Capturing and Utilizing Young Children’s Perceptions of Marital Conflict

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Running Head: Capturing and Utilizing Young Children’s Perceptions of Marital Conflict

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Over the past 15 years, many studies have found links between parents’ marital conflict and their children’s behavior problems (Cummings & Davies, 1994; Emery, 1982; Erel & Burman, 1995; Fosco & Grych, 2007; Grych & Fincham, 1990; Jouriles et al, 2000; McDonald & Grych, 2006). Until recently, there has been little progress in identifying the mechanisms by which marital conflict comes to affect children’s adaptation. One promising theory – the cognitive-contextual framework first proposed by Grych and Fincham (1990) – suggests that children’s perceptions and interpretations of their parents’ marital relationship play a central role in determining the impact of marital conflict on children’s emotional and behavioral adjustment. Studies of children’s perceptions as a mediating mechanism, however, have been limited to children who are 7 years or older despite evidence that the cognitive characteristics of younger children might compromise how young children interpret interpersonal stressors (Turner & Cole, 1994). Recognizing the difficulty of assessing perceptions in very young children, the authors created the Berkeley Puppet Interview (BPI; Ablow & Measelle, 1993), which is designed to elicit 4½ - to 7½-year-old children’s perceptions and interpretations of different aspects of their family environment. The present study (1) reports on the psychometric properties (reliability and validity) of BPI domains that focus specifically on children’s appraisals of their parents’ conflict, and (2) examines the possibility that individual differences in young children’s attributions of their parents’ conflict mediate the effect of conflict on children’s adjustment. Central to the current study is the contention that young children in fact are reasonably astute observers of their parents’ marital interaction, and that when exposed to conflict, children appraise the degree to which the conflict threatens their own security as well as try to determine the extent to which they themselves are implicated, either as a cause or as a potential source of resolution.

Previous Studies of Children’s Perception of Marital Conflict

Using the Children’s Perceptions of Interparental Conflict Scale (CPIC; Grych, Seid, & Fincham, 1992) to assess 10 to 12 year-old children’s appraisals of their parents’ conflict, Grych and colleagues have identified a number of dimensions that appear to mediate the relation between marital conflict and children’s’
behavioral adjustment and emotional well-being (Grych & Fincham, 1993). For example, in a study of 11- and 12-year-olds, children’s’ perceptions of multiple properties of their parents’ conflict, such as the content, intensity, and frequency of marital conflict, were consistently related to their own reported distress with respect to marital conflict (Grych & Fincham, 1993).

Furthermore, Fincham and his colleagues have found that the child’s perception of the locus of the problem (i.e., the degree to which the child believes she is the cause of the problem) may lead to particularly maladaptive outcomes (Bradbury & Fincham, 1990). This research suggests that a child who believes him or herself to be the cause of parents’ conflict is likely to experience more distress than a child who perceives the cause of her parents’ conflict as external to them (Grych & Fincham, 1990).

Cummings and his colleagues (Cummings & Davies, 1994) argue that children’s perceptions of the degree to which marital conflict is resolved serve as the salient mediator between parents’ conflict and their children’s adjustment. They report that marital conflict is resolved along a continuum between “resolved” and “not resolved.” The extent to which children experience distress related to their parents’ conflict varies according to the degree that they perceive marital conflict resolved (Cummings & Davies, 1994).

Buchanan, Maccoby, and Dornbusch (1991) and Kerig (1995, 1996) report that the degree to which children perceive being “pulled into” or triangulated within their parents’ conflict is associated with negative effects of marital conflict on the child’s adaptation, a finding consistent with family systems therapists’ accounts of family factors in children’s psychopathology (e.g., Minuchin & Fishman, 1981). In sum, older children’s perceptions of the amount and resolution of their parents’ conflict, the extent of their own triangulation into the conflict, and their distress about it, have all been implicated in their adaptation.

Assessing younger children’s perceptions of marital conflict

Despite data suggesting that children’s social attributions about different aspects of their family environment operate as important predictors of their adjustment and maladjustment (Covell & Abromovitch, 1987; Cummings, 1987; Cummings & El-Sheikh, 1991; Fosco & Grych, 2007; Grych & Fincham, 1990; Jouriles et al, 2000; McDonald & Grych, 2006), preschool children have not been asked about their experience
of their parents’ marital conflict. Two factors may be responsible for this omission in the larger field of family research and more specifically in studies of marital conflict and children’s outcomes: young children are limited in their ability to make causal attributions, and common assessment formats like questionnaires fail to elicit their full attention.

Limitations in young children’s cognitive function. Although young children are able to make causal inferences about events, the sophistication of their causal reasoning is limited (Miller & Aloise, 1989; Turner & Cole, 1994). Older children may be aware that multiple factors can lead to marital conflict, and are less likely to make egocentric attributions (Covell & Abromovitch, 1987; Turner & Cole, 1994). By contrast, younger children may not be capable of entertaining the notion that their parents’ marital conflict may have little to do with them.

Cummings et al. found that preschoolers revealed more distress responses (1987) and reported feeling more frightened (1991) than both younger (1-3-year-old) and older (9-19-year-old) children in response to anger expressed between adults. These results suggest that 4-6-year old children express both understanding and distress with respect to anger between adults. However, their relative emotional and cognitive immaturity may interfere with their ability to process the observed anger adaptively, potentially leading to greater distress than older children show.

In one of the few studies investigating young children’s attributions concerning their parents’ behavior, Covell and Abramovich (1987) found that 5- and 6-year-old children believed that they were the sole cause of their mothers’ anger, whereas 8-9-year-old children were able to identify factors other than themselves that could cause anger. Similarly, research on children’s reasoning about their parents’ divorce (Kurdek, 1986; Wallerstein & Kelly, 1980; Neal, 1983) showed that 5-8-year-old children tended to believe that they were the primary cause of their parents’ divorce, whereas older children realized that factors such as parental incompatibility can lead to divorce (Kurdek, 1986). All of these findings suggest that, due to their limited understanding of causality, young children may be at heightened risk for blaming themselves and assuming that
they created the difficulty between their parents, even when this is not justified by actual family interaction patterns.

*Absence of developmentally appropriate methodologies.* In addition to the traditional belief that cognitive and language development may limit the ability of young children to introspect and self-report about familial processes such as marital conflict (Kerig, 1996), the absence of data on young children’s experiences of their family relationships may be due to the dearth of developmentally appropriate methodologies for obtaining their perceptions (Measelle, Ablow, Cowan, & Cowan, 1998). When young children’s perceptions of family and self are assessed, researchers tend to rely on instruments with constructions that are structurally less appropriate for younger children. By using pictures, icons that represent quantity (e.g., larger and smaller circles), and emotionally expressive faces, efforts have been made to adapt existing measures for younger research participants. Although theoretically consistent with the constructs they are meant to assess, at the core, each of these paper and pencil approaches are often too long and complex and ultimately a foreign medium for young children, most of whom are just learning to read. As a result, children’s boredom and lack of attention may contribute to the frequently reported lower reliability in studies of younger children (Hughes, 1984).

The Berkeley Puppet Interview (BPI; Ablow & Measelle, 1993) was created to provide a more age-appropriate methodology for assessing children’s perceptions of their family environment. In contrast to the few paper and pencil questionnaires available for young children, the BPI is designed to ask 4½-to-7½-year-old children how they perceive and make sense of different aspects of their family environment. Using an interactive approach to interviewing children adapted from Eder (1990) and drawing on puppetry’s long history of success in the therapeutic context (Irwin, 1985; Schaefer & O’Conner, 1983; Woltmann, 1952), two identical puppets volunteer opposing information about themselves and then ask children to say which of two statements is most like them. Work to date in our lab (Ablow, 2005; Ablow et al., 1998; Measelle, 2005; Measelle et al., 1998; 2006) and in others (Arseneault et al., 2003; Atzaba-Poria & Pike, 2008; Luby et al., 2002; Pike, Coldwell, & Dunn, 2005) provide clear support for the BPI method as a source of self-report data.
as well as a way to evaluate how children think and feel about relationships that they are in (parent-child, peers, teacher-child, sibling) and that they observe (marital, coparenting).

Aims of the present study

The present study reports on the psychometric properties of the marital scales of the BPI in a sample of children assessed when they were 5 and again 6 years of age. The validity of the BPI marital scales was assessed by testing the associations between children’s reports of their parents’ marital dynamics and parents’ and observers’ reports of marital conflict, and teachers’ reports of children’s academic and social adaptation to school. We tested the hypotheses that (1) children’s perceptions of the qualities of their parents’ conflict are related to estimates of conflict from other sources (parents, observers) and to the children’s own adaptation, and (2) children’s perceptions of the impact that their parents’ conflict has on them are related primarily to their own adaptation. In a final set of analyses, we tested the mediation hypothesis proposed by the cognitive-contextual framework (Cummings & Davies, 1994; Grych & Fincham, 1990). Specifically, we hypothesized that children’s appraisal of their parents marital conflict, specifically, their subjective evaluations of the conflict in terms of felt distress, self-blame, and the need to become involved to facilitate resolution, would mediate the link between interparental conflict and child adjustment.

Method

Participants

This study draws its subjects and data from a three-year prospective study exploring the impact of the transition to kindergarten on individual, marital, and family adjustment. Families (N=118) were recruited primarily from preschool and day-care facilities, and from public service announcements on local radio and television shows. Upon entering the project, all families met the criteria that their oldest child had not yet entered kindergarten and the parenting couple was intact. Of the families, 21% were of African-American, Latino or Asian heritage, and the remaining 79% were European-American. Although, these families constitute a non-clinical sample, 20% to 30% of the mothers and fathers reported significant levels of distress.
on entering the study -- as individuals (symptoms of depression), as parents (parenting stress), and as couples (marital adjustment).

Families began their participation in the project in the year before their eldest child entered kindergarten, and were followed until the child completed first grade. Multiple assessments with each family occurred at 3 separate points during a three year period: (1) preschool, (2) kindergarten, and (3) first grade (for a description of the longitudinal study design, see Cowan, Cowan, Ablow, Johnson, & Measelle, 2005). Kindergarten and grade 1 teachers rated children's adaptation and adjustment twice: in Fall and Spring. Families were assessed in 6 separate domains, all of which have been shown to be central to family members' dysfunction and adaptation: (1) individual adaptation (adult and child), (2) marital quality, (3) family-of-origin relationships (i.e., attachment classifications), (4) sibling relationships, (5) balance of life stress and social support (e.g., work related issues and level of social support), and (6) parent-child relationship quality. Domains were assessed from multiple perspectives (e.g., self-report, behavioral-observations, teacher ratings, and achievement testing). Because children's perceptions of their parents' conflict were not assessed at Time 1 (i.e., preschool) for half of the sample, data for this investigation were drawn from the Time 2 and Time 3 assessments, specifically when children were age 5 and in kindergarten or again when they were age 6 and in first grade. The child sample consists of 56 boys and 42 girls (N=98) with a mean age of 5.6 years (SD = .37) at the Time 2 assessment, and 53 boys and 43 girls (N=96) with a mean age of 6.4 years (SD = .35 years) at the Time 3 assessment. There were no significant differences among families in this subsample and those in the larger study.

Procedure

When children were age 5, or prior to entering kindergarten and again when they were age 6, or prior to commencing first grade, each parent independently filled out questionnaire packets addressing a range of issues related to family life, including their marital relationship (e.g., conflict, communication, problem solving efficacy, and satisfaction with partner). Following parents' completion of the questionnaires, each family (mother, father, target child, and any younger sibling(s)) participated in a laboratory visit during which
observers videotaped their interaction. The visit took place in a laboratory playroom setting and included a session of approximately 40 minutes for the entire family to engage in several structured group activities designed to elicit family interaction patterns. The structured activities, which included a tower building game ("Jenga"), replication of a model train made out of tinker toys, and a family ball pass game, demanded skills slightly above the level of the target child, so as to encourage interaction with and help from his/her parents.

Before the child entered the playroom, the parents were told that the activities were designed to be a bit advanced for their child and that they were free to provide as much help and support as they would normally offer their child at home. Parents were also told that they could decide in what order to present the tasks, when to shift from one activity to another, and that the experimenter would not intervene until the end of the session. Finally, before their children rejoined them, parents were encouraged to spend a few minutes alone to strategize how they would work together and with their child(ren). At the end of each family session, trained clinical observers completed a set of global ratings of husbands' and wives' behavior toward each other, including hostility, competitiveness, cooperation, and marital conflict.

In the present study, children’s perceptions were assessed during two separate summer assessments following kindergarten and first grade. Target children were visited in their homes, where they were interviewed with the Berkeley Puppet Interview (BPI) about their perceptions of themselves and the major relationships in their lives, including their views of their parents' marital conflict. Each target child's kindergarten and first grade teacher was contacted by mail and then telephone and asked to complete behavioral adjustment assessments of all of the children in their classrooms, while remaining blind to the target project participant. Teachers were asked to complete the ratings during the Fall and Spring semester of the school year.

*Measures*

Measures of the marital relationship were obtained from three perspectives, 1) the child, 2) each parent, and 3) clinically trained observers.

*Children’s Perceptions of Marital Conflict*
Children's perceptions of their parents' conflict were assessed using the BPI. The BPI is an interviewing and coding method developed by the authors of this paper (Ablow & Measelle, 1993) for the SAF Project to assess young children’s perceptions of their family environment (interparental conflict, parent-child relationships, sibling relationships, and parents' work lives) and themselves (academically, socially, and psychological symptomatology).

The BPI methodology builds on Harter and Pike’s (1984) and Eder’s (1990) work in assessing self-perceptions and Grych and Fincham’s work in assessing older children’s perceptions of marital conflict (1992). Using an interactive approach, two identical puppets volunteer opposing information about themselves and then ask the children how the issue pertains to them. For example, one puppet says, "When my parents fight I think I did something wrong", whereas the second puppet says, "When my parents fight I don't think I did something wrong...How about you?" Like Harter & Pike's self-concept measure (Harter & Pike, 1984), the technique is designed to offer either alternative as possible and acceptable, thus allowing children to feel free to report their own perception about a particular issue. Pilot testing confirmed that children understand the BPI questions and become unselfconsciously engaged in dialogue with the puppets, allowing themselves to give differentiated responses to sensitive topics.

Children's verbal responses to the interview were video-taped and later coded on a seven point scale (1-7) depending on which statement children say is most like them. If, for example, a child responds negatively by endorsing the item “When my parents have a fight, I think I did something wrong,” her response is coded ‘1,’ ‘2,’ or ‘3’ depending on the degree to which she endorses the negative alternative. Endorsements of positive alternatives are coded ‘5,’ ‘6,’ or ‘7’. If the child indicates that “both” options pertain to her, this response is coded ‘4’. Two additional codes (8 and 9) are reserved for unable-to-code responses.

The video-taped interviews were coded by four trained research assistants. Each child’s interview was coded by at least two trained observers. Interrater reliability was calculated by Pearson Correlations, and ranged from .78 to 1.0 (average interrater reliability =.89). To create one score for each item, ratings made by independent coders were averaged.
For the purpose of this study, only the items designed to assess children's perceptions and processing of marital conflict were used. Development of these items was shaped by the theoretical arguments and empirical results of studies exploring the relation between marital conflict and children’s adaptation. Review of this literature resulted in the development of 5 theoretical scales for the BPI: conflict, conflict resolution, interparental affection, self-blame, distress about conflict, and perceived involvement of self in the conflict. In addition to these five scales, a sixth scale was created based on Gottman’s identification of ‘volatile yet stable’ couples (Gottman, 1993). Gottman describes these couples as having stable relationships because affection between parents buffers their relatively volatile expressions of marital conflict. Thus a sixth BPI scale, parental affection, was created to examine the potential interaction of parents’ conflict and affection as perceived by the child. The six scales developed for the BPI are designed to assess dimensions of marital conflict that have been shown to be particularly salient in influencing (1) the impact of marital conflict on children, (2) children’s response to the conflict, and (3) children’s adjustment (Fosco & Grych, 2007; Grych & Fincham, 1990; McDonald & Grych, 2006). A brief description of each of the scales follows.

*Parent-focused scales (what children observe). The marital conflict scale* reflects the degree of conflict children perceive between their parents. The scale includes four items; e.g., “My parents have fights/My parents don't have fights,” “My parents fight a lot/My parents don't fight a lot.” The *conflict resolution scale* is designed to assess the degree to which children perceive that their parents are able to resolve marital conflict. There are 4 items in this scale; e.g., “After my parents have a fight, they say they are sorry to each other”/ “After my parents have a fight, they don’t say they are sorry to each other;” “After my parents have a fight, they stop talking to each other for a while”/ “After my parents have a fight, they don’t stop talking to each other.” The final parent-focused scale is the spousal affection scale. This scale reflects the degree to which children perceive their parents as being affectionate with one another and engaging in warm exchanges. This scale is comprises 5 items; e.g., “My parents hug each other/My parents don’t hug each other,” “My parents smile at each other/My parents don’t smile at each other.”
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The child-focused scales (children's interpretations of observed marital conflict). The self-blame scale is designed to assess children's tendency to blame themselves for the conflict they perceive between their parents. The scale includes 5 items; e.g., “It's my fault when my parents have a fight/It isn't my fault when my parents have a fight,” and “When my parents have a fight, I think that they are mad at me/When my parents have a fight, I don't think that they are mad at me.” The distress about conflict scale reflects the level of emotional distress that a child reports because of his or her parents' conflict. The distress scale includes 4 items; e.g., “When my parents have a fight I get mad/When my parents have a fight I don't get mad,” “When my parents have a fight I get sad/When my parents have a fight I don't get sad.” Finally, the involvement of self scale assesses whether or not the child perceives that s/he becomes involved when marital conflict occurs. The scale includes 4 items; e.g., “When my parents fight, I yell”/”When my parents fight I get quiet,” “When my parents fight, I don’t listen”/”When my parents fight, I listen.”

Observed Marital Interactions in the Context of Co-parenting:

After each family laboratory visit (described in the Procedure), clinical observers provided global ratings of eleven dimensions of parents' quality of interaction with each other with their children present, e.g., pleasure, warmth, coldness, and anger. Each of the dimensions of couples’ interaction during this co-parenting session was rated on a 5-point scale, ranging from “very low” to “excessive” expression of the behavior (Cowan, Cowan, Schulz, & Heming, 1994). Average interrater reliabilities for this system are .85 (range = .72 to .97). Exploratory factor analysis of scores from a previous sample, using a principal components method with varimax rotation, yielded a 2-factor solution that accounted for 65% in the variance of the quality of couple interaction. The first factor, positive emotion, included measures of pleasure, warmth, responsiveness, and interactiveness. The second factor, conflict, included measures of anger, disagreement, and competition.

Parents' Self-Reports of their Marital Relationship

The Couple Communication Questionnaire (CCQ; Cowan & Cowan, 1990). Husbands and wives independently completed the CCQ which is a 41-item questionnaire designed to assess partners' level of comfort with and ability to communicate about relationship issues, such as intimacy, conflict, and problem-
solving. For this study, three theoretically derived scales were used (for both spouses’ average internal consistency = .80 alpha; range = .72 to .85 alpha; one-year test-retest = .83): (1) positive emotion and intimacy (five items; e.g., “In general, how do you feel about your sexual relationship with your partner now?” “We have a warm relationship”); (2) expression of conflict (five items; e.g., “We argue”; “We yell or insult one another”); and (3) effective problem solving strategies (five items; e.g., “We talk about it to clarify the problem”; “We discuss both our points of view”). Scales from the CCQ are significantly correlated with marital satisfaction for both spouses ($r = .56$ to .64).

Measures of Children’s Adjustment

Measures of children’s adjustment were obtained from children’s kindergarten teacher and a year later form their first grade teachers. Blind to which child in their classrooms was a participant in the SAF project, teachers completed the Child Adaptive Behavior Inventory (CABI) twice for each student in the classroom, once during the fall and once during the spring semester. The CABI is a 106-item questionnaire, adapted by Cowan and Cowan (Cowan et al., 1994) from Schaefer and Hunter's 60-item scale, Adaptive Behavior Inventory (1983), with an additional 17 items adapted from the downward extension of the Quay-Peterson Behavior Problem Checklist (O'Donnell & VanTuinen, 1979), and 23 items from Achenbach and Edelbrock's Child Behavior Checklist (CBCL) (1983). The remaining items were developed specifically for the SAF Project to describe the child’s behavior with peers.

CABI ratings are made on a 4-point scale from “Not at all like” to “Very much like child.” Scores on each scale are then converted to z-scores to represent the behavior of the target child relative to the other children of the same gender in his or her classroom, thus controlling for teachers' general negative or positive bias and classroom atmosphere effects and facilitating comparison of ratings between teachers. Finally, the CABI has good internal consistency (average alpha = .81; range = .66 -.90 alpha) and validity (Cowan & Cowan, 1987; Gottman, 1994). Recent data demonstrate the CABI's sensitivity in assessing both externalizing and internalizing behaviors in children from 4 to 8 years (Cowan et al., 2005). Katz and Gottman (1993) reported significant correlations between the Internalizing and Externalizing scales from the CABI and the Teacher
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Report Form of the CBCL, as reported by teachers who used both instruments to rate their 7- to 8-year-old students' behaviors (Externalizing, $r=.63$; Internalizing, $r=.49$). In the present study, teachers’ ratings of children’s internalizing symptoms (combination of depression and anxiety symptoms) and externalizing symptoms (combination of antisocial and oppositional behavior) were used.

Results

Data concerning the reliability and intercorrelation of the six BPI marital relationship scales are presented first. The validity of subscales is examined next followed by multivariate test of mediation.

Psychometric Properties of BPI Marital Relationship Scales

Initially we sought to determine whether there were gender differences in how boys and girls responded to the BPI marital relationship scales by testing separate MANOVAs (gender x scale) at ages 5 and 6. At both ages, there were no significant mean differences between boys’ and girls’ responses in any of the marital relationship domains. Additionally, we found no significant differences in the patterns of intercorrelations among BPI marital relationship scales for boys and girls. Accordingly, subsequent analyses were conducted on the entire sample.

Scale internal consistency, means, and intercorrelations. As Table 1 shows, the internal consistency of each of the scales was within an acceptable range. Table 1 also provides the scale means and standard deviations for each of the marital relationship scales for both years. In general, children perceived their parents as low in conflict, and as high in affection and conflict resolution. Correspondingly, children tended to report low levels of conflict related self-blame. Interestingly, children tended to report low to moderate levels of conflict-related distress as well as low to moderate involvement in their parents’ conflict. Although children generally reported low levels of conflict, elevations in their reports of distress and involvement suggest the conflict they do perceive is both distressing and something to become involved with. As well, despite sample-level indications that children generally reported seeing their parents’ relationship in a positive light, the standard deviations for most of the scales were fairly large, indicting a good deal of variability in children’s reports.
Table 2 presents the intercorrelations among the BPI marital relationship scales, both within years and across years. At the age 5 assessment and at the age 6 assessment, the BPI marital relationship scales were only modestly correlated on average, mean $r = .16$ and mean $r = .18$, respectively, suggesting that the scales represented fairly distinct dimensions of children’s perceptions of their parents’ marital relationship.

Although similar in terms of the average level of intercorrelations between all scales, there were some noteworthy differences in the patterns of intercorrelations at each year. For example, the significant positive correlation between children’s reports of their parents’ affection and conflict resolution increased significantly (difference $r = .05$, $p < .05$) from age 5 to age 6 such that as they aged, children reporting higher affection between their parents tended to report greater resolution following conflict. Children’s reports of their parents conflict was essentially unrelated to their tendency to blame themselves for their parents’ conflict and to their experience of the conflict as distressing at age 5. However, these associations were significant at age six such that, relative to a year earlier, children reporting higher levels of interparental conflict were now more likely to blame themselves ($r = .39$, $p < .01$) and to experience the conflict as more distressing ($r = .26$, $p < .05$). At age 5, children’s report of distress as a result of their parents’ conflict was not significantly related to their tendency to become involved. At age 6, however, children’s distress and involvement were significantly related ($r = .50$, $p < .001$) such that children reporting higher levels of distress were more likely to report getting involved. Finally, at age 5, children reporting higher levels of self-blame were significantly more likely to report higher levels of involvement in their parents’ conflict. However, there was a significant decrease in this association between ages 5 and 6, such that at age 6, self-blame and involvement were essentially unrelated ($r = .02$, ns).

**Stability over time.** The highlighted correlation coefficients in Table 2 provide a measure of the stability of children’s perceptions of their parents’ marital relationship across a 1-year period of time. With one exception, the stability coefficients reveal that children’s reports of their parents’ conflict, affection, conflict resolution, tendency to self-blame, experience distress, and involvement in their parents’ conflict were moderately, yet significantly stable between ages 5 and 6. The one exception was children’s reports of their distress, which showed little to no stability across one year ($r = .08$, ns). On the whole, however, these data
provide evidence that children’s reports on the BPI marital relationship scales show real and substantial levels of stability.

Validity of Children’s Reports on the BPI Marital Relationship Scales

Although children’s perceptions reflect their subjective realities, we might expect that their descriptions of their parents’ relationship dynamics might correlate with comparable data obtained from mothers, fathers, and clinical observers. As such, child-adult correlations may provide one way to index the validity of young children’s social cognitions. Another index of validity might be derived by comparing the level of agreement between children and different adult sources with the level of agreement among adult sources on the same dimensions. If children’s perceptions of their parents’ marital conflict are valid in some objective sense of the word, we might expect that the level of agreement between pairs of informants that included the children would not be significantly less than pairs of adult informants. Both issues were examined next.

Our initial question concerned the extend to which children’s reports of their parents’ relationship behavior – marital conflict, conflict resolution, and affection – corresponded with spouses’ reports on conceptually similar domains. Additionally, because a spouse’s reports of their marital dynamics might reflect self-report bias, especially in more distressed marital systems, we thought it important to include the reports of clinically trained observers. We expected that the three scales reflecting children’s perceptions of parents’ marital behavior would correlate with parents’ own reports of their marital behavior and with observer ratings of marital interaction during the family visit to our laboratory playroom.

As shown in Table 3, children’s perception of their parents’ marital conflict was significantly correlated at both assessment periods with the reports of marital conflict provided by their mothers and fathers, as well as with clinical observers’ ratings of conflict between parents as they worked together with their child in our laboratory playroom. Similarly, children’s perceptions of their parents’ affection were significantly correlated at both assessment periods with the reports of marital affection provided by their mothers and fathers as well as with clinical observers’ ratings of positive emotion between spouses. Children’s reports of their
parents’ conflict resolution was unrelated to mothers’ reports of spousal conflict resolution at ages 5 and 6. Although children’s reports of resolution were also unrelated with fathers’ reports of spousal conflict resolution at age 5, they were positively correlated at age 6 such that children reporting higher resolution between parents tended to have fathers reporting similarly. Unfortunately, our coding system did not include a measure of conflict resolution for observers to complete.

For ease of reference, we did not include the correlation coefficients for all child-adult correlations. Importantly, however, children’s reports of their parents’ conflict was not significantly correlated with mothers and fathers reports of their conflict resolution ($r_s = -.17$ and $-.09$, $ns$, respectively) or affection ($r_s = -.13$ and -.14, $ns$, respectively), or with observers reports of positive interparental affection ($r = -.18$, $ns$). This unique pattern of association between children’s reports of marital conflict and adults’ reports points to the specificity of children’s reports.

Next we sought to compare patterns of cross-informant correlations as a way to evaluate further the validity of children’s perceptions of their parents’ relationships. Specifically, we sought to determine whether the child-adult correlations were as meaningful as the correlations between both spouse’s own marital reports and the observations of their marital interaction while working with the child (e.g., mother-observer correlations; father-observer correlations). Observers’ ratings of the interparental conflict was related to mothers’ reports of marital conflict when children were age 5 only ($r = .31, p< .01$) and with fathers’ reports of marital conflict at both age 5 and 6 ($r’s = .26$ and .24, $p<.05$, respectively). Observers’ ratings of positive emotion were unrelated to both spouses’ reports of affection at both assessments. In sum, although the differences were not statistically significant, at ages 5 and 6, young children’s reports of marital conflict were more strongly correlated with mothers’, fathers’, and observers’ reports of marital conflict than were parents’ and observers’ reports with each other. Moreover, whereas children’s reports of their parents’ marital affection were significantly correlated with all three adult informants, there was no correspondence between the reports of either spouse and the observer.
Our next question concerned the possible real world consequences of children’s perceptions of their parents’ marital behaviors and the BPI scales assessing how children managed these perceptions. Additionally, we were interested in which source of information about marital functioning – child, parents, clinical observer – was most predictive of children’s adaptation to school as rated by teachers. As shown in Table 4, children’s perceptions of their parents’ conflict and conflict resolution were significantly associated with teachers’ reports of children’s internalizing and externalizing at ages 5 and 6. Children reporting higher interparental affection were also described as having lower levels of internalizing symptoms at ages 5 and 6, whereas children’s reports of interparental affection was not significantly associated with teachers’ reports of externalizing.

At both time periods, strong associations were found between children’s tendency to blame themselves for their parents’ conflict and elevated levels of internalizing and externalizing symptoms according to teachers. Likewise, children reporting higher distress because of their parents’ conflict were rated as higher in internalizing and externalizing at ages 5 and 6. Interestingly, children’s reports that they became involved in their parents conflict (in attempts to intervene or to resolve the conflict) were unrelated at both years to teacher reports of internalizing problems, but were significantly associated with teacher reports of externalizing problems at both years. As shown in Table 4, the correlations involving mothers, fathers and observers were neither as strong nor as consistently related with teachers’ reports as were children’s reports of their parents’ relationship processes. In sum, compared to their parents’ reports of their own marital dynamics as well as clinical observations of spouses engaged in coparenting tasks, children’s reports of their parents’ marital behavior and the extent to which they assumed blame, felt distress, or became involved in their parents’ conflict best predicted kindergarten and first grade teachers’ reports of children’s internalizing and externalizing behavior problems.

**Children’s Perceptions as Multivariate Mediators of Marital Conflict**

In our final analyses, we sought to test the hypothesis that how children made sense of their parents’ relationship dynamics would mediate the link between marital conflict and children’s classroom adjustment. To increase the reliability of these analyses we collapsed our data as follows. First, we averaged mothers’ and
fathers’ reports of their marital conflict at both assessments. Similarly, we averaged children’s reports of their self-blame at both assessments, their reports of distress at both assessments, and their reported involvement at both assessments. Finally, we averaged teachers’ Fall and Spring reports of children’s internalizing into a single score as well as their reports of children’s externalizing across both assessments. Mediation was evaluated by estimating confidence intervals around the indirect effects, with regression-based path analysis (Preacher & Hayes, 2004) and non-parametric resampling (bootstrapping with bias correction; Preacher & Hayes, 2004; MacKinnon, 1994). This procedure yields a path model that directly estimates the significance of the indirect effect appropriately for relatively small samples (Preacher & Hayes, 2004; MacKinnon, 1994). It therefore is similar to but more powerful than the older procedure recommended by Baron and Kenny (1986) in that it allows for multivariate tests of mediation. Specifically, we examined the extend to which all three BPI processing scales – self-blame, distress, and involvement – mediated the link between couples’ reports of their marital conflict and teachers’ reports of children’s internalizing, in a first model, and then teachers’ reports of children’s externalizing in a second model.

As shown in the top portion of Figure 1, spouses’ combined report of marital conflict was directly associated with teachers’ reports of young children’s internalizing problems. However, as shown in the lower portion of Figure 1, this effect was mediated by how children made sense of their parents’ conflict. Specifically, the overall indirect path was significant ($p < .01$; see figure footnote) and completely mediated the effect of marital conflict on teachers’ reports of internalizing. As shown in Figure 1, children’s tendency to blame themselves for and to feel distress because of their parents’ conflict each significantly mediated the effect of marital conflict on their internalizing symptoms, as reported by their teachers. However, children’s tendency to report becoming involved in their parents’ conflict did not figure significantly into this overall mediation process. All results held when results were checked for individual variables with methods recommended by Baron and Kenny (1986).

As shown in the top portion of Figure 2, spouses’ combined report of marital conflict was directly associated with teachers’ report of young children’s externalizing problems. However, as shown in the lower
portion of Figure 2, this effect was mediated by how children made sense of their parents’ conflict, with the overall indirect path completely mediating the effect of marital conflict on teachers’ reports of externalizing behavior ($p < .05$; see figure footnote). In contrast to the internalizing model, neither children’s tendency to blame themselves for their parents’ conflict nor children’s distress were significant mediators in this model when considered simultaneously with child reports of involvement. Furthermore, distinct from the internalizing model, children’s tendency to report becoming involved in their parents’ conflict exerted significant mediation over the effect of marital conflict on children’s externalizing such that high conflict was related to children’s reports of greater involvement, which was, in turn, related to higher externalizing problems as reported by teachers. When results were checked for individual variables with methods recommended by Baron and Kenny (1986), there was a trend for self-blame to mediate the effect of conflict on externalizing, whereas involvement was a significant univariate mediator as would be expected based on the path model results.

Discussion

The primary purpose of this study was to examine the extent to which young children’s reports of their parents’ marital dynamics could be reliably collected and used to account for individual differences in children’s classroom adjustment. Although researchers have begun to use children’s perceptions of their parents’ relationship to advance our understanding of the mechanisms linking the marital relationship processes and children’s adjustment, most of this work has been limited to older children’s (9-to 11-year-olds) reports. Thus the aim of this study was to examine (a) whether children when they were 5- and again when they were 6-years-old could be reliable reporters of their parents’ relationship, (b) the extent to which children’s perceptions were valid in terms of their associations to comparable reports provided by spouses and clinically trained observers, as well as in terms of their relation to their own adaptation (as rated by teachers), and finally, (3) the extent to which children’s attributions and reactions to their parents’ marital dynamics mediated the effect of marital conflict on children’s internalizing and externalizing problems as observed by their teachers.

Basic Psychometrics of Young Children’s Perceptions of their Parents’ Marital Relationship
The results of this study suggest that young children’s perceptions of their parent’s relationship can be measured reliably with the Berkeley Puppet Interview (Ablow & Measelle, 1993). Children’s perceptions of their parents’ relationship were assessed on multiple BPI scales, including 3 parent-focused scales (marital conflict, resolution of marital conflict, and spousal affection) and 3 child-focused scales (perceived self-blame for marital conflict, perceived distress due to marital conflict, and perceived involvement in parents’ conflict). All six scales demonstrated acceptable levels of internal consistency, with alpha coefficients averaging .73 and no alpha coefficient falling below .55 at either age. All six scales were also relatively distinct, with the intercorrelations among scales never exceeding .51, even at age 5. Although there may be numerous reasons to account for these psychometric strengths, we focus on two for the purpose of brevity. First, these data suggest that when interviewed with a meaningful item content young children can provide internally consistent information about the dynamics of their parents’ relationship, in particular, marital conflict, which studies show to be emotionally salient to children as young as one-year of age (Fincham, 1998). Second, we have devoted considerable effort to improving the BPI’s age appropriateness and standardization as a self-report instrument. One clear example of this is our determination through several studies (Ablow et al., 1999; Measelle et al., 1998; 2005) that the use of a forced-choice response format (e.g., Eder’s, 1990) constrains the variability in children’s responses. As well, standardized BPI training procedures provide interviewers with the tools needed to support a wide range of children to respond to the BPI’s probes, be it verbally or nonverbally.

The temporal stability or reliability of the BPI marital relationship scales also was supported by evidence of consistency in children’s reports of their parents’ marital dynamics across a one-year period. Although usually determined through readministration of an instrument over a one- to two-month period, scale scores obtained when children were 5 and then again 6 suggested that children’s perceptions of their parents’ relationship were generally consistent across a one-year period, with stability coefficients ranging from .28-.50. The one clear exception was children’s reports’ of their tendency to become involved in their parents’ conflict, which showed little stability between ages 5 and 6, perhaps owing to children’s growing sense of futility about the benefits of such involvement. On the whole, however, the stability of children’s reports point both to the
reliability of how they construe their parents’ relationship dynamics as well as to real patterns of stability in how spouses actually relate to one another.

**Validity of Young Children’s Perceptions of their Parents’ Marital Relationship**

The validity of the children’s reports of their parents’ marital relationship dynamics also was supported by testing a number of different cross-informant patterns of association. Consistent with older children’s reports on their parents’ marital relationship processes (Fincham, 1998; Grych, Seid & Fincham, 1992), significant differences in the general pattern of results for the boys and girls did not emerge in our study. Fincham (1998) points out that in contrast to research on marital satisfaction, gender differences do not typically emerge when examining the relationship between marital conflict and children’s adjustment.

As predicted, children’s perceptions of the different qualities of their parents’ relationship – conflict, resolution, and affection – were related to conceptually similar scales provided by each spouse/parent and to ratings provided by clinically trained observers. Perhaps most important, children’s perceptions of their parents’ marital conflict were related to spouses’ own reports of their conflict as a couple at both time periods, but not to adults’ reports of resolution or affection. That children’s perception of their parents’ marital conflict was not associated with any of the other marital relationship dimensions points to the specificity of the BPI’s perceived marital conflict scale.

Not only were children’s perceptions of their parents’ marital relationship correlated with parents’ reports, they also were consistently correlated at both ages with clinical observers’ reports of interparental conflict and positive emotion between spouses while coparenting their child. Moreover, the association between children’s and observers’ reports appeared to be as strong if not stronger than the association between children and their parents and between husbands’ and wives’ reports. Why would children’s and observers’ ratings of marital conflict be as strongly or more strongly related than children’s and parents’ reports or spousal reports, for that matter? Perhaps some parents are not reporting that conflict exists between them, or are basing their reports of marital conflict primarily on the occurrence of overt disagreements. Observers of interparental conflict may take into account both overt expressions of anger and more subtle expressions of tension, such as
spousal withdrawal, or nonverbal expression of marital stress. In other words, observers may be forming their impression that conflict exists between these partners not solely upon overt expressions of anger. Similarly, children may also base their estimations of marital conflict on a combination of overt and covert expressions of marital discord. The consistent association between children’s perceptions of their parents’ conflict and observers’ ratings of the degree to which husbands and wives expressed conflict and positive emotion toward one another while working and playing with their children may lend support to this possibility.

On the other hand, although correlated well for cross-informant perspectives, especially in consideration of the fact that some of the informants were only 5 years-old, agreement among the informants was far from perfect. Lack of agreement may be due to varied experiences and factors contributing to each informant’s perceptions as well as the difficulties inherent in estimating the inner workings of a marriage. In this study, observer’s perceptions of the marital relationship, for example, were gleaned from partners’ interactions with each other in the presence of their child. Although an ecologically rich sampling of interparental behavior (Lindahl & Malik, 2001), it is nevertheless a rather small slice of the entire couple relationship. Similarly, children’s perceptions are formed through observation of and interaction with their parents’ many varied interactions and filtered through attribution systems of varying levels of sophistication according to the child’s age (Turner & Cole, 1994). Clearly, there are likely positive and negative factors in any marital relationship that are indiscernible to individuals outside the marriage, yet which also may be experienced differently by each spouse. In other words, there are a variety of clear and not-so-clear facets of any interpersonal relationship that will contribute to discrepancies among individuals embedded in and observing the relationship.

Recent studies suggest that children’s appraisals of marital conflict, that is whether they blame themselves, become threatened by their parents’ conflict, or feel the need to become involved in its resolution, may mediate the association between exposure to marital conflict and mood and behavioral problems (Grych et al., 1992). As this domain of inquiry is likely to be particularly fruitful for understanding developmental psychopathology, we initially examined the validity of these three BPI scales in terms of their relationship to
teachers’ reports of children’s internalizing and externalizing behavior problems at both time points. As assessed with the BPI, children’s perceived self-blame and distress at age 5 and again at age 6 were significantly related to teachers’ ratings of children’s internalizing and externalizing behavior problems. Research has shown that, for reasons of cognitive egocentrism, young children (Ablow, 2005; Covell & Abramovich, 1987) have a tendency to blame themselves for interparental conflict, and these data suggest that both the conflict itself coupled with young children’s tendency to blame themselves may predispose some children to elevated mood and conduct problems in the classroom. Similarly, children’s experience of distress because of their parents’ conflict appears to compromise their sense of security. Indeed, Cummings and colleagues have demonstrated that this lack of emotional security, be it objectively or subjectively measured, is a strong predictor of impaired child outcomes (Cummings & Davies, 1994).

Of interest was the fact that children’s reports of their tendency to become involved in their parents’ conflict was essentially unrelated to teacher reports of internalizing problems whereas they were significantly associated with teacher reports of externalizing at ages 5 and 6. Although the causal direction in these data cannot be established, it seems plausible to speculate that deficits in inhibitory or behavioral control likely underlie both the tendency to get involved in interparental conflict as well as to act impulsively and aggressively with peers and others. At a minimum, it seems plausible that the act of trying to intervene in parents’ conflict may contribute to a sense of frustration that might spill-over into the classroom context. Although not reported in the results section, additional exploratory analyses using an autoregressive model revealed that children’s reports of involvement predicted change from age 5 to age 6 in teacher reports of antisocial behavior. This leads some credence to the possibility that children’s perceptions of involvement in their parent conflict may increase the risk of subsequent externalizing problems.

Consistent with Grych and colleagues’ results with older children (2006; 2007), in the present study, young children’s perceptions of and self-attributions about their parents’ marital relationship were more consistent predictors of teacher’s ratings of children’s adjustment than were parents’ or clinical observers’ reports of their marriage. These results appear to validate the BPI as a viable tool for assessing young
children’s perceptions of their parents’ relationship. More germane, these data highlight the importance of studying even younger children’s perspective in order to gain a more complete understanding of the association between marital conflict and child adjustment.

Evidence that Children’s Attributions May Mediate the Marital Conflict-Child Adjustment Link

The cognitive-contextual theory proposed by Grych and Fincham (1990) states that children’s perceptions and interpretations of interparental conflict play a mediating role in determining the impact of conflict on their adjustment. Evidence in support of this mediation process, in particular the extent to which children blame themselves and feel threatened by the conflict, has accumulated in samples of older children age 8 and older (Fosco & Grych, 2007; McDonald & Grych, 2006). A core aim of the present investigation was to determine whether the social-cognitive characteristics of even younger children might function similarly when exposed to interparental conflict dynamics. The literature has yet to determine the age at which children’s appraisal of threat and self-blame start to act as processes by which exposure to conflict leads to maladjustment. However, it has been speculated (Jouriles et al., 2000) that children younger than age 7 may not engage in the type of cognitive processing involved in making self-attributions (e.g., self-blame) for observed events (see brief review by McDonald & Grych, 2006; Grych & Fincham, 1990). Our results firmly contradict this latter contention.

In our multivariate path model, we found that young children reports of self-blame and of conflict-related distress mediated the effect of spouses’ combined reports of conflict with teachers’ reports of internalizing problems. Children’s sense of responsibility for resolving the conflict did not mediate this effect, however. Like McDonald and Grych’s (2006) investigation with 7-to 9-year-olds, we found that 5- to 6-year-olds’ attributions of self-blame and distress independently and jointly mediated the association between marital conflict and internalizing problems. However, unlike McDonald and Grych who demonstrated mediation using child reports of both their appraisal processes as well as their internalizing symptoms, in the present study, the mediated links among parent-reported conflict, children’s appraisal, and teacher reports of internalizing problems were derived through independent sources. Turner and Cole (1994) hypothesized that young children
probably lack the capacity to perceive and explain emotional events with much stability until adolescence, consequently, self-blaming attributions would presumably have less effect on their adjustment. To the contrary, these data suggest that when interviewed in a developmentally appropriate manner, young children’s tendency to blame-themselves for their parents’ conflict are both stable across time \((r = .36\) from age 5 to age 6) and implicated mechanisms. Further, young children’s sense of distress or threat because of their parents’ conflict may presage symptoms of depression by increasing children’s sense of helplessness in the face of conflict that they can’t control (Nolen-Hoeksema et al., 1992).

The specificity of young children’s attribution processes was also borne out in the path model predicting externalizing. Here, children’s attributions of distress did not mediate the effect of conflict on teacher reports of externalizing problems in school, and children’s appraisal of self-blame was not a significant mediator when included in the model in which children reported higher levels of involvement in their parents’ conflict for the purposes of resolution. In fact, children’s reports that they attempt to resolve their parents’ conflict most strongly mediated the effect of marital conflict on externalizing problems. Among 7- to 9-year olds, MacDonald and Grych (2006) found no evidence of mediation for self-blame or perceived threat, and they did not include involvement in their model. Unlike the internalizing model, which we conjecture might show continuity from our age range to the older age ranges studied by Grych, Fincham, and colleagues, it is possible that young children’s sense that they do or should attempt to resolve their parents conflict may be a time limited effect. As children acquire a more sophisticated sense of conflict responsibility and resolution, this knowledge, coupled with what would most likely be a history of ineffectual attempts at involvement and resolution, could predict diminishing attempts at involvement. Nevertheless, exposure to conflict and frustration owing to futile attempts to resolve interparental conflict, may still predict externalizing problems.

Limitations

There are several limitations to the present study. Because families in this sample were two-parent, predominantly middle-class, and mostly Euro-American, further study is necessary to determine the limits of generalizability to other social classes, groups, and family structures. At present, researchers in this and other
laboratories around the country are exploring the validity of the BPI in samples with greater ethnic and family diversity.

The present version of the BPI did not focus on the most overt forms of family violence. Pilot work with scales developed to assess children’s perceptions of very intense and physical discord yielded almost no variance in the present sample. Other samples might present with more variability. As the BPI is an interactive interview that allows children to elaborate on their responses, items designed to assess parents’ physical conflict may elicit responses that require reporting in many states. In other words, ethical issues involved in reporting will need to be seriously considered prior to asking children about violence in their homes.

The data reported in this study were obtained with 5 - 6 year-old children. However, the BPI marital relationship interview has been conducted with children as young as 4 1/2 year-old. Although not reported in this study, because the sample was half of the current sample, preliminary analyses demonstrate that the internal consistency of the scales is consistent with the results reported in this study. We believe that the BPI is an appropriate methodology to interview children who range in age from 4 ½- to 7 ½-years of age. Validity and pilot work with additional interviews that assess other aspects of young children’s family environment (e.g., parent-child relationship and sibling relationship) provide evidence that also targets this as an appropriate age range (Ablow 2005; Atzaba-Poria & Pike, 2008; Pike, Coldwell, & Dunn, 2005). Except in samples of children with histories of trauma and abuse (personal communication, Zeanah, 2001), children older than 8-years-old tend to lose interest in the puppets, while children younger than 4 often cannot sustain their attention and sit for the entire interview.

Perhaps the most significant implication of this study is its demonstration that young children, when assessed with age-appropriate methodology, such as the BPI, can be reliable reporters’ of their parents’ relationship and marital conflict. Furthermore, children’s awareness of inter-parental conflict and, more specifically, how they process this conflict, appear to be relevant to their behavioral development. There is increasing belief (Grych & Fincham, 1990; 1993; Grych, 1998) that to understand fully how exposure to marital conflict is linked to children’s adjustment, researchers must consider children’s perceptions and
processing of their parents’ conflict. To date, this line of research has largely been pursued with school-age or older children. However, how children make sense of and respond to daily stressors such as family conflict varies considerably with their age. To understand these developmental differences, researchers have pointed to the need for methods that would facilitate the assessment of children’s perceptions throughout the childhood years. Toward this goal, this study extends use of the Berkeley Puppet Interview methodology to the study of how children as young as 5 years perceive and make sense of their parents’ fights. Although the utility of the BPI will be explored further in future investigations that examine the role that young children’s perceptions play in linking conditions of risk in families to children’s psychological reactions, at present it appears to be a promising measure of children’s exposure and processing of marital conflict and their parents’ relationship.
REFERENCES


Table 1

*Internal Consistency, Means and Standard Deviations of BPI Martial Scales at Ages 5 and 6*

<table>
<thead>
<tr>
<th>BPI Scales</th>
<th>Alpha</th>
<th>Age 5</th>
<th>Mean</th>
<th>(SD)</th>
<th>Alpha</th>
<th>Age 6</th>
<th>Mean</th>
<th>(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict</td>
<td>.55</td>
<td>2.84</td>
<td>1.08</td>
<td></td>
<td>.77</td>
<td>2.93</td>
<td>1.24</td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>.67</td>
<td>4.83</td>
<td>1.26</td>
<td></td>
<td>.68</td>
<td>4.87</td>
<td>1.19</td>
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</tr>
<tr>
<td>Affection</td>
<td>.62</td>
<td>5.32</td>
<td>.79</td>
<td></td>
<td>.74</td>
<td>5.34</td>
<td>.95</td>
<td></td>
</tr>
<tr>
<td>Self-Blame</td>
<td>.69</td>
<td>2.62</td>
<td>.81</td>
<td></td>
<td>.67</td>
<td>2.44</td>
<td>.68</td>
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</tr>
<tr>
<td>Distress</td>
<td>.80</td>
<td>3.72</td>
<td>1.27</td>
<td></td>
<td>.78</td>
<td>3.49</td>
<td>1.25</td>
<td></td>
</tr>
<tr>
<td>Involvement</td>
<td>.67</td>
<td>3.58</td>
<td>1.25</td>
<td></td>
<td>.60</td>
<td>3.39</td>
<td>1.01</td>
<td></td>
</tr>
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</table>

*Note. N = 98 at age 5; n = 96 at age 6.*
Table 2

*Correlations among the BPI Marital Conflict Subscales at Ages 5 and 6*

<table>
<thead>
<tr>
<th></th>
<th>Conflict</th>
<th>Resolution</th>
<th>Affection</th>
<th>Self-blame</th>
<th>Distress</th>
<th>Involvement</th>
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</thead>
<tbody>
<tr>
<td>Conflict</td>
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<td>.01</td>
<td>-.14</td>
<td>.16</td>
<td>.01</td>
<td>.08</td>
</tr>
<tr>
<td>Resolution</td>
<td>.15</td>
<td>.38***</td>
<td>.27*</td>
<td>-.14</td>
<td>-.19</td>
<td>-.05</td>
</tr>
<tr>
<td>Affection</td>
<td>-.23*</td>
<td>.51***</td>
<td>.28***</td>
<td>.04</td>
<td>-.08</td>
<td>-.06</td>
</tr>
<tr>
<td>Self-Blame</td>
<td>.39***</td>
<td>-.26*</td>
<td>-.23*</td>
<td>.36***</td>
<td>.22*</td>
<td>.32**</td>
</tr>
<tr>
<td>Distress</td>
<td>.26*</td>
<td>-.03</td>
<td>-.04</td>
<td>.11</td>
<td>.08</td>
<td>.12</td>
</tr>
<tr>
<td>Involvement</td>
<td>.11</td>
<td>-.04</td>
<td>-.02</td>
<td>.02</td>
<td>.24*</td>
<td>.50***</td>
</tr>
</tbody>
</table>

*Note.* Age 5 intercorrelations are presented above the diagonal; age 6 intercorrelations are printed below the diagonal. Bolded correlations on the diagonal represent 1-year stability correlations between age 5 and 6.

*\(p<.05; **p<.01; ***p<.001\)
Table 3

Cross-Informant Correlations: Associations Between Child, Mother, Father, and Clinically Trained Observer’s Reports of Parents’ Marital Relationship Behavior

<table>
<thead>
<tr>
<th>Domain</th>
<th>Cross-Informant Pairs</th>
<th>Age 5</th>
<th>Age 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conflict</td>
<td>Child – Mother</td>
<td>.32**</td>
<td>.36***</td>
</tr>
<tr>
<td></td>
<td>Child – Father</td>
<td>.45***</td>
<td>.27**</td>
</tr>
<tr>
<td></td>
<td>Child – Observer</td>
<td>.43***</td>
<td>.40***</td>
</tr>
<tr>
<td></td>
<td>Mother-Observer</td>
<td>.31***</td>
<td>.19</td>
</tr>
<tr>
<td></td>
<td>Father-Observer</td>
<td>.26*</td>
<td>.24*</td>
</tr>
<tr>
<td></td>
<td>Mother-Father</td>
<td>.39***</td>
<td>.41***</td>
</tr>
<tr>
<td>Resolution</td>
<td>Child – Mother</td>
<td>.19</td>
<td>.04</td>
</tr>
<tr>
<td></td>
<td>Child – Father</td>
<td>.06</td>
<td>.33**</td>
</tr>
<tr>
<td></td>
<td>Mother-Father</td>
<td>.33**</td>
<td>.15</td>
</tr>
<tr>
<td>Affection</td>
<td>Affection – Mother</td>
<td>.30**</td>
<td>.31**</td>
</tr>
<tr>
<td></td>
<td>Affection – Father</td>
<td>.36***</td>
<td>.37***</td>
</tr>
<tr>
<td></td>
<td>Positive Emotion - Observer</td>
<td>.23*</td>
<td>.32**</td>
</tr>
<tr>
<td></td>
<td>Mother-Observer</td>
<td>.17</td>
<td>.14</td>
</tr>
<tr>
<td></td>
<td>Father-Observer</td>
<td>.16</td>
<td>.09</td>
</tr>
<tr>
<td></td>
<td>Mother-Father</td>
<td>.53***</td>
<td>.46****</td>
</tr>
</tbody>
</table>

*Note.* Maternal/wives’ and paternal/husbands’ reports of couple affection was based on the Affection Scale from the MAT; all other spousal reports derived using the DAS.

*N = 93 at age 5; n = 89 at age 6.*

* p < .05; ** p < .01; *** p < .001.
Table 4

Correlation between Children’s Reports of their Parents Marital Relationship with Teachers’ Reports of Internalizing and Externalizing Behavior Problems at Ages 5 and 6.

<table>
<thead>
<tr>
<th>Informant</th>
<th>Teacher report</th>
<th>Internalizing</th>
<th>Externalizing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Age 5</td>
<td>Age 6</td>
</tr>
<tr>
<td>Child</td>
<td>Conflict</td>
<td>.37**</td>
<td>.38***</td>
</tr>
<tr>
<td></td>
<td>Resolution</td>
<td>-.35**</td>
<td>-.34**</td>
</tr>
<tr>
<td></td>
<td>Affection</td>
<td>-.29**</td>
<td>-.26*</td>
</tr>
<tr>
<td></td>
<td>Self-Blame</td>
<td>.42***</td>
<td>.42***</td>
</tr>
<tr>
<td></td>
<td>Distress</td>
<td>.27*</td>
<td>.24*</td>
</tr>
<tr>
<td></td>
<td>Involvement</td>
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<td>.14</td>
</tr>
<tr>
<td>Mother</td>
<td>Conflict</td>
<td>.33**</td>
<td>.26*</td>
</tr>
<tr>
<td></td>
<td>Resolution</td>
<td>-.13</td>
<td>-.24*</td>
</tr>
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<td>-.09</td>
<td>-.11</td>
</tr>
<tr>
<td>Father</td>
<td>Conflict</td>
<td>.23*</td>
<td>.28**</td>
</tr>
<tr>
<td></td>
<td>Resolution</td>
<td>-.28**</td>
<td>-.29</td>
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<tr>
<td></td>
<td>Affection</td>
<td>-.23*</td>
<td>-.17</td>
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<tr>
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<td>Conflict</td>
<td>.14</td>
<td>.18</td>
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<tr>
<td></td>
<td>Positive Emotion</td>
<td>-.07</td>
<td>-.11</td>
</tr>
</tbody>
</table>

N = 93 at age 5; n = 89 at age 6.

* p < .05; ** p < .01; *** p < .001.
Figure 1. Path diagram showing multivariate mediation of the effect of marital conflict on teacher’s reports of children’s internalizing problems

Figure 2. Path diagram showing multivariate mediation of the effect of marital conflict on teacher’s reports of children’s externalizing problems
Note. Total indirect effect B = .21 (SE = .08), p < .01 (95% CI = .09-.37). Numbers on the figures are path coefficients (standardized regression coefficients.)
Note. Total indirect effect $B = .17$ ($SE = .06$), $p < .05$ (95% CI = .06-.34). Numbers on the figures are path coefficients (standardized regression coefficients).