

Linking Marital Conflict and Children's Adjustment: The Role of Young Children's Perceptions

Jennifer C. Ablow and Jeffrey R. Measelle
University of Oregon

Philip A. Cowan and Carolyn P. Cowan
University of California at Berkeley

Young children's ($n = 96$) perceptions and appraisals of their parents' marital conflict were evaluated at age 5 and again at age 6. Concurrent reports of marital conflict by each parent and teachers' reports of children's classroom adjustment served as criteria against which to evaluate the validity of young children's perceptions. Children's perceptions of their parents' marital relationship were significantly correlated with spouses' reports at ages 5 and 6, as well as correlated with teacher reports of internalizing and externalizing problems. Consistent with the cognitive-contextual theory, children's tendency to blame themselves for their parents' conflict partially mediated the link between marital conflict and children's internalizing symptoms. In contrast, children's reports that they become involved in their parents' conflict partially mediated the effect of marital conflict on externalizing problems.

Keywords: marital conflict, children's perceptions, Berkeley Puppet Interview, children's adjustment

Over the past 15 years, many studies have found links between parents' marital conflict and their children's behavior problems (Cummings & Davies, 1994; Erel & Burman, 1995; Fosco & Grych, 2007; Grych & Fincham, 1990; Jouriles, Spiller, Stephens, McDonald, & Swank, 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 conflict in their parents' relationship play a central role in determining the effect that marital conflict has on children's emotional and behavioral adjustment. At present, studies of children's perceptions as a mediating mechanism have been limited to children who are 7 years or older. Evidence suggests, how-

ever, that it may be the cognitive limitations of younger children that make them particularly vulnerable to the effects of interparental conflict, the content of which frequently lies beyond their comprehension (Jouriles et al., 2000; McDonald & Grych, 2006; Turner & Cole, 1994). Recognizing the difficulty of assessing perceptions in very young children, we created the Berkeley Puppet Interview (BPI; Ablow & Measelle, 1993), which is designed to elicit 4 1/2- to 7 1/2-year-old children's perceptions and interpretations of different aspects of their family environment. The present study reports on the psychometric properties of the BPI scales designed to assess children's perceptions and appraisals of their parents' conflict and tests the hypothesis that individual differences in young children's perceptions of their parents' conflict mediate the effect of conflict on children's adjustment. Central to the present study is the contention that young children are reasonably astute observers of their parents' marital interaction and that, when exposed to conflict, they try to determine the extent to which they themselves are implicated, either as causes or as potential sources of resolution.

Jennifer C. Ablow and Jeffrey R. Measelle, Department of Psychology, University of Oregon; Philip A. Cowan and Carolyn P. Cowan, Department of Psychology, University of California at Berkeley.

Work on this project was supported by National Institute of Mental Health Grants to Jennifer C. Ablow (1 F3 MH11038), to Jeffrey R. Measelle (1 F3 MH10816), and to Philip A. Cowan and Carolyn P. Cowan (MH-31109). Work on the development of training materials for the Berkeley Puppet Interview was supported by Grant PR-10004 from the MacArthur Foundation Research Network on Psychopathology and Development to Jennifer C. Ablow and Jeffrey R. Measelle. We would like to express our gratitude to Joan Kaplan and the research assistants who worked on this project, as well as to the teachers and families who participated in the study.

Correspondence concerning this article should be addressed to Jennifer C. Ablow, Department of Psychology, University of Oregon, Eugene, OR 97403-1227. E-mail: jcablow@uoregon.edu

Previous Studies of Children's Perception of Marital Conflict

Research on the role of children's appraisals of their parents' conflict has considered a number of different dimensions of children's social cognitive processes. For example, Cummings and Davies (1994) have demonstrated that children's perceptions of the degree to which marital conflict is resolved serves as the salient mechanism linking parents' conflict and their children's adjustment. Buchanan, Maccoby, and Dornbusch (1991) and Kerig (1995, 1996) reported 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). Children's perceptions of the content, intensity, and frequency of their parents' conflict have been related to children's self-reported distress and adjustment as well—in particular, internalizing symptomatology (Grych & Fincham, 1993). In summary, older children's perceptions of the content, frequency, intensity, and resolution of their parents' conflict have all been implicated in children's response to interparental conflict.

At the outset, we want to clarify two aspects of our terminology. In the present report, we refer to children's perceptions to describe how children report on the properties or characteristics of their parents' marital conflict; for example, children's perceptions of their parents' level of conflict, conflict resolution, and affection. We use conflict appraisals to refer to children's cognitive processing of the cause or the meaning that they derive from their perceptions. Specifically, we use appraisals to refer to children's reports of self-blame for their parents' conflict, the distress they experience as a result of their parents' conflict, and their perceived involvement in their parents' conflict.

Although the association between interparental conflict and children's socioemotional adjustment has been demonstrated (see review by Fincham, 1998), insights into the processes that give rise to these associations are more recent. Models designed to account for such associations have increasingly emphasized children's appraisals of threat and attributions of blame for the conflict (Grych & Fincham, 1990; Grych, Fincham, Jouriles, & McDonald, 2000). Using the Children's Perceptions of Interparental Conflict Scale (CPIC; Grych, Seid, & Fincham, 1992) to test the cognitive-contextual model in a study of 10- to 14-year-old children from the community sample and from a battered women's shelter, Grych and colleagues (2000) found that children's perceived threat mediated the link between interparental conflict and internalizing for all children. Self-blame, however, mediated the same link for all boys in the study, but only for the girls in the shelter sample. In the same study, children's sense of threat and self-blame did not act as mediators of the link between interparental conflict and externalizing problems (Grych et al., 2000).

More recently, McDonald and Grych (2006) adapted the CPIC for 7- to 9-year-olds to see whether the threat and self-blame experienced by younger children might mediate the effect of interparental conflict on adjustment (Grych, 1998; Jouriles et al., 2000). As in the study with older children, McDonald and Grych (2006) found that perceptions of threat and, to a lesser extent, self-blame mediated the association between interparental conflict and children's internalizing but not externalizing behaviors. This study raised interesting, yet mostly unexplored, questions about the earliest ages at which children's conflict perceptions and appraisals assume a central role in shaping their emotional reactions to interparental discord. Research already has begun to show that interparental conflict during the first years of life is associated with infants' fear of novel stimuli,

emotion regulation, psychophysiology (Crockenberg, Leerkes, & Lekka, 2007; Porter, Wouden-Miller, Silva, & Porter, 2003), and subsequently, their emotional security (Cummings & Davies, 2002; Davies, Myers, & Cummings, 1996). Because children's perceptions of interpersonal events are thought to have their roots in the early experiences of emotional security (Cummings & Davies, 2002), it would be prudent to extend tests of the cognitive-contextual framework to earlier developmental periods (see Grych, Wachsmuth-Schlaefler, & Klockow, 2002, for similar reasoning). From a theoretical point of view, the emotional security theory provides insight into how early interpersonal perceptions are shaped, whereas the cognitive-contextual framework guides our understanding of how, specifically, such interpersonal perceptions and appraisals might contribute to children's emotional and behavioral adjustment.

Assessing Younger Children's Perceptions and Appraisals of Marital Conflict

Despite data suggesting that children's perceptions and appraisals of their parents' conflict are related to their socioemotional adjustment, there have been few investigations of young children's perceptions of their parents' marital conflict. At least two factors may be responsible for this gap.

First, although young children are able to make causal attributions about events, the sophistication of their causal reasoning is limited (Miller & Aloise, 1989; Turner & Cole, 1994). Older children are likely to understand that varied factors can lead to conflict between their parents and, therefore, are more likely to make more appropriate causal attributions to marital conflict. (Covell & Abromovitch, 1987; Kurdek, 1986; Turner & Cole, 1994). By contrast, children who are at an egocentric level of thought may not understand that their parents' marital conflict could have little to do with them. Cummings (1987; Cummings, Ballard, El-Sheikh, & Lake, 1991) found that preschoolers revealed more distress and reported feeling more frightened than both younger (1- to 3-year-old) and older (9- to 19-year-old) children in response to anger expressed between adults. Although 4- to 6-year-old children appear capable of expressing distress about anger between adults, their emotional and cognitive immaturity might support unreasonable attributions about the causes of the conflict. 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- and 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; Neal, 1983; Wallerstein & Kelly, 1980) showed that 5- to 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 could lead to divorce (Kurdek, 1986). Although most children do not see themselves as the primary cause of their parents' divorce, this tendency occurs more

frequently in younger than in older children (Ablow, 2005). These findings suggest that, because of their limited understanding of causality, young children may be at heightened risk for blaming themselves, even when this is not justified by actual family interaction patterns.

Unlike perceptions of blame and threat or distress, children's appraisals that they should become involved in their parents' conflict to aid in its resolution have received less attention, in particular among younger children (Ablow, 2005). From the perspective of the emotional security theory, Cummings and colleagues (Cummings, Schermerhorn, Davies, Goek-Morey, & Cummings, 2006) have reasoned that interparental conflict can evoke response or regulatory tendencies in children that are designed to return oneself and others within a family system to optimal states of security. Behavioral responses such as venting distress, avoiding, or seeking to become involved (e.g., taking sides, helping with tasks that may have caused the conflict, attempting resolution) may serve the goal of preserving and restoring a child's emotional security within the context of interparental conflict (Cummings et al., 2006). Although each of these responses can be described as different forms of coping with interparental conflict (Shelton & Harold, 2007), children's inclination to become involved may carry particular significance for their adjustment (Davies & Forman, 2002). In their study of 7- to 9 year-olds and 13- to 15-year-olds, Davies et al. (1996) found that the older children reported greater motivation to intervene in adults' unresolved hostile conflict. Adolescents, therefore, may be more inclined to become involved if they can accurately perceive an opportunity to be helpful, whereas children in their middle childhood years may appraise few coping options (Shelton & Harold, 2007). Given that younger children are developmentally prone to egocentric or grandiose thinking (Flavell & Green, 1999), their tendency may be to become involved or perceive themselves as able to stop their parents' arguments. Studies addressing this question remain to be conducted.

Second, the absence of data on young children's experiences of their family relationships may be due to the dearth of developmentally appropriate self-report methodologies for this age range (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, researchers have made efforts 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 who 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 BPI (Ablow & Measelle, 1993) was created to provide a more age-appropriate methodology for assessing children's perceptions of their family environment. In con-

trast to the few paper-and-pencil questionnaires available for young children, the BPI is designed to ask 4 1/2- to-7 1/2-year-old children how they perceive and respond to different aspects of their family environment. With 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. To date, work in our lab (Ablow, 2005; Ablow et al., 1999; Measelle, 2005; Measelle et al., 1998, Measelle, John, Ablow, Cowan, & Cowan, 2005) 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 in which they are participants (parent-child, peers, teacher-child, sibling) or observers (marital, coparenting).

Aims of the Present Study

Internal Consistency, Differentiation, and Factor Structure

Previous research has not addressed the age at which children might be expected to differentiate among various dimensions of interparental conflict. As such, it was not clear whether all of the BPI's marital conflict scales would emerge as distinct factors in young children's reports. Thus, in the present research, in addition to estimating standard measures of internal consistency and intercorrelation, we used confirmatory factor analysis (CFA) to test whether young children could differentiate between the properties of their parents' conflict and self-related appraisals of this conflict. We predicted that young children would hold internally consistent and meaningfully distinct perceptions of their parents' conflict (conflict, resolution, and affection), as well as internally consistent and distinct appraisals of this conflict (self-blame, distress, and involvement).

Temporal Stability

Interparental difficulties tend to demonstrate stability during children's early years (Fincham, 1998). Nevertheless, the stability of young children's conflict perceptions and appraisals have not been assessed directly. Consequently, we do not yet know whether the perceptions and appraisals of young children demonstrate comparable stability across time. Given previous evidence of self-report stability using the BPI (Measelle et al., 2005), we predicted that children's perception and appraisals of their parents' conflict would demonstrate significant stability between the ages of 5 and 6.

Criterion Validity

Third, we sought to evaluate the criterion validity of young children's reports of their parents' conflict in three ways. First, we compared children's reports of their parents'

conflict with comparable marital ratings provided by mothers and fathers. Second, because young children's reports of marital conflict are rarely accorded the same consideration in developmental research when adults' reports are available (Measelle et al., 2005), we compared child-parent associations with the level of agreement between spouses' reports of their own marital conflict dynamics. Third, we examined the real-world implications of young children's perceptions of their parents' conflict for their classroom adjustment, as reported by teachers. In each of these instances, we predicted that young children's perceptions of marital conflict would demonstrate significant validity.

Testing the Meditational Role of Young Children's Appraisals

Finally, we tested the mediation hypothesis proposed by the cognitive-contextual framework (Cummings & Davies, 1994; Grych & Fincham, 1990). Specifically, we hypothesized that children's conflict appraisals would mediate the link between interparental conflict and children's internalizing and externalizing symptoms as rated by teachers. To date, children's reports of threat and self-blame have been found to mediate the link between interparental conflict and internalizing problems in children as young as age 7 (McDonald & Grych, 2006), but not younger. Social-cognitive mechanisms linking marital conflict and externalizing problems have not been identified clearly among children. Our goal was to extend the empirical assessment of the cognitive-contextual framework to younger ages by demonstrating that 5- and 6-year-olds who experience their parents' conflict as threatening and as their fault would be at risk for adjustment difficulties, given that the problem is likely outside of their influence (Shelton & Harold, 2007). Because children's reports of higher involvement in their parents' conflict would be inconsistent with attributions of helplessness, we did not expect that the BPI Involvement scale would operate as a mediator in a model designed to explain internalizing. Alternatively, we conjectured that children's reported involvement might be a source of frustration that would mediate the link between marital conflict and externalizing problems.

Method

Participants

Families were participants in a longitudinal investigation of the transition to school (see Cowan, Cowan, Ablow, Kahen-Johnson, & Measelle, 2005) and were assessed annually when children were 4, 5, and 6 years of age. Approximately 110 two-parent families were followed prospectively as their oldest child made the transition from preschool to kindergarten and first grade. Families had been recruited to join the study through preschools, day care programs, and local media, and they were predominantly middle-class residents of the greater San Francisco Bay area. In each recruitment context, the project was described as a study of family factors related to children's successful

entry into school. Of the families, 21% were of African American, Hispanic American, or Asian American ethnicity, and the remaining 79% were European American. The median income of the sample was \$71,000 ($SD = \$17,000$).

Because the BPI marital conflict questions were not administered during the first wave of data collection when children were 4 years of age, in the present investigation, only data from the second and third waves were used. For the present study, the sample consists of 53 boys and 43 girls ($n = 96$) with a mean age of 5.6 years ($SD = 0.37$) at the Time 2 assessment and a mean age of 6.4 years ($SD = 0.35$ years) at the Time 3 assessment. There were no significant differences on any of the central variables between families in the present investigation and the families ($n = 14$) who did not continue beyond the first year of the study. Finally, although the present sample was an unselected community sample, approximately 20% to 30% of the mothers or fathers reported significant clinical levels of distress on entering the study. Specifically, 18% of the adults reported clinically elevated depressive symptoms (>16) on the Center for Epidemiological Studies—Depression scale (CES-D; Radloff, 1977), and 21% reported clinical levels of marital distress (>100) on the Dyadic Adjustment Scale (DAS; Spanier, 1979).

Procedure

The second wave of data (age 5 assessment) occurred during the spring or summer of children's kindergarten year, and the third wave of data (age 6 assessment) was collected during the spring or summer of their first grade year. In conjunction with both waves, families visited a university laboratory in the San Francisco Bay Area. At this visit, each parent completed 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). Children's perceptions of marital conflict were assessed during two separate summer assessments, the first right after kindergarten and the second just after first grade. Target children were visited in their homes, where they were interviewed with the 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 teachers were contacted by mail and then by telephone and were asked to complete behavioral adjustment assessments of all of the children in their classrooms, while remaining unaware of the target project participant. Teachers were asked to complete the ratings during the spring semester of the school year. In summary, for each assessment period (assessment at age 5 or 6), parental reports of their conflict, children's reports of their parents' conflict, and teacher reports of the children's classroom behavior were typically collected during the spring and summer, or within 2 to 4 months.

Measures

Children's perceptions of marital conflict. Children's perceptions of their parents' conflict were assessed using the

BPI, an interviewing and coding method (Ablow & Measelle, 1993) designed 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). Extensive work with the BPI has demonstrated its utility as a psychometrically sound measure of 4- to 8-year-old children's self-perceptions and perceptions of interpersonal relationships in and out of the family (e.g., Ablow, 2005; Ablow et al., 1999; Luby et al., 2002; Measelle et al., 1998; Measelle et al., 2005; Pike et al., 2005).

The BPI methodology builds on Harter and Pike's (1994) and Eder's (1990) work on assessing self-perceptions and Grych and Fincham's (1993) work in assessing older children's perceptions of marital conflict. 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 and Pike's self-concept measure (Harter & Pike, 1994), the technique is designed to offer either alternative as possible and acceptable in an attempt to help the child to feel free to report their own perception about a particular issue.

Children's verbal responses to the interview were videotaped and later coded on a scale ranging from 1 (*never*) to 7 (*always*) 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. For example, children who essentially repeat a puppet's statement receive a score of 2 or 6, depending on the valence of their response. A child who amplifies a puppet's statement (e.g., "I always think I did something wrong," or "I never think I did something wrong") is scored a 1 or 7, respectively. A child who indicates that one of the puppet statements pertains to them, but to a lesser degree (e.g., "I usually think I did something wrong," or "Most of the time I don't think I did something wrong"), is scored either a 3 or 5, respectively. 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. Finally, although most children respond verbally to the puppets by making statements that clearly correspond to either puppet's statement, the BPI's interviewing and coding system provides procedures by which to ensure that nonverbal responses are codable. For example, with prohibitively shy children, the puppets would encourage the child to point at the desired puppet (and in turn, the response is coded either a 2 or 6 depending on the valence).

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, in particular, work conducted on and with the CPIC (Grych, Seid, & Fincham, 1992). Review of this literature resulted in the development of five theoretical scales for the BPI: Conflict, Conflict Resolution, 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 reflect the fact that positive and negative marital behaviors commonly co-occur. 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 (a) the effect of marital conflict on children, (b) children's response to the conflict, and (c) children's adjustment (Fosco & Grych, 2007; Grych & Fincham, 1990; McDonald & Grych, 2006). A description of each of the scales follows.

Perceptions of marital conflict properties. The Marital Conflict scale reflects the degree of conflict that 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 four 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"). Finally, the Spousal Affection scale reflects the degree to which children perceive their parents as being affectionate with one another and engaging in warm exchanges. This scale comprises five 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").

Appraisals of 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 five items (e.g., "It's my fault when my parents have a fight"/"It isn't my fault when my parents have a fight," "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 four items (e.g., "When my parents have a fight I get scared"/"When my parents have a fight I don't get scared," "When my parents have a fight I think something bad will happen"/"When my parents have a fight I don't think something bad will happen"). Finally, the Involvement of Self scale assesses whether the child perceives that he or she becomes involved when marital conflict occurs. The scale includes four items (e.g., "When my parents fight,

I yell”/ “When my parents fight I get quiet,” “When my parents fight, I can make them stop”/“When my parents fight, I can’t make them stop”).

Four trained research assistants coded the videotaped interviews. Each child’s interview was coded by at least two trained observers. Interrater reliability was calculated using intraclass correlations and averaged to .83 for all six scales (conflict = .94, resolution = .72, affection = .90; self-blame = .87; distress = .82; involvement = .89). To create one score for each item, we averaged the ratings made by independent coders.

Parents’ Self-Reports of their Marital Relationship

Husbands and wives independently completed the Couple Communication Questionnaire (CCQ; Cowan & Cowan, 1990), 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. Responses were made on a scale ranging from 1 (*a lot*) to 7 (*none*). For this study, the following three theoretically derived scales were used (for both spouses’ average internal consistency, $\alpha = 0.80$, range = 0.72–0.85; for 1-year test–retest, $\alpha = 0.83$): (a) *Positive Emotion and Intimacy* (five items; e.g., “We enjoy one another,” “We have a warm relationship”), (b) *Expression of Conflict* (five items; e.g., “We argue,” “We yell or insult one another”), and (c) *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 ($r_s = .56$ to $.64$).

Measures of Children’s Adjustment

Measures of children’s adjustment were obtained from children’s kindergarten teacher and a year later from their first-grade teachers. Unaware as to which child in their classrooms was a participant in the study, teachers completed the Child Adaptive Behavior Inventory (CABI) for each student in the classroom during the spring semester of the academic year. The CABI is a 106-item questionnaire, adapted by Cowan and Cowan (Cowan et al., 1994) from Schaefer and Hunter’s (1983) 60-item scale, the Adaptive Behavior Inventory, 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; Achenbach & Edelbrock, 1983). The remaining items were developed specifically for the School Children and Their Families Project (SAF) to describe the child’s behavior with peers.

CABI ratings are made on a 4-point scale ranging from 1 (*not at all*) to 4 (*very much like*). 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 teach-

ers. Finally, the CABI has good internal consistency (average $\alpha = 0.81$; α range = 0.66–0.90) and validity (Cowan & Cowan, 1987; Gottman, 1994). Recent data demonstrate the CABI’s sensitivity in assessing both externalizing and internalizing behaviors in children from ages 4 to 8 (Cowan et al., 2005). Katz and Gottman (1993) reported significant correlations between the Internalizing and Externalizing scales from the CABI and the Teacher 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

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 multivariate analyses of variance (MANOVAs; Gender \times Scale) at ages 5 and 6. At both ages, there were no significant mean differences between boys’ and girls’ responses on any of the BPI’s marital scales ($ps > .10$). Additionally, we found no significant differences in the average levels or patterns of intercorrelations (using Fisher’s r -to- z transformation) among the BPI marital relationship scales for boys and girls. Accordingly, subsequent analyses were conducted on the entire sample.

The alphas for each BPI scale are presented in Table 1. With the exception of children’s reports of marital conflict at age 5 (Cronbach’s $\alpha = 0.55$), the internal consistency of each was within an acceptable range (Cronbach’s $\alpha > 0.65$), especially in light of the fact that these scales comprised either four or five items each. In addition, the mean interitem correlation coefficients, which are independent of scale length, all exceeded $r = .28$ (range = .28 to .39). This latter estimate indicated further that young children could describe interparental conflict with reasonable consistency.

The scale means and standard deviations for each of the marital relationship scales for both years are also shown in Table 1. Children generally 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. Relative to their reports of marital conflict, children reported moderate, although significantly higher levels of distress and involvement at age 5, $t_s(97) < 2.98$, $ps < .01$; and at age 6, $t_s(94) < 3.42$, $ps < .001$, respectively. Children’s mean scores on all of the scales did not change significantly. Despite low means, the standard deviations for most of the scales were fairly large, indicating a good deal of variability in children’s reports.

The intercorrelations among the BPI marital relationship scales are also presented in Table 1, both within and across years. At the age 5 and age 6 assessments, the BPI marital

Table 1
Internal Consistencies, Means, Standard Deviations, and Intercorrelations of BPI Marital Scales at Ages 5 and 6

BPI scales	Age 5		Age 6		BPI scale intercorrelations at ages 5 and 6					
	α	M (SD)	α	M (SD)	Conflict	Resolution	Affection	Self-blame	Distress	Involvement
Conflict	0.55	2.84 (1.08)	0.77	2.93 (1.24)	.38***	.01	-.14	.16	.01	.08
Resolution	0.67	4.83 (1.26)	0.68	4.87 (1.19)	.15	.38***	.27*	-.14	-.19	-.05
Affection	0.62	5.32 (0.79)	0.74	5.34 (0.95)	-.23*	.51***	.28***	.04	-.08	-.06
Self-Blame	0.69	2.62 (0.81)	0.67	2.44 (0.68)	.39***	-.26*	-.23*	.39***	.22*	.32**
Distress	0.80	3.72 (1.27)	0.78	3.49 (1.25)	.26*	-.03	-.04	.11	.08	.12
Involvement	0.67	3.58 (1.25)	0.60	3.39 (1.01)	.11	-.04	-.02	.02	.24*	.52***

Note. $n = 98$ at age 5; $n = 96$ at age 6. Age 5 intercorrelations are presented above the bold diagonal; age 6 intercorrelations are printed below the diagonal. Correlations in bold on the diagonal represent 1-year stability correlations between age 5 and 6. BP = Berkeley Puppet Interview.

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

relationship scales were only modestly correlated on average, mean r s = .16 and .18, respectively, suggesting that the scales represented fairly distinct dimensions of children's perceptions of their parents' marital relationship.

The highlighted correlation coefficients in Table 1 provide a measure of the stability of children's conflict perceptions and appraisals across a 1-year period of time. With the exception of children's reports of their distress, which showed little to no stability across 1 year ($r = .08$, ns), these data indicate that children's reports on the BPI marital relationship scales showed significant stability.

Factor Structure

We used confirmatory factor analysis (CFA) to test the dimensionality of young children's reports of interparental conflict at both ages. We were particularly interested in testing whether the encouraging finding regarding internal consistency and the low scale intercorrelations reported earlier would translate into distinct factors. We tested four different a priori factor structures, the results of which are presented in Table 2. The first was a single-factor model, which suggested that young children were not distinguishing between the BPI's conflict property scales and the conflict attribution scales. A two-factor model was tested to determine whether children differentiated between the three conflict property scales and the three conflict appraisal scales. A five-factor model was tested in which children's

self-blame and distress were loaded on to the same factor to reflect ideas of learned helplessness. Finally, a six-factor model was tested to determine whether children differentiated between all of the BPI marital scales; support for this model would be consonant with similar tests of the CPIC with older children (McDonald & Grych, 2006). We tested the CFA models using maximum likelihood estimation procedures (Mplus 5.1, Muthén & Muthén, 2007), with children's continuously measured responses to each scale item used as factor indicators. Factors were allowed to correlate in each model. Because the key interest in these CFAs was the relative fit of the alternative models, all items were allowed to load on only one factor, and no changes were made on the basis of modification indices. For the purposes of model comparison, our six-factor model was our base model.

As shown in Table 2, at the age 5 assessment, the one-factor model showed the worst relative fit, followed by the two- and five-factor models. Because the first three models did not differ in their degrees of freedom, we used Akaike's information criteria (AIC; Akaike, 1987) to estimate differences between AIC values (Δ AIC). Δ AIC values that are less than 2 indicated that a particular model is essentially identical to the best fitting model within a set of related models (Burnham & Anderson, 2002); Δ AIC values that exceed 10 suggest no support for the present model relative to the best fitting model. At the age 5 assessment, the

Table 2
Summary of Confirmatory Factor Analyses Comparing Competing Models of Children's Reports of Interparental Conflict at Ages 5 and 6

Model tested	Age 5					Age 6				
	χ^2	df	$\Delta\chi^2$	AIC	Δ AIC	χ^2	df	$\Delta\chi^2$	AIC	Δ AIC
One factor	554.8	275	79**	8040	50	435.6	275	71**	7449	130
Two factors	547.7	275	72**	8035	45	421.8	275	57**	7403	84
Five factors	538.3	275	63**	8022	32	393.0	275	28**	7387	68
Six correlated factors	475.5	260	—	7990	0	364.6	260	—	7319	0

Note. $n = 96$ at ages 5 and 6; $\Delta\chi^2$ = Chi-square difference indicating the difference in fit compared to the predicted model, six correlated factors model; AIC = Akaike's information criterion; Δ AIC = the difference between each model's AIC and the minimum AIC value within a set of related models. Here, Δ AIC is therefore each models' AIC minus the AIC from the six correlated factors model, which by definition receives a Δ AIC of 0. (See text for details of model specification.)

** $p < .01$.

six-factor model had the lowest AIC value and the best model relative to the comparator models. A similar pattern emerged with the age 6 data.

In terms of absolute model fit, the results were somewhat less robust. Specifically, at the age 5 assessment, the six-factor model yielded an encouraging—although not sufficiently adequate—fit, $\chi^2(260) = 475.16, p < .001$; comparative fit index (CFI) = 0.91, root-mean-square error of approximation (RMSEA) = 0.097, $\chi^2/df = 1.8$. By age 6, however, the fit indices for the six-factor model were acceptable and indicative of a good fitting model, $\chi^2(260) = 364.6, p < .001$; CFI = 0.96, RMSEA = 0.043, $\chi^2/df = 1.4$. Given that each of our scales had between four and five items apiece, we opted not to utilize modification indices or to drop, at this early stage of development, what might seem like weaker items. Rather, our impression was that, at each age, the reliability of individual items was weaker than what is often seen with older children and adults. As a test of this hypothesis, we combined the data from the two ages, averaging item responses across ages 5 and 6 and submitting these responses to the same CFA. As expected, the six-factor model provided the strongest relative fit and, in absolute terms, provided a strong accounting of the data, $\chi^2(260) = 289.0, p < .01$, CFI = 0.98, RMSEA = 0.022, $\chi^2/df = 1.2$. In summary, these data are consistent with the idea that even children as young as 5 years old can provide a differentiated picture of their parents' conflict on the BPI.

Criterion Validity of Children's Reports on the BPI Marital Relationship Scales

Although children's perceptions reflect their subjective realities, we predicted that their descriptions of their parents' relationship dynamics would correlate with comparable data obtained from their mothers and fathers. At age 5 and again at age 6, children's perceptions of their parents' marital conflict were significantly correlated with mothers' reports of marital conflict ($r_s = .32$ and $.36$, respectively, $ps < .01$) and fathers' reports of marital conflict ($r_s = .45$ and $.27$, respectively, $ps < .01$). Children's reports of their parents' conflict resolution were statistically unrelated to mothers' and fathers' reports of spousal conflict resolution at age 5 ($r_s = .19$ and $.04$, respectively, ns) and to their mothers' reports at age 6 ($r = .06, ns$). However, at age 6, children who reported higher resolution between their parents tended to have fathers who reported higher resolution efficacy ($r = .33, p < .01$). At ages 5 and again at age 6, children's perceptions of their parents' affection were significantly correlated with mothers' reports of marital affection ($r_s = .30$ and $.31$, respectively, $ps < .01$) and fathers' reports of marital affection ($r_s = .36$ and $.77$, respectively, $ps < .001$).

Support for the specificity of children's reports was also found. Specifically, children's report of marital conflict was statistically unrelated to either parents' report of conflict resolution or affection ($r_s < .16, ns$), and children's reports of conflict resolution were only modestly correlated with parents' reports of affection ($r_s = .23$ and $.25, ps < .05$, with mothers and fathers at age 5, respectively; and $r_s = .20$ and

$.21, ps < .10$, with mothers and fathers at age 6, respectively).

As a way to evaluate further the validity of children's reports on the conflict property scales, we also compared the child-mother and child-father correlation coefficients just described, with the correspondence between spouses' reports of marital conflict ($r_s = .39$ and $.41$ for ages 5 and 6, respectively, $ps < .001$), conflict resolution (for age 5, $r = .33, p < .01$; for age 6, $r = .15, ns$), and affection ($r_s = .53$ and $.46$ at ages 5 and 6, respectively, $ps < .001$). Although spouses tended to report higher levels of agreement, these differences were not statistically significant (tested with Fisher's r -to- z transformation). As such, young children's reports of marital conflict were as strongly correlated with their mothers and with their fathers, as were spouses' reports with each other.

Our next hypothesis examined the potential real-world consequences of children's perceptions of their parents' conflict properties and conflict attributions. Additionally, we were interested in which source of information—child, mother, or father—was most predictive of children's adaptation to school as rated by teachers. As shown in Table 3, 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 also were 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 behavior.

At both ages, significant associations were found between children's tendency to blame themselves for their parents' conflict and higher levels of internalizing and externalizing

Table 3
Correlations Between Children's Reports of Their Parents' Marital Relationship With Teachers' Ratings of Internalizing and Externalizing Behavior Problems at Ages 5 and 6

Informant	Teacher report			
	Internalizing		Externalizing	
	Age 5	Age 6	Age 5	Age 6
Child				
Conflict	.37**	.38***	.21*	.18
Resolution	-.35**	-.34**	-.39***	-.27*
Affection	-.29**	-.26*	-.15	-.17
Self-blame	.42***	.42***	.47***	.35***
Distress	.27*	.24*	.37**	.33**
Involvement	.09	.14	.45***	.38***
Mother				
Conflict	.33**	.26*	.27*	.24*
Resolution	-.13	-.24*	-.08	-.16
Affection	-.09	-.11	-.03	-.12
Father				
Conflict	.23*	.28**	.15	.15
Resolution	-.28**	-.29	-.07	-.19
Affection	-.23*	-.17	-.17	-.11

Note. $n = 93$ at age 5; $n = 89$ at age 6.
* $p < .05$. ** $p < .01$. *** $p < .001$.

symptoms according to teachers. Likewise, children reporting higher distress because of their parents' conflict were rated by their partners as exhibiting greater internalizing and externalizing symptomatology at ages 5 and 6. It is interesting that children's reports of involvement in their parents' conflict were not related to teachers' reports of internalizing problems at either age but were significantly associated with teacher reports of externalizing problems at both ages. Although not statistically different (using Fisher's *r*-to-*z* transformation), the correlations involving mothers and fathers were neither as strong nor as consistently related with teachers' reports as were children's reports of their parents' relationship processes. In summary, compared with their parents' reports of their own marital dynamics, children's perceptions and appraisals of marital conflict were better predictors of teachers' reports of children's internalizing and externalizing behavior problems in both kindergarten and first grade.

Children's Perceptions as Multivariate Mediators of Marital Conflict

In our final analyses, we examined the hypothesis that children's conflict appraisals would mediate the link between marital conflict and their classroom adjustment. Mediation was evaluated by estimating confidence intervals around the indirect effects, with regression-based path analysis (Preacher & Hayes, 2004) and nonparametric resampling (bootstrapping with bias correction; MacKinnon, 1994; Preacher & Hayes, 2004). This procedure yields a path model that directly estimates the significance of the indirect effects appropriately for relatively small samples (MacKinnon, 1994; Preacher & Hayes, 2004). Therefore, it 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 extent to which all three conflict appraisal scales mediated the link between couples' reports of their marital conflict (we averaged mothers' and fathers' reports of conflict to reduce the number of analyses) and teachers' reports of children's internalizing, in a first model, and teachers' reports of children's externalizing in a second model. Because children's reports on the three mediators were correlated, the path model specified covariances among the predictors so that each indirect effect simultaneously controlled for the indirect effect of the other two possible mediators. Given that teachers' reports of internalizing and externalizing problems were significantly correlated ($r = .38, p < .001$), we entered each behavior problem scale as a covariate to examine the specific effects of children's perceptions on each behavior problem, free from the effects of the other problem behavior.

We conducted separate models of the type just described using the age 5 data (parent and child reports at age 5 and kindergarten teacher reports) and the age 6 data (parent and child reports at age 6 and first-grade teacher reports). The specific path and overall model results were statistically equivalent, reflecting no clear developmentally linked change between 5 and 6 years of age in the mediational role

of children's perceptions. To simplify presentation, we restrict our comments to the age 5 results to underscore the lower range developmentally of these data.

As shown in the top portion of Figure 1, spouses' combined report of marital conflict was directly associated with kindergarten teachers' reports of young children's internalizing problems. However, as shown in the lower portion of Figure 1, this effect was partially mediated by children's conflict appraisals. Specifically, the overall indirect path was significant ($p < .01$; see Figure 1's note) and partially mediated the effect of marital conflict on kindergarten teachers' reports of internalizing while controlling for the effects of externalizing. Parents' conflict continued to show a significant association with children's internalizing problems, although portions of this association were better accounted for by the indirect paths. Specifically, as shown in Figure 1, children's self-blame and distress were both significant mediators, whereas their reports of involvement were not.

As shown in the top portion of Figure 2, spouses' combined report of marital conflict was directly associated with kindergarten teachers' ratings of young children's externalizing problems. However, as shown in the lower portion of Figure 2, this effect of parents' conflict on children's externalizing behavior was partially mediated by children's appraisals of conflict ($p < .01$; see Figure 2's note). Specifically, neither children's reports of self-blame nor their reports of distress were significant mediators in this model when considered simultaneously with child reports of involvement. However, children's tendency to report involvement in their parents' conflict partially mediated the effect of marital conflict on children's externalizing so 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.

Discussion

Increasingly, researchers are including the important role of children's perceptions of their parents' relationship to advance understanding of the mechanisms that link marital relationship processes and children's adjustment. With few exceptions, however, most of this work has been limited to including the perceptions of children who are 9 years of age and older. The overarching goals of the present investigation were to determine whether the perceptions of younger children, who were assessed at age 5 and again at age 6, could be measured reliably and validly and whether their conflict attributions might mediate the effects of interparental conflict on their adjustment, as has been shown with older children (Grych & Fincham, 1990; McDonald & Grych, 2006).

Psychometric Properties of Young Children's Perceptions of Their Parents' Marital Relationship

The results of this study suggest that young children's perceptions of their parents' relationship can be measured reliably with the BPI (Ablow & Measelle, 1993). Children's

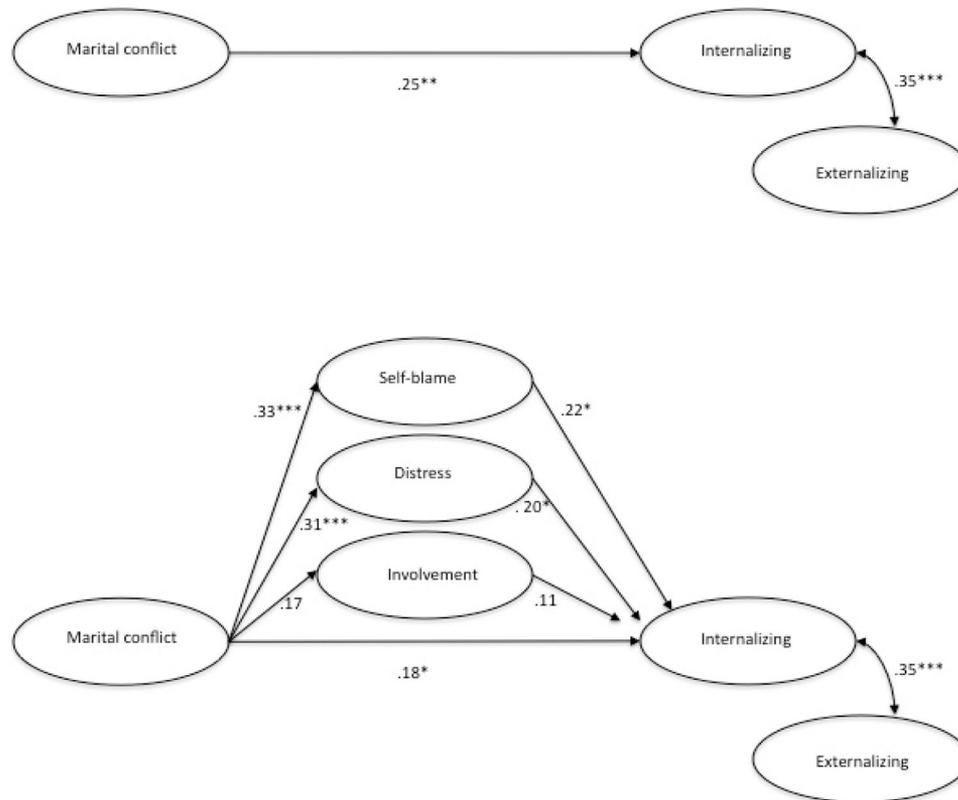


Figure 1. Path diagram showing unmediated and multivariate mediation of the effect of marital conflict on kindergarten teachers' reports of children's internalizing problems at age 5. Total indirect effect $B = 0.21$ ($SE = 0.06$), $p < .01$ (95% confidence interval = .09 to .33). Numbers in the figure are path coefficients (standardized regression coefficients). Although not drawn, the model accounted for covariation among the mediators.

perceptions of their parents' relationship were assessed on multiple BPI scales, including three scales assessing conflict properties (marital conflict, resolution of marital conflict, and spousal affection) and three scales assessing appraisals of marital conflict (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 as well as distinctiveness, with the average intercorrelations among scales at age 5 and 6 years not exceeding .20. More important, the CFA results provided additional evidence of the dimensionality of children's perceptions of interparental conflict. The strength of the six-factor solution at both ages relative to models with fewer factors suggests that children as young as 5 years of age can differentiate among multiple dimensions of interparental conflict. Finally, although reliability is usually assessed over a short period, children's reports at age 5 and again at age 6 were significantly correlated, suggesting that how children perceived and felt about their parents' relationship was reasonably consistent across a year.

These data suggest that, when interviewed with age-appropriate methods that use meaningful item content, young children can provide internally consistent information

about specific dynamics of their parents' relationship—in particular, levels of marital conflict—which previous research has identified as emotionally salient for children as young as 1 year old (Crockenberg et al., 2007; Porter et al., 2003). These data may also speak to the effort that has been devoted to improving the BPI's age-appropriateness and standardization as a self-report instrument. Standardized training, administration, and coding procedures may all contribute to a method that supports young children's ability to provide psychometrically sound information about parents' relationships.

Criterion Validity of Young Children's Perceptions of Their Parents' Marital Relationship

The validity of the children's conflict perceptions and appraisals was supported by testing different cross-informant patterns of association. As predicted, children's perceptions of their parents' conflict properties were related to conceptually similar scales provided by each spouse. In particular, children's perceptions of their parents' marital conflict were related to spouse's reports of marital conflict at both ages. Just as meaningful in terms of validity, the child-parent correlation coefficients were as large as the coefficients of

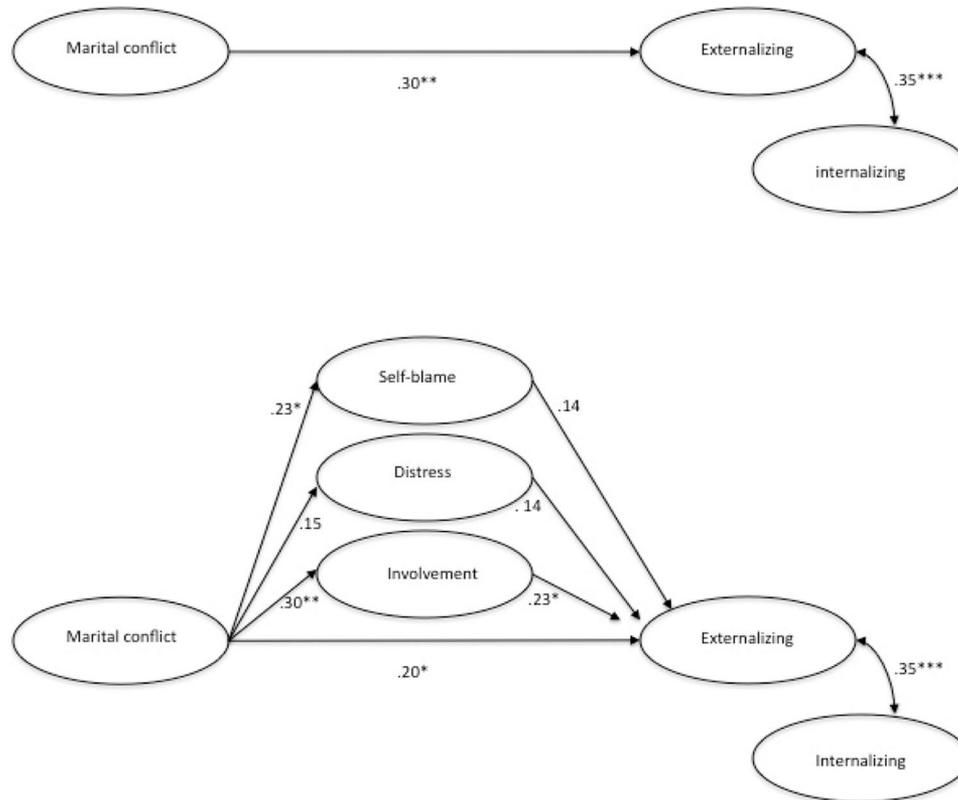


Figure 2. Path diagram showing unmediated and multivariate mediation of the effect of marital conflict on kindergarten teachers' reports of children's externalizing problems at age 5. Total indirect effect $B = 0.22$ ($SE = 0.08$), $p < .01$ (95% confidence interval = .10 to .36). Numbers in the figure are path coefficients (standardized regression coefficients). Although not drawn, the model accounted for covariation among the mediators.

spouse's reports with one another. Although bias and gender-linked differences in the salience of conflict dimensions have helped to explain attenuated levels of agreement between spouses (Cowan & Cowan, in press), these data suggested that young children are perceiving aspects of their parents' conflict and relationship dynamics that map onto their parents' experience.

Recent studies suggest that children's appraisals of marital conflict—in particular, whether they blame themselves or feel threatened—mediate the links between exposure to marital conflict and children's behavior problems (Grych et al., 1992). Because this domain of inquiry may sharpen our understanding of how psychopathology develops, we examined patterns of association between the BPI conflict appraisal scales and teachers' reports of children's internalizing and externalizing behavior problems at both time points. Children's attributions of self-blame and distress at ages 5 and 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) tend to blame themselves for interparental conflict. These data suggest that both the conflict itself and 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 appeared 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).

Children's reports of involvement in their parents' conflict was unrelated to teachers' reports of internalizing problems but was significantly associated with teachers' reports of externalizing problems at ages 5 and 6. Although the causal direction in these data cannot be established, we speculate that young children's attempts to intervene in their parents' conflict may contribute to a sense of frustration that spills over into the classroom context.

Consistent with Grych and colleagues' (Fosco & Grych, 2007; McDonald & Grych, 2006) results with older children, in the present study, young children's conflict perceptions and attributions predicted teachers' ratings of adjustment better than parents' reports about their marriage. These results provide additional evidence that the BPI is a viable tool for assessing young children's perceptions of their parents' relationship. More germane, these data suggest that

researchers might gain a fuller picture of the association between marital conflict and child adjustment by including young children's reports.

Evidence That Young Children's Appraisals Mediate the Marital Conflict–Child Adjustment Link

The cognitive–contextual theory proposed by Grych and Fincham (1990) states that children's conflict perceptions and attributions mediate the impact of conflict on their adjustment. Evidence in support of this mediation has accumulated in samples of 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 appraisals of threat and self-blame begin to act as processes by which exposure to conflict contributes to maladjustment. 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 (Grych & Fincham, 1990; see also a brief review by McDonald & Grych, 2006). Our results suggest otherwise.

In our multivariate path models, we found that young children's appraisals of self-blame and distress partially mediated the effect of spouses' combined reports of conflict with teachers' reports of internalizing problems. By comparison, children's reports of involvement in their parents' conflict did not mediate this effect. In keeping with McDonald and Grych's (2006) investigation with 7- to 9-year-olds, we found that children's attributions of self-blame and distress when they were 5 and again 6 years of age partially mediated the association between marital conflict and internalizing problems.

In their study, McDonald and Grych (2006) demonstrated mediation using children's reports of both their appraisal processes and their internalizing symptoms. In the present study, however, the mediated pathway linking parent-reported conflict, children's appraisal, and teachers' ratings 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, their reports of self-blame might have less effect on their adjustment. In contrast, the data from the present study suggest that when young children are interviewed in a developmentally appropriate manner, their tendency to blame themselves for their parents' conflict and to feel distress were both stable across time and were implicated in their emotional adjustment. The fact that our path models yielded similar mediation at both ages serves as a form of replication that increases our confidence in the implications of these findings.

The specificity of young children's attribution processes was also borne out in the path model predicting externalizing behavior. Here, neither children's reports of self-blame nor their reports of distress mediated the effect of conflict on

teachers' ratings of externalizing problems. However, children's reports that they become involved in their parents' conflict partially mediated the effect of marital conflict on externalizing problems. Among 7- to 9-year olds, McDonald and Grych (2006) found no evidence of mediation for self-blame or perceived threat, and they did not include an assessment of children's perceived involvement in their model. Unlike the internalizing model—which, we conjecture, may show continuity from the age range studied in the present investigation 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. It is interesting that, in their study of both pre- and postadolescent children, Davies and colleagues (Davies et al., 1996) found that the older children reported an inclination to intervene in their parents' conflict more than the younger children did. Critically, this study did not measure whether adolescents actually *did* intervene more than the younger age group. As children acquire a more sophisticated sense of conflict responsibility and resolution, this knowledge, coupled with what is most likely a history of ineffectual attempts at becoming involved in and attempting to resolve their parents' conflict, could predict diminishing attempts at involvement. Alternatively, with age and experience, adolescents may adopt more sophisticated forms of involvement that might actually ameliorate their parents' conflict (Cummings et al., 1991; Davies et al., 1996). Nevertheless, consistent with earlier work, these data suggest that children's involvement in their parents' problems do not typically bode well for their psychological adjustment (Cummings & Davies, 1994).

Limitations

There are several limitations to the present study. Because families in this sample were two-parent, predominantly middle-class, and mostly European American, further study is necessary to determine how reflective these findings are of other socioeconomic 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 familial diversity. A related issue concerns the restricted range in the level of conflict reported by all informants in the present sample. As such, the present study could not address the effects on children's adjustment of the most extreme forms of interparental conflict. Nevertheless, the strength of our primary findings, coupled with the fact that young children's reports mediated the link between marital conflict and their adjustment, increases our confidence that the BPI might be a useful tool in more distressed samples. Indeed, although generally low to moderate in their level of reported conflict, approximately 20% of the couples in this sample entered the study reporting clinically significant levels of marital distress. As well, during the course of several BPI interviews, children indicated that one or both of their parents engaged in physically violent conflict. Accordingly, we believe that

even children in higher risk circumstances will be able to validly describe their parents' marital conflict.

The present sample was drawn from a prospective, longitudinal study; nevertheless, with the exception of our question about the 1-year stabilities of children's perceptions and appraisals of marital conflict, our analyses did not examine predictive associations over time. Consequently, the mediation results can be only considered tentative, given that a temporal order among these variables was not established. Although other investigations designed to test the cognitive-contextual theory also have been cross-sectional (e.g., McDonald & Grych, 2006), like these other studies, the present investigation provides a statistical test of mediation at best. Future investigations of young children's perceptions of interparental conflict will need to establish temporality to assess mediation formally.

Perhaps the most significant implication of this study is its demonstration that young children, when assessed with age-appropriate methodology, can be reliable reporters of their parents' relationship and marital conflict. Furthermore, children's perceptions of interparental conflict and, more specifically, the appraisals they form because of this conflict, appear relevant to their behavioral development. It is clear that, to understand fully how exposure to marital conflict is linked to children's adjustment, researchers must consider children's perceptions and appraisals of their parents' conflict. To date, this line of research has largely been pursued with older school-age children or adolescents. However, how children perceive 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 can facilitate the assessment of children's perceptions throughout the childhood years. Although the utility of the BPI continues to be explored, the results from the present study suggest that it is a promising measure of young children's perceptions of interparental conflict.

References

- Ablow, J. C. (2005). When parents conflict or disengage: Children's perceptions of parents' marital distress predict school adaptation. In P. A. Cowan, C. P. Cowan, J. C. Ablow, V. Kahen-Johnson, & J. R. Measelle (Eds.), *The family context of parenting in children's adaptation to elementary school: Monographs in parenting* (pp. 189–208). Mahwah, NJ: Erlbaum.
- Ablow, J. C., & Measelle, J. R. (1993). *Berkeley Puppet Interview: Administration and scoring system manuals*. Berkeley: University of California, Berkeley.
- Ablow, J. C., Measelle, J. R., Kraemer, H. C., Harrington, R., Luby, J., Smider, N., et al. (1999). MacArthur Research Network on Psychopathology and Development: A three-site study of adjustment and maladjustment among 4 1/2- to 7 1/2-year olds. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38, 1580–1590.
- Achenbach, T. M., & Edelbrock, C. S. (1983). *Manual for the Child Behavior Checklist and revised child behavior profile*. Burlington, VT: Author.
- Akaike, H. (1987). Factor analysis and AIC. *Psychometrika*, 52, 317–332.
- Arseneault, L., Moffitt, T. E., Caspi, A., Taylor, A., Rijdsdijk, F. V., Jaffee, S., et al. (2003). Strong genetic effects on antisocial behavior among 5-year-old children according to mothers, teachers, examiner-observers, and twins' self-reports. *Journal of Child Psychology and Psychiatry*, 44, 832–848.
- Atzaba-Poria, N., & Pike, A. (2008). Correlates of parental differential treatment: Parental and contextual factors during middle childhood. *Child Development*, 79, 217–232.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173–1182.
- Buchanan, C. M., Maccoby, E. E., & Dornbusch, S. M. (1991). Caught between parents: Adolescents' experience in divorced homes. *Child Development*, 62, 1008–1029.
- Covell, K., & Abromovitch, R. (1987). Understanding emotion in the family: Children's and parents' attributions of happiness, sadness, and anger. *Child Development*, 58, 985–991.
- Cowan, C. P., & Cowan, P. A. (1987). A preventive intervention for couples becoming parents. In C. F. Z. Boukydis (Ed.), *Research on support for parents and infants in the postnatal period* (pp. 225–251). New York: Ablex.
- Cowan, C. P., & Cowan, P. A. (in press). Working with couples during stressful transitions. In S. Dreman (Ed.), *The family on the threshold of the 21st century*. Mahwah, NJ: Erlbaum.
- Cowan, P. A., & Cowan, C. P. (1990). Becoming a family: Research and intervention. In I. Sigel & G. H. Brody (Eds.), *Normal families, Vol. 1. Method of family research: Biographies of research projects* (pp. 1–51). Hillsdale, NJ: Erlbaum.
- Cowan, P. A., Cowan, C. P., Ablow, J. C., Kahen-Johnson, V., & Measelle, J. R. (2005). Recruitment, design, and measures. In P. A. Cowan, C. P. Cowan, J. C. Ablow, V. Kahen-Johnson, J. R. Measelle (Eds.), *The family context of parenting in children's adaptation to elementary school: Monographs in parenting* (pp. 33–78). Mahwah, NJ: Erlbaum.
- Cowan, P. A., Cowan, C. P., Schulz, M., & Heming, G. (1994). Prebirth to preschool family factors predicting children's adaptation to kindergarten. In R. Parke & S. Kellam (Eds.), *Exploring family relationships with other social contexts: Advances in family research* (pp. 75–113). Hillsdale, NJ: Erlbaum.
- Crockenberg, S. C., Leerkes, E. M., & Lekka, S. K. (2007). Pathways from marital aggression to infant emotion regulation: The development of withdrawal in infancy. *Infant Behavior and Development*, 30, 97–113.
- Cummings, E. M. (1987). Coping with background anger in early childhood. *Child Development*, 58, 976–984.
- Cummings, E. M., Ballard, M., El-Sheikh, M., & Lake, M. (1991). Resolution and children's responses to interadult anger. *Developmental Psychology*, 27, 462–470.
- Cummings, E. M., & Davies, P. (1994). *Children and marital conflict: The impact of family dispute and resolution*. New York: Guilford Press.
- Cummings, E. M., & Davies, P. (2002). Effects of marital conflict on children: Recent advances and emerging themes in process-oriented research. *Journal of Child Psychology and Psychiatry*, 43, 31–63.
- Cummings, E. M., Schermerhorn, A. C., Davies, P. T., Goek-Morey, M. C., & Cummings, J. S. (2006). Interparental discord and child adjustment: Prospective investigations of emotional security as explanatory mechanism. *Child Development*, 77, 132–152.
- Davies, P. T., & Forman, E. M. (2002). Children's patterns of preserving emotional security in the interparental subsystem. *Child Development*, 73, 1880–1903.
- Davies, P. T., Myers, R. L., & Cummings, E. M. (1996). Re-

- sponses of children and adolescents to marital conflict scenarios as a function of the emotionality of conflict endings. *Merrill-Palmer Quarterly*, 42, 1–21.
- Eder, R. A. (1990). Uncovering young children's psychological selves: Individual and developmental differences. *Child Development*, 61, 849–863.
- Erel, O., & Burman, B. (1995). Interrelatedness of marital relations and parent-child relations: A meta-analytic review. *Psychological Bulletin*, 118, 108–132.
- Fincham, F. (1998). Marital conflict and child development. *Child Development*, 69, 543–574.
- Flavell, J., & Green, F. L. (1999). Development of intuitions about the controllability of different mental states. *Cognitive Development*, 14, 133–146.
- Fosco, G. M., & Grych, J. H. (2007). Emotional expression in the family as a context for children's appraisals of interparental conflict. *Journal of Family Psychology*, 21, 248–258.
- Gottman, J. M. (1993). The roles of conflict engagement, escalation, and avoidance in marital interaction: A longitudinal view of five types of couples. *Journal of Consulting and Clinical Psychology*, 61, 6–15.
- Gottman, J. M. (1994). *What predicts divorce? The relationship between marital processes and marital outcomes*. Hillsdale, NJ: Erlbaum.
- Grych, J. H. (1998). Children's appraisals of interparental conflict: Situational and contextual influences. *Journal of Family Psychology*, 12, 437–453.
- Grych, J. H., & Fincham, F. D. (1990). Marital conflict and children's adjustment: A cognitive-contextual framework. *Psychological Bulletin*, 108, 267–290.
- Grych, J. H., & Fincham, F. D. (1993). Children's appraisals of marital conflict: Initial investigations of the cognitive-contextual framework. *Child Development*, 64, 215–230.
- Grych, J. H., Fincham, F. D., Jouriles, E. N., & McDonald, R. (2000). Interparental conflict and child adjustment: Testing the mediational role of appraisals in the cognitive-contextual framework. *Child Development*, 71, 1648–1661.
- Grych, J. H., Seid, M., & Fincham, F. D. (1992). Assessing marital conflict from the child's perspective: The Children's Perception of Interparental Conflict Scale. *Child Development*, 63, 558–572.
- Grych, J. H., Wachsmuth-Schlaefler, T., & Klockow, L. L. (2002). Interparental aggression and young children's representation of family relationships. *Journal of Family Psychology*, 16, 259–272.
- Harter, S., & Pike, R. (1994). The pictorial scale of perceived competence and social acceptance for young children. *Child Development*, 65, 1969–1982.
- Hughes, H. (1984). Measures of self-concept and self-esteem for children ages 3–12 years: A review and recommendations. *Clinical Psychology Review*, 4, 657–692.
- Irwin, E. C. (1985). Puppets in therapy: An assessment procedure. *American Journal of Psychotherapy*, 39, 389–399.
- Jouriles, E. N., Spiller, L. C., Stephens, N., McDonald, R., & Swank, P. (2000). Variability in adjustment of children of battered women: The role of child appraisals of interparental conflict. *Cognitive Therapy and Research*, 24, 233–249.
- Katz, J. F., & Gottman, J. M. (1993). Patterns of marital conflict predict children's internalizing and externalizing behaviors. *Developmental Psychology*, 29, 940–950.
- Kerig, P. K. (1995). Triangles in the family circle: Effects of family structure on marriage, parenting, and child adjustment. *Journal of Family Psychology*, 9, 28–43.
- Kerig, P. K. (1996). Assessing the links between interparental conflict and child adjustment: The conflicts and problem-solving scales. *Journal of Family Psychology*, 10, 454–473.
- Kurdek, L. A. (1986). Children's reasoning about parental divorce. In R. D. Ashmore & D. M. Brodzinsky (Eds.), *Thinking about the family: Views of parents and children* (pp. 233–276). Hillsdale, NJ: Erlbaum.
- Luby, J. L., Heffelfinger, A., Measelle, J. R., Ablow, J. C., Essex, M. J., Dierker, L., et al. (2002). Differential performance of the MacArthur HBQ and DISC-IV in identifying DSM-IV internalizing psychopathology in young children. *Journal of the American Academy of Child & Adolescent Psychiatry*, 41, 458–466.
- MacKinnon, D. P. (1994). Analysis of mediating variables in prevention and intervention research. In A. Cázares & L. Beatty (Eds.), *Scientific methods for prevention intervention research* (NIDA Monograph No. 139, pp. 127–153). Rockville, MD: National Institute on Drug Abuse.
- McDonald, R., & Grych, J. H. (2006). Young children's appraisals of interparental conflict: Measurement and links with adjustment problems. *Journal of Family Psychology*, 20, 88–99.
- Measelle, J. R. (2005). Children's self-perceptions as a link between family relationship quality and social adaptation to school. In P. A. Cowan, C. P. Cowan, J. C. Ablow, V. Kahen-Johnson, & J. R. Measelle (Eds.), *The family context of parenting in children's adaptation to elementary school: Monographs in parenting* (pp. 189–208). Mahwah, NJ: Erlbaum.
- Measelle, J. R., Ablow, J. A., Cowan, P. A., & Cowan, C. P. (1998). Assessing young children's views of their academic, social, and emotional lives: An evaluation of the Berkeley Puppet Interview. *Child Development*, 69, 1556–1576.
- Measelle, J. R., John, O. P., Ablow, J. C., Cowan, P. A., & Cowan, C. A. (2005). Can children provide coherent, stable, and valid self-reports on the Big 5 dimensions? A longitudinal study from ages 5 to 7. *Journal of Personality and Social Psychology*, 89, 90–106.
- Miller, P. H., & Aloise, P. A. (1989). Young children's understanding of the psychological causes of behavior: A review. *Child Development*, 60, 257–285.
- Minuchin, S., & Fishman, H. C. (1981). *Family therapy techniques*. Cambridge, MA: Harvard University Press.
- Muthén, L. K., & Muthén, B. O. (2007). *Mplus 5.1 user's guide*. Los Angeles: Authors.
- Neal, J. H. (1983). Children's understanding of their parents' divorce. In L. A. Kurdek (Ed.), *Children and divorce* (pp. 3–14). San Francisco: Jossey-Bass.
- O'Donnell, J. P., & VanTuinen, M. V. (1979). Behavior problems of preschool children: Dimensions and congenital correlates. *Journal of Abnormal Child Psychology*, 7, 61–75.
- Pike, A., Coldwell, J., Dunn, J. F. (2005). Sibling relationships in early/middle childhood: Links with individual adjustment. *Journal of Family Psychology*, 19, 523–532.
- Porter, C. L., Wouden-Miller, M., Silva, S. S., & Porter, A. E. (2003). Marital harmony and conflict: Linked to infants' emotional regulation and cardiac vagal tone. *Infancy*, 4, 297–307.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments & Computers*, 36, 717–731.
- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1, 385–401.
- Schaefer, C., & O'Conner, K. (1983). *Handbook of play therapy*. New York: Wiley.
- Schaefer, E. S., & Hunter, W. M. (1983). *Classroom behavior inventory*. Unpublished instrument, University of North Carolina at Chapel Hill.

- Shelton, K. H., & Harold, G. T. (2007). Marital conflict and children's adjustment: The mediating and moderating role of children's coping strategies. *Social Development, 16*, 497–512.
- Spanier, G. B. (1979). The measurement of marital quality. *Journal of Sex & Marital Therapy, 5*, 288–300.
- Turner, J. E., & Cole, D. A. (1994). Developmental differences in cognitive diatheses in child depression. *Journal of Abnormal Child Psychology, 22*, 15–32.
- Wallerstein, J. S., & Kelly, J. (1980). *Surviving the breakup: How children and parents cope with divorce*. New York: Basic Books.
- Woltmann, A. G. (1952). Puppet shows as a psychotherapeutic method. In L. Bender (Ed.), *Child psychiatric techniques: Diagnostic and therapeutic approach to normal and abnormal development through patterned, expressive, and group behavior* (pp. 238–257). Springfield, IL: Charles C Thomas.

Received April 28, 2008

Revision received February 9, 2009

Accepted February 13, 2009 ■

Call for Nominations

The Publications and Communications (P&C) Board of the American Psychological Association has opened nominations for the editorships of **Experimental and Clinical Psychopharmacology**, **Journal of Abnormal Psychology**, **Journal of Comparative Psychology**, **Journal of Counseling Psychology**, **Journal of Experimental Psychology: Human Perception and Performance**, **Journal of Personality and Social Psychology: Attitudes and Social Cognition**, **PsycCRITIQUES**, and **Rehabilitation Psychology** for the years 2012–2017. Nancy K. Mello, PhD, David Watson, PhD, Gordon M. Burghardt, PhD, Brent S. Mallinckrodt, PhD, Glyn W. Humphreys, PhD, Charles M. Judd, PhD, Danny Wedding, PhD, and Timothy R. Elliott, PhD, respectively, are the incumbent editors.

Candidates should be members of APA and should be available to start receiving manuscripts in early 2011 to prepare for issues published in 2012. Please note that the P&C Board encourages participation by members of underrepresented groups in the publication process and would particularly welcome such nominees. Self-nominations are also encouraged.

Search chairs have been appointed as follows:

- **Experimental and Clinical Psychopharmacology**, William Howell, PhD
- **Journal of Abnormal Psychology**, Norman Abeles, PhD
- **Journal of Comparative Psychology**, John Disterhoft, PhD
- **Journal of Counseling Psychology**, Neil Schmitt, PhD
- **Journal of Experimental Psychology: Human Perception and Performance**, Leah Light, PhD
- **Journal of Personality and Social Psychology: Attitudes and Social Cognition**, Jennifer Crocker, PhD
- **PsycCRITIQUES**, Valerie Reyna, PhD
- **Rehabilitation Psychology**, Bob Frank, PhD

Candidates should be nominated by accessing APA's EditorQuest site on the Web. Using your Web browser, go to <http://editorquest.apa.org>. On the Home menu on the left, find "Guests." Next, click on the link "Submit a Nomination," enter your nominee's information, and click "Submit."

Prepared statements of one page or less in support of a nominee can also be submitted by e-mail to Emnet Tesfaye, P&C Board Search Liaison, at emnet@apa.org.

Deadline for accepting nominations is January 10, 2010, when reviews will begin.