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Patterns of Marital Conflict Predict Children's Internalizing and Externalizing Behaviors

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Results are reported of a longitudinal study on how marital interaction affects children. Observational assessments of marital interaction during conflict resolution obtained when children were 5 years old predicted teachers' ratings of internalizing and externalizing behaviors when the children were 8 years old. Two distinct and uncorrelated marital interaction patterns were related to specific forms of child outcomes. The Mutually Hostile pattern, which correlated with later marital dissolution, also predicted externalizing behavior patterns in children 3 years later. The Husband Angry and Withdrawn pattern predicted child internalizing behaviors. Marital satisfaction and child temperament did not relate to child outcomes, nor did they interact with marital patterns to produce deficits in child adjustment. The findings suggest that the specific behaviors couples use when resolving marital disputes may contribute differentially to the presence of externalizing and internalizing behavior patterns in children.

There is now convincing evidence to suggest that marital distress and conflict are associated with a wide range of deleterious child outcomes, including depression, withdrawal, poor social competence, health problems, poor academic performance, and a variety of conduct-related difficulties (Cowan & Cowan, 1990; Easterbrooks, 1987; Emery & O'Leary, 1982; Forehand, Brody, Long, Slotkin, & Fauber, 1986; Gottman & Katz, 1989; Hetherington, Cox, & Cox, 1982; Peterson & Zill, 1986; Porter & O'Leary, 1980; Rutter, 1971; Whitehead, 1979). Although this literature is suggestive of a link between the parents' marriage and child outcomes, the direct relationship between marital quality and child outcomes has only rarely been examined in a prospective longitudinal study (e.g., Cowan & Cowan, 1990; Easterbrooks, 1987; Howes & Markman, 1989).

One issue in this research is that marital quality has been almost uniformly conceptualized in terms of relationship satisfaction. Although this approach has generated important new findings, the simple, unidimensional focus on marital satisfaction has failed to identify the specific dimensions of marital quality that are correlated with or predictive of child functioning. As a result, although there is evidence that distressed marriages are correlated with negative child outcomes, it is unclear exactly what it is about those marriages that are most caustic to children's well-being.

Identifying the dimensions of the marital relationship that are most detrimental to children's outcomes has both pragmatic and conceptual benefits. At a pragmatic level, it is important for building therapeutic programs for ailing marriages and minimizing negative consequences for children. Simply knowing that a couple is maritally distressed does not provide the therapist with specific information about the marital behaviors that need to be changed to have maximum benefit for the child. If characteristics of the marital relationship that are especially harmful to children can be identified, marital therapies for families with children can include a treatment component for improving those marital behaviors that are most destructive to children.

At the conceptual level, there is a need to question the information that is obtained from the finding of a relationship between self-report of marital distress and child outcomes. It is well known that people who are stressed in other areas of their life also report being unhappily married. For example, marital satisfaction has been found to covary with a diverse range of negative life stressors and states, such as the quality of life, job stress, a variety of dysfunctional personality characteristics, and depression (e.g., see Barton & Dreger, 1986; Beach, Arias, & O'Leary, 1986; Burgess, Locke, & Thomes, 1971; Krokoff, 1984; Lewak, Wakefield, & Briggs, 1985; Smolen, Spiegel, & Martin, 1986; Yogev, 1986). Thus, self-report measures of marital satisfaction may, in part, reflect a general stress dimension rather than something specific about the marriage. An assessment of marital quality that is independent of couples' own ratings would add precision to understanding the relationship between functioning in the marital and child systems. Such an assessment is possible using the quantitative observation of marital interaction (e.g., Gottman, 1979; Weiss & Summers, 1983).

Observing couples discussing issues important to their relationship is now an established approach for specifying dimensions of marital quality (e.g., see Markman & Notarius, 1987). Research on marriage has consistently demonstrated that the way couples resolve conflict is important in differentiating between happily and unhappily married couples (e.g., Gottman, 1979; Olson, Spengle, & Russell, 1979; Raush, Barry, Hertel, & Swain, 1974; Revenstorf, Vogel, Wegener, Hahlweg, & Schindler, 1980; Vincent, Weiss, & Birchler, 1975). Happily

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married couples have been found to display higher ratios of agreement to disagreement (Gottman, 1979) and exhibit more positive nonverbal cues (Birchler, 1977; Haynes, Follingstad, & Sullivan, 1979), more agreement and approval (Vincent & Friedman, 1979), and less coercive and attacking behaviors (Billings, 1979) than unhappily married couples.

One of the most consistent discriminators between happily and unhappily married couples has been the degree of negative affect expressed during conflict resolution. Unhappily married couples have been found to show more negative affect and negative affect reciprocity than happily married couples (e.g., Gottman, 1979; Revenstorf et al., 1980).

Affective differences that are independent of marital satisfaction have also been noted. For example, Margolin (1988) proposed that couples differ in the way in which emotions are expressed during conflict resolution, with some couples expressing their negativity very openly and directly and others keeping the conflict silent and hidden. The consequences of these different affective patterns of marital conflict resolution for children's socioemotional development have been largely unexplored.

There are some preliminary data to support the hypothesis that the different ways in which adults resolve conflict have negative consequences for children. In a series of investigations, Cummings and colleagues consistently demonstrated that exposure to interadult anger is associated with distressed, angry, and physically aggressive reactions in children (Cummings, 1987; Cummings, Iannotti, & Zahn-Waxler, 1985; Cummings, Zahn-Waxler, & Radke-Yarrow, 1981). On the basis of clinicians' ratings of interviews with individual spouses, Rutter and colleagues (Rutter et al., 1974) found a stronger relationship with child behavior problems in unhappy marriages characterized by interviewers as "quarrelsome" than those characterized as "apathetic." Thus, both these studies support the hypothesis that the particular way couples engage in conflict may be associated with negative or dysfunctional behavior patterns in children.

In our research, we examined whether two different patterns of marital conflict were related to children's behavior problems. One negative marital interaction pattern we examined has been described as a "demand–withdraw" (Christenson, 1987, 1988) or "pursuer–distancer" pattern (Fogarty, 1976), in which one spouse requests change through demands, criticism, and complaints and the other spouse retreats through withdrawal and avoidance. There is also evidence for a consistent gender difference in the way married men and women handle marital conflict, with husbands tending to withdraw and wives tending to engage in conflict (Christensen, 1987, 1988; Gottman & Levenson, 1988; Sullaway & Christensen, 1983). For example, in one of the earliest studies of marriage, Terman, Buttenweiser, Ferguson, Johnson, and Wilson (1938) reported that husbands' marital grievances were most likely to involve their wives' complaining, criticizing, and escalating emotion, whereas wives' grievances were most likely to involve their husbands' emotional withdrawal.

The Demand–Withdrawn pattern appears to be aversive for both spouses. Christensen and colleagues have found that the frequency of the Demand–Withdrawn pattern is strongly associated with reports of marital dissatisfaction (Christensen, 1987, 1988; Sullaway & Christensen, 1983). Husbands' withdrawal from marital interaction has also been associated with greater physiological arousal on the part of both husbands and wives (Gottman & Levenson, 1992). Given the aversive nature of this pattern for both spouses, we reasoned that the Demand–Withdrawn pattern may also have negative consequences for their children.

The present study also examined a negative marital interaction pattern that has been found to predict marital dissolution. Gottman (1993) recently reported that marriages headed toward dissolution are characterized by contempt, particularly by the wife. When spouses are contemptuous toward each other, they communicate a sense of superiority and moralistic disapproval through insults, mockery, or attributions of the partner's incompetence. Contemptuous statements are often accompanied by belligerent demands in which the spouse contests his or her partner's statements by trying to provoke a response or get a rise out of the partner. Because both partners usually engage in this negative communication style, we have labeled it a Mutually Hostile pattern of conflict resolution. Given the now substantial body of research identifying the numerous negative consequences of divorce for children (Hetherington, Cox, & Cox, 1978, 1982; Shaw & Emery, 1987; Wallerstein & Kelly, 1975), it seemed possible that children may be especially affected by a Mutually Hostile marital pattern because it bodes ill for the long-term prognosis of the stability of the marital relationship.

Because observed marital behavior is not independent of marital satisfaction (e.g., Christensen, 1988; Gottman, 1979; Jacobson & Margolin, 1979; Weiss & Summers, 1983) and self-report of marital satisfaction has been the predominant measure of marital quality in this research area, the relative contributions of self-report and observational measures in predicting child outcomes were examined. First, we addressed the rival hypothesis that children's adjustment could be predicted from marital satisfaction alone. Second, any additive effects of negative interaction patterns and reported marital dissatisfaction were also tested to determine whether parents who show either the Mutually Hostile or Demand–Withdrawn pattern and also reported marital dissatisfaction had children who were at greater risk for adjustment problems than parents who showed only one of the two interaction patterns.

It is also important to determine the degree to which characteristics of the children operate in conjunction with or independent of family processes to contribute to children's adjustment problems. Child effects such as gender and temperament have been identified as important factors in the link between marital turmoil and child outcomes (e.g., Emery, 1982). With respect to gender, some studies suggested that marital discord affects boys more than girls, whereas other studies suggested that all children are affected by marital discord but boys from maritally discordant homes show externalizing difficulties and girls show internalizing problems (Block, Block, & Morrison, 1981; Emery, 1982).

The issue of child temperament raises difficult questions regarding the direction of effects. Having a temperamentally difficult child may put a strain on the marital relationship. In terms of consequences for the child, being temperamentally difficult may be a high risk factor for children whose parents

display a negative marital interaction pattern. Children who are seen as difficult by parents and whose parents show negative marital interaction patterns may demonstrate more adjustment problems than those whose parents only demonstrate negative interaction patterns. Both temperament and gender effects were explored in the present report.

The effects of the Demand–Withdrawn and Mutually Hostile marital interaction patterns on children's adjustment were examined within a prospective longitudinal design. There have been no prospective longitudinal studies that have examined families to determine exactly what marital processes are associated with detrimental child outcomes. Indeed, only a handful of studies investigated the longitudinal impact of marital satisfaction on child outcomes (e.g., Cowan, Cowan, Heming, & Miller, 1991; Howes & Markman, 1989). In the present study, families were first seen before the children were in school, when they were, on average, 5 years old. Follow-up assessments occurred when the children were in school (on average, 8 years old). Teacher ratings of children's adjustment were obtained at follow-up to provide independent reports of child functioning. Children's externalizing (e.g., aggressive, hyperactive) and internalizing (e.g., depressed, withdrawn) difficulties were the two behavioral constellations targeted as child outcome variables.

Method

Subjects

Subjects consisted of 56 families who were recruited for participation by newspaper advertisement. Interested families were telephoned by a local survey research company for an initial assessment of marital satisfaction. Assessment of marital satisfaction was based on a modified telephone version of the Locke-Wallace Marital Inventory (Locke & Wallace, 1959; developed by Krokoff, 1984). Scores on marital satisfaction ranged from 27 to 147, with a mean of 111.1 (SD = 29.6). The ethnic distribution was as follows: White, 94.6%; Black, 3.6%; and Asian-American, 1.8%. The mean age of husbands was 33.5 years (range = 24–50 years, SD = 4.9), and the mean age of wives was 32.9 years (range = 25–49 years, SD = 5.3). Husbands' education level averaged 14.1 years (range = 8–18 years, SD = 3.9); wives' education level averaged 13.7 years (range = 11–18 years, SD = 3.7). Target children included 32 boys and 24 girls. All families had a target child in the 4- to 5-year age range. This age range was sampled because of previous theorizing that the ability to regulate emotion develops during this period (Maccoby, 1980). We reasoned that emotion regulation ability is likely to be affected by marital interaction patterns and that this variability would be reflected 3 years later, when the children were in the early elementary school grades.

Procedure

Procedures were part of a larger investigation of the effects of marital discord on children's socioemotional development. Only those procedures directly relevant to the present question are addressed here. Families were seen at two points in time. Time 1 assessment consisted of a sample of couples' communication style during conflict resolution, self-reported marital satisfaction, and temperament ratings of the child. Time 2 assessment consisted of teacher ratings of child outcomes, self-reported marital satisfaction, and couples' reports of considerations of marital dissolution.

Time 1 Assessment

Marital satisfaction. Marital satisfaction was assessed using the telephone version of the Locke-Wallace Marital Satisfaction Inventory (see previous discussion), and the pencil-and-paper forms of the Locke-Wallace Inventory and the Locke-Williamson Marital Satisfaction Inventory (Locke & Wallace, 1959; Locke & Williamson, 1958). Both inventories have been found to have high levels of reliability and validity (Burgess, Locke, & Thomes, 1971).

Marital interaction patterns. Couples were seen in a laboratory session, the main function of which was to obtain a naturalistic sample of each couples' interaction style during a high-conflict task. The high-conflict task consisted of a 15-min discussion of two problem areas in the marriage. To determine which problem areas the couple would discuss, each spouse independently completed the Couple's Relationship Inventory (Gottman, Markman, & Notarius, 1977). This questionnaire consists of 10 general areas in which couples typically report disagreement (e.g., money, communication, in-laws), and each spouse indicates the extent and length of the disagreement. On the basis of each spouse's ratings, and through the course of a "play-by-play" interview in which each spouse articulated his or her version of the problem (Gottman, 1979), two top problems were selected for the interaction task. Problems were selected for discussion if they were areas in which the spouses had differing perspectives rather than areas in which both spouses recognize that they are living with a problematic situation (e.g., both agree that they do not have enough money). Couples were instructed to discuss these problem areas with the goal of making progress toward resolving their dispute. Videotapes of marital interaction were obtained and used for later observational coding.

Temperament. Parental reports of child temperament were obtained using the Emotionality, Activity, and Shyness (EAS) scales of the EAS Temperament Survey for Children[1] (see Buss & Plomin, 1984, for reliability and validity data). Both mother's and father's report on these two indexes were obtained.

Time 2 Assessments

Families were recontacted 3 years later for follow-up assessments of child and marital outcomes. Children were on average 8 years old (M = 96.9 months, range = 82–110 months). Ninety-five percent (53 of 56) of the families in the initial sample and 86% (48 of 56) of the children's teachers at follow-up agreed to participate in the Time 2 assessments.

Teacher ratings of children's behavior problems. Teachers completed the Teacher Report Form of the Child Behavior Checklist (TRF; Achenbach & Edelbrock, 1986) and the Children's Adaptive Behavior Inventory (CABI; Cowan & Cowan, 1990). The TRF is a well-established measure that consists of teachers' ratings of academic performance, four general adaptive characteristics, and 112 behavior problems. The CABI was used as an additional measure of child outcomes for several reasons. First, the CABI was developed on a normal sample, contains subscales that are less pathological in nature than the TRF, and thus may be sensitive to more subtle behavior problems than the TRF. Second, the CABI also controls for teacher rating bias by having teachers complete the scale on all same-sex children in the classroom and deriving z scores for the target child. The CABI has good internal consistency (average α = .81, range = .66–.90) and predictive validity (Cowan et al., 1991).

Marital satisfaction and marital dissolution. Marital satisfaction

[1] The Sociability scale of the EAS survey was not included because, for purposes related to the larger study from which this data is obtained, (a) only factors theoretically related to the construct of emotion regulation were tapped and (b) observational measures of peer interaction were obtained to examine social behavior directly.

was again assessed using the Locke-Wallace (Locke & Wallace, 1959) and Locke-Williamson (Locke & Williamson, 1958) Marital Satisfaction Inventories. Assessments of marital dissolution were conducted using telephone interviews. Interview questions were aimed at assessing whether couples had separated or divorced during the intervening 3-year period or had any serious considerations of separation or divorce. Each spouse was interviewed individually and was asked the following five questions: "In the last 3 years, have you seriously considered separation?", "In the last 3 years, have you seriously considered divorce?", "In the last 3 years, have you and your spouse separated?", "If so, how many months have you been separated, or how long was your separation period?", and "In the last 3 years, have you and your spouse divorced?".

Measures

Observational measures of Time 1 marital interaction. Marital interaction was coded using Gottman's Specific Affect Coding System (SPAFF; Gottman, 1989). This system identifies positive and negative emotions, such as anger, contempt, and sadness, as well as emotional behavior patterns, such as validation, domineering, and belligerence. Specific affects are coded at two levels of intensity. The SPAFF is a gestalt coding system that uses facial expression, voice tone, verbal content, as well as bodily gestures to identify specific emotions. Unlike a feature approach, information from verbal and nonverbal channels are considered simultaneously when making emotion judgments. The SPAFF assumes that emotion can be conveyed in one channel at a time or in many channels simultaneously. As a result, it is possible that an observer's coding of anger could have been derived from an angry facial expression, a harsh voice tone, or both.

For this study, only emotions and emotional behavior patterns that were theoretically determined to index the Mutually Hostile and Demand–Withdrawn patterns were included in analyses. Husband and wife's contempt and belligerence were used to index the Mutually Hostile pattern. Because the Demand–Withdrawn pattern is usually composed of a conflict-engaging wife and withdrawing husband, this pattern was indexed using the wife's anger, defensiveness, and domineering behavior and the husband's stonewalling (listener's withdrawal and nonresponsiveness to the speaker) and anger. Husband's anger was included in the Demand–Withdrawn pattern because it was unusual in the context of a problem-solving discussion that one spouse's anger was unreciprocated by the other spouse. An exchange in which one spouse's complaints and requests for change are met with countercomplaints and counterrequests (i.e., cross-complaining) has been found during marital interaction, particularly in distressed marriages (Gottman, 1979; Schaap, Buunk, & Kerkstra, 1988). Thus, the following six codes were included in analyses: contempt, belligerence, anger, domineering, defensiveness, and stonewalling. *Contempt* (husband and wife) has a distant, icy quality that suggests a sense of superiority or of looking down one's nose at one's partner. It communicates a lack of respect and can take the form of moralistic disapproval and sarcasm or can be a direct attack of the partner, including put-downs, mockery, and character assassinations. *Belligerence* (husband and wife) has a provocative, challenging quality in which the spouse contests the partner's statements by trying to provoke a response. It can include unreciprocated humor that is derisive in nature, a childish testing of the limits or fundamental rules of the relationship, or daring the other person to respond or do something about a conflictual situation. *Anger* (husband and wife) communicates disagreement with the spouse's position that is conveyed with irritation, annoyance, frustration, or impatience. It can have an even staccato rhythm, which communicates that the speaker is at the end of his or her rope, or can be constrained, such as when a speaker is attempting to control being angry. The goal of the fourth code—*domineering* (wife)—is to dominate by stifling the partner. There is a concerted, elaborate effort to shut the partner up by glowering, lecturing, patronizing, persuading, invalidating the partner's feelings, or using threats and ultimatums. *Defensiveness* (wife) involves an innocent victim stance in which there is a denial of responsibility or blame. Defensiveness can take the form of making excuses, using "yes, but" statements, and launching counterattacks. Its function is to shift blame away from the self. *Stonewalling* (husband) is a listener withdrawal behavior that communicates a lack of attention or interest in what the partner is saying. It is coded when there is an absence of the usual vocal or nonvocal back channels, which convey to the speaker that the listener is tracking (e.g., no facial movement, little eye contact, and so on).

Both spouses were coded continuously by separate observers using an on-line computerized system that synchronizes second-by-second timing information with the original videotaped conversation. Total scores (across time) for each affect code were computed separately for each spouse. Total scores therefore reflect the number of seconds each code occurred for each spouse. Codes were collapsed across intensity level for all analyses. Reliability was computed on 25% of the sample. Because total scores were computed for each affect code, correlation coefficient was used as the reliability statistic. Interrater reliability across codes ranged from .86 to .97, with a mean of .94.

Marital satisfaction. Marital satisfaction was computed using the combined average of the husband's and wife's scores on the Locke-Wallace and Locke-Williamson inventories. Because the husband's and wife's scores on these instruments were highly correlated ($r = .61$, $p < .0001$ for the Locke-Wallace inventory; $r = .70$, $p < .0001$ for the Locke-Williamson inventory), scores were averaged across rater and inventory to increase the reliability of the measurement of marital satisfaction. Both Time 1 and Time 2 measures of marital satisfaction were obtained in this manner. Change in marital satisfaction was also examined and computed as the difference between Time 1 and Time 2 marital satisfaction (i.e., Time 2 − Time 1 marital satisfaction).

Child temperament. Difficult child temperament was assessed by combining the Emotionality, Activity, and Shyness scales of the EAS Temperament Survey for Children. Because mother and father ratings were correlated ($r = .35$, $p < .01$), parental scores within each measure were averaged for all analyses.

Child outcomes. Factor scores of internalizing and externalizing behavior on the CABI and TRF were used as outcome measures. The CABI factors and subscales that comprised them included (a) the Externalizing factor,[2] consisting of the Hyperactivity, Antisocial Behavior, Negative Engagement With Peers, Hostility, Fairness/Responsibility (keyed negatively), Calm Response to Challenge (keyed negatively), and Kindness/Empathy (keyed negatively) subscales; and (b) the Internalizing factor, which consists of the Introversion, Depression, Victim/Rejected, Tension, and Extraversion (keyed negatively) subscales. The TRF was grouped into Externalizing and Internalizing factors according to age and gender norms (see Achenbach & Edelbrock, 1986). Raw scores were converted into T scores for both TRF factors.

Marital outcomes. Marital outcomes consisted of answers to questions regarding marital dissolution. Spouses were assigned a score of 1 for the marital dissolution questions they endorsed and a score of 0 for questions they did not endorse.

Results

Identifying Patterns of Marital Interaction

To create clusters of variables that index the Mutually Hostile and Demand–Withdrawn patterns, the husband and wife affect

[2] CABI factors have been renamed here for purposes of comparability with the TRF. The factor we call the Externalizing factor is called Antisocial Behavior factor by the authors of the CABI and the Internalizing factor is called the Shyness factor.

Table 1
Factor Analysis of SPAFF Variables

Factor	Factor 1	Factor 2
Wife contempt	.86	.01
Wife belligerence	.62	.42
Husband contempt	.71	.29
Husband belligerence	.81	.04
Wife anger	.59	−.19
Husband anger	.06	.76
Husband stonewalling	.01	.84
Wife defensive	.33	.30
Wife domineering	−.10	−.05

Note. SPAFF = Specific Affect Coding System.

codes were subjected to factor analysis using varimax rotation. Two factors were extracted (Table 1), with Factor 1 accounting for 33.1% of the variance and Factor 2 accounting for 16.2% of the variance. Variables with factor loadings greater than .50 on Factor 1 included husband and wife contempt and belligerence and wife anger. Variables with factor loadings greater than .50 on Factor 2 consisted of husband anger and stonewalling.

These results support the idea of a symmetrical pattern of marital interaction, which might be called a Mutually Hostile pattern in which each spouse directly attacks the other's fundamental beliefs, feelings, and character. Results also suggest little support for a Demand–Withdrawn pattern. Contrary to expectations, wife's anger loaded on the Mutually Hostile pattern rather than the Demand–Withdrawn pattern. Other characteristics of wife conflict-engaging behavior such as wife's domineering behavior and defensiveness did not load highly on either factor. These results suggest that husband's withdrawal and anger may be independent of the wife's conflict-engaging behavior, at least as defined by wife's anger, defensiveness, and domineering behavior. We suggest that Factor 2 might best be considered a Husband Angry and Withdrawn pattern. For all further analyses, husband and wife contempt and belligerence and wife anger were considered to index the Mutually Hostile pattern, and husband's stonewalling and anger were used to index the Husband Angry and Withdrawn pattern.

Correlational analyses were conducted to determine whether there was any relationship between variables in the Mutually Hostile and Husband Angry and Withdrawn patterns of marital interaction. The only variables that were significantly correlated were husband stonewalling and wife belligerence ($r = .30$, $p < .05$), suggesting that, in general, the two patterns (the Mutually Hostile and Husband Angry and Withdrawn) were relatively distinct.

Relationship between marital satisfaction and marital interaction patterns. To examine the relationship between self-reports of marital satisfaction and observed behavior, marital interaction variables with factor loadings greater than .5 on either the Mutually Hostile or Husband Angry and Withdrawn pattern were correlated with reports of marital satisfaction. Husbands and wives who exhibited contemptuous marital behavior were less satisfied with their marriages ($r = -.32$, $p < .05$ and $r = -.31$, $p < .05$, for husbands and wives, respectively). Wife's anger was also related to low levels of marital satisfaction ($r = -.31$, $p < .05$). Husband's and wife's belligerence was associated with lower levels of marital satisfaction, but this relationship only approached significance ($r = -.27$, $p < .08$, and $r = -.28$, $p < .07$, for husbands and wives, respectively). None of the variables loading on the Husband Angry and Withdrawn pattern were related to marital satisfaction.

Predicting marital dissolution. Analyses of the present sample replicated and extended Gottman's (1993) prediction of marital dissolution. Wife contempt significantly predicted the wife's report of the number of months the couple had separated ($r = .32$, $p < .05$), serious considerations of separation by both spouses (for wife, $r = .38$, $p < .005$; for husband, $r = .28$, $p < .06$), and serious considerations of divorce by the wife ($r = .46$, $p < .001$). Other variables loading on the Mutually Hostile factor also predicted variables related to separation and divorce. Husband belligerence significantly predicted the wife's report of the number of months the couple had separated ($r = .41$, $p < .01$), serious considerations of separation by both spouses (for wife, $r = .27$, $p < .05$; for husband, $r = .46$, $p < .001$), and the wife's report of actual separation ($r = .28$, $p < .05$). Wife's belligerence and husband's contempt predicted serious considerations of divorce by the husband ($r = .30$, $p < .05$; $r = .38$, $p < .01$, respectively). Husband anger and husband stonewalling, the two variables that loaded on the Husband Angry and Withdrawn factor, were not significantly related to any of the marital dissolution variables.

Predicting Child Outcomes

Correlations among child outcome variables. Correlations were computed between all four child outcome variables (Table 2). Externalizing behavior on the CABI was strongly correlated with the Externalizing factor on the TRF, and Internalizing behavior on the CABI was strongly related to the Internalizing factor on the TRF. This result provides evidence of the validity of the CABI as a measure of children's behavior problems. The Internalizing and Externalizing factors within each instrument were marginally related. Mean T score on the TRF Externalizing factor was 49.6 ($SD = 7.77$, range = 39–73), and the mean T score on the TRF Internalizing factor was 54.5 ($SD = 8.23$, range = 42–77). Inspection of the distribution of mean scores indicated that, by Time 2, 19% of the sample scored in the clinical range ($N = 9$) on Internalizing behavior and 1.8% scored in the clinical range ($N = 1$) on Externalizing behavior.

Table 2
Correlations Among Child Outcome Variables

	CABI		TRF	
Factor	External	Internal	External	Internal
CABI internal	.24*	—		
TRF external	.63***	.08	—	
TRF internal	.01	.49**	.25*	—

Note. CABI = Children's Adaptive Behavior Inventory; TRF = Teacher Report Form of the Child Behavior Checklist.
* $p < .10$. ** $p < .001$. *** $p < .0001$.

Predicting child outcomes from marital interaction patterns. Hierarchical regression analyses were computed to examine the predictive power of the Time 1 marital process variables in explaining Time 2 child outcomes. In one set of analyses, all the marital variables loading above .5 on the Husband Angry and Withdrawn factor were used as predictors and entered simultaneously into the regression equation. In another set of analyses, all marital variables loading above .5 on the Mutually Hostile factor were used as predictors and entered simultaneously into the regression equation. Outcome variables consisted of the CABI and TRF factor scores of Internalizing and Externalizing behavior.

The Husband Angry and Withdrawn variables significantly predicted only teachers' ratings of Internalizing behavior on the TRF ($R = .53$, $p < .001$). Teachers' ratings of Internalizing behavior on the CABI were not significantly predicted by the Husband Angry and Withdrawn pattern (R = .15, *ns*). Prediction of ratings of Externalizing behavior on either the TRF or CABI from the Husband Angry and Withdrawn marital pattern were also not significant ($R = .33$ and .27, *ns*, respectively).

The Mutually Hostile pattern was predictive of Externalizing behavior on the CABI ($R = .54$, $p < .01$). Prediction of Externalizing on the TRF from the Mutually Hostile marital interaction variables did not reach statistical significance ($R = .36$, *ns*), nor did the prediction of Internalizing behavior on either the TRF or CABI ($R = .25$ and .43, *ns*, respectively).

Child outcomes and marital satisfaction. Correlational analyses were also conducted to determine whether marital satisfaction was related to child outcomes at Time 2. Time 1 marital satisfaction, Time 2 marital satisfaction, and change in marital satisfaction from Time 1 to Time 2 were all used as indexes. Time 2 marital satisfaction was computed to determine whether teacher ratings were related to concurrent levels of marital distress in the home. Change in marital satisfaction was examined because it was also possible that children's behavior difficulties may be related to a decrease in the quality of the marital relationship over time (Belsky & Isabella, 1988). Results indicated that there was no relationship among Time 1 marital satisfaction, Time 2 marital satisfaction, or change in marital satisfaction and teachers' ratings of children's behavior problems on either factor of the CABI or TRF.

We also tested whether there was any interaction between marital satisfaction and marital interaction patterns. That is, it is conceivable that parents who show either the Mutually Hostile or Husband Angry and Withdrawn pattern and also report marital dissatisfaction will have children who are at greater risk for adjustment problems than parents who show only one of the two marital interaction patterns. All tests of interaction effects reported here and elsewhere in this article were conducted in a standard manner (e.g., see Afifi & Clark, 1990). In the case of the interaction between marital satisfaction and marital interaction patterns, dummy variables that represented the interaction between Time 1 marital satisfaction and each marital variable were created. Hierarchical regression analyses for each child outcome variable were conducted by first stepping into the regression equation the set of marital variables indexing a particular marital process that were independent of Time 1 marital satisfaction and then stepping in the dummy variables representing the interaction between Time 1 marital satisfaction and each marital variable. A statistically significant change in R^2 would represent a significant Marital Satisfaction × Marital Process interaction. Eight regression analyses were conducted (two marital processes × four child outcome variables). The F ratio for change, testing the significance of the change in R^2, was not statistically significant for any of the analyses.

Temperament hypothesis. Parental rating of difficult child temperament on the EAS Temperament Survey for Children was not significantly correlated with Time 1 marital satisfaction, Time 2 marital satisfaction, change in marital satisfaction over time, or any of the marital interaction variables comprising the Mutually Hostile or Husband Angry and Withdrawn patterns. Difficult child temperament on the EAS survey also did not predict any of the Time 2 teacher rating variables.[3]

We also tested whether there was an interaction between marital interaction patterns and child temperament. As described previously here, hierarchical regression analyses for each child outcome variable were conducted by first stepping into the regression equation the set of marital variables indexing a particular marital process that were independent of temperament and then stepping in the dummy variables representing the interaction between temperament and each marital variable. Eight regression analyses were conducted (two marital processes × four child outcome variables). The F ratio for change, testing the significance of the change in R^2 as a result of a Temperament × Marital Process interaction, was not statistically significant for any of the analyses.

Gender differences. Gender differences in the relationship between marital interaction patterns and child outcomes were examined using hierarchical regression analyses. Both main effects and interaction effects were examined. There were no significant gender main effects on any of the child outcome variables, suggesting that boys and girls did not differ in the level of externalizing or internalizing behavior they displayed. To test for interaction effects, eight regression analyses were conducted using the method described previously (two marital processes × four child outcome variables). The F ratio for change, testing the significance of the change in R^2 as a result of a Gender × Marital Process interaction, was statistically significant only when the Mutually Hostile pattern was used to predict Internalizing behavior on the CABI ($\Delta R = .21$, $df = 10,36$, $\Delta F = 2.55$, $p < .05$). Internalizing behavior was associated with husband belligerence ($B = 2.09$, $F = 3.97$, $p < .05$) and wife anger ($B = 2.64$, $F = 8.84$, $p < .005$) for girls and wife's belligerence for boys ($B = -2.61$, $F = 8.80$, $p < .005$).

Child outcomes and marital dissolution. Given that the Mutually Hostile pattern of marital interaction was predictive of both marital dissolution and externalizing behaviors in children, it seemed possible that children may be showing externalizing difficulties at Time 2 because their parents may be in the process of separating or divorcing. To address this hypothesis, we compared children from intact homes with those whose parents were either separated or divorced at Time 2 on all outcome variables. Two sets of t tests were conducted: one in which

[3] Correlational analyses computed separately for mother and father temperament ratings on the EAS survey yielded identical results.

children from intact homes were compared with children from divorced homes and one in which children from intact homes were compared with children from divorced or separated homes. Regardless of group comparison, there were no significant group differences on any of the child outcome variables.[4]

Discussion

The specific conflict-resolution strategies that couples use to resolve marital disagreements appear to predict internalizing and externalizing behavior patterns in their children 3 years later. By observing couples' communication strategies, it was possible to find some degree of specificity in the linkages between marital functioning and children's emotional well-being. To the extent that couples are hostile toward each other when resolving their marital disputes, 3 years later their children tend to be seen by their teachers as exhibiting mild forms of antisocial behaviors. When husbands are angry and emotionally distant when resolving marital conflict, their children are seen 3 years later by their teachers as showing some signs of anxiety and social withdrawal. Because the descriptions of the Mutually Hostile and Husband Angry and Withdrawn marital interaction patterns do not represent a marital typology but simply different types of processes exhibited by couples, the results suggest that a child's unique blend of internalizing and externalizing behavior is moderately linked to the proportion of hostility and emotional withdrawal seen in their parents' marriage.

The mechanisms by which marital processes contribute to variations in children's externalizing and internalizing behavior patterns still need to be understood. The importance of parenting practices and the modeling of parental negative behaviors in mediating between marital quality and child outcomes has been identified by Emery (1982) and Easterbrooks and Emde (1988). If children are exposed to marital conflicts, then a modeling hypothesis could be considered consistent with these findings. Through a process of observational learning, children may acquire their parents' negative patterns of negotiating conflict and show developmentally appropriate equivalents of the conflict-management strategies they see modeled by their parents. In general, hypotheses concerning the role of modeling have not been the subject of much empirical investigation. Support for the parenting-as-mediator hypothesis has also been inconsistent. For example, Tschann, Johnston, Kline, and Wallerstein (1989) found that predivorce marital conflict related to postseparation behavior problems in children only indirectly through its relationship with the quality of parent–child relationships. However, Jenkins and Smith (1990) and Peterson and Zill (1986) found that parental conflict was associated with children's behavior problems independent of parent–child relationships. More research is needed before conclusions about the role of modeling and parent–child interactions in explaining links between marital conflict and children's behavior problems can be drawn.

It is also possible that certain characteristics of hostile and withdrawn marital patterns may make these interactions particularly upsetting to children. The frequency and intensity of conflict have been identified as dimensions that may impact the stressfulness of marital conflict for children (Johnston, Gonzalez, & Campbell, 1987). Jenkins and Smith (1990) reported that the frequency and severity of parental quarrels were most strongly associated with externalizing behaviors in children. The degree to which children are directly exposed to marital conflict may also be a moderating factor. Hetherington, Cox, and Cox (1982) found that "encapsulated" conflict, in which conflict is concealed from the child, had no adverse effects on children. It is possible that once couples reach the point at which their interactions are marked by hostility, derision, and mockery, their quarrels are quite frequent, intense, and easily overheard by their children and may lead to greater adjustment problems in children.

Another possible explanation is that children from families in which couples show a great deal of hostile marital interaction may be reacting to the fact that this marriage is headed toward dissolution. We found that the same marital interaction variables that predict externalizing in children also predict marital dissolution (the Mutually Hostile pattern). Patterson and colleagues (personal communication, May 1982) have observed a high rate of marital dissolution in families with children classified as aggressive. These children may be sensing the instability of their parents' marriage and acting out their fears of a potential divorce. Grych and Fincham (1990) suggested that children's perception of marital conflict as threatening may mediate the impact of interparental conflict. If fears of parental divorce increase the threat of the conflict (Grych, Seid, & Fincham, 1991), children whose parents engage in behaviors that are destructive to the integrity of the marriage may be especially threatened by marital conflict. Children fearing parental divorce may also show externalizing behaviors to distract their parents from their marital problems (Minuchin, 1974). By focusing attention on themselves, children may encourage their parents to unite in their concern about their child's adjustment and detour attention away from a potential marital conflict or separation.

Given that hostile marital interaction is predictive of marital dissolution, couples who are hostile toward each other may be engaging in repeated conflict that lacks clear resolution. Cummings, Ballard, El-Sheikh, and Lake (1991) reported that exposure to unresolved conflict between adults is associated with negative affect and poor coping responses in children. A more direct assessment of the degree to which observationally based measures of emotional communication in marriages also reflects differences in the degree of conflict resolution may help determine whether being exposed to continued unresolved conflict is a key element in the prediction of externalizing difficulties from hostile marital interaction.

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[4] Regression analyses were also conducted comparing the ΔR^2 obtained when the Mutually Hostile variables were entered alone with the ΔR^2 obtained when marital dissolution was entered as the first variable and the Mutually Hostile variables were entered in at a second step. Because husbands were more difficult to reach by telephone than wives (number of husbands unable to be reached = 8; number of wives unable to be reached = 3), only the wife's report of marital dissolution was examined. The marital dissolution variables consisted of the wife's report of separation and divorce. For both indexes of dissolution, R^2 did not change appreciably when the marital dissolution variable was entered first (for wife's report of separation, ΔR^2 increased from .28 to .29, $\Delta F = .04$, $p < .01$; for wife's report of divorce, ΔR^2 increased from .28 to .30, $\Delta F = 3.32$, $p < .01$, when marital dissolution was entered first into the regression).

In our data, children whose parents showed marital interaction patterns predictive of divorce exhibited externalizing difficulties, but actual divorce or separation at Time 2 was not associated with externalizing behaviors at Time 2. Thus, the behavior pattern seen in children of hostile couples cannot be attributed to parental divorce or separation. This finding supports previous research indicating that family process variables are more important influences on children's adjustment than marital status per se (Emery, 1988; Hetherington, 1989). For example, it has repeatedly been found that high levels of marital conflict are associated with more adjustment problems in children, independent of whether couples are married or divorced (e.g., Long, Forehand, Fauber, & Brody, 1987). These findings thus support previous evidence suggesting that the behaviors couples engage in that are destructive to their relationship are also having an impact on their children even before any actual marital dissolution occurs.

Findings of a relationship between the Husband Angry and Withdrawn pattern and teacher's ratings of internalizing behavior 3 years later is consistent with results of Grych et al. (1991). Using an audiotaped analog of marital interaction, these authors reported that children responded to intensely angry adult interaction with increased distress, shame, and self-blame. It could be that these emotional responses may be the building blocks that lead to the long-term development of internalizing problems.

Alternative processes that operate either independent of or in conjunction with the marital relationship could also explain the reported findings. For example, it could be that personality attributes of the parents produced the pattern of covariation between parents' marital interaction patterns and child outcomes. This hypothesis is particularly applicable with regard to the Husband Angry and Withdrawn pattern because husband's behavior was not related to the wife's degree of conflict engagement. However, there is considerable qualitative evidence suggesting that male withdrawal is a response to high levels of negative affect in a marriage rather than a personality attribute that husbands bring to the marriage (Komarovsky, 1962; Rubin, 1976); both these investigators reported that withdrawn husbands had not always been withdrawn. Thus, although it is possible that internalizing children may be modeling their father's withdrawal, the origins of the withdrawal appear to have more to do with the development of an ailing marriage than with the spouse's a priori personality characteristics.

Given that self-report of marital satisfaction has been the predominant methodology in studies of the transfer of marital discord to young children, it was somewhat surprising that marital satisfaction at Time 1 did not predict externalizing or internalizing behaviors at Time 2. Although the relationship between marital satisfaction and child functioning has been well established in concurrent studies of marital discord, the prediction of child outcomes from self-reports of marital satisfaction in prospective longitudinal studies has been inconsistent. Some investigations have found good prediction of child functioning from reports of marital satisfaction (Belsky & Rovine, 1989; Howes & Markman, 1989), and others have found either an indirect relationship (Cowan, Cowan, Heming, & Miller, 1991) or none at all (Cowan & Cowan, 1990; Easterbrooks, 1987). Although there are too few studies to draw any definitive conclusions, these difference do not appear to be due to the age of the child, the developmental period in the marriage at which marital satisfaction is assessed (e.g., premarital; postbirth of the child), or the length of time between assessments of marital and child functioning. Additional longitudinal studies are needed to understand the factors contributing to these differences.

The lack of correspondence in prediction across different outcome measures needs to be discussed. Although Externalizing and Internalizing factors across measures were highly correlated, the finding that marital interaction patterns did not predict Internalizing and Externalizing behavior on both the CABI and TRF may reflect subtle differences in the operationalization of Externalizing and Internalizing behavior on these instruments. One possibility for the lack of correspondence might be differences in methodology. The CABI is based on within-classroom z scores, which controlled for teacher rating biases, whereas the TRF is completed on the individual target child and scores are compared with standard norms. Another basic difference between these instruments is their focus on normative versus pathological behaviors. Teachers rating a child high in Externalizing behavior on the CABI are more likely to be describing a child who is unable to wait his or her turn, tends to disobey or break rules, or expects others to conform to his or her wishes rather than a child who has temper tantrums, is defiant, and disrupts the class. The types of externalizing behaviors seen by children whose parents engage in Mutually Hostile marital interaction patterns may be more subtle in nature than the prototypical picture of the antisocial child. Given that only one child in our sample scored within the clinical range on Externalizing behavior on the TRF, it may be that the CABI is better able to capture the more discrete social and intrapersonal processes that form part of an antisocial cluster.

Differences in the types of internalizing behaviors measured by the two instruments may also underlie any lack of correspondence in prediction. Whereas items on the TRF Internalizing factor focus exclusively on anxiety and social withdrawal, the CABI Internalizing factor also includes items relating to peer rejection, peer social status, and skill at making new friends. The finding that the Husband Angry and Withdrawn pattern predicted Internalizing behaviors on the TRF but not on the CABI suggests that, when fathers are angry and withdrawn with their spouses, children may exhibit a generalized pattern of anxiety and withdrawal but may still be accepted by peers at school. Because 19% of the sample scored in the clinical range in Internalizing behavior, these family processes may be tapping the early stages of a clinical progression.

There was relatively little evidence of child effects in the data. Little support was found for the hypothesis that child temperament contributed to negative child outcomes or interacted with negative marital behaviors, and few gender effects were observed. The lack of the traditional gender difference in internalizing and externalizing behaviors (e.g., Mash & Terdal, 1988) may have been due to a relatively small sample size. Select variables from the Mutually Hostile marital pattern did interact with the child's gender to predict internalizing behaviors. When husbands were belligerent and wives were angry, higher levels of internalizing behaviors were found in girls than boys.

For boys, wife's belligerence was associated with internalizing behaviors. These findings suggest that, to the extent that a husband or wife acts in a belligerent manner when resolving a marital dispute, their opposite-sex child will be rated by teachers as showing internalizing behaviors 3 years later. Although anxiety and withdrawal may be adaptive responses to the threatening nature of belligerence, the fact that children's behavior is related to that of their opposite-sex parents is interesting. One speculation stemming from family systems theory is that children may be allying themselves with or identifying with the same-sex parent and so are affected by the belligerent behavior of the opposite-sex parent (Minuchin, 1974). Such dysfunctional cross-generational alliances have been implicated in the clinical literature in the cause of child disturbance and family pathology (Haley, 1967; Minuchin, 1974).

Given the prospective nature of this study, it was also possible to address whether having a temperamentally difficult child places a strain on a marriage. In our data, child temperament was not predictive of marital dissatisfaction at Time 2 or related to a decrease in marital satisfaction over time. Although this argues against the notion that temperamentally difficult children may adversely affect their parents' marriage, it is impossible from a correlational study to determine whether children are affecting the marriage or the marriage is affecting the children, or both. Although direct tests of the directionality problem are difficult to conduct, therapy studies can partly address this question. If a purely child-focused intervention also changes the quality of the parents' marriage, then there is some evidence of the child influencing the marital relationship. Conversely, if an effective marital therapy also improves children's behavior, this supports the notion that the marital relationship can affect children's emotional development. A comparison of effect sizes might also be of interest because it is possible that the influences between child behavior and the parents' marriage may be bidirectional. A more direct test of this issue would involve an experimental manipulation of the behavior of individual family members to examine the consequences of these behavior changes on other family members. Until such tests are undertaken, it will be difficult to specify these complex feedback mechanisms.

Because no follow-up of marital interaction was conducted, it is difficult to determine whether these marital patterns were present at similar levels at Time 2. As a result, it is unclear whether the impact of marital conflict in affecting child outcomes is due to its continued presence or the ability of marital conflict at Time 1 to influence subsequent child behavior. Further research assessing marital interaction patterns over time is currently underway in our laboratory to address this issue.

An additional limitation of this study is that because teacher ratings of child behaviors were not obtained at Time 1 (because the majority of children were not attending school or day care), it is not possible to discern whether the effects of marital conflict occurred over time or whether similar relationships would have been obtained by looking at marital conflict processes and child behaviors at concurrent time points. A direct test of the short-term and long-term impact of specific patterns of marital conflict on children's internalizing and externalizing behaviors needs to be conducted.

Despite these limitations, these results highlight the importance of specifying the nature of marital conflict to understand its effects on children. As suggested by Margolin (1988), marital conflict is not a unitary entity. The consequences of different forms of marital conflict on the many facets of children's social and emotional development remain largely uncharted territory.

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