also hypothesized that youth might respond to this distress by blaming self, having lower levels of constructive representations regarding family relationships, and withdrawing. Based on the previous analyses and theorizing, upsettedness was included as a latent construct with three manifest indicators: emotional dysregulation, behavioral dysregulation, and perceived threat. Withdrawal was also included as a latent construct with three manifest indicators: avoidance, internalization of feelings, and lower levels of coping efficacy. Self-blame and lower levels of constructive representations regarding family were included as manifest indicators. Y1 marital hostility was associated strongly with Y2 youth upsettedness (note no shared informants) and was associated uniquely with the Y2 withdrawal response. As theorized, Y2 upsettedness was associated uniquely with self-blame, lower constructive representations, and withdrawal, and was not associated directly with adolescent problems. Y2 self-blame and lower levels of constructive representations were associated uniquely with increases in adolescent internalizing and externalizing problems. Y2 withdrawal was associated uniquely only with increases in adolescent internalizing problems. Although these patterns were consistent with previous research and proposed theory, the model fit was marginal, $\chi^2 = 509.78$ (128), $p > .05$, CFI = .82, RMSEA = .085, and fit the data less well than the model that included the nine separate adolescent responses, $\Delta \chi^2 = 197.70$ (20), $p < .01$.

Discussion

Youths’ cognitive and emotional responses to their parents’ hostile interactions were examined. The study was guided theoretically by the cognitive-
contextual model of interparental conflict (Grych & Fincham, 1990) and the emotional security hypothesis (Davies et al., 2002). The findings suggested that youth have a variety of specific, unique emotional and cognitive responses to parents’ marital hostility that place them at risk for current internalizing and externalizing adjustment difficulties.

The examination of conjoint and integrative influences of interparental conflict-related cognitive appraisals and emotional insecurity suggested a substantial overlap in these cognitive and emotional responses. This overlap replicates the strong correlation found by Davies et al. (2002) and supports the idea of a functionalist approach to emotion (Campos et al., 1994) that undergirds the emotional security hypothesis, the appraisal orientation developed by Grych and Fincham (1990), and perspectives that focus on youths’ emotion and stressor-based coping behavior (Kerig, 2001; Lazarus & Folkman, 1984). From this integrated perspective, youths’ responses to marital hostility include (a) emotional dysregulation, (b) appraisals of threat to self/family, blame, and efficacy, and (c) coping responses of acting out, avoidance, involvement in parental disputes, and internalizing feelings. The findings from this study suggested that this set of responses adequately characterized early adolescents’ responses to marital hostility, and that cognitive and emotional responses completely mediated the association between marital hostility and future adolescent problem behavior.

A major finding from this study is that there are a fairly large number of theoretically meaningful and unique responses that youth have when exposed to marital hostility over time. Y1 marital hostility was uniquely associated with eight of the nine response variables (each except for involvement). These unique associations occurred in spite of moderate-sized associations among some of the responses. The strongest unique association between marital hostility and youth responses was an inverse association with coping efficacy. Over time, exposure to marital hostility is associated with lower levels of competency appraisals related to minimizing parents’ acrimony and less confidence in being able to regulate personal upsettedness. The findings also suggest that youth respond to marital hostility by avoiding the conflict interactions rather than by involving themselves in the disputes. This is a positive finding, given involvement might lead to triangulation between parents and triangulation or feeling caught between parents is associated with emotional adjustment difficulties (Amato & Afifi, 2006; Grych, Raynor, & Fosco, 2004).

The findings from this study also provide information about specific process mechanisms that explain the associations between marital hostility and changes in adolescent problem behavior. Marital hostility was associated with increases in adolescent internalizing problems through five unique response mechanisms: self-blame, lower levels of constructive representations regarding family relationships, internalizing distress, avoidance, and emotional dysregulation. Part of the attribution of self-blame involves perceived responsibility for parents’ disputes that might result in feelings of guilt and shame. Over time these feelings might contribute to negative self-evaluations. These negative self-evaluations might threaten self-esteem and foster feelings of anxiety and depression (Garber, Robinson, & Valentiner, 1997). The unique pathway through lower levels of constructive representations details the important role that less positive family schemas might have in increasing feelings of hopelessness and mistrust regarding commitment and intimacy in close relationships. The potential effects of these negative appraisals over time are important because they might shape the relational templates that adolescents’ use when forming and maintaining relationships with peers. Unique response process mechanisms also included internalizing distress and avoidance. Both are inherent in the development of generalized internalizing problem behavior. Although related, each had a unique association with increases in generalized internalized problem behavior. This pattern demonstrates how stressor-specific responses are associated with more generalized problem syndromes over time. However, it also might be that some of the youth response variables, such as internalizing distress, might be confounded with the assessment of more generalized problem behavior. Future research is needed to distinguish stress-specific responses from generalized problem behavior syndromes over time. Controlling for the other eight responses, emotional dysregulation was uniquely associated with increases in internalizing problems. This unique effect might be due, in part, to the debilitating effects of ruminations. Adolescents who are absorbed by experience of witnessing marital hostility are less able to address other developmental tasks (e.g., doing well in school) and attend to other important relationships with peers and nonfamilial adults.

Two response mechanisms mediated the prospective association between marital hostility and adolescent externalizing problem behavior. As with internalizing problems, self-blame was a significant linking mechanism. This finding replicates previous
research (Grych et al., 2003) and might reflect perceived or actual responsibility for parents’ disputes (i.e., parents fighting about the youth’s conduct problems). However, because Y1 adolescent problem behavior was controlled, the concurrent association between marital hostility and adolescent conduct problems was accounted for in this study, reducing the likelihood that the significance of self-blame is a by-product of “child effects.” Grych et al. speculated that self-blame might be associated with adolescent externalizing problems because youth might involve themselves in parents’ disputes using distracting, disruptive behavior. In this study, self-blame was not associated with involvement in disputes during seventh grade. In addition, self-blame was associated strongly with behavioral dysregulation during seventh grade, suggesting a possible linkage between adolescents’ situationally based aggressive responses to marital hostility and broader-based current and future externalizing problems (Cummings, Goeke-Morey, & Papp, 2004).

Contrary to the hypothesis, Y2 perceived threat was associated with decreases in adolescent externalizing problems when controlling for the other eight youth responses. (The uncontrolled association was positive.) If this unexpected pattern replicates in future research, one plausible interpretation might be what Emery (1988) referred to as “angel-like” behavioral responses to interparental strife. He speculated that some children might respond to worry and concern about marital hostility by acting good or increasing their prosocial behavior (and minimizing aggressive and delinquent behavior).

Although this study makes several theoretical and methodological contributions, there also are several limitations. The number of minority families was too small to allow for moderating tests across racial or ethnic groups. Thus, generalizations of these findings to minority families should be made cautiously. Future research needs to be conducted with larger samples of ethnic minority families so that both within- and between-group analyses can be conducted. Moreover, youths’ responses to marital hostility need to be assessed using multiple methods to help reduce method variance that might be inflating the association among some of the response variables. Minimizing shared method variance might reduce the intercorrelations and provide a more valid estimate of the unique effects of some of the response variables. It is also important to note that the response variables identified were based on youths’ responses to two questionnaires—the CPIC and the SIS. As such, the use of additional methods to assess youth responses will provide needed validity information regarding the nine response variables identified in this study. Future research also needs to extend beyond a focus on adolescent problem behavior and include other aspects of development, such as relationships with peers, dating partners, and general social competence.

Within the context of these limitations, the present findings regarding cognitive appraisals and emotional insecurity document the important role of adolescents’ subjective constructions in understanding how witnessing marital hostility influences adolescent problem behavior. The study demonstrated that adolescents’ cognitive and emotional responses are both needed in a process model that details how marital hostility places youth at risk for internalizing and externalizing problems. Future theorizing and research needs to consider the temporal stability and impact of these subjective constructions for other important developmental outcomes and social relationships with peers and intimates.

References


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