

# Marital Conflict Management Skills, Parenting Style, and Early-onset Conduct Problems: Processes and Pathways

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This study examined whether the link between marital conflict management style and child conduct problems with peers and parents is direct or mediated by mothers' and fathers' parenting style (critical parenting and low emotional responsivity). One hundred and twenty children, aged 4 to 7 years, were observed interacting in our laboratory playroom solving a problem with their best friend as well as at home with their parents. In addition, all the children's parents were observed in our laboratory trying to solve two family problems as well as at home interacting under more natural conditions with each other and with their children. Mothers and fathers completed questionnaires assessing marital problem solving as well as reports of their children's behavior problems. Results indicated that a negative marital conflict management style had direct links with children's conduct problems. In addition, the linkage between negative marital conflict management and children's interactions with parents and peers was found to be mediated by both mothers' and fathers' critical parenting and low emotional responsivity, thereby supporting the indirect as well as the direct model of negative family interactions. The findings are discussed in relation to the implications for treatment.

*Keywords:* Behavior problems, communication, conduct disorder, marital relationships, parenting, peer relationships.

*Abbreviations:* CBCL: Child Behavior Checklist; DPICS-R: Dyadic Parent-Child Interactive Coding System-Revised; ECBI: Eyberg Child Behavior Inventory; F-COPES: Family Crisis Oriented Personal Scales; PS-I CARE: Problem-Solving-Interaction Communication-Affect Rating-Engagement Coding System; PPS-I CARE: Peer Problem-Solving-Interaction Communication-Affect Rating Coding System.

## Introduction

There is convincing evidence that poor general marital satisfaction has a low-to-moderate correlation with a wide range of negative child outcomes, in particular for child conduct problems (e.g. Emery & O'Leary, 1982; Grych & Fincham, 1990; Jouriles, Bourg, & Farris, 1991; Kazdin, 1987; Reid & Crisafulli, 1990). Recently, research in this area has shifted away from the global construct of marital adjustment to look at the specific aspects of marital functioning that are linked to child outcomes. In particular, the role played by parents' open conflict, such as the expression of spousal physical violence (Jouriles, Murphy, Farris, & Smith, 1991; Jouriles, Murphy, & O'Leary, 1989), frequent verbal aggression (Grych & Fincham, 1990; Porter & O'Leary, 1980), and intense child-rearing disagreements (Dadds, Schwartz, & Sanders, 1987) has been repeatedly implicated as a key component associated with children's aggressive behavior and emotional problems. Observational studies and experimental analogue work supports

the contention that exposure to interadult verbal anger and violence is particularly disturbing to children (J. S. Cummings, Pellegrinia, Notarius, & Cummings, 1989). E. M. Cummings and Zahn-Waxler (1992) have suggested that children become sensitized to conflict as a result of repeated exposure to parental fights and therefore are more prone to emotional and behavioral dysregulation (i.e. greater distress and anger). But what are the effects of less extreme marital conflict on children's social adjustment? This is important to understand since conflict and anger are inevitable aspects of most marriages.

Researchers have begun to develop more detailed microanalytic observations of couples' interactions in order to specify the underlying processes within the marital relationship that are linked with children's conduct problems. For example, Katz and Gottman (1994) have reported that marriages characterized as high in mutual contempt and belligerence—nonverbal negative affect—have been associated with angry, physically aggressive, and noncompliant children. It appears that children are as sensitive to nonverbal anger or to distressed emotions or to the affective quality of their parent's relationships as they are to overt or verbally expressed anger (E. M. Cummings, Ballard, & El-Sheikh,

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1991a). These studies indicate the importance of moving beyond the study of individual and global risk indicators (such as global reports of marital dissatisfaction) to the study of risk mechanisms—that is, understanding the specific underlying processes within the risk factor (i.e. how the conflict is managed or expressed) that play a role in the causal chain leading to children's conduct problems. The important question then becomes, what aspect of the marital conflict carries the risk?

We hypothesize that a couple's negative conflict management skills (defined as the inability to collaborate and problem-solve, to communicate positively about problems, and to regulate negative affect) is a key variable in marital relationships contributing to the development of conduct problems and to the way children learn to communicate and manage conflict with their parents and peers. We find support for this theory from the work of Cummings and colleagues (E. M. Cummings, Ballard, El-Sheikh, & Lake, 1991b; E. M. Cummings & Davies, 1994), who indicate that resolution of conflict between couples and providing children with explanations of their conflict (absolving children from blame) is helpful for children's emotional adjustment. These researchers conclude that adult resolution of conflict results in significantly reduced children's anger and negativity.

Although these latest observational studies have provided a great deal more provision in assessing specific aspects of marital interactions, they have not necessarily provided comparable precision in assessing children's outcomes. Invariably, effects of marital conflict have often relied on mother reports of child behavior problems, which may be biased due to effects of marital distress and depression on their perceptions of their child. Studies utilizing father reports of children's behavior problems and observations of father-child parenting interactions as well as mother-child parenting interactions are scarce. Comparatively little attention has been paid to assessing the more subtle disruptions in the child's social adjustment, such as how particular patterns of marital interactions influence children's communication, play interaction styles, and affect when observed interacting with peers as well as with their mothers and fathers. It is important to understand more precisely how young children's relationships with peers and parents are affected by particular styles of marital interactions. For example, do children with parents whose marital conflict management style is characterized as noncollaborative and negative in affect and content have more peer relationship and parent interaction difficulties than children whose parents successfully collaborate, problem-solve, and manage conflict? Although less is known about the effect of specific aspects of marital interactions on children's peer relationships, there is, however, substantial evidence suggesting that the quality of the marital relationship affects the quality of the sibling relationship (e.g. Brody, Stoneman, & McCoy, 1994). One of the purposes of this study is to evaluate whether similar effects emerge for influencing interactions with peers and parents.

In addition to understanding the precise mechanisms of how a particular style of marital conflict management influences children's interactions with peers and parents, another purpose of this study is to understand how

distress in one family subsystem (i.e. couple) affects the functioning of another family subsystem (i.e. parenting). How is poor marital conflict management skill related to parent management skill? Poor parenting management style, such as negative or critical discipline approaches and lack of emotional responsiveness, is certainly a well-known risk factor related to the development of conduct problems (Patterson, 1982; Webster-Stratton, 1985), but what is less clear is how this risk factor (i.e. poor parent management) is related to marital interactions. It would seem that family risk factors would be interrelated, with disturbances in one family subsystem influencing the development and form of other family processes. Unfortunately many prior studies have looked at these risk factors (parenting and marital interactions) independently from each other (e.g. Jouriles, Murphy, et al., 1991; Mahoney, Jouriles, & Scavone, 1997) and not within the same model. Recent research indicates that the examination of marital processes in isolation from parenting processes cannot fully account for children's relationship quality.

Most researchers agree that the marital relationship, parent-child relationship, and children's social adjustment are intercorrelated; however, there is controversy and conflicting evidence as to whether the marital relationship influences child behavior directly (E. M. Cummings et al., 1991b; Emery, Fincham, & Cummings, 1992; Fincham, 1994) or whether the relationship is indirect, that is, it is mediated by the parent-child relationship (Brody et al., 1994; Erel, Margolin, & John, 1998; Fauber, Forehand, Thomas, & Wierson, 1990; Mann & MacKenzie, 1996). In the indirect relationship model, it is proposed that the marital relationship influences child behavior indirectly by compromising some aspect of the parenting relationship and consequently the parenting relationship functions as a mediator in the association between the marital relationship and child behavior. Some researchers have found evidence for both direct and indirect effects of the marital relationship on child behavior (Gottman & Katz, 1989). None of these studies specifically examined marital conflict management skills, nor did they use an index of child adjustment that involved observations of peer interactions in addition to children's affect and behavioral interactions with parents.

We hypothesize that a couple's low confidence in their ability to solve problems and their lack of observed conflict management skills or effective collaboration leads to increasing negative affect and unresolved issues that contribute to escalating negativity in parenting interactions. We further theorize that the couples' preoccupation with their marital difficulties will lead to less emotionally responsive parenting. These poor parenting skills will contribute to the development and maintenance of child conduct problems. Thus, marital style will be associated with the style of parenting; marital style will indirectly influence children's conduct problems and conflict resolution skills with peers and parents. We also hypothesize that marital conflict management style will have a direct effect on children's conduct problems independent from parenting style. This hypothesis is based on the social learning model, which would suggest that children model their parents' hostile or ineffectual conflict management skills with each other. By under-

standing the underlying mechanisms that may be common to several risk factors, we can then design interventions that are more effective in addressing multiple family risk factors at the same time. We can build therapeutic programs for distressed couples and minimize the negative consequences for children.

The present study examines the direct effects of overt marital conflict management style as well as couple's perceptions of their ability to solve problems on children's conduct problems in interactions with their peers and parents. In addition, we examine the indirect or mediational role of two dimensions of parenting (a) overt critical parenting and (b) parental emotional responsiveness on the linkage between marital conflict management and children's conduct problems. We examine these models for fathers and mothers separately, using reports and observational data from both parents, as there has been some suggestion in the literature that fathering may be more disrupted than mothering by marital conflict (Coiro & Emery, 1998).

## Method

### Subjects

The sample consisted of 120 children aged 4–7 years. In order to get a heterogeneous sample in terms of child conduct problems and marital and parenting behaviors, we recruited half the subjects from the community and half from 60 consecutive referrals to a University Parenting Clinic recognized in the community as a facility specializing in the evaluation and treatment of young children with conduct problems. The advantage of a heterogeneous sample is that there is greater variability in construct scores, thus more power for prediction.

Criteria for study entry for the clinic sample were that (a) the child was between 4 and 7 years old; (b) the child had no debilitating physical impairment, intellectual deficit, or history of psychosis; (c) the primary referral problem was child misconduct (e.g. noncompliance, aggression, oppositional behaviors) that had been occurring for more than 6 months; (d) parents' reports of their child's behavior on the Eyberg Child Behavior Inventory (ECBI; Robinson, Eyberg, & Ross, 1980) showed a clinically significant number of behavior problems (greater than two standard deviations above the norm for the age); (e) the child met DSM-IV criteria for Oppositional Defiant Disorder (ODD) and/or Conduct Disorder (CD) based on a structured diagnostic interview of parents and laboratory observation by highly experienced, reliably trained psychologists and social workers; and (f) neither the family nor child was currently receiving any treatment.

The community sample of 60 families of children without diagnosed conduct problems were recruited through general advertisements placed in day care centers, schools, and newspapers. Scores in the clinical range on parent and teacher questionnaires served as exclusionary criteria. To avoid the gathering of a "supernormal" group, we accepted children who spanned the range from problem-free to the clinical cutoffs on parent-rating scales. Our community sample was derived after matching with the clinic sample according to child's sex, age, ethnicity, and socioeconomic status. Also, children in both the clinic and community samples had to have two married parents in the home in order to be eligible for the study. Table 1 presents key demographic information.

Study children included 32 (26.7%) girls and 88 (73.3%) boys, with a mean age of 5.66 years ( $SD = 1.33$ ). Study parents included 120 mothers and 120 fathers who had been married an average of 10.2 years ( $SD = 3.92$ ). There were 6 ethnic minority and 54 Caucasian children in each group. There were no

Table 1  
*Demographic Characteristics of Sample*

Demographic measures	Mean/%	<i>SD</i>
Child's age (years)	5.66	1.33
Child's gender (% male)	73.3%	
Child's ethnicity (% Caucasian)	90.0%	
Social position score <sup>a</sup>	24.39	11.01
Family income <sup>b</sup>	6.75	1.46
Number of years married	10.23	3.92
Number of children in family	2.11	0.85
Mother's age (years)	36.80	5.37
Mother's years of education	15.43	1.96
Father's age (years)	39.39	6.27
Father's years of education	15.48	2.27

<sup>a</sup> Based on Hollingshead and Redlich's (1958) Two-Factor Index of Social Position (education and occupation). High score denotes low social position.

<sup>b</sup> Income scale: 1 = less than \$5000; 2 = \$5000–8999; 3 = \$9000–14,999; 4 = \$15,000–20,999; 5 = \$21,000–28,999; 6 = \$29,000–39,999; 7 = \$40,000–69,999; 8 = \$70,000–99,999; 9 = \$100,000 or more.

significant differences between the clinic and community samples in terms of parents' age, education, social class, income, number of children in the family, or number of years married.

### Procedures

Mothers and fathers independently completed the following questionnaires in the clinic setting: (a) demographic questionnaire; (b) Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1991); (c) Family Crisis Oriented Personal Scales (F-COPES; McCubbin & Thompson, 1987).

Following completion of the questionnaires, couples were videotaped engaging in a 15-minute discussion of two self-identified problem areas. They were asked to try to resolve the two problems in the time period. The length of time has been found to be adequate in Gottman's previous research, which has varied discussions from 15 minutes to several hours (Gottman, 1979). In addition, each child was videotaped for 20 minutes in our clinic playroom playing with his/her best friend. The friend needed to be within 2 years of the target child's age and of the same gender. After an initial warm-up play period, the children were asked, to, "Make the best thing you can together," with the emphasis placed on the cooperative aspect of their play activity. They were given one Etch-a-Sketch and a box of Lincoln Logs and were told to decide on something they could make together and that afterwards someone would come to take a picture of their "joint project" after they had completed it.

A home visit was conducted in the late afternoon or early evening to observe mother-child and father-child interactions. Each dyad was observed for 30 minutes. The order of the mother or father observation was counterbalanced. Observations were conducted when all family members (other children in the family or boyfriends and partners) were in view of the observer; no telephone calls could be made and no visitors could be present. Aside from these changes in family routine, parents were told to do what they would normally do at that time.

### Measures

*Marital reports and observational interactions of conflict management.* We assessed marital conflict management skills by means of mother and father reports of their confidence in solving problems, observations of low collaboration or poor

problem-solving skills and negative communication during videotaped laboratory observations of marital discussions concerning family problems, as well as by observations of negative marital affect during home observations.

(1) *F-COPES*. The F-COPES (McCubbin & Thompson, 1987) consists of 30 items comprising 3 scales that assess internal family coping patterns. Only the first subscale was used in this study, which consisted of four items reflecting the couple's feelings of confidence in their ability to solve their problems and their sense of mastery in dealing with unexpected events (e.g. strength in family to solve major problems, face problems head on, believe we can handle our own problems). The scale has good internal consistency ( $\alpha = .70$ ), test reliability ( $r = .71$ ), and validity. In this study the confidence subscale correlated .36 with the marital dyadic adjustment scale (DAS; Spanier, 1989), suggesting its modest relationship to reports of general marital satisfaction.

(2) *Problem-Solving—Interaction Communication—Affect Rating—Engagement Coding Systems (PS-I CARE)*. The PS-I CARE was developed by Webster-Stratton, King, and Hollinsworth (1991) to code marital conflict management skills, which were coded from the videotapes of the marital problem-solving discussions in the clinic. The coding system consisted of three components: collaborative problem solving, affect, and communication style. The *collaborative problem solving* includes: (a) problem definition (agreement about problem); (b) solution generation; and (c) evaluation, agreement, and planning about solutions. After coding these problem-solving items, the coders rate couples' collaboration skills. The collaboration scale ranged from "low collaboration" (1—abrasive, dismissive, stonewalling, blaming) to "high collaboration" (5—cooperative, mutually reinforcing, joint ownership of problem, accepts responsibility, defines problem). A high score on this scale indicates a high degree of effective problem solving. A high score also indicates positive affect and a responsive attitude toward the problem-solving process. Intraclass correlations coefficients as a measure of interrater reliability for the collaboration summary scores for mothers and fathers were satisfactory (.64).

The *communication style and affect components* were developed as a derivative of a global rapid marital coding system (RCISS) and the detailed Specific Affect Coding System (SPAFF) developed by Gottman (Gottman, McCoy, Coan, & Collier, 1996). We revised and adapted these coding systems in order to develop a system that would be able to detect some of the more subtle aspects of positive and negative communication styles. The communication system included 15 communication skills leading to 2 summary scores, 1 for total positive communication (5 items) (e.g. validate, express positive feelings, praise/appreciate, make positive request, humor) and one for total negative communication (10 items), (e.g. coerce/threaten, escalate/negative affect, masked meanness, deny responsibility, ignore/no acknowledgement, withdraw/retreat, disagree-closed, fault finding, complain/whine, command/moralize). Only the negative communication variable was used as an indicator of negative conflict management style in this study.

Training procedures for the 6 coders took approximately 3 months of training (30–45 hours of practice with videotapes) and established 80% reliability with at least 2 precoded videotapes before being considered a reliable marital coder. During the coding phase we randomly selected 30% of the marital videotapes to be recoded by a second coder in order to establish interrater reliabilities. Coders were blind to whether the families were in the clinic or community conditions and were assigned equally to observe families representing both conditions. Intraclass correlations coefficients as a measure of interrater reliability for the communication summary scores were satisfactory, ranging from .80 for total positive communication to .93 for total negative communication.

(3) *Home observations of marital affect valence (Dyadic Parent–Child Interactive Coding System-Revised; DPICS-R)*. In adding to coding parent–child interactions during home observations (described below), coders also rated marital affect. Every 5 minutes observers paused to code the marital affect valence on a scale ranging from "exuberant affect" (1) to "unrestrained negative affect" (5). Affect valence describes the emotional quality of the content behaviors and is coded on the bases of nonverbal gestures, body posture, facial expressions, and tone of voice and/or inflections. Behaviors are rated as (5) when father or mother expresses clear and pronounced anger, threats, hostility, or demeaning affect in relation to the spouse (not in relation to anyone else in the family). Descriptive adjectives we used for this category included belligerent, enraged, inflamed, vindictive, screaming, violent, and abusive. Negative affect (4) was less pronounced and indicated mild irritation and slight hostility. On the other hand, exuberant affect was defined as pronounced expression of intense happiness, warmth, affection, or supportiveness towards the spouse. Intraclass correlation coefficients as a measure of interrater reliability were .92. (See below for discussion of DPICS-R as a measure of parent–child interactions.)

(4) *Marital constructs*. From the measures described above there were two marital constructs defined for each parent. The first marital construct, termed "negative marital conflict management," includes the total negative communication score (PS-I CARE), noncollaboration score (PS-I CARE), and negative affect valence (DPICS-R). For each parent, a composite score for this construct was computed by first converting the component variables into *z*-scores and then summing them. For mothers, the Cronbach alpha for this construct was .71, with correlations among the component variables ranging from .34 to .50 ( $p < .001$ ). For fathers, the Cronbach alpha for this construct was .60, with correlations among the component variables ranging from .19 to .43 ( $p < .05$  to  $p < .001$ ). The second marital construct, "marital powerlessness," includes the single global measure of low confidence in problem-solving (F-COPES). The correlation between the two marital constructs was .17 ( $p = .07$ ) for mothers and .19 ( $p < .05$ ) for fathers.

*Parenting reports and interactions*. We measured parenting variables by means of observing mother and father parenting interactions with their child during home observations.

*Independent observations of parent–child interactions*.

(1) *DPICS-R*. The DPICS, originally developed by Robinson and Eyberg (1981) and revised by Webster-Stratton (1989) to include affect dimensions, is a widely researched observational measure for recording behaviors of parent–child interactions in the home. This study used three separate parent summary variables: (a) positive affect (nonverbal expression of enjoyment, warmth, or enthusiasm directed at child); (b) total critical statements (which includes critical and rejecting statements and negative commands directed at child); and (c) negative affect dimension (valence). Every 5 minutes observers paused to code the parent valence on a scale ranging from "exuberant affect" (1) to "unrestrained negative affect" (5). Definitions for negative affect have been defined above. The only difference here in the definition is that the negative affect must be directed toward the child, not the spouse. (See below for discussion of DPICS-R as a measure of child behavior.)

Our highly trained staff observers ( $N = 8$ ) had extensive experience using the DPICS-R system for approximately 3 years before starting this project. To become "reliable," the observer must have achieved an interobserver agreement rate of at least 75% with a reliable observer on 2 consecutive observations. To count as agreement, events must be coded correctly by subject matter and coding categories *and* in the proper sequence. Reliability checks with standardized videotapes were done on a weekly basis and checked during weekly observer meetings as well as for 20% of home observations.

Reliability checks for home observations were randomly selected from both the clinic and community conditions. Observers were blind to whether the families were in the clinic or community conditions and were assigned equally to observe families representing both conditions. Intraclass correlations for these parenting variables were .70 for positive affect, .77 for criticals, and .91 for negative affect valence.

(2) *Parenting constructs.* Two parenting constructs were defined for each parent. The first parenting construct, termed "critical parenting," consisted of the single measure of overt critical statements (DPICS-R) directed at the children. The second parenting construct, termed "low emotional responsiveness," included low positive affect (DPICS-R) and negative affect valence (DPICS-R). For each parent, a composite score for this construct was computed using the *z*-scores for the two component scores and then summing them. The Cronbach alpha for this construct score was .58 ( $p < .001$ ) for mothers and .62 ( $p < .001$ ) for fathers. The correlation between the two parenting constructs was .23 ( $p < .05$ ) for mothers and .27 ( $p < .01$ ) for fathers.

*Child conduct problems and conflict management skills.* Child outcome was assessed by means of mother and father reports of child externalizing behaviors, home observations of child negative behaviors and negative affect with mothers and fathers, and laboratory observations of children's conflict management and collaboration skills while playing with a friend.

(1) *CBCL.* The parent form of the CBCL (Achenbach & Edelbrock, 1991) consists of 20 items dealing with social competence and 118 dealing with behavior problems. It has been shown to discriminate clinic-referred from nonreferred children. The items constitute multiple behavior-problem scales derived separately for boys and girls in different age groups. The scales form two broad-band groupings in all sex/age groups: Externalizing Behavior (aggressive, antisocial, and undercontrolled) and Internalizing Behavior (fearful, inhibited, and overcontrolled). For this study we were only interested in mother and father reports of the Externalizing score as a measure of conduct problems. The CBCL has established norms; published Pearson correlations were .80 for interparent reliability and .93 for test-retest reliability for the Externalizing score. Interparent correlations in this study were .82,  $p < .001$ .

(2) *Peer Problem-Solving—Interaction Communication—Affect Rating Coding System (PPS-I CARE).* The PPS-I CARE coding system (Webster-Stratton, Hollinsworth, & Rogers, 1991), a derivative of Gottman's MACRO and MICRO friendship observations measures (Gottman, 1983, 1986), was developed specifically to evaluate children's social skills and conflict management strategies. The variable used from this complex coding system (including communication style and social skills) to encompass negative peer interactions consisted of a global rating by coders on a 5-point scale from noncollaborative/nonreciprocal play to highly reciprocal/collaborative play. Reciprocal/collaborative peer play was defined as each child being as equally involved as the other in giving commands, disagreeing, giving suggestions, asking and granting permission, and in complying to one another's requests, suggestions, or ideas. In a noncollaborative relationship one child dominates the other, gives lots of commands, and rejects or refuses to comply with the other's ideas or feedback. In other words, such a child is highly oppositional with his peer. We theorized that high negative interactions and conduct problems would be reflected in a high score on the nonreciprocal/noncollaborative scale. This rating scale was completed for the cooperative play segment, where the children were specifically instructed by the examiner to cooperate together to make a joint project. Thus to be noncompliant and oppositional with peers in response to the examiner's instructions illustrates particularly defiant behavior with peers. (See earlier description in Procedures.)

It took approximately 6 months of weekly training and practice for observers to become reliable. To assess reliability, a second coder analyzed 30% of all videotapes, randomly selected. The percentage agreement reliability was calculated for each 5-minute segment. The intraclass correlation calculated between observers for the summary variable was .68 for reciprocity/collaboration.

Training procedures for this coding system are identical to those described above for the parent-child and marital interaction coding systems.

(3) *DPICS-R.* The DPICS, as described earlier in regard to parenting skills, also assesses the child's social interactions at home. For this study we were interested in two summary scores reflecting the target child's conflict management skills and conduct problems: total child deviance (sum of frequency of whine + yell + cry + physical negative + smart talk + aggression) and negative affect valence. The negative affect valence was described earlier, and the only difference here is that the child's negative affect must be directed toward the parent being observed.

Intraclass correlations calculated between observers were .85 (for deviance) and .79 for negative affect valence.

(4) *Child construct.* The child construct termed "child conduct problems" was computed separately for (a) child conduct with mother and peers and (b) child conduct with father and with peers. These two versions of the child construct are used separately in subsequent tests of the mother and father models, respectively. The child conduct with mother and peers version of the child construct includes total deviance with mother (DPICS-R), child negative affect valence with mother (DPICS-R), mother report of externalizing behaviors (CBCL), and noncollaborative or oppositional play with peers (PPS-I CARE). The child conduct with father and peers version of the child construct includes total deviance with father (DPICS-R), child negative affect valence with father (DPICS-R), father report of externalizing behaviors (CBCL), and noncollaborative play with peers (PPS-I CARE). Note that the variable relating to peers is identical in both versions of the child construct. Each version of the child construct was computed by summing the *z*-scores for the four component items. For child conduct with mother and peers, the Cronbach alpha for the child construct was .63, with correlations among the four component items ranging from .19 to .46 ( $p < .05$  to  $p < .001$ ). For child conduct with father and peers, the Cronbach alpha for the child construct was .66, with correlations among the four component items ranging from .25 to .50 ( $p < .01$  to  $p < .001$ ).

Table 2 shows the means and standard deviations of the component items in each of the construct scores described above. Note that means and standard deviations for the construct scores themselves are not presented because they are based on *z*-scores and so are not meaningful.

## Results

### *Preliminary Analysis*

Correlational analyses were carried out to determine whether any of the demographic variables (i.e. child's age, child's gender, family social position, and number of years married) were significantly related to the marital, parenting, and child construct scores. No statistically significant relations were found, and demographic variables were not included in further analyses. The Kolmogorov-Smirnov test for normality of the distributions of the construct scores (5 for mothers and 5 for fathers) were nonsignificant ( $\alpha = .05$ ) indicating these scores are normally distributed. The inter-

Table 2  
*Descriptive Statistics for Component Items of Marital, Parenting, and Child Construct Scores*

Construct scores/Component items	Mother		Father	
	Mean	SD	Mean	SD
Negative marital conflict management				
Negative communications (PS-I CARE)	3.53	2.38	3.08	2.19
Noncollaboration (PS-I CARE)	2.41	0.90	2.48	0.90
Negative marital affect valence (DPICS-R)	2.47	0.66	2.47	0.67
Marital powerlessness				
Low confidence in problem-solving (F-COPES)	5.83	2.91	5.61	2.72
Critical parenting				
Critical statements (DPICS-R)	10.01	9.30	6.35	5.36
Low emotional responsivity of parenting				
Low positive affect (DPICS-R)	22.00	6.51	41.17	7.50
Negative affect valence (DPICS-R)	2.82	0.34	2.79	0.27
Child conduct problems <sup>a</sup>				
Total deviance with parent (DPICS-R)	11.66	17.04	10.72	14.82
Negative affect valence with parent (DPICS-R)	2.81	0.37	2.80	0.34
Parent report of externalizing problems (CBCL)	58.36	13.87	56.45	12.71
Noncollaborative play with peers (PPS-I CARE)	2.79	1.17	2.79	1.17

<sup>a</sup> The first three items in the child conduct problems construct score were obtained separately for child with mother and child with father; the fourth item, noncollaborative play with peers, is used in both the mother and father versions of this construct score.

correlations among the construct scores included in the path analyses are shown in Table 3. Correlations among constructs in the mother-child analyses are above the diagonal and correlations among constructs in the father-child analyses are below the diagonal.

### Path Analysis

Path analysis was used to test the direct effects of marital conflict management and marital powerlessness on child conduct problems and the indirect effects as mediated by parenting behaviors (critical and low emotional responsiveness). Separate path analytic models were tested for mothers and fathers. Specifically, one model tested the relationships among mother's marital conflict management, mother's parenting behaviors, and child conduct problems with mothers and peers; the other model tested the relationships among father's marital conflict management, father's parenting behaviors, and child conduct problems with fathers and peers. Structural equation modeling was not used because of the limited sample size and difficulty finding at least

three intercorrelated variables per construct within the model (Biddle & Martin, 1987).

Figure 1 depicts the full path model initially tested. This path diagram specifies both direct paths linking marital negative conflict management to child conduct problems and indirect paths that operate through parenting behaviors. In the initial testing of the full path analytic model, a series of multiple regression analyses were performed using simultaneous entry of predictors for each consequent variable (Asher, 1983). Each box in the path diagram that has arrows pointing to it represents one multiple regression equation. After estimating the full model, paths that were not significant were eliminated and the reduced model was estimated. In the reduced path models (Figs. 2 and 3), the numbers on the paths are the standardized regression coefficients (betas) and the numbers in parentheses are the standard errors.

The results from the reduced path model for mothers are shown in Fig. 2. For mothers, marital powerlessness showed a significant direct path to child conduct problems, but did not show significant indirect paths through either aspect of mothers' parenting behaviors.

Table 3  
*Intercorrelations among Construct Scores for Marital, Parenting, and Child Constructs*

	1	2	3	4	5
1. Marital negative conflict management	—	.17	.45***	.48***	.53***
2. Marital powerlessness	.19*	—	.15	.21*	.39***
3. Critical parenting	.31***	.10	—	.23*	.29**
4. Low emotional responsivity of parenting	.37***	.18	.27**	—	.51***
5. Child conduct problems	.45***	.27**	.42***	.59***	—

Correlations among constructs in the mother/child analyses are above the diagonal and correlations among constructs in the father/child analyses are below the diagonal.

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

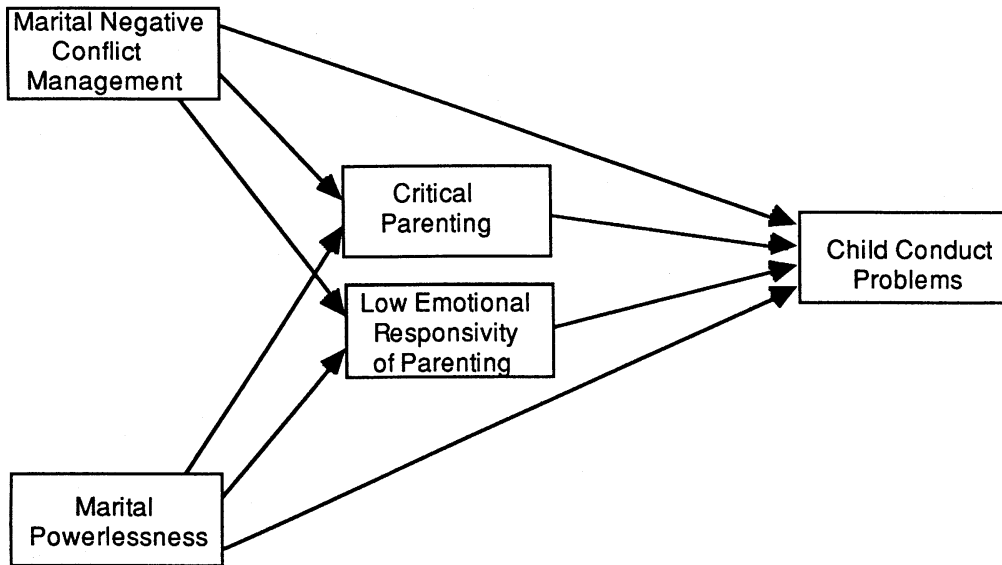


Figure 1. Full path model relating marital functioning, parenting behaviors, and child conduct problems.

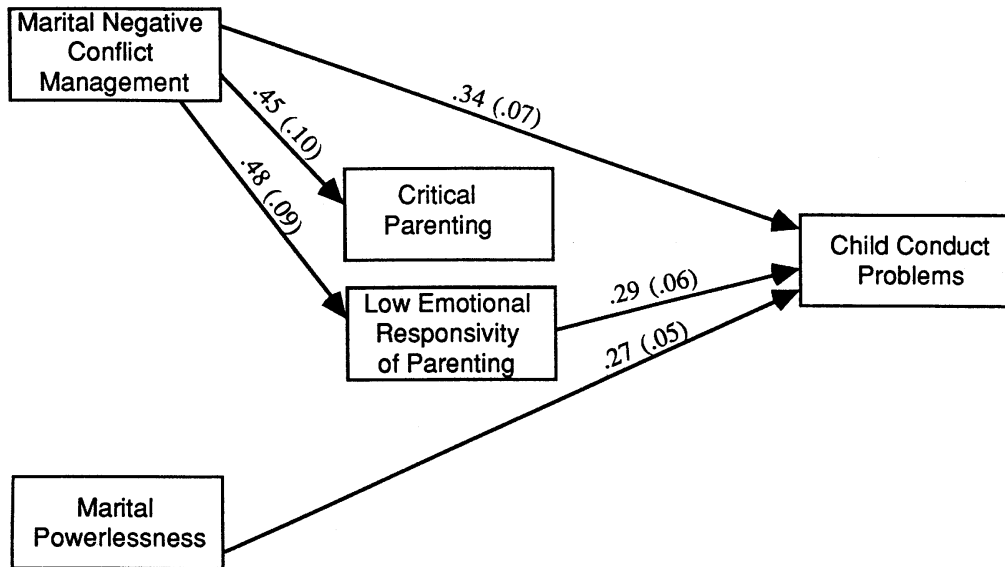


Figure 2. Reduced model of paths among mothers' marital functioning, mothers' parenting behaviors, and child conduct problems.

Marital negative conflict management showed both a significant direct path to child conduct problems and a significant indirect path through unresponsive parenting. The indirect path indicates that marital negative conflict management affects low emotionally responsive parenting, which then affects child conduct problems. Marital negative conflict management also showed a significant direct path to critical parenting but the path did not continue to child conduct problems. The reduced model for mothers accounted for 44% of the variance in child conduct problems; multiple  $R = .66$ ,  $F(3, 116) = 30.06$ ,  $p < .001$ .

Results from the reduced path model for fathers are shown in Fig. 3. For fathers, marital powerlessness did not show either direct or indirect paths to child conduct problems. Fathers' marital negative conflict management style showed a significant direct path to child conduct

problems as well as two significant indirect paths to child conduct problems through both aspects of parenting behaviors. Specifically, an indirect path indicates that marital negative conflict management directly affects critical parenting, which then affects child conduct problems; the other indirect path suggests that marital negative conflict management directly affects low emotional responsiveness in parenting, which then affects child conduct problems. The reduced model for fathers accounted for 47% of the variance in child conduct problems; multiple  $R = .68$ ,  $F(3, 116) = 32.45$ ,  $p < .001$ .

### Discussion

The results of this study provide support for our hypotheses based on the social learning model, which would predict that marital interactional patterns would

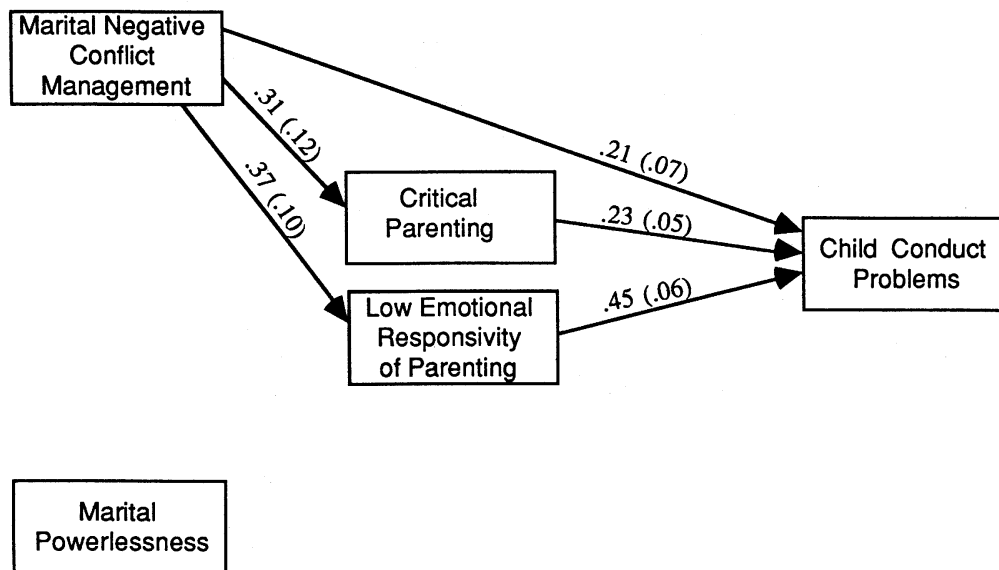


Figure 3. Reduced model of paths among fathers' marital functioning, fathers' parenting behaviors, and child conduct problems.

show a direct linkage with child interactional patterns. This study showed that strong consistent paths emerged from a negative marital conflict management style as observed in both mothers' and fathers' interactions with each other to children's negative conflict management interactions with parents and peers. The models were similar for both fathers and mothers and both confirm and expand the findings of those who have argued for the direct effect relationship model (Emery et al., 1992) and E. M. Cummings (1994), who has indicated that couples' ability or inability to resolve conflict and manage their emotional negativity is central to its potential impact on children's adjustment and ability to manage conflict.

The results also confirmed an indirect relationship model or what has been termed a "spillover" hypothesis (Kerig, Cowan, & Cowan, 1993), in which negative conflict management in the marital relationship is expressed in the parenting relationship as well. For mothers, the influence of a negative marital conflict management style was linked to a parenting style that was low in emotional responsivity (low positive affect and high negative affect valence) and critical, but only low emotional responsivity was, in turn, linked to children's conduct problems. For fathers, the effects of negative marital conflict management style on child conflict management style and conduct problems was linked to both parenting constructs—low emotional responsivity as well as critical discipline—and both were linked to children's conduct problems.

In terms of mothers' and fathers' self-efficacy in terms of their perceived ability to solve family problems, only mothers' sense of powerlessness had a direct effect on children's conduct problems. There were no indirect effects for mothers' sense of powerlessness through parenting. For fathers, their sense of marital powerlessness had no direct or indirect effects on children's conduct problems.

In prior studies there has been inconsistency in regard to determining direct links from marital interactions to

child interactions, with the majority of studies that have tested both direct and indirect models finding support for the indirect relationship model through parenting but not for the direct relationship model (Brody et al., 1994; Erel et al., 1998; Fauber et al., 1990; Mann & MacKenzie, 1996). We suggest that the inconsistency in these findings in the past may have been due to the lack of precision in the marital variables studied and reliance on global self-report measures either for marital satisfaction or for child adjustment. As we can see in this study, our marital construct that utilized global self-reports of confidence in problem solving (which are correlated with marital satisfaction) had more inconsistent findings and weaker correlations than our marital construct that used precise observable marital interaction variables. We believe that the increased precision in this study of the specific marital and child interactional processes of interest has led to our ability to propose a model that accounts for considerably more variance in the children's behavior over and above what has typically been found for global measures of marital functioning. Consistent with this view are two recent studies utilizing more precise and detailed operationalizations of marital processes, which also found direct links from marital relations to child adjustment (Davies & Cummings, 1998; Davis, Hops, Alpert, & Sheeber, 1998).

The findings supporting the indirect link are interesting as they suggest that effects of mothers' negative marital conflict management on children's behaviors are mediated by mothers' lack of emotional responsivity in parenting rather than their overt critical parenting. As for the father model, the effects of fathers' negative marital conflict management are mediated by both fathers' critical parenting and lack of emotional responsivity. These data are consistent with Patterson's theory (Patterson, DeBaryshe, & Ramsey, 1989) that marital conflict will disrupt mothers' parenting skills and expand their work in showing that fathers' parenting is disrupted as well as mothers' parenting. Furthermore these



parenting variables that are linked to marital conflict are also shown to be important linkages to children's conflict management style. These data offer no support for the argument that marital conflict disrupts fathering more than mothering, but rather suggest that the parenting of both mothers and fathers is negatively associated with marital conflict.

The findings suggesting both direct and indirect routes provide a model of the family system as a whole, taking into account several family variables and clarifying the process through which marital conflict affects children. It suggests that the crucial role of parenting is due not only to the already known effects of parenting on children but also to the "spillover" process (Erel et al., 1998) and underlying conflict management difficulties common to both marital and parent-child relationships.

These theoretical findings have clinical implications for treatment of families with young children with conduct problems. For example, proponents of the indirect relationship model have suggested that even if the immediate effects of children's exposure to marital conflict become more stable, patterns of aggressive behavior depend on whether the marital problems compromise parenting behaviors. It has been suggested that high levels of affection and positive discipline with the child may buffer the effects of marital conflict on children's behavior problems. However, these data suggest that negative parenting and negative marital conflict management are highly intertwined and that even if parents do maintain positive parenting relations with their children despite high levels of marital conflict, children will still be affected directly by the negative conflict management style of the marriage. Thus, it would seem that interventions need to be broadened to include training in effective marital problem solving, communication, and anger management skills as well as parenting skills and affect regulation. Indeed, several studies have already shown that parent training programs that focused exclusively on parenting skills were more likely to fail for those families who had conflicted or distressed marriages (Dadds et al., 1987; Webster-Stratton, 1994). Dadds found that marital conflict was predictive of poor treatment outcome assessed at 6-month follow-up (Dadds & McHugh, 1992). In Webster-Stratton and Hammond's study (1990), marital status and marital conflict (for mothers and fathers respectively) were factors that made the greatest contribution to the prediction of child behavior problems immediately post-treatment. Moreover, Webster-Stratton (1990) found that marital conflict did not improve as a result of training focused solely on parenting skills, unlike mothers' depression. Consequently it appears that while traditional parent training can improve parent-child interactions, it has little impact on marital satisfaction or conflict; conversely, marital conflict and marital satisfaction do appear to have an impact on the outcome of parent training in terms of children's adjustment. All of these findings taken together suggest that parent training programs need to be broadened to emphasize partner involvement, parent support, marital communication, problem solving, and coping skills. When fathers or partners are left out of the training there is a much greater chance that, although the mother may have learned more

effective ways of parenting and problem solving, her partner will still be modeling ineffective problem solving, negative affect, and communication, which counteracts the mothers' efforts and contributes to increased marital conflict. A view of parent training that requires mothers and their partners (be these the father, grandparent, teacher, or close adult friend of the child) to be involved in training, and that deals with broader family and interpersonal issues than parenting per se, will more accurately reflect the more complex model concerning the etiology of conduct problems. This hypothesis is supported by a recent study evaluating a traditional parent training approach with a broader parent training intervention, which also focused on marital communication, problem solving, and anger management. Results showed significantly improved marital functioning and child problem-solving skills in the combined intervention compared with parents and children who received only the parent intervention (Webster-Stratton, 1994).

There are several limitations of this study that deserve comment. The first concerns the relatively homogeneous and nonrandom sample. Our results cannot be generalized to families with differing demographic and racial characteristics. The second limitation concerns the role of gender differences in our findings. For example, does mother or father marital negativism impact boys and girls differently? Since our sample of girls in this study was small we did not feel confident in making generalizations based on such a small sample size. Future research with larger samples is necessary to determine whether there are indeed different outcomes for boys versus girls depending on whether the mother or the father or both are demonstrating negative conflict management styles in their marriage. It is possible that the linkages between marital conflict and parenting vary according to gender of the child. Third, we can't determine from this analysis the nature of the directions of the causal relationships between marital interactions, parenting, and child conduct problems. In our model we have hypothesized that the difficulties that such parents have are not due to their lack of parenting skills per se, but rather because they lack *conflict management skills*. Parents who have more difficulties with affect regulation, conflict resolution, and communication find it harder to cope with life stressors, marital disagreements, and parenting issues. As a result, not only do they fall into the negative reinforcement trap when parenting, but they also model in their marriages their negative affect patterns, troubled communication, and ineffective conflict management strategies for their children, thereby further contributing to their children's difficulties with peer relationships including poor communication and poor problem solving, as well as escalating anger and aggression. Conversely, it could be argued that it is children's negative interactions and behaviors that lead to critical and unresponsive parenting, which in turn leads to marital problem-solving difficulties. At this point we can only test the extent to which observed associations among variables can be predicted from our hypothesized model without respect to the direction of the effects. Finally, this model is not meant to be exhaustive and undoubtedly a unidirectional model is too simplistic. Current conceptualizations must emphasize the reciprocal effects between children and

their parents. For example, a model that also includes children's temperament, attributions, emotional reactivity, and level of cognitive development will undoubtedly explain even more of the variance in children's social adjustment. Future analysis with a larger sample using more powerful statistical procedures (e.g. structural equation modeling) will allow for testing a more comprehensive model that includes child factors as well as family factors and will give greater precision to our ability to predict child adjustment.

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