The Effects of Unresolved Marital Conflict on the Development of Clinical Problems in Toddlers: The Moderating Role of Maternal Sensitivity

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ABSTRACT

(Under the direction of Jean-Louis Gariépy).

Using a process-oriented model to contextualize the effects of marital conflict, the present study seeks to establish a framework by which unresolved marital conflict at 6 months, maternal sensitivity, and gender combine to influence the development of clinical problems by 30 months. Analyses revealed a significant interaction effect between unresolved conflict and maternal sensitivity upon both internalizing and externalizing child clinical problems, as well as a significant three-way interaction between unresolved conflict, maternal sensitivity and child sex upon attention problems. These results indicate that unresolved marital conflict predicts child outcomes, boys and girls are differentially susceptible to the effects of marital conflicts, and maternal sensitivity moderates the effects of conflict on the development of clinical problems. These findings help us better understand the sex gap in attention problems, as well as underscore the fact that marital conflict must be studied from a systems approach.
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CHAPTER 1

INTRODUCTION

The adverse effects of marital conflict on concurrent and subsequent psychosocial child well-being are well documented (Cummings & Davies, 2002; Harold & Conger, 1997; Katz & Gottman, 1993). Child exposure to spousal conflicts has been associated with the development of internalizing problems such as anxiety (Long, Slater, Forehand, & Fauber, 1988) and depression (Grych & Fincham, 1990). Others have found associations with externalizing problems (Burt, Krueger, McGue & Iacono, 2001) such as aggression (Cummings, Goeke-Morey, & Papp, 2004); conduct disorder (Dadds, Schwartz & Sanders, 1987) and antisocial behavior (Harold & Conger, 1997). Moreover, behavioral and emotional regulatory problems linked to attention deficit have also been documented among children exposed to frequent marital conflict (Reeves, Werry, Elkind & Zametkin, 1987; Counts, Nigg, Stawicki, Rappley, & Von Eye, 2005).

While the literature leaves no doubt on the existence of a relation between marital conflict and child problems, reviews have shown that the magnitude of this relation is not impressive, overall. In a meta-analysis of 481 correlations in 26 studies between marital conflict and child behavioral problems, Jouriles, Farris & McDonald (1991, as cited by Fincham, Grych & Osborne, 1994) found that 77% of these were lower than .30, and that only 3% reached or exceeded .50. With most research reports on marital conflict not accounting for more than 10% of the variance in child behavior problems, it was clear
that much could be gained by studying contextual and person variables that may explain how these relations are obtained in the first place.

Fifteen years ago, Fincham et al. (1994) observed that the construct of marital conflict had not been specified enough, as it ranged in their review from assessments of overall marital quality to measures of overt conflict. They also argued that it is not so much due to its effects on parenting that spousal conflict affects child development (although they did not negate this possibility) but more by way of what the child witnesses, including how parents handle their conflicts. In a more recent review, Cummings & Davies (2002) observed that research on marital conflict often does not account for contextual factors, and that relevant attributes of the child, parents, and their interactions are rarely taken into account. Specifically, they called for exploring mediational and moderational pathways involving not only the dynamic of spousal conflict but also the child's appraisal of such conflicts, including the threat they may pose to the child's emotional security.

Informed by the process-oriented approach laid out by Cummings & Davies (2002), the present study aimed at examining how unresolved spousal conflict and lack of parental emotional intimacy may predict child clinical problems in early childhood. The Child Behavior Checklist was used to assess internalizing, externalizing, and attention problems at 30 months of child age. It was hypothesized that as a result of marital conflict, these problems may be differentially consolidated in boys and girls by 30 months of age, and that their severity may be mitigated by maternal sensitivity to the child's needs at 6 months.
Conflict, Conflict Resolution, and Spousal Intimacy.

The dynamic of spousal conflict is of paramount importance from the perspective of the child. As shown by Katz & Gottman (1993), children exposed to marital conflict are susceptible to developing poor coping skills and increased negative affect (Grych & Fincham, 1990). Jaffe, Wilson, and Wolfe (1986) suggested that externalizing behavioral problems in childhood may have their origin in exposure to violent marital conflict and the internalization of coercion as an acceptable form of conflict resolution. Another causal pathway identified by Grych & Fincham (1993) links internalizing problem to the child's perception that marital discord is somehow their fault and that it is therefore their responsibility to resolve them. Merely being told that the conflict had been resolved can reduce that burden for the child (Fincham, Grych & Osborne, 1994).

Others like Cummings & Davies (2002) have observed that parental conflict is not inherently detrimental to the developing child because unique familial dynamics arise depending upon the constructive or destructive nature of marital conflict. Few, if any, marital relationships are without conflict. However, couples vary greatly in their ability to successfully resolve any conflict that may arise (Cummings, 1994). While conflict is generally predictive of negative child outcomes, such may not be the case when the parents are able to resolve their conflicts successfully (Cummings & Davies, 2002). As such, constructive conflict — marital conflict that is successfully resolved — can even have enhancing effects on child development. For Cummings and Davies, it is primarily by threatening emotional security that unresolved marital conflict negatively affects the child. Their emotional security hypothesis stipulates that unresolved conflicts negatively affect the child's representation of the family system, including parent-parent
relationship, parent-child relationships, and ultimately, the child's representation of him/herself as worthy or unworthy of parental love.

Thus, the model proposed by Cummings & Davies (2002) suggests that the threat spousal conflict poses to the child's emotional security is substantially reduced when overt resolution follows. In light of the importance the authors place on emotional security, it is somewhat surprising that their model makes no explicit reference to parental emotional intimacy as a potential moderating factor. Clearly, parents who maintain warm, affectionate, and mutually supportive interchanges in their daily lives, promote the cohesiveness of their family, and by extension, their child's emotional security. Could such displays also mitigate the negative effects of marital conflict on child development? Shifflett-Simpson & Cummings (1996) suggest that they do, as they reported that marital conflicts have no negative effects when they do not appear to compromise the positive emotional bond that unites the parents. Accordingly, the present research examined the effects of marital discord on the development of child clinical problems by taking into account their frequency, the parents' capacity to resolve them, and whether or not parents experience emotional intimacy in their daily life.

*Child sex and the development of clinical problems.*

The sex difference in the prevalence and form of child clinical problems has generated a number of lines of research in the past decade. Boys seem to be more susceptible to the effects of marital conflict (Emery, 1982; Cummings, 1994). Studies on the differential effects of marital conflict upon boys and girls have shown that belligerence on the part of an opposite-sex parent has been associated with internalizing problems (Katz & Gottman, 1993); and that since fathers are much more likely to exhibit
belligerence, girls are more likely to develop internalizing problems. As such, there is probably no biological basis to these differences, and they are, instead, chiefly attributable to the way boys and girls are socialized and treated within their own family (Snyder, 1998), particularly by their fathers. Research shows that while mothers treat boys and girls similarly, fathers tend to treat them differently from a very early age (Jacobvitz, Hazen, Curran & Hitchens, 2004). For example, fathers often minimize the emotional needs of boys while encouraging overt physical responses to frustration. By contrast, fathers respond more to the emotional needs of girls and tend to suppress their physical outbursts (Cummings, Pellegrini, Notarious & Cummings, 1989). It has been proposed that this differential treatment may explain the prevalence of externalizing problems among boys and the higher rates of internalizing problems among girls (Eisenberg et al., 2001; Scaramella, Conger & Simons, 1999). However, the phenomenon of sex differences in internalizing and externalizing problems does not yet emerge by age 3, and the two are strongly correlated in infants (Shaw, Keenan, Vondra, Delliquadri & Giovanella, 1997).

Attention deficit/hyperactivity disorder (ADHD) is a condition marked by age-inappropriate levels of activity, inability to attend, and impulsivity (Counts et al, 2005). Most studies having examined the relative prevalence of this disorder have found ADHD more likely to be diagnosed among boys than girls (Quinn, 2005; Pineda et al., 1999). ADHD appears to have its roots in a combination of genetic susceptibility and exposure to family discord. Regarding its differential incidence by sex, Auerbach, et al. (2008) observed that proneness to distress, a known precursor of attention problems, is more prevalent among boys than girls. According to them, this temperamental difference
between the sexes would predispose boys to be more affected than girls by mothers whose emotional availability is compromised by marital or social stressors. Because marital conflict, socialization, and biological factors appear to predispose boys and girls to different forms of clinical problems, child sex was posed in the present research as a potential moderator of the link between marital conflict and clinical problem in early childhood.

*Marital conflict, Maternal Sensitivity, and child outcomes.*

Cummings and Davies’ (2002) emotional security hypothesis posits that a harmonious family dynamic provides a background against which children develop positive representations of family relations, constructive cognitions about themselves, and an overall view of the family as source of security. The authors further propose that the valence of these representations (i.e., emotional security/insecurity) is not only affected by the relative prevalence and nature of parental conflict but that it also moderates the child's reactivity to them. Accordingly, Davies and Forman (2002) showed that while emotionally secure children do exhibit concern in response to parental conflict, their broader pattern of responding suggests that this concern is well regulated because it is embedded within a larger representation of the family as a cohesive unit and a source of security. It is important to note that in support of this hypothesis the authors only mentioned research that sampled preschoolers and school-age children. This is not surprising because children must achieve a substantial advance in socio-affective development before they can form these representations. There is every reason to think that before children can form such representations, emotional security may be derived
from their primary caregiver, even though such a source is less inclusive than the family
experienced as a unit.

Since Ainsworth (1978) first recognized maternal sensitivity as a key predictor of
attachment security, this quality has been shown to function as an effective moderator of
otherwise adverse influences on child development (Valenzuela, 1997). Described by
Ainsworth (1978) as emotional warmth and alertness to infant signals, contingent and
prompt responding to the child physical and emotional needs, maternal sensitivity has
been shown to effectively protect child development from the adverse effects of maternal
depression (Mills-Koonce, Propper, Gariépy, Blair, Garrett-Peters & Cox, 2007), stress
(Walker & Cheng, 2007), genetic risk factors (Propper, et al., 2008), infant risk factors
such as temperamental difficultness (Deng, unpublished dissertation), as well as other
sources of risk associated to poverty and neighborhood quality (Laucht, Esser & Schmidt,
2001). On the other hand, maternal sensitivity is not a fixed maternal characteristic.
Mothers rearing infants prone to high negative affect tend to be less sensitive to their
child (Mills-Koonce, et al., 2007; Kivijarvi, Raiha, Koljonen, Tamminen & Piha, 2005;
Seifer, et al., 1996), and so are mothers who experience high levels of stress in their daily
lives, including frequent conflict with their spouse (Cowan, 1997; El-Sheikh & Elmore-
Staton, 2004).

Although parental sensitivity is typically reduced by marital conflict, the same
relation is not always observed among mothers (Owen & Cox, 1997; Feldman, 2000).
Research shows that as they experience repeated marital conflict some mothers become
less effective caregivers, but others are more resilient and maintain high levels of
sensitivity to their young child. Accordingly, maternal sensitivity was considered as
central factor that could moderate the adverse effects of marital conflict on child
development.

Child age, marital conflict, and child outcomes

There has been considerable research aimed at understanding how the child’s
subjective experience may mediate or moderate the long term effects typically observed
among children exposed to frequent marital conflict. For example, Grych et al. (2000)
showed that self blame and perceived threat mediated the association between marital
conflict and child adjustment problems. Similarly, Davies & Cummings (1994) reported
that children's representations of family relationships constitute an important class of
dynamic processes that mediate the impact of marital conflict on child outcome (see also
Harold et al. 2001). In particular, children's differences in emotional reactivity to marital
conflict, including fear, anger, and distress have been shown to moderate the severity of
the negative child outcomes normally associated with marital conflict (Cummings &
Davies, 2002; Jenkins, 2000). With the exception of emotional reactivity, the factors
examined in this research tapped into cognitive processes that are not yet available to the
very young child. In fact, most of this research was conducted with a focus on children
old enough (i.e., four to eight years) to construct conscious representations of the self, of
family relationships, and to report about these representations.

Although 6-month-olds are not cognitively equipped to construct such
representations there is evidence that they are, nonetheless, sensitive to the effects of
marital conflict through other pathways. For infants in this age range, a typical response
to the negative arousal associated with marital conflict is withdrawal and emotional
disengagement (Crockenberg, Leerkes & Lekka, 2007). Although this regulative strategy
removes the child, at least in part, from negative arousal (Buss & Goldsmith, 1998) it also reduces the emotional intimacy with the caregiver that provides a context for the acquisition of other regulatory skills that protect against attention and internalizing problems in toddlerhood (Crockenberg and Leerkes, 2006). Owen & Cox (1997) contend that for the three-month-old, the high level of negative arousal generated by marital conflict is frightening and compromises the infant’s need for a low and relatively constant level of stimulation. Thus, for the very young infant, marital discord creates a paradox in which the parent is experienced simultaneously as the cause of and solution to an alarming situation. Several investigators now regard this paradoxical situation as setting the stage for disorganized attachment by twelve months and lack of regulatory skills later in childhood (Essex, Klein, Cho & Kraemer, 2003).

The long term negative effects of marital discord on the very young child may also have a foundation in biological development. It is well known that the organization of the brain during the first months of life proceeds at a high pace and that this developmental activity is highly sensitive to environmental influence. The age of six months approximately marks the peaks of two important critical periods for cognitive development: seeing/hearing, and receptive language/speech production (Thompson & Nelson, 2001). Moreover, synaptogenesis associated with higher cognitive functions also proceeds at high pace during this period and peaks around 30 months. It follows that chronic exposure to sensory overload is likely to affect the cortical structures associated with the attentional, inhibitory, and executive functions that develop over infancy and early childhood. For these reasons, Essex et al. (2003) suggested that the earlier children are exposed to marital conflict, the more adverse are the effects on later regulative
capacities. In conjunction with its documented effects on emotional development, these facts make it imperative to study how early exposure to marital discord may contribute to the development of psycho-affective disorders in the young child.

A Process-Oriented Approach

The preceding review shows that the effects of marital conflict on child development are best understood with reference to the family dynamic and their interaction with the biological, emotional and cognitive status of the developing child. Specifically, Cummings & Davies (2002) argued that the effects of parental discord on the developing child cannot be assessed without specific attention to the dynamic of spousal conflict, the quality of the marital bond, and the overall security the child derives in her family. Others have also noted the differential effects of marital conflict on boys and girls (Snyder, 1998; McHale, 1995). These are the experimental facts that led Cummings & Davies (2002) to assert that further progress on this question calls for a process-oriented approach. The literature review conducted in the context of the present research also shows that relatively little is currently known regarding the long-term effects of exposure to marital discord early in infancy. At this juncture, the present study was designed to contribute to this research by testing the hypothesis that infants exposed to unresolved marital conflict at six months of age are more likely to show clinical problems in childhood than children only exposed to normative levels of such conflicts as infants. Because mothers are reportedly more resilient than fathers I also hypothesized that mothers who maintain a high level of sensitive care may attenuate the aversive effects of early exposure to marital conflict on subsequent child problems of internalization and externalization. Finally, in light of a higher incidence of attentional
problems among boys than among girls, I predicted that mothers of boys who experience higher levels of marital conflict would report this type of problems more frequently than mothers of girls who experience similar levels of marital conflict. Accordingly, I expected the moderating effects of maternal sensitivity on the severity of this problem to be more important for boys than for girls.
CHAPTER II

METHOD

2.1 Participants

The Durham Child Health and Development (DCHD) Study, recruited 206 participants shortly after birth, via flyers posted at hospitals, and phone calls from birth records. The families were selected for racial (55% African American, 44% White 1% other) and socioeconomic (49% above poverty level, 51% above) diversity. The infants in the study, of whom 51% were male, were born in Durham, NC, and care was taken to assure that all participating children were developing normally and had no history of serious medical problems. Maternal education varied greatly, with 14% lacking a high school diploma; 18% having achieved a high school diploma or GED; 22% with some college or vocational school, 29% with a four-year bachelor’s degree, and 17% with at least some graduate school.

2.2 Procedure

6-Month Home Visit

Maternal Sensitivity. Data on maternal sensitivity were collected during a videotaped home visit, in which mother and child engaged in a semi-structured dyadic free-play for 10 minutes. Using a standardized set of toys, the mother was asked to play with her child as she normally would, given 10 minutes of free time. Using a 5-point global rating scale (Cox & Crnic, 2002), trained, reliable observers coded the above
mother/child interactions for a variety of maternal behaviors using 7 scales developed in the NICHD Study of Early Child Care (NICHD Early Child Care Research Network, 1999): sensitivity/responsiveness, intrusiveness, detachment/disengagement, positive regard for the child, negative regard for the child, animation, and stimulation of development.

Conflict/Resolution/Intimacy. During the home visit, mothers completed a battery of questionnaires, among them the Partner Relationship Questionnaire designed to assess emotional intimacy, spousal conflict, and conflict resolution. These dimensions were assessed using three different subscales taken from existing questionnaires with established validity and internal consistency. The emotional intimacy subscale was drawn from the PAIR (Schaefer & Olson, 1981). The PAIR is a 6-item questionnaire designed to assess the emotional intimacy the mother perceives to have with her significant other in five domains: global emotional intimacy, social intimacy, sexual intimacy, intellectual intimacy, and recreational intimacy. The conflict subscale drawn from Braiker & Kelley’s (1979) measures the “interpersonal character of the marital (or close) relationship.” Kerig’s (1996) Conflicts and Problem-Solving Scale, assesses the extent to which conflicts are resolved in ways that reflect “mutually respectful problem solving”. The composite variable used in the present research to contextualize marital conflict (thereafter called CRI) was derived from the above three scales (see below for computation).
Child Clinical Problems at 30 Months

At 30 months of child age, the mother received a mail-home questionnaire packet, one of which was Achenbach’s (1991) Child Behavior Checklist. Internalizing, Externalizing and Attention problems were measured using their respective subscales of the CBCL. The CBCL is an extensively validated, widely-used instrument designed to “obtain data on behavioral/emotional problems and competencies” in children, with several age-appropriate versions developed for children ranging from age 1 ½ to 19. The CBCL has been so popular because it accurately captures the basic dimensions of clinical problems that affect integration to school, academic competence, and successful integration into the peer network. The 99 items included in the CBCL are designed to measure two general “syndrome constructs” of childhood clinical problems: internalizing and externalizing, in addition to “other problems,” which fit into neither category. The syndromes were derived thusly: using principal components analysis (a form of exploratory factor analysis) the 99 items were found to form seven syndrome scales: emotionally reactive, anxious/depressed, somatic complaints, withdrawn, sleep problems, aggressive behavior, and attention problems. Withdrawn, somatic problems, emotionally reactive problems, and anxious/depressed syndromes were combined to form the internalizing problems score, and attention and aggressive problems were combined to form an externalizing score. Each of the three subscales used in the present study were scored by computer using the ASEBA Windows software package. Internalizing, externalizing, and attention problems were each calculated by comparing the child’s scores to a normative sample using T-scores. T-scores from 50 to 70 are based on
percentiles compared to a normative sample, with a T-score of 70 representing approximately the 98th percentile of the normal sample.

2.3 Computation of composite variables

*Maternal Sensitivity.*

The seven dimensions of maternal behavior coded from the videotaped infant-mother interactions during free play were factor analyzed using an oblique (promax) rotation that revealed two distinct factors: sensitivity/responsiveness, and negative intrusiveness. The sensitivity composite used in the present study was thus calculated as the mean of sensitivity/responsiveness, the reverse score for detachment/disengagement, positive regard, stimulation of development, and animation, with high scores on this composite reflecting parenting behaviors that are responsive, warm, child-centered, stimulating and involved.

*Conflict/Resolution/Intimacy.*

The three subscales of the Partner Relationship Questionnaire were combined to create an index designed to contextualize marital conflict with respect to both conflict resolution an emotional intimacy. Because the three scales used to derive this composite were scored on 9, 4 and 5-points respectively, each were standardized before computation. The resulting Conflict/Resolution/Intimacy (CRI) index was calculated as the sum of the standardized scores of the conflict subscale, a reverse score of conflict resolution, and a reverse score of emotional intimacy. CRI was then standardized itself. Accordingly, high values on this composite represent a high frequency of spousal conflict characterized by low conflict resolution and low emotional intimacy. Lower values are
obtained for respondents who report a lower frequency of conflict, more conflict resolution, and higher levels of emotional intimacy. All three subscales had Cronbach Alpha coefficients of at least .70 (durhamchildstudy.org).
CHAPTER III

RESULTS

3.1 Diagnostics

Prior to data analysis, all variables were examined to ensure that they met the requirements specified by the analytical techniques to which they were subjected. The bivariate correlations presented in Table 1 indicated no evidence of multicollinearity among the independent variables. The continuous independent variables of maternal sensitivity, as well as the component subscales of Conflict/Resolution/Intimacy (CRI), were standardized to facilitate probing of significant interactions and their interpretation. CRI was calculated as a function of three z-scores (Partnering Conflict – Conflict Resolution – Emotional Intimacy), and was then itself standardized. If any component of CRI was more extreme than 3, no CRI was calculated. Three subjects were considered outliers (each had at least one z-score with an absolute value greater than 3 on one of the three subscales, which represents a deviation of greater than three standard deviations from the mean) and each was deleted listwise.

3.2 Descriptive Statistics

Descriptive statistics are presented in Table 1. The mean maternal sensitivity rating, before standardization, was 3.29 (SD=0.88). Emotional Intimacy was rated on a 9-point Likert-type scale, Conflict on a 7-point Likert-type scale, and Conflict Resolution was rated on a 5-point Likert-type scale. The three CRI subscales were correlated approximately .630 with one another, thus accounting for roughly 40% of the mutual
variance in one another. These values indicate that unique information is contributed by each of the subscales used to devise the CRI composite.

None of the three predictors (child sex, maternal sensitivity, and CRI) are significantly correlated with one another, while the three CBCL outcomes are all significantly correlated with one another at the $\alpha=.001$ level. The low correlation between maternal sensitivity and CRI ($r=-.054$, ns) confirms that for mothers, unresolved conflict does not affect her ability to exhibit sensitivity toward her child. Child sex is only weakly, and marginally significantly correlated with attention problems, $r=-.134$ (with higher scores for boys, as expected), and not with internalizing nor externalizing problems. CRI is positively correlated with all three CBCL outcomes at the $\alpha=.001$ level, while maternal sensitivity is negatively correlated with externalizing and attention problems ($r=-.152$, $p<.05$ and $r=-.217$, $p<.01$ respectively) and marginally with internalizing problems ($r=-.141$, $p=.056$).

For all three CBCL clinical problem scales, t-scores below 65 are considered normal, borderline from 66 through 70, and in the clinical range when greater than 70 (Achenbach & Edelbrock, 1991). For the present sample, all three means are well below the borderline clinical threshold.

3.3 Multiple Linear Regression Analyses

3.3.1 Three-Way Interaction among Maternal Sensitivity, Conflict/Resolution/Intimacy and Child Sex, for Attention Problems

The model explored the interaction effect of maternal sensitivity at six months, conflict/ resolution/intimacy (CRI) at six months, and child sex on attention problems at
30 months. This model was significant \( F(9, 131) = 5.86, p < .001 \), accounting for 26.9% (Adjusted \( R^2 = .234 \)) of the variance in 30-month attention problems above and beyond the control variables of race and maternal education. As seen in Table 2, CRI was a significant predictor of attention problems, but the sex of the child was not. Since the literature repeatedly notes a prominent gap in attention problems between the sexes, the significant three-way interaction \( F(1, 131) = 5.91, p = .016, \Delta R^2 = .032, \text{Adjusted } \Delta R^2 = .028 \) involving CRI, maternal sensitivity, and child sex demanded further probing.

The pick-a-point method (Aiken & West, 1991) was used to examine this interaction, using Preacher, Curran & Bauer’s (2006) online interaction probing utilities. The values of the slopes representing the relationship between CRI and attention problems were tested at six different combinations of child sex (i.e., male or female) and maternal sensitivity (high, medium, or low, i.e., one SD above the mean, at the mean, and one SD below the mean). Under the condition of low maternal sensitivity (Figure 1), boys are particularly more susceptible than girls to developing attention problems, especially under conditions of high CRI. However, even at levels of average maternal sensitivity (Figure 2) not only does the sex difference in attention problems virtually disappear, but so does the influence of CRI upon the development of attention problems. Figure 3 is quite similar to Figure 2, demonstrating that at high levels of maternal sensitivity, CRI, at any value, and for both sexes, no longer negatively impact attention problem. These data indicate that to, even moderate levels of maternal sensitivity can effectively attenuate the potentiating effects of CRI on attention problems.
3.3.2 Two-Way Interaction between Maternal Sensitivity and Conflict/Resolution/Intimacy for Internalizing Problems

The second model explored the interaction effects between six-month maternal sensitivity and CRI on internalizing problems reported at 30 months. This model was also significant \[ F(3, 138) = 7.28, p<.001 \], accounting for 13.7\% (Adjusted \( R^2 = .118 \)) of the variance in internalizing problems above and beyond the control variables of race and maternal education. As seen in Table 3, CRI was again a significant predictor of internalizing problems, but not maternal sensitivity. The significant two-way interaction \[ F(1, 138) = 7.36, p=.008, \Delta R^2 = .046, \text{Adjusted } \Delta R^2 = .041 \] involving CRI and maternal sensitivity demanded further probing.

The pick-a-point method (Aiken & West, 1991) was again used to examine this interaction. The values of the slopes representing the relationship between CRI and internalizing problems were tested at three different levels of maternal sensitivity (high, average, or low, defined as +1 SD, around the mean, and -1 SD, respectively). Under the condition of low maternal sensitivity (Figure 4), the slope of the line was 3.94 (\( p=.000 \)), for mean sensitivity it was 2.172 (\( p=.001 \)), and for high sensitivity it was .40 (ns). These data confirm that high levels of maternal sensitivity also prevent the development of internalizing problems for children exposed to harsh marital conflict.

3.3.3 Two-Way Interaction between Maternal Sensitivity and Conflict/Resolution/Intimacy for Externalizing Problems

Similar to Model 2, the third and final analysis explored the interaction effects of six months maternal sensitivity and CRI on externalizing problems at 30 months. This
model also reached significance \( F(3, 138) = 11.02, p<.001 \), accounting for 19.3% 
(Adjusted \( R^2 = .176 \)) of the variance in 30-month externalizing problems above and 
beyond the control variables of race and maternal education. As presented in Table 4, 
CRI was a significant predictor of externalizing problems, while maternal sensitivity was 
not. The two-way interaction \( F(1, 138) = 6.14, p=.014, \Delta R^2 = .036, \text{Adjusted } \Delta R^2 = .031 \) 
between CRI and maternal sensitivity was significant, necessitating further probing. 

The values of the slopes representing the relationship between CRI and 
internalizing problems were tested at three different levels of maternal sensitivity (high, 
medium, or low). Under the condition of low maternal sensitivity (Figure 5), the slope of 
the line was 4.94 (p=.000), 3.23 (p=.000) for mean sensitivity, and 1.52 (ns) for high 
sensitivity. Similar to the model involving internalizing problems, these data indicate 
that even low to average levels of maternal sensitivity are effective in attenuating the 
effects of harsh marital conflict on the incidence of externalizing problems.
CHAPTER IV
DISCUSSION

Informed by a process-oriented approach, the goal of the present study was to examine how maternal sensitivity and the sex of the child may moderate the effects of children's early exposure to unresolved parental conflict on the emergence of three types of clinical behavioral problems by age 30 months: internalizing, externalizing, and attention problems.

4.1 Internalizing and Externalizing Problems

As predicted, the relationship between unresolved conflict at 6 months and 30-month internalizing and externalizing problems was moderated by maternal sensitivity. Under conditions of low maternal sensitivity, children exposed to high levels of unresolved conflict exhibited both increased internalizing and externalizing problems. However, if they had a mother rated as average on maternal sensitivity, the effect of unresolved conflict was diminished significantly, and under conditions of high maternal sensitivity its effects were completely attenuated. The findings of this analysis support Cummings & Davies’ emotional security hypothesis – even under extreme conditions of marital strife, if the mother is nonetheless able to function as a secure emotional base for her child, the child may still be able to develop healthy emotional regulatory behaviors, reducing the risk of being diagnosed with a clinical behavioral problem. These findings also suggest that our constructed variable, CRI, is a valid measure of unresolved conflict,
and that when combined in an interaction with maternal sensitivity, accounted for a significant proportion of the variance in child clinical problems after 2 years. And, perhaps most importantly, the present research suggests that 6 month old children may be sensitive to the effects of conflict, possibly predating their ability to cognitively appraise the conflict.

4.2 Attention Problems

In support of our hypothesis, a significant three-way interaction was found between 6-month unresolved conflict, maternal sensitivity, and child sex in the prediction of attention problems at 30 months. Similarly to the above findings for internalizing and externalizing problems, higher levels of unresolved conflict predict elevated attention problems, but only under conditions of low maternal sensitivity. In fact, even under conditions of average maternal sensitivity, the effects of unresolved conflict are attenuated when mother sensitively attend to the needs of their child, and thus function as a secure emotional base.

However, this relationship was only found to be true for boys. Girls’ development of attention problems appears to be independent of the predictors used in this study. One explanation for this finding might be that girls are affected by unresolved conflict, but their negative outcomes are manifested as internalizing problems. The age of onset for this divergence in response tactics to frustration is around the age of 4-5 years – roughly the age of onset of the ability to self-regulate emotions (Katz & Gottman, 1993). Thus, it may be that the onset of attention problems as a result of marital conflict could precede that of internalizing or externalizing problems by several years. A follow-up study, using data after age 5 would help support this view.
4.3 Limitations

The current study was certainly not without its limitations. Marital and socioeconomic statuses of the parents were not included in the analysis – two factors that would have been extremely helpful in the contextualization of conflict. Another major constraint was the lack of adequate father data. As several of the theories cited in the introduction of this study operate under the assumption that sex differences in clinical problems can emerge as a result of differential treatment on the part of the father, a follow-up study would be greatly improved if a family systems, or triadic paradigm could be employed, in which the unique transactions between father, mother and child were all included in the model.

Certainly, the construction of the CRI variable was not perfect. It was constructed with the idea that higher values or CRI would represent families that were a) high in conflict, b) low in conflict resolution, and c) low in emotional intimacy. However, moderate or low levels may have been obtained by any combination of higher or lower levels of these variables – ideally, a cluster analysis could have been performed on the data, to identify “conflict styles” which are distinct from one another, rather than grouping together couples whose conflict styles may be vastly different, simply because they happened to obtain similar scores on the CRI. This would help validate lower values of CRI as being more indicative of a specific type of conflict.

Another limitation was the fact that the latest available data point at the time of analysis was just 30 months of age. Since all three of the discussed clinical problems emerge much more markedly later in childhood, and particularly so in adolescence, analyzing the data using either structural equation modeling, hierarchical linear modeling
or latent growth curve analysis, using subsequent time points to extend the scope of the study would add valuable information to the study, and help us better understand the contextual development of clinical behavioral problems across the lifespan, as well as to expand upon the sex differences discussed earlier. As well, the effects of CRI are likely continuous across the development of the infants – the study left as is may reveal contemporaneous relationships between the 6-month predictor and the 30-month outcome. Using these more sophisticated analyses would have allowed for the inclusion of 6-month outcomes that are themselves predictive of 30-month clinical problems, to help better model the relationship between marital conflict and child outcomes over time. These more advanced techniques would also help explore the dynamic processes of marital status and socioeconomic status, and help identify sensitive periods to change in these two variables.

4.4 Conclusion

The present study was able to combine the findings of previous research in establishing a contextual framework by which the effects of unresolved conflict upon children, the moderating effects of maternal sensitivity, and sex differences combine to impact child clinical problems. Maternal sensitivity can act as a buffer against the deleterious effects of unresolved marital conflict for a variety of negative child outcomes, and sex may play a role in some of these relationships. These findings help underscore the fact that the effects of marital conflict upon children must be viewed from a process-oriented systems approach; with biological, socio-affective and family dynamic factors taken into consideration.
### Table 1. Bivariate Correlations and Descriptive Statistics

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**Note:** † *p < .10. * *p < .05. ** *p < .01. *** *p < .001.

Child’s sex: 1 = Male, 2 = Female; Child’s Race: 1 = White, 2 = African American.
Table 2.

<table>
<thead>
<tr>
<th>Predictors</th>
<th>B</th>
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<td>1 (Constant)</td>
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---

\[ N = 141 \]

\[ F(9, 131) = 5.86 ** \]

\[ \text{Adjusted R Square} = 0.238 \]

*Note: \( \dagger p < .10. \) * \( p < .05. \) ** \( p < .01. \) *** \( p < .001. \)
Table 3.

<table>
<thead>
<tr>
<th>Predictors</th>
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<th>Std. Error</th>
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<td>2 (Constant)</td>
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<td>Maternal Education</td>
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<td>CRI x Sensitivity</td>
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<td>.030</td>
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</table>

N: 141

F(df) F(5, 135) = 4.57 ***

Adjusted R Square: 0.113

Note: † p < .10. * p < .05. ** p < .01. *** p < .001.

Table 4.

<table>
<thead>
<tr>
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<th>Std. Error</th>
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<td>2 (Constant)</td>
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<tr>
<td>CRI x Sensitivity</td>
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</table>

N: 141

F(df) F(5, 135) = 7.71 ***

Adjusted R Square: 0.193

Note: † p < .10. * p < .05. ** p < .01. *** p < .001.
Fig. 1: Attention Problems, at Low Maternal Sensitivity

- **Boys**
  - simple intercept = 56.503(1.816), t=31.1133, p<.001
  - simple slope = 3.633, t=5.8704, p<.001
- **Girls**
  - simple intercept = 55.269(1.8531), t=29.8251, p<.001
  - simple slope = .916, t=1.3762, p=.171

Fig. 2: Attention Problems, at Average Maternal Sensitivity

- **Boys**
  - simple intercept = 55.715(1.6287), t=34.2513, p<.001
  - simple slope = 1.296, t=2.8281, p=.006
- **Girls**
  - simple intercept = 54.656(1.6985), t=32.1784, p<.001
  - simple slope = .344, t=0.6312, p=.529
Fig. 3: Attention Problems, at High Maternal Sensitivity

Boys
simple intercept = 54.927(1.6498), t=33.2921, p<.001
simple slope = -.041, t=-1.1918, p=.235

Girls
simple intercept = 54.043(1.7059), t=31.6806, p<.001
simple slope = -.228, t=-0.3308, p=.741
Fig. 4: Internalizing Problems

Low maternal sensitivity:
slope=3.94 (p < .001)

Mean maternal sensitivity:
slope=2.172 (p = .001)

High maternal sensitivity:
slope=.40 (ns).

Fig. 5: Externalizing Problems

Low maternal sensitivity:
slope=4.94 (p < .001)

Mean maternal sensitivity:
slope=3.23 (p < .001)

High maternal sensitivity:
slope=1.52 (ns).
References


